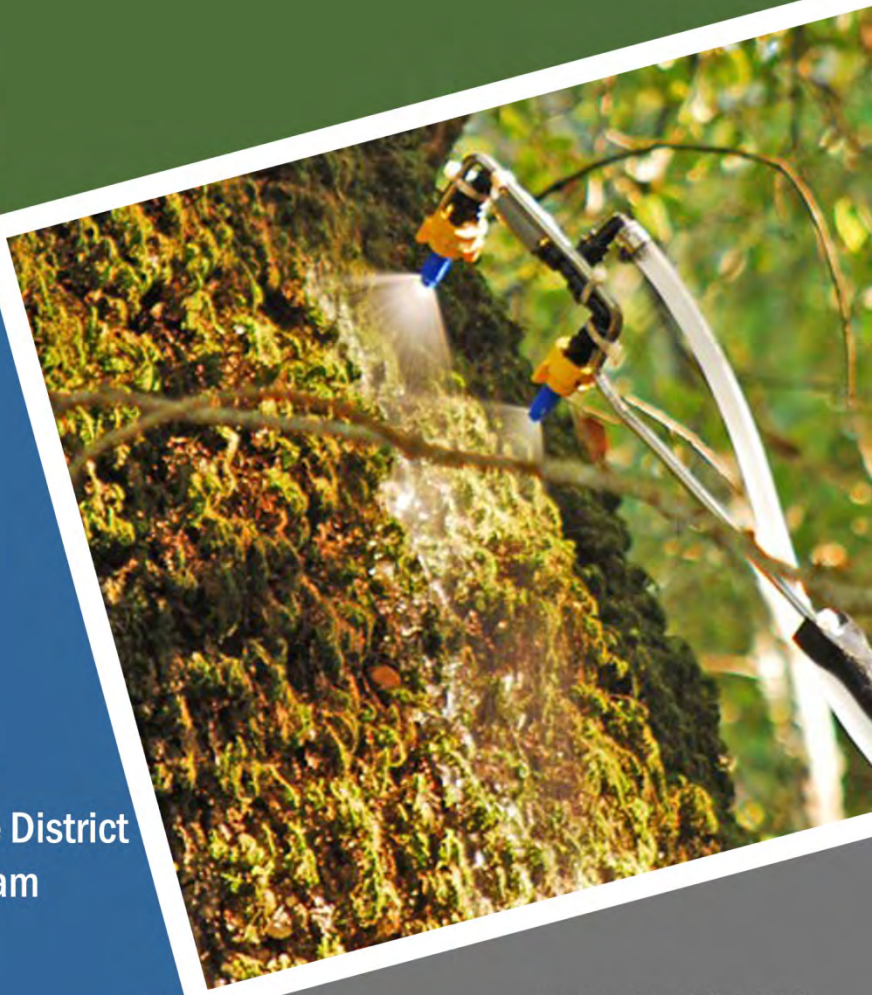

Draft Environmental Impact Report for the Midpeninsula Regional Open Space District Integrated Pest Management Program

September 26, 2014

PREPARED FOR:
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Open Space District
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Midpeninsula Regional Open Space District
Integrated Pest Management Program

Draft Environmental Impact Report

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September 26, 2014

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ACRONYMS AND ABBREVIATIONS

BAAQMD	Bay Area Air Quality Management District
Basin Plan	Water Quality Control Plan
BCC	Birds of Conservation Concern
BMP	best management practice
C/CAG	San Mateo City/County Association of Governments
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health Administration
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CDPR	California Department of Pesticide Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNRA	California Natural Resources Agency
CRHR	California Register of Historical Resources
CTR	California Toxics Rule
CUPA	Certified Unified Program Agencies
CWA	Clean Water Act
DEIR	Draft Environmental Impact Report
District	Midpeninsula Regional Open Space District
DPS	distinct population unit
DTSC	California Department of Toxic Substances Control
EDRR	Early Detection and Rapid Response
EOC	Santa Clara County Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESU	ecologically sensitive unit
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
GHG	greenhouse gas
HMCD	Hazardous Materials Compliance Division
IPCC	Intergovernmental Panel on Climate Change
IPMP	Integrated Pest Management Program

MBTA	Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCL	maximum contaminant level
MLD	Most Likely Descendant
Multi-Hazard Mitigation Plan	State of California Multi-Hazard Mitigation Plan
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTR	National Toxics Rule
OES	Office of Emergency Services
OSHA	Occupational Health and Safety Administration
OSP	open space plan
OSP	Open Space Preserve
PHG	Public Health Goal
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1969
PRC	Public Resources Code
RMP	Resource Management Policies
RWQCB	regional water quality control boards
SOD	sudden oak death
SR	State Route
SWRCB	State Water Resources Control Board
TMDL	total maximum daily load
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VTA	Valley Transit Authority
WPS	Worker Protection Standard
WUI	wildland urban interface

1 INTRODUCTION

Midpeninsula Regional Open Space District (District) proposes to implement an Integrated Pest Management Program (IPMP or project) which would comprehensively direct management of all pests on District properties. The project is intended to formalize and streamline guidelines and procedures for careful management of pests throughout the District's open space preserves (OSPs) while protecting natural resources and public health. The IPMP would be primarily a vegetation management program in wildlands; however, it would also include some rodent and insect pest management strategies at District-owned structures.

1.1 PURPOSE AND INTENDED USES OF THIS DRAFT ENVIRONMENTAL IMPACT REPORT

This Draft Environmental Impact Report (DEIR) has been prepared to evaluate the potential environmental effects of implementing the proposed IPMP. Chapter 1 of the DEIR provides introductory information to orient the reader to the IPMP and the environmental analysis.

The EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. CEQA requires that state and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects. CEQA requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant environmental effects of projects it approves or implements. The purpose of an EIR, under the provisions of CEQA, is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (Public Resources Code [PRC] Section 21002.1[a]). If a project would result in significant and unavoidable environmental impacts that cannot be feasibly mitigated to less-than-significant levels, the project can still be approved, but the lead agency's decision-maker (i.e., Board of Directors) must issue a "statement of overriding considerations" explaining, in writing, the specific economic, social, or other considerations that they believe make those significant effects acceptable (PRC Section 21002; California Code of Regulations [CCR] Section 15093 of the State CEQA Guidelines).

The District is the Lead Agency for the EIR, as defined by CEQA. The relevant statute and regulations guiding the preparation of the DEIR are:

- PRC Sections 21000 et seq., which is CEQA and
- CCR, Title 14, Division 6, Chapter 3, Section 15000 et seq., which are the State CEQA Guidelines.

This DEIR evaluates the significant or potentially significant adverse effects on the physical environment resulting from implementation of the proposed IPMP; describes feasible measures, if needed, to mitigate any significant or potentially significant adverse effects; and considers alternatives that may lessen one or more of the significant or potentially significant adverse effects.

1.2 SCOPE OF THE DRAFT ENVIRONMENTAL IMPACT REPORT

Pursuant to CEQA, the discussion of potential effects on the physical environment is focused on those impacts that may be significant or potentially significant. CEQA allows a lead agency to limit the detail of discussion of the environmental effects that are not considered potentially significant (PRC Section 21100, CCR Sections 15126.2[a] and 15128 of the State CEQA Guidelines). CEQA requires that the discussion of any significant effect on the environment be limited to substantial, or potentially substantial, adverse

changes in physical conditions that exist within the affected area, as defined in PRC Section 21060.5 (statutory definition of "environment").

On September 16, 2013, the District issued a Notice of Preparation (NOP) (Appendix A) to inform agencies and the general public that an EIR was being prepared and invited comments on the scope and content of the document and participation at a public scoping meeting. The NOP was posted with the State Clearinghouse, posted on the District website, and distributed to public agencies, interested parties and organizations. A determination of which impacts would be potentially significant was made for this project based on review of the information presented in the NOP, comments received as part of the public review process for the project, and additional research and analysis of relevant project data during preparation of this DEIR.

This DEIR includes an evaluation of five environmental issue areas and other CEQA-mandated issues (e.g., cumulative impacts and growth-inducing impacts). The five environmental issue areas are as follows:

- Aesthetics;
- Biological Resources;
- Cultural Resources;
- Hydrology and Water Quality; and
- Hazards, Hazardous Materials, and Public Health.

1.3 EFFECTS FOUND NOT TO BE SIGNIFICANT

An Initial Study did not need to be prepared because the District decided to prepare an EIR from the outset of environmental review. This option is permitted under State CEQA Guidelines Section 15063(a), which states that if the Lead Agency determines an EIR will be required for a project, the Lead Agency need not conduct further initial review and may begin work on the EIR. The analysis conducted for this document determined that the project would result in certain effects found not to be significant, and therefore, those effects would not need detailed discussion. This chapter describes certain environmental resource topics that contained no significant effects and the reasoning and evidence supporting those conclusions.

1.3.1 Agricultural and Forestry Resources

Small areas of farmlands are located within some of the District OSPs such as seven acres of row crops on the Lobitos Ridge property of Purisima Creek Redwoods OSP and a Christmas tree farm on Skyline Ridge OSP. No timberland production activities are currently undertaken on District lands.

Proposed pest management actions that may result from implementation of the IPMP on District lands would not result in conversion of important Farmland to non-agricultural uses or cause changes that would result in the conversion of important Farmland. Farmlands that are currently managed and leased by the District would continue similar operations with implementation of the project. Similarly, the project would not result in the loss of forest land or convert forestry land to non-forestry use. Although the District may implement some pest management actions within farmlands and forested lands within District OSPs, these actions would be implemented to allow the long-term viability of these lands and no conversions are proposed. For example, pest management actions may be implemented in targeted areas (e.g., along trails) in forested lands to prevent the spread of non-native species and allow hiking through these lands. However, overall the forested lands would remain. Implementation of the project would not result in adverse impacts to farmlands or forested lands including their conversion to other uses. Therefore, no significant impacts to farmlands and forested lands would occur. This issue is not evaluated further in the EIR.

1.3.2 Air Quality and Climate Change

The District covers an area of 550 square miles, mostly in unincorporated portions of San Mateo, Santa Clara, and a small section of Santa Cruz counties. Portions of the District within San Mateo and Santa Clara counties are under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and portions in Santa Cruz County are under the jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD).

IPM activities include a variety of methods that would be adaptively implemented depending on the type of pest, the size of infestation, and the location of the pest on a year-to-year basis. With regards to air quality, no new construction activities are proposed. Therefore, the project would not result in any short-term construction-related emissions of criteria air pollutants and precursors of greenhouse gases (GHGs). The project would not consist of any new area or stationary sources of air pollutant emissions. Dust emissions may result from mechanical control treatments such as mowing, discing, and digging. Emissions of criteria air pollutants (i.e., oxides of nitrogen, reactive organic gasses, and diesel particulate matter) and GHGs, would result from the use of motorized equipment such as mowers, green flaming (hand-held propane torch), and from vehicle exhaust emissions associated with District staff commuting to and from treatment sites. Emissions associated with small power tools (e.g., mowers, brushcutters) would occur at select sites for specific treatment activities. No heavy-duty equipment such as a loader, dozer, or excavator would be used. All of these activities are currently being implemented by the District on an annual basis and would continue to be implemented over similar acreages and with similar staffing and funding levels (i.e., only a one percent increase in IPM activities is anticipated to occur on an annual basis) such that a substantial increase over existing conditions would not occur. Emissions from these activities would be similar to typical landscaping activities at residential units and, therefore, would not be considered substantial sources of air or GHG emissions. Further, District Best Management Practice (BMP) 30 is in place that would limit idle times for motorized equipment and any off-duty vehicle, further reducing air emissions.

The use of green flaming would emit criteria air pollutants as well as GHGs. However, green flaming is a specialized method used for select sites such as for infestations of new seedlings and is therefore only used occasionally. Further, the BAAQMD and MBUAPCD have established rules that regulate open burning (Regulation 5 for the BAAQMD and Rule 438 for the MBUAPCD) and generally prohibit the open burning within the Air District's jurisdiction. However, under both the BAAQMD and the MBUAPCD, the type of green flaming proposed for weed and pest management by the District would be exempt per Section 5-110 for the BAAQMD and Part 1.3 Exemptions for the MBUAPCD. In addition brush piles would be burned only during the wet season on days that the air districts designate as "open burn status" and all applicable conditions by the air districts would be followed.

For these reasons, implementation of the IPMP would not result in substantial emissions such that thresholds set by the BAAQMD or MBUAPCD would be exceeded or substantially contribute to concentrations that exceed the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) or any applicable GHG thresholds of significance.

Emissions of criteria air pollutants and GHGs would also result from District staff commuting to and from work sites. However, the project is not anticipated to result in a substantial increase in the frequency or number of workers required compared to existing conditions as existing staffing and funding levels for the program would be maintained. Therefore, this is not the type of project that would lead to regional population growth beyond what is planned and consequently would not conflict with or obstruct implementation of BAAQMD's or MBUAPCD air quality or climate change planning efforts. As such, project-related mobile-source emissions would also not substantially increase compared to existing conditions. Implementation of the IPMP would not conflict with or obstruct implementation of any air quality or climate change planning efforts. As a result, this issue is not discussed further in the EIR.

CLIMATE CHANGE

According to the Intergovernmental Panel on Climate Change (IPCC), which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature is expected to increase by 3–7°F by the end of the century, depending on future GHG emission scenarios (IPCC 2007). According to the California Natural Resources Agency (CNRA) temperatures in California are projected to increase 2 to 5°F by 2050 and by 4 to 9°F by 2100 (CNRA 2009). An increase in the global average temperature is expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. According to the California Energy Commission (CEC) (2012), the snowpack portion of the State's water supply could potentially decline by 30 to 90 percent by the end of the 21st century.

Changes in precipitation patterns and increased temperatures are expected to alter the distribution and character of natural vegetation and associated moisture content of plants and soils. An increase in frequency of extreme heat events and drought are also expected. These changes are expected to lead to increased frequency and intensity large wildfires (CNRA 2009).

Plant and animal systems, are highly dependent on specific climate conditions. As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. Many pests, fungi, and pathogens benefit from warmer temperatures, wetter climates, and increased concentrations of carbon dioxide (U.S. Environmental Protection Agency [EPA] 2013). In addition, pests, fungi, and pathogens are likely to be able to thrive throughout a wider geographic region (EPA 2013). Therefore, the likelihood for infestation of plant systems is expected to increase because of global climate change. On the other hand, some plant and animal species could become extinct or be extirpated from the state if suitable conditions are no longer available (CNRA 2009).

The project is a pest management program that would result in the continuation and adaptive management of maintenance activities throughout District preserve lands. The IPMP would include adaptive use management as a BMP designed to monitor and correct, if necessary, natural resource and natural systems issues. Given the types and rates of change observed on District OSPs resulting from global, regional, and local factors (many of which are beyond the District's control), adaptive management is an important tool to help the District implement IPM in the face of change and uncertainty such as the changes associated with climate change. Adaptive management procedures under the IPMP would include establishing monitoring protocols, conducting program monitoring, evaluating the program, and undertaking program modifications to make the program safer, more effective, and efficient. Monitoring protocols are intended to quantitatively and qualitatively measure and evaluate changes in the IPMP over time. Using the monitoring protocol, District staff would be able to monitor effectiveness and make adjustments as necessary.

With these policies and procedures in place, the District would be able to better manage and adapt to changes in the natural environment as a result of global climate change. Procedures and management techniques would be tailored to meet specific needs and conditions at the time of treatment. Therefore, as conditions in the natural environment change, the District's approach would also change. Thus, it is unlikely that changes in the natural environment would result in impacts on the IPMP that the District would not be aware of or be unable to adapt and deal with. This issue is not discussed further in this EIR.

1.3.3 Geology and Soils

In general, District lands consist of a diverse set of dynamic geological resources characterized by steep slopes, earthquake faults, landslides, unstable and erosive soils, and attractive but fragile rock formations. District lands are located in seismically active areas that could experience significant ground shaking or result in fault rupture, seismic-related ground failures, and/or landsliding. The project is a pest management program that would result in the continuation and adaptive management of maintenance activities

throughout District preserve lands. Ground-disturbing work on steep hillsides (that could potentially induce landslides) would not occur. Further, the project would not result in the construction of any new structures, cut, fill, or other grading activities that could be subject to seismic hazards, unstable geologic conditions, or expansive soils. While some of the pest management activities would result in the removal of targeted invasive species, potentially exposing soil to increased erosion hazards, the District as a standard practice would implement erosion control measures in BMP 28 (see Table 3-4). BMP 28 would be implemented on sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover will be removed, or near aquatic features that could be adversely affected by an influx of sediment. Erosion control measures could consist of application of forest duff or mulches, seeding, or planting of appropriate native plant species to control erosion. Therefore, with implementation of the IPMP, no significant soil erosion impacts would occur. This issue is not evaluated further in this EIR.

1.3.4 Land Use

The District is a public agency that owns and manages 26 preserves totaling over 60,000 acres of land. The District's Resource Management Policies (available at www.openspace.org) define the policies and practices used by the District to protect and manage resources on District lands. Resource management at the District consists of management of natural, cultural, and agricultural resources. Natural resource management generally consists of protecting, restoring, enhancing, and monitoring native vegetation and wildlife, and monitoring and protecting the quality of geological and hydrological conditions. Cultural resource management consists of identifying and evaluating and protecting archeological sites and cultural landscapes. Agricultural land uses including grazing are managed consistent with the protection of special-status species and resources. Predominant land uses on District OSPs are open space and recreational facilities; however, many of the preserves abut or surround low density residential development located in the incorporated communities or unincorporated areas of San Mateo, northern Santa Cruz, and Santa Clara counties. Residential land uses adjacent to all District OSPs total approximately 75 acres of land, which is less than 0.2 percent of the total area (District 2011:4-50).

Land use and planning impacts would occur if the IPMP would physically divide an established community (e.g., a freeway dividing a populated residential community), if it would conflict with a land use policy adopted for the purpose of avoiding an environmental impact, or if it would conflict with an applicable habitat conservation plan or natural community conservation plan. There are no approved habitat conservation plans or natural community conservation plans that apply to District lands. Therefore, no impacts would occur and this issue is not evaluated further in the EIR. Implementation of the project would not involve any new development that would physically divide a community and actions covered under the proposed IPMP would not change the overall natural landscape of the site. Therefore, no impact would occur and this issue is not evaluated further in the EIR.

The District's purpose is to purchase, permanently protect, and restore lands forming a regional open space greenbelt, preserve unspoiled wilderness, wildlife habitat, watershed, viewshed, and fragile ecosystems, and provide opportunities for low-intensity recreation and environmental education. The primary objective of the proposed IPMP is to control damage from pests through formal and consistent implementation of IPM principles to protect and restore the natural environment and provide for human safety and enjoyment while visiting and working on District lands. The District has identified five IPM management categories for pest management as described in the IPM Guidance Manual (Appendix B) that consist of the following categories: buildings, recreational facilities, fuel management, rangeland/agricultural land, and natural land. Pests and treatment options are somewhat unique in each of the District's IPM management categories because each category represents not only a different purpose under the District's mission, but also a different type of environment. Thus, because development of the treatment options were developed to be consistent with the overall purpose of the District, there would be no land use and planning conflicts. This issue is not evaluated further in the EIR.

1.3.5 Mineral Resources

No known mineral resource recovery sites are located on District lands. However, the San Mateo County General Plan identifies a significant mineral resource area adjacent to the Purisima Creek Redwoods OSP and Tunitas Creek OSP. The Santa Clara County General Plan EIR identifies valuable limestone deposits currently mined for cement in the Kaiser Permanente quarries along Monte Bello Ridge, near the Monte Bello, Picchetti Ranch and Rancho San Antonio OSPs. The San Mateo County General Plan also identifies active quarries in proximity to the Miramontes Ridge and Russian Ridge OSPs (District 2011:4-53). The Santa Cruz County General Plan identifies no active quarries or significant mineral resource lands in proximity to District lands. IPM activities proposed under the IPMP would not result in land use changes, zoning changes, or development which would prevent recovery of minerals within District lands or adjacent sites. Therefore, no impact would occur and this issue is not evaluated further in the EIR.

1.3.6 Noise

Generally, District properties are located in rural parts of their respective counties and are not in close proximity to sensitive receptors. The low intensity of development, activities, and uses on District OSPs makes for a quiet noise environment. Noise levels are highest near heavily travelled roads and highways; however, the topography of District lands and the pervasive vegetative cover provides a degree of noise attenuation. Noise-sensitive receptors on or adjacent to District OSPs would include recreational visitors and occupied residences, although the latter are scattered in low-density development patterns, primarily along SR-35.

Project actions that would result from the IPMP would be related to pest management and would occur within existing District lands. Implementation of BMP 29 (Table 3-4) would ensure that use of noise-generating equipment (e.g., chainsaws, wood chippers, brush-cutters, pick-up trucks) shall abide by the applicable local jurisdiction (i.e., City and/or County) noise ordinance if such noise activities would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship). The IPMP would, therefore, not result in development of new sensitive noise receptors (e.g., residences, schools, and churches), an increase in exposure from aircraft-related noise, or the placement of people in the proximity of an airport or airstrip. These issues are not evaluated further in the EIR.

1.3.7 Population and Housing

The District serves 17 cities and unincorporated areas in San Mateo, Santa Clara, and northern Santa Cruz counties with a combined population of over 700,000 residents. District OSPs are made up predominantly of natural open space and land in agricultural production; however, many of the preserves abut small areas of low-density residential development. Residential land uses adjacent to District OSPs total approximately 75 acres of land. The District employs approximately 100 full-time staff in its Administrative Services, Operations, Planning, Public Affairs, Natural Resources and Real Property departments. Approximately 20 part-time and seasonal employees are also employed by the District.

No construction activities or addition of residences are proposed as part of the project. No substantial increase in employees would occur (i.e., one new employee). Although the increase in population in the region would increase trail use demand over time, this increase in users would not be attributed to the IPMP, considering that no new District facilities would be provided. The proposed IPMP would not induce population growth because it would not involve any alteration of existing land uses or the introduction of new land uses associated with population increases (e.g., housing, employment centers). Moreover, the project would not involve new infrastructure or services that would draw new residents to the area. Because the project would not alter existing land uses, it would not displace housing units or people. Population and housing could also be affected, if substantial new employment opportunities are presented as a result of

IPMP activities. Only one new employee is projected to be hired to implement the IPMP. Therefore, no impact related to population and housing would occur with implementation of the project. This issue is not evaluated further in the EIR.

1.3.8 Public Services and Utilities

The District collaborates with other local agencies in providing public services. The District employs 18 rangers, 4 supervising rangers, and 2 area superintendents to augment police and fire protection services provided by other agencies. Rangers are peace officers and patrol District OSP's to enforce federal, State, and local laws and to perform fire suppression duties as needed. Supervising rangers are responsible for overseeing the ranger activities as well as for coordinating with police, fire, and other park agencies regarding public safety concerns on or adjacent to District lands.

Within the District, fire protection services are provided by local fire departments and volunteer fire companies, as well as the California Department of Forestry and Fire Protection, which provides fire protection in the rural areas which comprise the majority of land on District OSPs. Law enforcement services are provided by local police departments, and the respective County sheriffs' offices serve unincorporated areas of San Mateo, Santa Clara, and Santa Cruz counties. The California Highway Patrol responds to vehicular accidents, including those involving pedestrians, bicyclists, and equestrians. State and county park rangers provide law enforcement within state and county parks, respectively.

The District offers environmental science-based educational programming to school children and members of the general public at the David Daniels Nature Center at Skyline Ridge OSP and other District facilities. The District's docent and volunteer programs also train adults in conducting activities such as environmental science-based field trips as well as interpreting District resources.

Actions under the proposed IPMP would not result in an increase in District employees or the number of visitors at District OSPs. Further, the project would not result in the construction of additional housing, commercial, or industrial development, nor would the project directly or indirectly increase the local population. Therefore, no new or altered governmental facilities would be needed to provide public services as a result of the project, nor, would the project result in increased demand for public services. Therefore, no impacts would occur related to adverse physical impacts from the provision of new or physically altered governmental facilities. This issue will not be evaluated further in the EIR.

Impacts related to increased demand for stormwater drainage facilities would also not be discussed further in this EIR. District facilities are not typically served by municipal storm drain facilities. Environmental impacts associated with rate of stormwater runoff and stormwater quality are discussed in Section 4.4, Hydrology and Water Quality. In addition, impacts related to solid waste will also not be discussed. Implementation of the IPMP would not be anticipated to result in any change in the level of solid waste generated at a District OSP. Therefore, actions under the proposed IPMP would not affect permitted capacity of local or regional solid waste disposal services serving the District lands. The proposed IPMP would also not change existing levels of compliance with federal, state, and local regulations related to solid waste. Thus, there would be no impacts and these issues are not evaluated further in the EIR.

1.3.9 Traffic and Transportation

Major roadways providing access to District OSPs include State Routes 9, 17, 35, 84, and 92, as well as Interstate 280. State Route (SR) 35, also known as Skyline Boulevard, runs adjacent to 15 of the District's 26 OSPs, serving as a key gateway to the area. The San Mateo City/County Association of Governments (C/CAG) is the designated Congestion Management Agency for San Mateo County, while the Valley Transit Authority (VTA) is the designated Congestion Management Agency for Santa Clara County. Each agency is responsible for developing and updating the Congestion Management Program (CMP) in its respective

jurisdiction. The San Mateo County Congestion Management Program (C/CAG 2009) identifies I-280, SR-1, SR-35, SR-84, and SR-92 as CMP roadways, while the VTA's Congestion Management Program contains a more extensive list of CMP roadways, including SR-17 and SR-35, which pass adjacent to District OSPs.

The San Mateo County Transit Authority, Santa Clara VTA, and Santa Cruz Metro Transit District operate public bus and rail service within the region, although there is no direct service to any District OSPs. Public parking is available at all of the District's OSPs, except Bear Creek Redwoods, La Honda Creek, Miramontes Ridge, Teague Hill, and Tunitas Creek OSPs.

The use of private motorized vehicles is not permitted on District OSPs, except in parking lots and on access roads leading to them. However, the District OSPs offer a 220-mile network of hiking, bicycling, and equestrian trails for use by the general public.

The proposed IPMP consists of invasive vegetation and pest treatment actions. These activities would be implemented by existing District staff, volunteers, and/or contractors consistent with existing levels of operation and maintenance activities and would not substantially increase throughout the duration of the plan (approximately one percent increase in pest management on an annual basis). Therefore, the project would not be expected to substantially increase traffic on the surrounding streets or intersections of nearby preserves and no significant impacts would occur.

No new construction or and only one additional District employee are proposed for implementation of the project. Therefore, the project would not create changes in air traffic patterns or result in population increases that could adversely affect area traffic. Actions under the IPMP would not alter the level of emergency access. No oversized equipment would be used requiring special transport precautions on local streets, roads, or highways. No changes to access points or roadway design would occur with implementation of the project. Therefore, no impact would occur related to increased hazards due to a design feature or incompatible uses. There are no adopted policies or plans that pertain to public transit, bicycle, or pedestrian facilities within the District OSPs. Therefore, no conflict would occur. These issues are not evaluated further in the EIR.

1.4 PUBLIC REVIEW AND PARTICIPATION PROCESS

Consistent with the requirements of CEQA, effort has been made during the preparation of this DEIR to contact affected agencies, organizations, and individuals who may have an interest in the project. As described above, this effort included the circulation of the NOP on September 16, 2013, and a public scoping meeting in Los Altos on September 30, 2013. Early consultation with relevant agencies, organizations, and individuals assisted in the preparation of this DEIR.

District has filed a Notice of Completion with the State Clearinghouse of the Governor's Office of Planning and Research, indicating that this DEIR has been completed and is available for review and comment by the public. The public review period will last 45 days, beginning September 26, 2014, and ending November 10, 2014.

1.4.1 Public Information Meeting

A public information meeting on this DEIR will be held during the review period. The meeting will be held in the Board Room of the Midpeninsula Regional Open Space District, Administrative Office located at 330 Distel Circle, Los Altos, CA 94022, on October 21, 2014 from 6:30 to 8:30 p.m.

A Public Notice of Availability of the DEIR, which also includes the date, times, and specific location for the public meetings, has been published in the San Jose Mercury News and the San Mateo County Times.

A public hearing to consider the Final Environmental Impact Report has been scheduled for December 10, 2014, at 7:00 p.m. The meeting will be held in the Board Room of the Midpeninsula Regional Open Space District, Administrative Office located at 330 Distel Circle Los Altos, CA 94022-1404.

1.4.2 Written Comments

Comments on the DEIR may be made in writing before the end of the comment period (November 10, 2014). Written comments should be mailed or e-mailed to the address provided below. After the close of the public comment period, responses to the comments received on the DEIR will be prepared and published, and together with this DEIR will constitute the Final EIR.

Please mail, e-mail, or fax comments on the DEIR by the deadline to:

Midpeninsula Regional Open Space District
Attention: Cindy Roessler, Senior Resource Management Specialist
Mailing Address: 330 Distel Circle, Los Altos, CA 94022
Email: croessler@openspace.org (Subject line: IPM EIR Comment)
Fax: (650) 691-0485

Hard copies of the DEIR can be reviewed at the locations listed below and an electronic version can be viewed online at http://www.openspace.org/news/public_notices.asp.

Midpeninsula Regional Open Space District
Administrative Office
330 Distel Circle
Los Altos, CA 94022-1404
(650) 691-1200
Office hours: 8:30 a.m. to 5:00 p.m., Monday through Friday (except holidays)
Go here for directions to this office: http://www.openspace.org/contact_us.asp

Skyline Field Office
21150 Skyline Blvd
La Honda, CA 94020
(650) 949-1848
Office hours: 7:30 a. m. to 5:00 p.m., Tuesday through Friday (except holidays)

Foothills Field Office
Located in Rancho San Antonio Open Space Preserve at
7400 St. Joseph Avenue
Los Altos, CA 94022
(650) 691-2165
Office hours: 8:00 a.m. to 4:00 p.m., Tuesday through Friday
The Foothills Field Office is accessible by foot only.

City of Mountain View Public Library
585 Franklin Street
Mountain View, CA 94041
Hours: 10:00 a.m. to 9:00 p.m. Monday through Thursday, 10:00 a.m. – 6:00 p.m. Friday through Saturday, 1:00 p.m. – 5:00 p.m. Sunday.

1.5 AGENCY ROLES AND RESPONSIBILITIES

1.5.1 Lead Agency

For this EIR, the District is the lead agency under CEQA, as defined in Section 15367 of the State CEQA Guidelines. It also serves as a Trustee Agency, as defined by State CEQA Guidelines Section 15386 for affected resources within units of the District OSPs. Adoption and implementation of the IPMP do not require any approvals by other public agencies; however, the IPMP has been developed in collaboration and consultation with other Responsible Agencies and the general public.

1.5.2 Responsible and Trustee Agencies

Responsible and trustee agencies are consulted by the lead agency to ensure the opportunity for input during the environmental review process. Under CEQA, a responsible agency is a public agency other than the lead agency that has legal responsibility for carrying out or approving a project or elements of a project (PRC Section 21069). The project may be subject to the permitting requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) or the Central Coast RWQCB for any activities that would result in discharges to waters of the State.

Under CEQA, a trustee agency is a state agency that has jurisdiction by law over natural resources that are held in trust for the people of the State of California (PRC Section 21070). The California Department of Fish and Wildlife is a trustee agency with jurisdiction over fish and wildlife and their habitats that may be affected by this program.

2 EXECUTIVE SUMMARY

2.1 INTRODUCTION

Midpeninsula Regional Open Space District (District) proposes to implement an Integrated Pest Management Program (IPMP) or "project" which would comprehensively direct management of all pests on District properties. The project is intended to formalize and streamline guidelines and procedures for careful management of pests throughout the District's open space preserves (OSPs) while protecting natural resources and public health. The project would be primarily a vegetation management program in wild lands; however, it will also include some rodent and insect pest management strategies at District-owned structures.

The EIR has been prepared in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. CEQA requires that state and local government agencies consider the environmental effects of projects over which they have discretionary authority before taking action on those projects. CEQA requires that each public agency avoid or mitigate to less-than-significant levels, wherever feasible, the significant environmental effects of projects it approves or implements. The purpose of an EIR, under the provisions of CEQA, is "to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (Public Resources Code [PRC] Section 21002.1[a]). If a project would result in significant and unavoidable environmental impacts that cannot be feasibly mitigated to less-than-significant levels, the project can still be approved, but the lead agency's decision-maker (i.e., Board of Directors) must issue a "statement of overriding considerations" explaining, in writing, the specific economic, social, or other considerations that they believe make those significant effects acceptable (PRC Section 21002; California Code of Regulations [CCR] Section 15093 of the State CEQA Guidelines).

2.1.1 Integrated Pest Management Program

The District proposes to implement a formal IPMP to comprehensively direct management of all pests on District properties. IPM is a process for efficiently managing pests while protecting human health and environmental quality. IPM is a long-term, science-based, decision-making system that uses a specific methodology to manage damage from pests. IPM requires monitoring site conditions before, during, and after treatment to determine if objectives are being met and if methods need to be revised. IPM requires that non-chemical methods be considered in addition to chemical methods (i.e., pesticides, herbicides, insecticides). If chemical methods are necessary to meet a pest control objective, the potential for harm to the public and workers are carefully considered, as are effects on the environment, and then the least toxic and most effective, efficient, and target-specific method is chosen. Treatment methods under the District's proposed IPMP are summarized below in Section 3.4 and described in detail in Chapters 6 through 10 of Appendix B).

The IPMP must be consistent with the District's mission to acquire and preserve a regional greenbelt of open space land in perpetuity, protect and restore the natural environment, and provide opportunities for ecologically sensitive public enjoyment and education. Exhibit 3-1 illustrates the District's proposed annual IPM decision-making process which is based on following the more detailed, site-specific procedures in the IPM Guidance Manual (Appendix B). The overall methodology of the IPMP includes correct identification of the pest and understanding of its life cycle; determining and mapping the extent of the problem or infestations; establishing the tolerance level for control actions; utilizing the least toxic suite of treatment methods to control the pest at vulnerable stages of its life cycle; and the monitoring of pest populations and effectiveness of treatment methods.

A new goal and policies related to IPM (Chapter 2) and an IPM Guidance Manual (Appendix B of this EIR) will be considered by the Board of Directors for adoption. These documents provide a comprehensive IPM approach to pest management that would be implemented throughout the District's properties. In general, the proposed IPM policies identify the District's Board of Directors' goals and direction for pest management, and the Guidance Manual identifies the pests and the actions and strategies staff will use to control them.

2.1.2 IPM Guidance Manual

The IPM Guidance Manual is included in this EIR as Appendix B. The Guidance Manual identifies specific pest management actions including: preventative and maintenance measures; damage assessment procedures; tolerance levels and thresholds for action; and treatment options. Within the District, the situations that trigger the need for pest control fall into five distinct management categories: (1) buildings; (2) recreational facilities; (3) fuel managment areas; (4) rangelands and agriculture properties; and (5) natural areas. Once adopted, the Guidance Manual is intended to have a ten-year planning timeframe and would be updated as needed.

2.1.3 Previous Environmental Documentation

As a short term strategy, the District previously conducted CEQA review of a few dozen IPM-related projects in priority natural areas to halt or minimize the spread of certain pest species where substantial progress has been made towards eradication. This approach has enabled the District to avoid losing substantial progress already made in protecting priority preserve resources by controlling invasive plants or pests until the proposed District-wide IPM program, analyzed in this EIR, could be developed.

2.2 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This EIR has been prepared based on public scoping to identify potential environmental issues and extensive environmental evaluation. Issues that were determined not to be significant are described in Chapter 1, "Introduction." By dismissing certain resources section for detailed evaluation in the EIR, this document uses a focused approach to determine the potential environmental issues. These issues are discussed in Chapter 4, Environmental Setting, Environmental Impacts, and Mitigation Measures. Table 2-1, located at the end of this chapter, provides a summary of the potential environmental impacts of the project, level of significance before mitigation, recommended mitigation measures, and the level of significance after the application of mitigation measures.

2.3 SUMMARY OF ALTERNATIVES

Because the project is a program intended to formalize and improve the consistency, comprehensiveness, and efficiency of IPM on District lands, the alternatives analysis is tailored to variations in the program. As a result the following three alternatives are evaluated:

- No-Project Alternative; involves a case-by-case, individual evaluation of pest management issues on District lands.
- Early Detection and Rapid Response (EDRR) Alternative, dedicates additional resources to EDRR strategies to identify and reduce new pest populations.
- Pesticide Avoidance in Buildings Alternative would eliminate chemical control treatments in buildings.

2.3.1 Environmentally Superior Alternative

The EDRR Alternative would be environmentally superior to the project. It would meet all project objectives, would result in the same environmental impacts as the project, and would lead to greater reductions in pest populations on a potentially faster schedule than would occur with the project.

2.4 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Detailed mitigation measures are identified in Chapter 4 of the EIR that are intended to mitigate project effects to the extent feasible. All of these mitigation measures are identified in Table 2-1. After implementation of the proposed mitigation measures, all of the adverse effects associated with the project would be reduced to a less-than-significant level. No significant and unavoidable impacts would occur with implementation of the IPMP.

2.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines require a discussion of the significant irreversible environmental changes that could occur should the project be implemented. An example of significant irreversible environmental change is the irreversible and irretrievable commitment of resources (i.e., the permanent loss of resources for future or alternative purposes). Irreversible and irretrievable resources are those that cannot be recovered or recycled or those that are consumed or reduced to unrecoverable forms. The project would result in the irreversible and irretrievable commitment of energy and material resources during project implementation, including the following:

- removal of flammable vegetation and other wildland and forest litter, and
- use of gasoline and lubricants for mechanical equipment.

The use of these nonrenewable resources is expected to account for a minimal portion of the State's resources and would not affect the availability of these resources for other needs within the region. Long-term operational energy and natural resource consumption is expected to be minimal and would not exceed the capacity of energy suppliers to meet local demand. IPM activities would be relatively minor in magnitude and would not result in inefficient use of energy or natural resources. Contractors selected to implement IPM strategies would use best available engineering techniques, design practices, and equipment operating procedures.

2.6 SUMMARY OF CUMULATIVE IMPACTS

The geographic area considered in the analysis of cumulative impacts is generally limited to Santa Clara County, San Mateo County, and Santa Cruz County. However, within those counties, the geographic area that could be affected by the project varies depending upon the resource being considered. As described in Chapter 5 of this EIR, in addition to the District, there are a number of other agencies, special districts, and other organizations located within cumulative impact study area that acquire and manage open space lands. These parks and open space managers direct management of pests on their lands using similar treatment options in restoration and maintenance activities.

As described in Section 1.3 of this EIR, the analysis conducted for this document determined that the project would result in certain effects found not to be significant, and therefore, those effects would not need detailed discussion. Effects on resource areas found not to be significant, for which the IPM program would make no contribution or a less than considerable contribution to significant cumulative impacts are agriculture and forestry, air quality and climate change, geology and soils, land use, mineral resources,

noise, population and housing, public services and utilities, and traffic and transportation. The EIR examines the potential for the project to contribute to significant cumulative impacts related to aesthetic resources, biological resources, cultural resources, hazards and hazardous materials, and hydrology and water quality. The cumulative impact analysis presented in Chapter 5 concludes that with the implementation of the best management practices (BMPs) included in the project, and implementation of biological and cultural resource mitigation measures, the project would not make a considerable contribution to any identified significant cumulative impact. Additionally, the project would not contribute to an existing cumulative condition that would result in a significant cumulative impact. Biological resources mitigation measures 4.2-1a through 4.2-1d include provisions to reduce, avoid, and/or compensate for impacts in accordance with the requirements of ESA and CESA and other regulatory programs that protect habitats and special-status species. Cultural resources mitigation measures 4.3-1 an 4.3-2 include provisions for a built environment survey prior to implementation of building retrofits or barriers, for structures of historic-age (50 years); and require cessation of ground disturbing activities if human remains are encountered. Therefore, the project would result in **less-than-significant cumulative impacts**.

2.7 GROWTH INDUCING IMPACTS

2.7.1 State CEQA Guidelines

State CEQA Guidelines Section 2100(b)(5) specifies that growth-inducing impacts of a project must be addressed in an EIR. Section 15126(d) states that a proposed project is growth-inducing if it could "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Included in the definition are projects that would remove obstacles to population growth. Examples of growth-inducing actions include developing water, wastewater, fire, or other types of services in previously unserved areas; extending transportation routes into previously undeveloped areas; and establishing major new employment opportunities. The following is a summary of the direct and indirect growth-inducing impacts that could result with implementation of the IPMP.

2.7.2 Growth Inducing Impacts of the Project

The District employs approximately 100 full-time staff in its Administrative Services, Operations, Planning, Public Affairs, Natural Resources and Real Property departments. Approximately 20 part-time and seasonal employees are also employed by the District. No construction activities or residences are proposed as part of the project. Although the increase in population in the region would increase trail use demand over time, this increase in users would not be attributed to the IPMP, considering that no new District facilities would be provided. The proposed IPMP would not induce population growth because it would not involve any alteration of existing land uses or the introduction of new land uses associated with population increases (e.g., housing, employment centers). Moreover, the project would not involve new infrastructure or services that would draw new residents to the area. Because the project would not alter existing land uses, it would not displace housing units or people. Therefore, implementation of the IPMP would not cause growth inducing impacts.

2.8 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Section 15123(b) of the State CEQA Guidelines requires the summary section of an EIR to include "areas of controversy known to the lead agency" and issues to be resolved. No letters were received on the NOP, and therefore there are currently no areas of controversy and issues to be resolved.

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
4.1 Aesthetics and Views				
4.1-1	**Adverse effects on scenic vistas or substantial degradation of existing visual character or quality.** Manual and mechanical IPM treatments for recreational facilities and fuel management would affect limited areas adjacent to trails, roads, and other recreational facilities and adjacent to structures. These treated areas would not be dominant in panoramic views that provide scenic vistas. Mechanical IPM treatments for vegetation management on rangelands, agricultural lands, and natural lands have the potential to affect larger areas yet would be subject to best management practice (BMP) 28 that requires erosion control be applied to areas that are susceptible to runoff or erosion, and this would likewise prevent degradation of visual resources. Chemical IPM treatments around buildings and recreational facilities would be limited in area; treatments on rangelands, agricultural areas, and natural lands would be selectively applied to target species. Therefore, IPM chemical treatments would not result in visual changes over large areas that would be dominant in panoramic views and scenic vistas.	Less-than–significant	No mitigation measures are required.	Less-than-significant
4.1-2	**Impacts to scenic resources within a state scenic highway**. Manual and mechanical IPM treatments for pest control and fire prevention would affect limited areas adjacent to structures, along trails, and at recreation facilities. These treated areas would not be dominant in views from state scenic highways. Manual and mechanical treatments for invasive plants on rangelands, agricultural lands, and natural lands may affect broader areas and some may occur near or be visible from scenic highways. However, those mechanical treatment methods that have the potential to affect large areas would be subject to BMP 28 that requires erosion control be applied to areas that are susceptible to runoff or erosion, which would prevent degradation of visual resources. Chemical treatment options around buildings and recreational facilities would be limited in area; treatments on rangelands, agricultural areas, and natural lands would be selectively applied to target pest species. The treatment options would restore scenic integrity of working and natural landscapes. These activities, which are limited in scale, are currently occurring throughout District lands. Under the IPMP these activities would continue to be implemented in a similar manner and at a similar scale to control pests.	Less-than–significant	No mitigation measures are required	Less-than–significant

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	Therefore, implementation of the proposed IPM program would not cause a substantial adverse effect on scenic resources within a state scenic highway.			
4.2	**Biological Resources**			
4.2-1	**Impacts to special-status wildlife species**. Manual, mechanical, or chemical treatments could result in direct mortality of special-status amphibian, reptile or fish species, or impacts to their federally designated critical habitat. Manual or mechanical treatment of host plants or chemical application of pyrethrin could result in direct mortality of special-status invertebrates. Manual treatments could result in direct mortality through trapping within structures and loss of occupied roosting habitat for special-status bats. As a result the project would result in potentially significant impacts to special-status amphibian and reptile species (California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco garter snake, California tiger salamander), special-status fish (tidewater goby, central California coast steelhead, central California coast coho salmon), special-status invertebrate species (bay checkerspot butterfly, Callippe silverspot butterfly, Smith's blue butterfly, and Zayante band-winged grasshopper), and special-status bat species (Townsend's big-eared bat, western red bat, fringed myotis, hoary bat, long-eared myotis, long-legged myotis, and pallid bat, San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat).	Potentially significant	**Mitigation Measure 4.2-1a: Mitigation for impacts to special-status amphibian and reptile species (California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco gartersnake, California tiger salamander).** ◢ Prior to conducting any mechanical or chemical IPM treatments in an area that is both federally designated critical habitat and suitable aquatic habitat for California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco gartersnake, or California tiger salamander, the District will consult with the USFWS and CDFW as appropriate pursuant to ESA/CESA. Appropriate measures will be developed in consultation with USFWS and CDFW to ensure there is no loss of critical habitat for these species, or that unavoidable loss of critical habitat will be replaced through habitat enhancement or restoration. Such measures may include may include avoidance of breeding habitat, limiting activities to manual removal of vegetation, conducting activities outside the breeding season, or relocation and mitigation. ◢ Prior to conducting any mechanical or chemical IPM treatments within 15 feet of occupied habitat for California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco gartersnake, or California tiger salamander, the District will consult with USFWS and CDFW. Appropriate measures will be developed in consultation with USFWS and CDFW to ensure there is no take of these species, or that unavoidable take is fully compensated for through for through habitat enhancement or restoration activities, or purchase of mitigation credits. Shooting, trapping, and gigging of aquatic species will be conducted only by a qualified biologist with experience in the identification of frog and turtle species. Inadvertently trapped California red-legged frogs, foothill yellow-legged frogs or northern western pond turtles will be released immediately upon discovery. ◢ If permanent loss of federally designated critical habitat cannot be avoided, compensation will be provided through protection and enhancement of habitat within the District open space, purchase of off-site mitigation credits, and/or contribution to regional conservation and recovery efforts for the species as determined in consultation with the	Less-than-significant

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
			USFWS and CDFW. **Mitigation Measure 4.2-1b. Mitigation for impacts to special-status fish (tidewater goby, central California coast coho salmon, central California coast steelhead).** ◢ All mechanical or chemical IPM treatments will be avoided within estuarine marshes, lagoons, or adjacent stream reaches that provide suitable habitat for tidewater goby. If manual, mechanical or chemical IPM treatments are required in areas where suitable habitat for tidewater goby is present, the District will conduct protocol level surveys for tidewater goby before implementation of IPM such treatments. If tidewater goby is identified during these surveys only manual IPM treatments will be implemented. Manual IPM treatments will not occur during the tidewater goby spawning period (spring through summer). Prior to conducting any mechanical or chemical IPM treatments in an area that is federally designated critical habitat for central California coast coho salmon or central California coast steelhead, the District will consult with the USFWS, NMFS and CDFW as appropriate pursuant to ESA/CESA. ◢ Prior to conducting any mechanical or chemical IPM treatments in occupied habitat of central California coast coho salmon or central California coast steelhead, the District will consult with USFWS, NMFS, and CDFW. ◢ If permanent loss of federally designated, critical habitat, or occupied habitat outside of federally designated critical habitat, cannot be avoided, compensation will be provided through protection and enhancement of habitat within the District open space, purchase of offsite mitigation credits, and/or contribution to regional conservation and recovery efforts for the species as determined in consultation with the USFWS, NMFS, and CDFW. **Mitigation Measure 4.2-1c: Mitigation for impacts to special-status invertebrates.** ◢ To avoid impacts to special-status invertebrates from pyrethrin spray, all District staff and contractors using pyrethrin spray will be trained in the identification of problem wasps and special-status invertebrates to ensure that proper species are being targeted. If special-status invertebrates are observed, pyrethrin treatment will not be used in these areas. ◢ Prior to conducting any manual, mechanical, or chemical IPM treatment in serpentine habitats surveys will be conducted for dwarf plantain (*Plantago erecta*), purple owl's clover (*Castilleja densiflora*), and exserted paintbrush (*Castilleja exserta*) during the appropriate blooming period and host	

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			plants containing eggs, larva, or pupa of bay checkerspot butterfly will not be treated. ◢ Prior to conducting any manual, mechanical, or chemical IPM treatment in suitable dune habitats, surveys will be conducted for host buckwheats (*Eriogonum latifolium* and *Eriogonum parvifolium*) during the appropriate blooming period, and host plants containing eggs, larva, or pupa of Smith's blue butterfly will not be treated. ◢ Prior to conducting any manual, mechanical, or chemical IPM treatment in Zayante sandhills, surveys will be conducted for Zayante band-winged grasshopper and they will be avoided by treatments. **Mitigation Measure 4.2-1d: Mitigation for impacts to special-status bats.** ◢ To mitigate for IPM activities to remove roosting bats in buildings: ◤ If removal of bats is necessary in a human-occupied building or prior to demolition or major renovation of a building in which signs of bats are evident, a qualified biologist will conduct surveys for roosting bats. Surveys will consist of daytime pedestrian surveys to look for visual signs of bats (e.g., guano), and if determined necessary, evening emergence surveys to note the presence or absence of bats. If evidence of bat roosting is found, the number and species of roosting bats will be determined. If no evidence of bat roosts is found, then no further study will be required. ◤ When bat roosting sites are located in buildings, exclusion of bats from the building will occur outside of the April through August nursery season. ◤ If roosts of special-status bats are determined to be present and must be removed, a bat exclusion plan will be prepared and submitted to CDFW. The exclusion plan will describe the method of exclusion, which may include the use of one-way doors at roost entrances (bats may leave but not re-enter), or sealing roost entrances when the site can be confirmed by a bat expert to contain no bats. No bats will be excluded until the plan is approved by CDFW and alternative roosting habitat is available. The bats will be excluded from the roosting site before the site is closed. ◢ To mitigate for removal of large trees during the April through August nursery season to tree roosting bats: ◤ Avoid removal of trees greater than sixteen inches dbh during the	

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
			April through August nursery season when possible. ◤ If removal of trees greater than sixteen inches dbh during the April through August nursery season cannot be avoided, a qualified biologist will conduct surveys for roosting bats where suitable large trees are to be removed. Surveys will consist of daytime pedestrian surveys to look for visual signs of bats (e.g., guano), and if determined necessary, evening emergence surveys to note the presence or absence of bats. If evidence of roosting bats is found, the number and species of roosting bats will be determined. If no evidence of bat roosts is found, then no further study will be required. ▪ If bat roosting sites are located in trees to be removed, such removal will occur outside of the April through August nursery season if possible. ▪ If roosts of special-status bats are determined to be present and must be removed during the April through August nursery season, a bat exclusion plan shall be prepared and submitted to CDFW. The exclusion plan will describe the method of exclusion, which may include the use of one-way doors at roost entrances (bats may leave but not re-enter), or sealing roost entrances when the site can be confirmed by a bat expert to contain no bats. No bats will be excluded until the plan is approved by CDFW and alternative roosting habitat is available. The bats will be excluded from the roosting site before the site is closed. **Mitigation Measure 4.2-1e: Mitigation for Impacts to San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat.** ◤ The District will consult with CDFW in areas where IPM treatments require removal of San Francisco dusky-footed woodrats occupying buildings or require removal of woodrat nests located within 100 feet of buildings. Consultation will occur prior to removal of woodrats or their nests. Management actions will be determined in consultation with CDFW and may include the live capture and relocation of woodrats to suitable adjacent habitats, and removal of nesting sites within buildings. Nest middens will be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material will be placed back on the nest, and the nest will remain undisturbed for two to three weeks in order to give the young enough time to mature and	

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
			leave the nest on their own accord. After two to three weeks, the empty nest can be dismantled. Nest material will be moved to suitable adjacent areas within the mixed oak woodland that will not be disturbed. As woodrats exhibit high site fidelity, buildings with previous woodrat nests will be regularly inspected for potential intrusion to prevent infestation. The District will consult with CDFW on management in areas where Santa Cruz kangaroo rat is found occupying buildings, or nests located within 100 feet of buildings must be removed, prior to nest removal occurring. Management actions will be determined in consultation with agencies.	
4.2-2	**Impacts to riparian habitat or other sensitive natural communities.** Manual and mechanical treatment methods used for pest control and fire prevention would affect limited areas of sensitive habitats where they occur adjacent to structures, along trails, and at recreation facilities. Manual and mechanical and methods used for invasive plants and other pests on rangelands, agricultural lands, and natural lands would improve habitat function and ensure continued success of sensitive natural communities. Because the District restores natural conditions of riparian habitat and other sensitive natural communities to ensure no loss of habitat function, no net loss of sensitive habitat function would occur.	Less-than-significant	No mitigation measures are required	Less-than-significant
4.2-3	**Impacts to federally protected wetlands.** Application of herbicides adjacent to or within wetlands or other waters, the discharge of dredge or fill during manual and mechanical activities, and the conversion of wetland habitats from stock ponds to ephemeral wetlands may alter the chemical and biological integrity of wetland and other waters, and result in a change to wetland type, function, and overall acreage.	Potentially significant	**Mitigation Measure 4.2-3: Mitigation for impacts to federally protected wetlands.** When seeking a change in habitat type from stock pond to ephemeral wetland to control bull frogs and non-native fishes, the District will implement the following measures to compensate for the loss of wetlands and other waters of the United States: ◢ The District will prepare a wetland delineation and will determine the exact acreage of waters of the United States and waters of the state that would be affected as a result of project implementation. ◢ The District will replace on a "no net loss" basis (minimum 1:1 ratio) (in accordance with USACE and/or RWQCB) the acreage and function of all wetlands and other waters that would be permanently removed, lost, or degraded as a result of project implementation. Wetland habitat will be replaced at an acreage and location agreeable to USACE and the RWQCB and as determined during the Section 401 and Section 404 permitting processes. Compensatory mitigation will be approved by USACE and RWQCB.	Less-than-significant

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
			◢ The District will obtain a USACE Section 404 Permit and RWQCB Section 401 certification before fill or dredge of wetlands or water of the United States. The District will implement all permit conditions. When conducting manual and mechanical treatments within waters, the District will implement the following measures to compensate for the loss of wetlands and other waters of the United States: ◢ The District will estimate the quantity of dredge or fill material that may be discharged incidental to these activities and coordinate permitting with the USACE, including application for coverage under the Nationwide Permit program as appropriate. ◢ If activities will result in permanent impacts to waters, the District will replace or restore on a "no net loss" basis (minimum 1:1 ratio) (in accordance with USACE and/or RWQCB) the acreage and function of all wetlands and other waters that would be removed, lost, or degraded as a result of project implementation. Wetland habitat will be replaced at an acreage and location agreeable to USACE and the RWQCB and as determined during the Section 401 and Section 404 permitting processes. Compensatory mitigation will be approved by USACE and RWQCB. When conducting chemical treatments within or with potential to affect waters and with the potential to discharge directly or indirectly to waters of the United States, the District will implement the following measures to compensate for the loss of wetlands and other waters of the United States: ◢ The District must consult with the San Francisco Bay RWQCB which may require the District to submit a Notice of Intent to Discharge, develop an Aquatic Pesticide Application Plan. The permit includes design and operational BMPs that must be implemented to reduce the level of contaminated runoff, including monitoring and reporting to document and minimize pollutant discharge and ensure pollutants do not adversely affect waters. If pollutants are found to be exceeding water quality standards application must stop, or additional BMPs must be developed to bring the activities into compliance.	
4.2-4	**Interfere with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.** Manual, mechanical, and chemical IPM activities would not impede wildlife use of corridors or	Less-than-significant	No mitigation measures are required	Less-than-significant

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	interfere with wildlife movement in the region because no loss of habitat would occur and no barriers would be constructed. Therefore, proposed IPM activities would not conflict with any local policies or ordinances.			
4.2-5	**Conflict with local policies, ordinances protecting biological resources.** The manual, mechanical, and chemical IPM activities would be consistent with and would further implementation of the District's goals and policies adopted for the protection and restoration of the natural environment.	Less-than-significant	No mitigation measures are required	Less-than-significant
4.2-6	**Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.** The Santa Clara Valley Habitat Plan covers a small area within the District. The area is in an urban area where IPM activities would not be applied. Therefore, the project would not conflict with an adopted habitat conservation plan (HCP), natural community conservation plan (NCCP), or other HCP.	Less-than-significant	No mitigation measures are required	Less-than-significant
4.3 **Cultural Resources**				
4.3-1	**Change the significance of an historic structure**. The project includes manual and mechanical IPM activities for buildings that could change the significance of an historical resource by incorporating barriers or building retrofits to buildings or structures that have not been evaluated for historical significance.	Potentially significant	**Mitigation Measure 4.3-1: Built-environment survey**. Prior to implementation of building retrofits or barriers that are visible on the exterior and not consistent with the vernacular nature of rural buildings, historic-age (50 years) structures will be surveyed by an architectural historian who meets the Secretary of the Interior's Standards. The structure will be evaluated for eligibility for listing on the California Register of Historic Resources. If structures are determined to be eligible for the California Register of Historic Resources, building retrofits or barriers will follow the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.	Less-than-significant
4.3-2	**Cause a substantial change in the significance of an archaeological resource.** It is unlikely that unknown archaeological resources would be disturbed by earth-disturbing activities associated with the project because of their limited area and techniques which are limited to shallow soil disturbance. BMP 26 requires that District staff at each site receive training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find. Because appropriate BMP	Less-than-significant	No mitigation measures are required	Less-than-significant

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
	measures are in place to recognize and avoid cultural resources at selected IPM sites.			
4.3-3	**Disturb human remains**. It is unlikely that unknown human remains would be unearthed by earth-disturbing activities associated with pest management activities because of their limited area and techniques which are limited to shallow soil disturbance. Nevertheless, the potential exists for previously undiscovered human remains to be discovered when soils are disturbed.	Potentially significant	**Mitigation Measure 4.3-3: Halt ground-disturbing activity**. If human remains are encountered, all work within 100 feet of the remains will cease immediately. The District will contact the appropriate county coroner (San Mateo County, Santa Clara County, or Santa Cruz County) to evaluate the remains, and follow the procedures and protocols set forth in §15064.5(e) of the CEQA Guidelines. No further disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains will occur until the County Coroner has made a determination of origin and disposition, which will be made within two working days from the time the Coroner is notified of the discovery, pursuant to State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. If the remains are determined to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC) within 24 hours, which will determine and notify the Most Likely Descendant (MLD). The MLD may recommend within 48 hours of their notification by the NAHC the means of treating or disposing of, with appropriate dignity, the human remains and grave goods. In the event of difficulty locating a MLD or failure of the MLD to make a timely recommendation, the human remains and grave goods shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance	Less-than-significant
4.3-4	**Destroy a unique paleontological resource**. It is unlikely that paleontological resources would be disturbed by earth-disturbing activities associated with the IPM because of their limited area and techniques which are limited to shallow soil disturbance. Archaeological resources typically occur at significant depths (i.e., greater than 5 feet). Nonetheless, BMP 26 requires that District staff at each site receive training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find.	Less-than-significant	No mitigation measures are required	Less-than-significant
4.4 **Hydrology and Water Quality**				
4.4-1	**Violate water quality standards or waste discharge requirements**. Manual control methods used for pests in buildings, recreational facilities, fuel management areas, rangeland and agricultural fields, and natural areas would not result in discharge of sediments into aquatic areas. Erosion control measures required by BMP 28 would be implemented on sites	Less-than–significant	No mitigation measures are required	Less-than–significant

Table 2-1 Summary of Impacts and Mitigation Measures

Impact No.	Impact Description	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
	with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover would be removed, or near aquatic features that could be adversely affected by an influx of sediment. Chemical control options, when used, would be implemented consistent with Pest Control Recommendations prepared annually by a licensed Pest Control Advisor, would be conducted in accordance with proposed BMPs. BMPs would require that chemical control operations be conducted under the supervision of a person holding a Qualified Applicator License or Qualified Applicator Certificate for pesticides; require all storage, loading and mixing of herbicides be set back at least 300 feet from any aquatic feature and all mixing and transferring occur within a contained area; require that application cease when weather parameters exceed label specifications, when wind at site of application exceeds seven miles per hour (MPH), or when precipitation (rain) occurs or is forecasted with greater than a 40 percent probability in the next 24-hour period; and Therefore, implementation of the IPM program would not result in violation of water quality standards or waste discharge requirements.			
4.4-2	**Result in on- or off-site flooding.** The project does not involve earthmoving or recontouring of land. Ground disturbance would be limited to mowing, discing, and weed or brush pulling. No manual or chemical treatment options for any of the treatment categories would result in the alteration of drainage patterns or stream courses. If needed, placement of ground cover, or seeding of native perennial grasses and pasture grasses would occur to stabilize exposed soils and to reduce the potential for increased runoff as a result of this project as required under BMP 28. With implementation of this BMP, no significant erosion or siltation impacts would occur. The project would not cause an increase in runoff that would result in flooding.	Less-than–significant	No mitigation measures are required	Less-than–significant
4.5 **Hazards, Hazardous Material, and Public Health**				
4.5-1	**Expose the public or environment to hazardous materials.** Manual, mechanical, and chemical treatment options associated with the IPMP would result in activities that could require the transportation, use, and storage of various pesticides (see Table 4.5-2 and 4.5-3) and other hazardous materials (e.g., fuel, paint, and other household hazardous	Less-than–significant	No mitigation measures are required	Less-than–significant

Table 2-1 Summary of Impacts and Mitigation Measures				
Impact No.	**Impact Description**	**Level of Significance Before Mitigation**	**Mitigation Measure**	**Level of Significance After Mitigation**
	chemicals). Existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP such that the project would not result in adverse exposure conditions to hazardous materials. The District complies with all relevant regulatory requirements pertaining to the handling of hazardous materials including pesticides. Further, the District would implement several BMPs (BMPs 1 through 10, 19, 20, Table 3-4) to minimize the potential for unwanted adverse impacts to non-target species (i.e., humans, animals, and special-status species). Thus, treatment options, manual, mechanical or chemical, that would require the transportation, use, and storage of hazardous materials associated with the IPMP would not result in the exposure of the public or environment to adverse conditions associated with the use of these materials,			
4.5-2	**Wildland fire hazard.** Manual, mechanical, and chemical treatment options associated with the IPMP would result in activities that would require the transportation, use, and storage of various pesticides (see Table 4.5-2 and 4.5-3) and transportation and use of mechanical equipment (e.g., mowers, chippers, chainsaws, Jawz, etc.). Heat or sparks from equipment activity could ignite dry vegetation and cause fire. Further, handling of flammable materials including pesticides could increase fire ignition hazards. However, the District implements strict practices for operation of this equipment and appropriately trains staff and volunteers in fire suppression techniques in the event operation of equipment results in inadvertent fire ignition. Appropriate fire suppression equipment (e.g., extinguishers) would be provided at the work sites and the project would result in an overall reduction in fuel loads through the removal of pest species from District lands.	Less-than–significant	No mitigation measures are required	Less-than–significant

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3 PROJECT DESCRIPTION

Midpeninsula Regional Open Space District (District) proposes to implement the Integrated Pest Management Program (IPMP) on District lands. The IPMP provides the District with an objective evaluation tool and process to effectively and efficiently make integrated pest management decisions while providing for safe recreational use of the preserves and protecting their natural and cultural resources.

3.1 INTEGRATED PEST MANAGEMENT PROGRAM OVERVIEW

The District proposes to implement a formal IPMP to comprehensively direct management of all pests on District properties. IPM is a process of efficiently managing pests while protecting human health and environmental quality. IPM is a long-term, science-based, decision-making system that uses a specific methodology to manage damage from pests. IPM requires monitoring site conditions before, during, and after treatment to determine if objectives are being met and if methods need to be revised. IPM requires that non-chemical methods be considered in addition to chemical methods (i.e., pesticides, herbicides, insecticides). If chemical methods are necessary to meet a pest control objective, the potential for harm to the public and workers are carefully considered, as are effects on the environment, and then the least toxic and most effective, efficient, and target-specific method is chosen. Treatment methods under the District's proposed IPMP are summarized below in Section 3.4 and described in detail in Chapters 6 through 10 of Appendix B.

The IPMP must be consistent with the District's mission to acquire and preserve a regional greenbelt of open space land in perpetuity, protect and restore the natural environment, and provide opportunities for ecologically sensitive public enjoyment and education. Exhibit 3-1 illustrates the District's proposed annual IPM decision-making process which is based on following the more detailed site-specific procedures in the IPM Guidance Manual (Appendix B). The overall methodology of the IPMP includes correct identification of the pest and understanding of its life cycle; determining the extent of the problem or infestations; evaluating site conditions; establishing the tolerance level for control actions; utilizing the least toxic suite of treatment methods to control the pest at vulnerable stages of its life cycle; and the monitoring of pest populations and effectiveness of treatment methods.

As a short term strategy, the District previously conducted CEQA review of a few dozen IPM-related projects in priority natural areas to halt or minimize the spread of certain pest species where substantial progress has been made towards eradication. This approach has enabled the District to avoid losing substantial progress already made in protecting priority preserve resources by controlling invasive plants or pests until the proposed District-wide IPMP, analyzed in this EIR, could be developed.

A new IPM Policy (Chapter 2) and an IPM Guidance Manual would be considered by the Board of Directors for adoption. Once adopted, the Guidance Manual is intended to have a ten-year planning timeframe and would be updated as needed to address changes such as the addition of a new chemical treatment or the treatment of a new pest species that results in treatment activities that are substantially different from those evaluated herein (see Section 3.2.1, Process for Changes to the IPMP below). These documents provide a comprehensive IPM approach to pest management that would be implemented throughout the District's properties. In general, the proposed IPM Policy identifies the District Board of Directors' goals and direction for pest management, and the Guidance Manual identifies the pests and the actions and strategies staff would use to control them.

The Guidance Manual identifies specific pest management actions including: preventative and maintenance measures; damage assessment procedures; tolerance levels and thresholds for action; and treatment options. Within the District, the situations that trigger the need for pest control fall into five distinct pest management categories: (1) buildings; (2) recreational facilities; (3) fire managment areas; (4) rangelands and agriculture properties; and (5) natural areas. These IPM management categories are summarized in Section 3.5 below and described in greater detail in Chapters 6 through 10 of Appendix B).

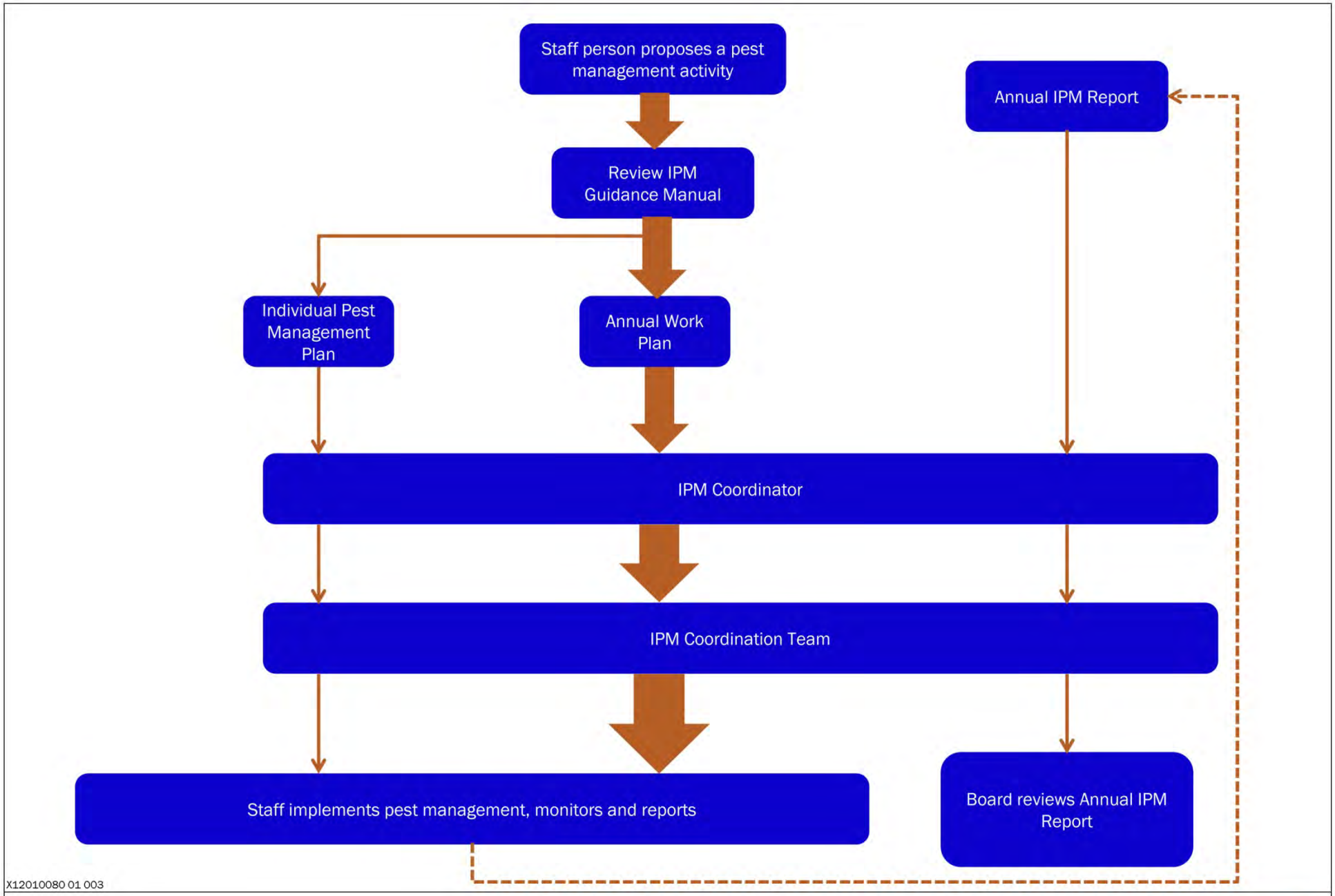


Exhibit 3-1 **Flow Chart of the District's IPM Decision-Making Process**

IPM requires knowledge of the biology of pests, the available techniques for controlling them, and understanding of the secondary effects of the control techniques (such as soil erosion or herbicide drift or bioaccumulation). Control of a pest is only undertaken once a "tolerance level" has been exceeded. Tolerance level, also referred to in IPM systems as a "tolerance threshold," is the level below which pests can be present without disturbance or disruption of natural processes, economic damage, degradation of intended uses or human enjoyment of facilities, or unacceptable human health risk.

As part of the IPMP, the District would designate an IPM Coordinator and an IPM Coordination Team. The IPM Coordinator and the IPM Coordination Team would play key roles in reviewing pest management projects for consistency with the IPM Guidance Manual, and overseeing licensing, training and safety. Pest management activities would be reviewed and approved and priorities would be set through the development and approval of an Annual IPM Work Plan that describes pest control projects planned for the upcoming year. Any new pest management activities not originally included in the Annual IPM Work Plan would be reviewed on an individual basis throughout the year. Chapter 3 of Appendix B provides a detailed description of the IPMP roles and responsibilities, management systems, and organizational processes that would be used to implement IPM on District lands.

An Annual IPM Report would summarize the work completed in the previous year, evaluate the program's progress in meeting overall goals, and would recommend any modifications to the program (see Appendix B, Chapter 4 for a detailed description).

An IPM Implementation Plan would be developed in the first year of the program. The purpose of the Implementation plan is to systematically develop larger tasks (i.e., prevention and monitoring) and integrate them into the Annual IPM Work Plan over a five-year period. Major tasks to be included in the IPM Implementation Plan in the first year include:

- designate an IPM Coordinator and an IPM Coordination Team;
- develop an Annual IPM Work Plan;
- develop a comprehensive pest database including forms to allow staff to record and report pests and pesticide use to the IPM Coordinator in a streamlined fashion;
- develop and implement training and safety programs to ensure IPM as described in the Guidance Manual is properly implemented by staff;
- assess, and as necessary modify, the Guidance Manual (adaptive management) in the Annual IPM Report to the Board of Directors.

In future years, the following additional steps would be taken to further implement the IPMP:

- develop a priority system to rank pest control projects on natural areas, rangelands, and agricultural lands;
- work with tenants to consistently apply IPM practices around people and in natural surroundings;
- develop an early detection rapid response program and related landscape-level monitoring program for all District lands;
- and participate in regional pest management research and monitoring efforts to keep up on the most recent innovations in pest control science, pest control methods, and pests that are detected near District preserves but may not yet be problemmatic on District lands.

3.2 SCOPE OF THE IPMP

The IPMP is intended to be used over the next 10 years. During that time period, it is expected that the District's IPM activities would increase at an approximate rate of one percent per year. This increase has been included in the analysis presented in this EIR.

3.2.1 Process for Changes to the IPMP

As described above, IPMP is an adaptive management program that responds to annual pest conditions on District lands. Each year District staff would select IPM projects/activities for implementation, through preparation of an Annual IPM Work Plan, based on current conditions. In some cases, new pests may require treatment or new treatment methods may be discovered. Each year the IPM Coordinator and IPM Coordination Team would determine the IPM activities that would need to be implemented on District lands and would review those activities against those included in the IPM Guidance Manual and evaluated in this EIR. In certain instances, the District would determine if new activities are not evaluated under this EIR and the IPM Guidance Manual. Examples include new IPM activities that are substantially different from the activities described below; substantially greater growth in the IPMP is projected to occur (e.g., the District substantially increases staffing and funding year-over-year to substantially expand the program), or new chemicals with different active ingredients from those described above are proposed for use. he District may be required to amend the IPM Guidance Manual and prepare any appropriate subsequent/supplemental environmental documents.

Regarding pesticides, the List of Approved Pesticides (Table 3-2 below and Table 1.1 in Appendix A of Appendix B of this DEIR) is intended to change over time as the science of pest control advances and more effective, safer, and less harmful pesticides are developed; as manufacturers update, discontinue, or substitute products; and as the District's target pests change over time. The process for updating the List of Approved Pesticides is described in detail in the IPM Guidance Manual (Appendix B) and summarized below:

- **Product Substitutions.** When manufacturers substitute a product or change a product name or formulation, but when the active ingredient stays the same, the new product can be substituted for the old product on the List of Approved Pesticides. In general, this type of change to the list would not trigger a change in condition or result in the need for additional environmental documentation. Therefore, this change typically will require a simple update to the List of Approved Pesticides. Additional environmental review would only be required if the change results in a substantive change in human health exposure, environmental fate, or toxicity.

- **Product Eliminations.** In instances where products on the list are no longer available from the manufacturer, are found to be ineffective against the District's target pests, or if new risks are discovered that were not previously evaluated by the District (see Appendix A), a product may be eliminated from the List of Approved Pesticides. This type of change requires an update to the List of Approved Pesticides (Table 1.1- Appendix A), but does not require additional environmental review.

- **Product Additions.** In instances where new products with new active ingredients not evaluated in this EIR are found to be safer, more effective, and/or less costly than products on the on the List of Approved Pesticides, the District may elect to add new pesticides. This type of change typically requires additional toxicological review, and depending on the results, may also require additional environmental review.

Based on the process described above, the IPM Coordinator would determine whether any chemical product substitutions or additions would be required and would consult with appropriate technical experts and Pest Control Advisors to determine whether any change would occur with respect to human health exposure, environmental fate, or toxicity compared to that evaluated in this EIR. All new pesticide formulations (products) under consideration would be evaluated using the same standards for human and environmental

safety and efficacy on the District's target pest species. This information would be reviewed by the District to determine whether this EIR provides adequate evaluation of the proposed chemical substitutions and additions. If it is determined that adequate evaluation is provided, the District would note this for its records and no further analysis would be required. If it is determined that the proposed substitutions or additions are not adequately evaluated in this EIR, then the District would complete the appropriate supplemental environmental documentation and seek discretionary consideration prior to use of the chemical additions or substitutions.

3.3 GEOGRAPHIC EXTENT OF THE PROGRAM

The District covers an area of 550 square miles, mostly in unincorporated portions of San Mateo, Santa Clara, and a small section of Santa Cruz counties and includes 17 cities (Atherton, Cupertino, East Palo Alto, Half Moon Bay, Los Altos, Los Altos Hills, Los Gatos, Menlo Park, Monte Sereno, Mountain View, Palo Alto, Portola Valley, Redwood City, San Carlos, Saratoga, Sunnyvale, and Woodside) (Exhibit 3-2).The District works to form a continuous greenbelt of permanently preserved open space by linking its lands with other public parklands. The District also participates in cooperative efforts such as the Bay Trail, Ridge Trail, and Skyline-to-the-Sea Trail, which are regional trail systems in the Bay Area that include District lands. The District has permanently preserved nearly 62,000 acres of mountainous, foothill, and bayland open space, creating 26 open space preserves (24 of which are open to the public).

In addition to the 62,000 acres described above, the District occasionally enters into contracts with other land management organizations to manage small parcels of land that are contiguous with District lands. For example, the District is responsible for managing the apple orchard property owned by the Peninsula Open Space Trust and adjacent to the La Honda Open Space Preserve (OSP), and for managing Rancho San Antonio County Park owned by the County of Santa Clara and adjacent to the District's Rancho San Antonio OSP. The District generally manages these properties in the same manner and applying the same actions as it does with its properties, unless the contracting agencies have adopted more restrictive management standards. In those cases, the more restrictive management standards would be implemented by the District.

3.4 POLICY AND PLANNING CONTEXT FOR INTEGRATED PEST MANAGEMENT PROGRAM

3.4.1 District IPM Policy

The District's proposed IPM Policy would guide staff in defining, preventing, and managing pests on District lands. The IPM Policy was reviewed initially in 2013, and will be considered for adoption by the Board concurrently with the District's proposed IPM Guidance Manual (Appendix B). The District's IPM Policy is intended to address pest management on District lands within the five IPM management categories identified (buildings; recreational facilities; fuel management areas; rangelands and agricultural properties; and natural areas).

If the Board adopts the proposed IPM Policy, the policy would be incorporated into the District's Resource Management Policies and would replace the Invasive Species Management chapter of that policy (Chapter 4 of the District's Resource Management Policies). The following presents the proposed IPM Policy.

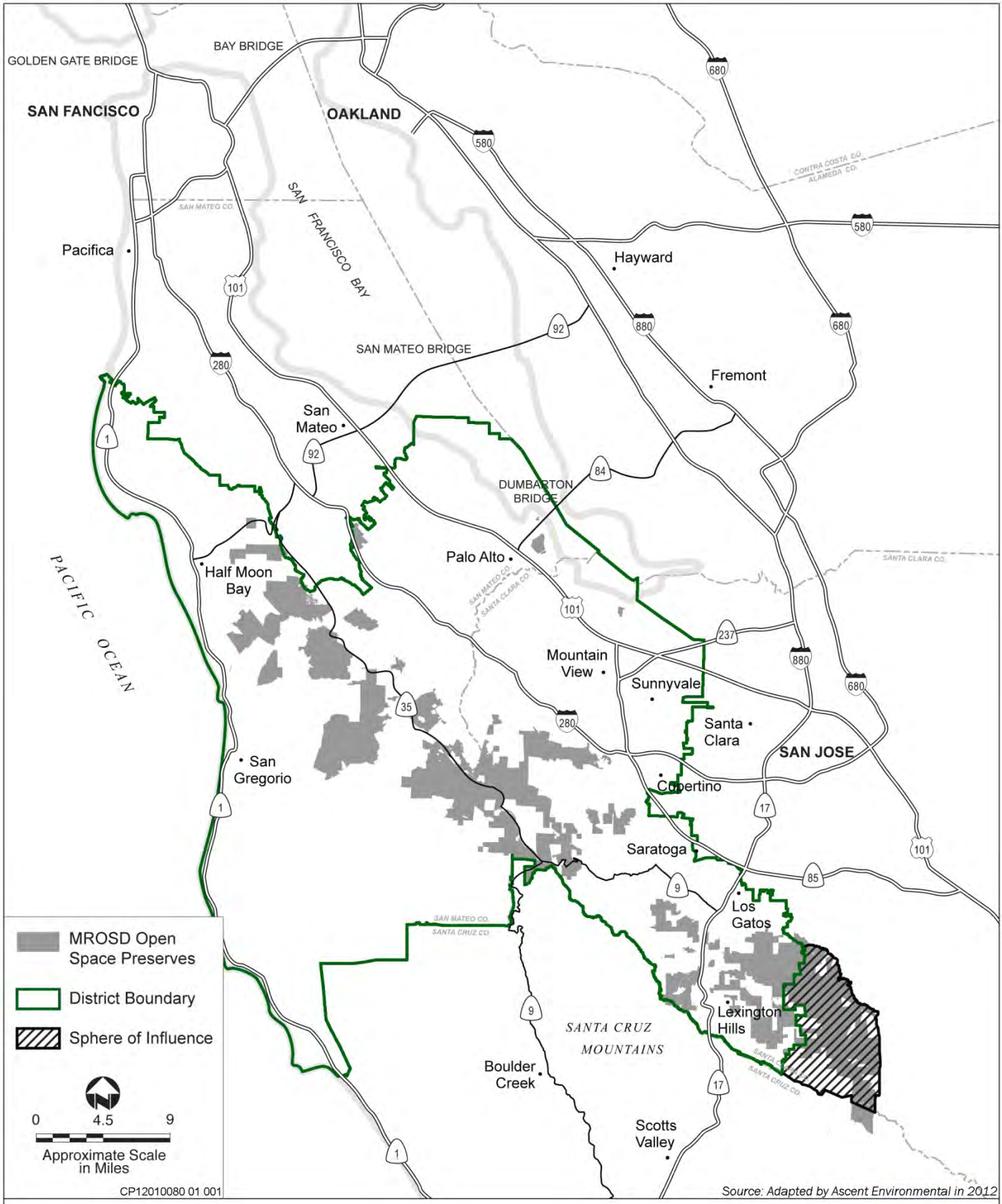


Exhibit 3-2 **Regional Overview**

Goal: Control pests by consistent implementation of IPM principles to protect and restore the natural environment and provide for human safety and enjoyment while visiting and working on District lands.

- **Policy IPM-1** Develop specific pest management strategies and priorities that address each of the five work categories.

    1. Manage pests in buildings to support existing uses, while also protecting human health and surrounding natural resources.

    2. Manage pests and potential human interactions in recreational facilities to minimize conflict, ensure visitor safety and enjoyment, and protect the surrounding natural resources.

    3. Manage pests in fuel management areas to reduce risk to human life and property, while also protecting natural resources.

    4. Manage pests in rangelands and on agricultural properties to support existing uses, while also protecting human health and surrounding natural resources.

    5. Manage invasive species in natural areas and set priorities for their control based on the potential risk to sensitive native species and loss of native biodiversity.

- **Policy IPM-2** Take appropriate actions to prevent the introduction of new pest species to District preserves, especially new invasive plants in natural areas, rangelands, and agricultural properties.

- **Policy IPM-3** Manage pests using the procedures outlined in the following eight implementation measures.

    1. Develop and implement tolerance levels for pests within each of the Work Categories to determine when to undertake pest control.

    2. Identify the pest, determine its life cycle and disruptive potential, and identify relevant site conditions prior to implementing a pest control activity. Review pest control objectives for consistency with other site goals and establish tolerance levels that must be exceeded before pest control is undertaken.

    3. Choose site-specific strategies and times of treatment that provide the best combination of protecting preserve resources, human health, and non-target organisms and that are efficient and cost effective in controlling the target pest. Whenever feasible, direct the control method narrowly at vulnerable points in the target organism's life cycle to avoid broad impacts.

    4. Monitor results and modify control methods over time as site conditions and treatment techniques change and as needed to obtain an effective level of control.

    5. Use the least harmful method(s) to control identified pests. Where the use of pesticides is necessary, apply according to the label using all safety precautions and take all measures needed to protect the environment, the health and safety of visitors, employees, neighbors, and the surrounding natural areas including water and soil resources.

    6. Plan for repeat treatments as indicated by the pest's regenerative capabilities.

    7. Coordinate and cooperate with adjacent landowners, neighbors, and other responsible agencies to control pests and limit secondary effects.

    8. If eradication of a pest from a distinct location is not feasible, apply measures to achieve containment, sustained control, slow down a pest's rate of spread, or minimize pest damage.

- **Policy IPM-4** Monitor pest occurrences and results of control actions and use adaptive management to improve results.

- **Policy IPM-5** Develop and implement an IPM Guidance Manual to standardize pest management and IPM procedures across all District Lands.

3.5 OBJECTIVES OF THE PROJECT

The primary objective of the proposed IPMP is to control damage from pests through formal and consistent implementation of IPM principles to protect and restore the natural environment and provide for human safety and enjoyment while visiting and working on District lands. Specific objectives of the proposed IPMP include:

- development and implementation of an IPM Guidance Manual to standardize pest management and IPM procedures on District lands;

- implementation of IPM strategies and priorities consistent with the five pest management categories identified in the IPM Guidance Manual;

- monitoring and reporting IPM activities and annually assessing consistency with the IPM Guidance Manual and need for changes;

- communicating to the public and staff what pest management activities are being undertaken on District lands and how people and natural resources are being protected;

- implementing actions to prevent the introduction of new pest species to District preserves, especially new invasive plants in natural areas and weeds in agricultural areas;

- reducing the use of pesticides in buildings, and for those pesticides which are required in buildings and at recreational facilities, use ones with lower concentrations of hazardous substances; and

- reducing the per-acre amount of herbicides used over time at individual sites in natural areas.

The IPMP would be applied to all pest management activities on District lands. The following describes the District's IPM management categories and associated treatment actions under the IPMP that are analyzed in this EIR.

3.5.1 IPM Management Categories

The District has identified five IPM management categories for pest management (also known as work categories) as described in the IPM Guidance Manual (Appendix B) and as summarized in Section 3.4.3 below. These categories are buildings, recreational facilities, fuel management, rangeland/agricultural land, and natural lands. Table 3-1 identifies treatment actions associated with each management category under the IPMP, and where relevant, method of application, anticipated annual acres of treatment, and type and amount of pesticide used in a typical future year. It is important to note that the District would implement the treatment actions in an integrated manner, so while a specific treatment action is identified for a management category in Table 3-1, other treatment actions identified for the site may be implemented on a year-to-year basis according to the site conditions observed.

Table 3-1 District Integrated Pest Management Program – Treatment Actions and Estimates

IPM Management Category	Treatment Type	Treatment Method	Method of Application	Purpose	Annual Application	Timing of Work[1]	Frequency of Work[2]
Buildings	Manual	Sanitation	–––	Structural pests, stray wildlife and pets	103 buildings	–––	–––
		Habitat Modification	–––	Structural pests, stray wildlife and pets	103 buildings	–––	–––
		Physical Barriers	–––	Structural pests, stray wildlife and pets	103 buildings	–––	–––
		Traps (sticky, electric, snap, box, glue boards, water, lures)	–––	Structural pests, stray wildlife and pets	103 buildings	–––	–––
		Building Retrofits	–––	Structural pests, stray wildlife and pets	–––	Spring/summer/fall	–––
		Prevention	–––	Structural pests, stray wildlife and pets	–––	–––	–––
	Chemical	Soap Spray	–––	Structural pests	103 buildings	Spring/summer/fall	–––
		Diatomaceous earth	–––	Structural pests	103 buildings	Spring/summer/fall	–––
		Boric Acid	–––	Structural pests	103 buildings	Spring/summer/fall	–––
		Hydroprene	–––	Structural pests	15 fluid ounces over 8 applications over 103 buildings	Spring/summer/fall	–––
		Indoxacarb (0.1%)	–––	Structural pests	7 fluid ounces over 20 applications over 103 buildings	Spring/summer/fall	–––
		Indoxacarb (0.5%)	–––	Structural pests	51 fluid ounces over 23 applications over 103 buildings	Spring/summer/fall	–––
		Sodium tertaborate decahydrate	–––	Structural pests	11 fluid ounces over 17 applications over 103 buildings	Spring/summer/fall	–––
		Fipronil	–––	Structural pests	16 fluid ounces over 7 applications over 103 buildings	Spring/summer/fall	–––
		Cholecalciferol	–––	Vertebrate pests	50 ounces over 103 buildings	Spring/summer/fall	–––

Table 3-1 District Integrated Pest Management Program – Treatment Actions and Estimates

IPM Management Category	Treatment Type	Treatment Method	Method of Application	Purpose	Annual Application	Timing of Work[1]	Frequency of Work[2]
Recreational Facilities	Manual	Sanitation	– – –	Stinging insects	– – –	Spring/summer/fall	– – –
		Habitat Modification	– – –	Stinging insects, mosquitos, stray wildlife and pets	– – –	Spring/summer/fall	– – –
		Traps (water/lure)	– – –	Stinging insects, stray wildlife and pets	– – –	Spring/summer/fall	– – –
		Nest Removal	– – –	Stinging insects	– – –	summer	– – –
	Manual and Mechanical	Digging, Mowing	Hand shovels, brushcutters (manual method in creeks with salmonids)	Ponds, bridges, & culverts	1 acre	– – –	1x per year
	Mechanical	Mowing	Tractors	Roads and road-width trails, facilities	580 acres	May through August	1.5x per year
			Brushcutters	Single track trails	85 acres	May through August	1.5x per year
		Cutting	Chainsaws	Hazard and downed tree removal	50 to 150 trees	– – –	– – –
			Chippers	Hazard and downed tree removal	50 to 150 trees	– – –	– – –
	Chemical	Pyrethrin	Spray	Stinging insects	420 ounces concentrate (24 cans of spray)	Spring/summer/fall	– – –
		Bacterial pathogens	*Bacillus thuringiensis* var. *israelensis*	Mosquitos	250 disks	May through September	1 disk per 30 days
		Glyphosate Round-Up ProMax	Cut-stump	Roads & trails	0.3 gallons concentrate	Spring/summer/fall	1x per year
			Spot spray	Parking lots, gates & stiles, facilities	0.7 gallons concentrate over 54.6 acres	May through August	1x per year
		Glyphosate Aquamaster	Cut-stump	Ponds	2.4 gallons concentrate	Spring/summer/fall	1x per year
		Clopyralid	Spot spray	Parking lots, gates & stiles, facilities	0.3 gallons concentrate over 22.9 acres	May through August	1x per year
		Imazapyr	Cut-stump	Roads & trails	0.1 gallons concentrate	Spring/summer/fall	– – –
			Spot spray	Parking lots, gates & stiles, facilities	0.3 gallons concentrate over 54.6 acres	May through August	1x per year

Table 3-1 District Integrated Pest Management Program – Treatment Actions and Estimates

IPM Management Category	Treatment Type	Treatment Method	Method of Application	Purpose	Annual Application	Timing of Work[1]	Frequency of Work[2]
Fuel Management	Manual and Mechanical	Mowing & cutting	Tractors, brushcutters, chainsaws, chippers, masticators, jawz implement, pole pruner	Defensible space, fuel break, emergency helicopter landing zones	136 acres	April through June	1x per year
		Discing & cutting	Tractor-pulled Instrument, pole pruner	Disclines	75 acres	April through May	1x per year
	Chemical	Glyphosate Round-Up ProMax	Cut-stump	Defensible space, disclines, fuel break	2 gallons concentrate	April through June	1x per year
			Spot spray	Defensible space	5.2 gallons concentrate over 14 acres	April through June	1x per year
Rangelands and Agricultural Properties	Manual	Weeding, weedmats, crop rotation, mulching	Hand tools	Agricultural weeds	360 acres	Spring/summer	1x per year
		Sanitation, physical barriers, traps (snap, box,)	–––	Vertebrate pests	360 acres	–––	–––
	Mechanical	Mowing, discing, cutting & flaming	Tractors, brushcutters, brushrakes or flame equipment	Rangeland weeds, agricultural weeds, brush control	725 acres	Spring/summer/fall	1x per year
	Chemical	Aminopyralid	Spot spray	Rangeland weeds	1.6 gallons concentrate over 154 acres	Spring/summer	1x per year
		Clopyralid	Spot spray	Rangeland weeds	1.6 gallons concentrate over 154 acres	Spring/summer	1x per year
		Glyphosate Round-Up ProMax	Spot spray	Rangeland weeds, brush control, agricultural weeds	57.6 gallons concentrate over 154 acres	Spring/summer	1x per year
Natural Lands	Manual	Digging, hoeing, hand pull	–––	Invasive plant control	30 acres	–––	1x per year
		Biocontrol insects	Hairy weevils	Invasive plant control	800 acres	–––	1x per year
		Sanitation	–––	Invasive plant control	–––	–––	–––
		Prevention	–––	Invasive plant control	–––	–––	–––
		Habitat modification	–––	Invasive plant control	–––	–––	–––
		Traps	–––	Invasive animal control	–––	–––	–––
	Manual and Mechanical	Cutting	Weed wrenches, hand saws, or clippers	Sudden oak death	2 acres	–––	1x per year

Table 3-1 District Integrated Pest Management Program – Treatment Actions and Estimates

IPM Management Category	Treatment Type	Treatment Method	Method of Application	Purpose	Annual Application	Timing of Work[1]	Frequency of Work[2]
	Mechanical	Flaming	– – –	Invasive plant control	2 acres	– – –	– – –
		Mowing	Tractors, mowers, or brushcutters	Invasive plant control	10 acres	– – –	– – –
	Chemical	Glyphosate Round-Up ProMax	Cut-stump	Invasive plant control, sudden oak death	0.2 gallons concentrate	spring/summer	1x per year
			Spot spray	Invasive plant control	119 gallons concentrate over 955 acres	Spring/summer	1x per year
		Clethodim	Spot spray	Invasive plant control	1.8 gallons concentrate over 243 acres	Spring/summer	1x per year
		Aminopyralid	Spot spray	Invasive plant control	1.7 gallons concentrate over 164 acres	Spring/summer	1x per year
		Clopyralid	Spot spray	Invasive plant control	1.7 gallons concentrate over 164 acres	Spring/summer	1x per year
		Imazapyr	Spot spray	Invasive plant control	19 ounces concentrate over 8 acres	Spring/summer	1x per year
		Imazapyr	Cut-stump	Invasive plant control, sudden oak death	0.2 gallons concentrate	spring/summer	1x per year
		Phosphite	Spraying or Injecting	Sudden oak death	45 gallons concentrate over 30 acres	April/May or October/November	1x per year

[1] No value indicates treatment method may be applied anytime during the year
[2] No value indicated treatment method may be applied multiple times throughout the year as needed

Source: District 2014

Pests and treatment options are somewhat unique in each of the District's IPM management categories because each category represents not only a different purpose under the District's mission, but also a different type of environment. In general, the first three management categories (i.e. buildings, recreational facilities, and fuel management) summarized below represent conditions that have been altered to a greater degree for human purposes, are more frequently occupied or visited by humans, and where the District has greater concerns for human safety. The last two categories (i.e. rangeland/agricultural land and natural land) described in this section are in a more natural state.

3.5.2 Treatment Actions

For each pest management action under the IPMP, the treatment action (e.g., preventive; retrofit; maintenance; cultural control; habitat modification; and manual, mechanical or chemical control) and treatment timing would be site-specific and based on various factors (i.e., infestation size and density, the life cycle of the pest, the type and sensitivity of the site to be treated, the potential for the presence of special-status species habitat to occur in proximity to the treatment site, and the availability of labor). A general description of treatment actions covered under the IPMP and typical conditions for implementing the action are described below under each associated IPM management category and in the IPM Guidance Manual (Appendix B).

For purposes of this EIR, cultural controls and habitat modification treatments are grouped under manual treatments in the EIR analysis. Preventive activities are described in detail in Chapter 6 through 10 of the IPM Guidance Manual (refer to Appendix B of this EIR). The following provides an overview of manual, mechanical, and chemical treatment actions covered under the proposed IPM for the control of pest species on District lands.

MANUAL AND MECHANICAL CONTROL TREATMENTS

Manual control treatments consist of pulling and digging, and mechanical control treatments include motorized mowing and cutting. For purposes of this analysis, manual and mechanical control treatments have generally been combined into the same category (i.e., manual and mechanical control treatments) because of their similar activity level and type of land disturbance that would occur. As noted above, cultural and habitat modifications have also been included within this treatment control category. However, while cultural and habitat modification treatment controls are physical activities, they are activities that have limited physical environmental disturbances compared to the more active pulling, digging, and mowing activities described below (e.g., picking up trash, installing educational signs, and installing fly traps). Nonetheless, these activities are included under the manual and mechanical control category. See Chapter 6 through 10 of the IPM Guidance Manual for a full description of cultural and habitat modification controls proposed under the IPMP.

Manual and mechanical control methods are effective for the removal of small pest populations, individual occurrences, and pest populations that occur near special-status species and their habitat or sensitive natural communities. Additionally, they are often used as a follow-up treatment in areas where larger pest populations have been sprayed with an herbicide. The following is a summary of types of manual and mechanical control treatments used by the District and proposed under the IPMP.

- *Pull:* Depending on the size of the plants, the stem of the target plant would be grasped by hand or with the assistance of a weed wrench and the entire plant including the roots would be pulled out of the ground. A weed wrench is a lever-type tool that is used to pull up invasive plants that are between one and six feet tall with roots that penetrate more than a few inches into the soil; usually shrubs such as French broom (*Genista monspessulana*) are ideal candidates for a weed wrench. Pulling is not suitable in areas where there is steep terrain, where the operator cannot gain a firm stance, or where the activity may lead to disruptive erosion.

- *Dig:* For small infestations, this would be completed by using a shovel, Pulaski, or similar hand-operated digging tool to loosen the soil around the roots of a plant several inches below the surface and then lifting out the entire plant. The amount of root that must be removed varies by species.

- *Mow/Cut:* A brushcutter or other motorized cutting machine would be selected for mowing of weeds based on the size of the infestation. Most species would require repeated cutting throughout the growing season (generally late spring through mid-summer) or they could re-sprout from their base and continue to grow, flower, and produce seed. Mowing would need to be carefully timed according to the phenology of each plant species to minimize the amount of re-sprouting and to avoid spreading ripe seed. Mowing is a temporary measure that controls reproductive spread and can eventually reduce populations of annual plants, but other subsequent treatments (e.g., pulling, herbicide) would be necessary to eradicate perennial plants. Mowing cannot be used on steep slopes or in locations with desirable native plants unless the timing of the mowing can be selected to affect only target plants.

- *Green Flaming:* Specially designed small, hand-held propane torches would be used in small areas to kill dense and newly emerged green seedlings. Green flaming would usually be conducted during light rains or on wet days when forest litter or grassland thatch is not likely to catch fire and additional precautions are implemented at the time of use including bringing truck-mounted or backpack water tanks, and operating with more than one person onsite. This method works well on newly emerged broom seedlings.

CHEMICAL TREATMENT

A list of pesticides have been selected to support the IPM approach for the District. In order to comprehensively evaluate the potential safety of the selected pesticides, each candidate chemical (active ingredient or product) was reviewed and evaluated for its reported fate and transport in the environment and toxicity to humans and non-target wildlife and vegetation in a detailed toxicological analysis. For the full toxicological analysis for each pesticide selected to support the District's IPM approach, refer to Appendix E, Pesticide Technical Background Information, of the District's proposed IPM Guidance Manual (Appendix B).

Grouped by pesticide category (i.e. herbicides, fungicide, rodenticide, and insecticide), Table 3-2 provides the District's proposed pesticide list and includes active ingredient, product formulations, mode of action, and pesticide purpose. This list of pesticides is intended only for use on the pests, environment, and microclimates of properties and buildings managed by the District, and would not be used on other lands without additional analysis. Each product on this list has been (and new proposed products would be):

- screened for human toxicology, ecological toxicity environmental fate and transport, and proven efficacy against target pests;

- reviewed annually by the District's IPM Coordinator and IPM Coordination Team;

- reviewed and approved by the Board of Directors;

- presented for public comments at public hearings; and

- included in the environmental documentation and public notification procedures that are being prepared for the project (i.e., the list is adopted as part of environmental review and approval process).

Table 3-2 Pesticides Selected to Support the District's IPMP

Pesticide Category	Active Ingredient	Product Formulations (Manufacturer)	Mode of Action	Purpose
Herbicides	Glyphosate	Roundup Custom, Roundup ProMax (Monsanto)	Amino acid synthesis inhibitor	Nonselective post-emergent broad-spectrum weed control
	Aminopyralid	Milestone (Dow AgroSciences)	Auxin growth hormone mimic	Nonselective post-emergent broad-spectrum weed control
	Clopyralid	Transline (Dow AgroSciences)	Auxin growth hormone mimic	Selective broadleaf weed control
	Imazapyr	Polaris (Nufarm), Stalker (BASF)	Amino acid synthesis inhibitor	Nonselective pre-and post-emergent broad-spectrum weed control
	Clethodim	Envoy Plus (Valent)	Fatty acid synthesis inhibitor	Selective post-emergent grass weed control
Fungicide	Potassium salts of phosphorus acid	Agri-Fos (AgBio)	Fungal oxidative phosphorylation inhibitor	Prevents sudden oak death
Rodenticide	Cholecalciferol	Cholecalciferol baits	Calcification of soft tissues	Rodent pest control (e.g., rats, mice)
Insecticides	*d-trans* allethrin	Wasp-Freeze (BASF)	Voltage-gated sodium channel interference	Wasp and hornet control
	Phenothrin	Wasp-Freeze (BASF)	Voltage-gated sodium channel interference	Wasp and hornet control
	Indoxacarb	Advion Gel Baits (DuPont)	Sodium channel blocker	Structural pest control (e.g., ants, cockroaches)
	Hydroprene	Gentrol Point Source (Wellmark International)	Juvenile growth hormone mimic	Pest control (e.g., cockroaches, beetles, moths)
	Fipronil	Maxforce Bait Stations (Bayer)	GABA-gated chloride channel blocker	Ant control
	Sodium tetraborate decahydrate (borax)	Prescription Treatment Baits (BASF), Terro Ant Killer II (Terro)	Water balance disruptor	Ant control
	Diatomaceous earth	Diatomaceous earth	Water balance disruptor	Structural pest control (e.g., ants, cockroaches)
Surfactants/ Adjuvants	Modified Vegetable Oil/Methylated Seed Oil	Competitor MSO (Wilbur-Ellis)	Decrease surface tension, increase herbicide uptake, enhance wetting and spreading	Increase delivery and efficacy of pesticides to targets
	Lecithin	Liberate (Loveland Products, Inc.)	Enhances uptake of herbicides and pesticides	Increase delivery and efficacy of pesticides to targets
	Alcohol ethoxylates	Liberate (Loveland Products, Inc.)	Enhances uptake of herbicides and pesticides	Increase delivery and efficacy of pesticides to targets
	Alkylphenol ethoxylate (APE)	Pentra-Bark (Quest)	Enhances uptake of Agri-Fos	Increase delivery of Agri-Fos to trees

This list encompasses mostly products already in use by the District, as well as a few new pest control products. Products on this list were reviewed for human and environmental safety and efficacy on the District's target pest species. Additional details about the District's screening process are provided below.

Please refer to Table 3-1 for method of chemical application associated with each IPM management category. Consistent with types of chemical application methods currently used on District lands, the following methods would be used under the proposed IPMP:

- *Cut-stump application:* Under this treatment, the woody plant would be cut close to the ground at a 90-degree or 45-degree angle with a chainsaw or pole saw. Debris would be removed from the cut stump and herbicide immediately applied to the circle of living cells. Cut-stump application would be used to selectively eliminate woody trees and shrubs. Woody plants tend to re-sprout frequently when cut unless treated with herbicide.

- *Spray application:* Depending on the size of the infestation, herbicide would be applied with a 5-gallon backpack sprayer or, for larger areas, a 14-gallon tank mounted on an all-terrain vehicle or 150-gallon truck with a hose that is directly controlled by an operator. All methods of spraying under this project would be selective, that is, the operator (who is trained in identifying plants) would be in direct control of the sprayer, would point the spray tip directly at the target weed or pest, and would manually turn the spray equipment on and off to control the amount and direction of spray.

- *Wipe application*: Under this treatment, herbicide would be applied to the target plant using a sponge or rope wick applicator for selective treatment. This method generally results in less potential for herbicide drift than spraying, although care must be taken that the applicator does not drip or overlap onto non-target plants. This method works best on plants that form a basal rosette of leaves.

As required by regulations of the California Department of Pesticide Regulation (California Code of Regulations, Title 3, Division 6), the District or its contractors would continue to report all pesticide use on a monthly basis to the County Agriculture Departments (San Mateo, Santa Clara and Santa Cruz Counties); would obtain Pest Control Recommendations from a licensed Pest Control Advisor on an annual basis; would renew the District's Operator Identification with the County Agriculture Departments; and would require key employees to obtain either a Qualified Applicator License or a Qualified Applicator Certificate.

3.5.3 Project Characteristics-Management Categories and Treatment Actions

IPM IN BUILDINGS

District properties include over 182 buildings, including an administrative office in a city, three field offices, a nature center, residences, and numerous outbuildings such as barns, sheds and water tanks in the preserves. Certain animals and plants may be incompatible with human use of these structures or may harm the building itself. For example, rodents, ants, and similar structural pest species are typically controlled in buildings when their population numbers may result in structural damage or health risks to humans. Management of pests in buildings is estimated to occur in 103 of the total buildings and it may be conducted by District staff, contractors or by residential, commercial or agricultural/rangeland tenants at some level almost every year.

For the purposes of this analysis, structural pests include common insects, plants and animals that routinely occupy the open interiors and immediate exteriors of buildings. Structural pests that live within the soil and wood components of these structures such as termites, wood boring beetles and wood decaying fungi are not included in the IPMP and would be addressed by the District on a case-by-case basis.

The purpose of pest control in District buildings is to manage pests for human health and safety, and to preserve the intended uses of the building structure. Most structural pests only become problematic when there are extra resources readily available (food, water, shelter) in and around the structure. Many of these types of outbreaks can be managed with cultural control options such as changing human behavior (e.g., securing garbage, cleaning up food) or engineered control options within structures (e.g., sealing up entrance area, securing garbage disposal areas). Nuisance insect and wildlife pests in buildings addressed

within the District's IPMP include ants, cockroaches, flies, mice, rats, skunks, opossums, raccoons, and bats. If structural pest control in vacant structures is expensive, time-consuming, or otherwise damaging to the surrounding natural environment, demolition of the buildings should be considered as part of the Annual IPM Report. Demolition activities would be subject to separate permitting processes through respective County planning departments. Modern IPM programs for buildings rely on prevention (i.e., building design and human behavior modification) as the primary structural pest control treatment options) to eliminate pest problems. Therefore, a discussion of preventative and general maintenance activities is summarized below.

Preventative and General Maintenance Control Treatment Options for Buildings

The following summarizes preventative and general maintenance control treatment options for insects and wildlife covered under the IPMP in buildings. A more detailed description is provided in Section 6.4 of the IPM Guidance Manual (Appendix B).

Prevention. Preventive control treatment options for insects and wildlife pests in buildings include general guidelines that promote pest-resistant materials, block common access points to buildings, and promote the modifications of common structures to repel rather than attract common pests. These guidelines may include landscape design practices that can be incorporated at District facilities in natural areas. For example, defensible space around structures should not be planted with dense ground covers and/or climbing vines like ivy that could attract structural pests such as mice and skunks.

Maintenance activities. Maintenance practices that would reduce structural pest impacts under the IPM are summarized below.

Minimize moisture.

Moisture in and near structures can provide harborage for insect pests such as beetles, cockroaches, flies, carpenter ants, silverfish, and millipedes. Procedures to minimize building moisture during construction or general maintenance and repairs:

- Check for proper ventilation of crawl spaces; add vapor barriers in crawl spaces.
- Ensure appropriate slopes and drainage next to structures.
- Downspouts and gutters should discharge at least one foot away from walls; splash guards, rain barrels, or gutter extensions may be added to reduce accumulation of moisture near structural walls.
- Ensure that landscape irrigation does not introduce moisture to foundations – use drip irrigation and position sprinklers to avoid structures.

Maintain landscaping next to structures.

- Prune vines, shrubs, and trees at least six feet away from roofs and exterior walls, as rodents can use these for access into buildings and shelter next to foundations.
- Remove and avoid planting Algerian or English ivy, star jasmine, or honeysuckle vines, which provide shelter and food sources for rats and other urban pests. Remove and avoid planting bamboo, cherry laurel, fig, pine, and roses near buildings, which encourage scale, aphid, and ant populations.
- Clear landscaping away from vent openings to crawlspaces to prevent moisture buildup.
- Remove plants and wood mulch within several inches of foundations to minimize ants and other nests. A gravel strip around foundations at least two feet wide and 0.5 feet deep of one-inch gravel or larger discourages rodent burrowing and other insect nesting.
- Select plants that attract beneficial insects such as parasitic wasp, native bees, and ladybugs.

Move stored materials away from structures.

- Store compost and trash bins away from structures, as these can attract rodents, insects, and other nuisance pests.
- Store wood piles and debris away from structures to prevent rodent, beetle, and termite infestation.
- Seal off openings.
- Inspect openings to crawlspaces and other ventilation features to ensure screens are intact.
- Inspect, maintain, and use elastomeric sealant, polyurethane foam, and weather-stripping to seal all small cracks in structures, around countertops and windows, pipe breaks, and areas where pipes enter walls. Use stainless steel wool and mesh and fire block foam to re-seal larger openings in buildings and below decks.
- Add door sweeps or high density pest brushes to seal gaps greater than ¼" below doors.

Block access for rodents to climb pipes and gutters.

- In areas with Norway rats or other rodent issues, various items can be installed to prevent the rodents from climbing downspouts and pipes, including flap valves or screens in downspouts, 12"-diameter downward-facing cones or 18"-diameter discs, or a 12" band of glossy paint on exterior vertical pipes.
- Add bird exclusion materials to lighting and other horizontal surfaces.
- Bird spikes, wires, netting, or similar materials should be installed prevent birds from roosting or nesting on structures or on light poles.
- Reduce or move exterior lighting. Exterior lighting may encourage insects to gather near doors and windows.
- Timers and motion detectors can be installed to minimize unnecessary lighting.
- Use reflected light instead of direct light to illuminate entryways, as insects are more attracted to direct light.
- Use yellow (sodium) bulbs to reduce insect attraction in exterior areas.

Exclude rodents from refuse and recycling areas.

- Enclose refuse and recycling areas with metal, concrete, or similar materials to prevent wildlife from climbing, burrowing, or chewing into the enclosure. Do not plant ivy around the enclosure.
- Use refuse containers that are heavy duty, rust resistant, rat and damage resistant, and equipped with tight-fitting lids.

Manual and Mechanical Control Treatment Options in Buildings

The following summarizes manual and mechanical control treatment options for insects and wildlife covered under the IPMP in buildings.

Ants. Manual and mechanical control treatment options could include:

- Clean up of ant trails with soapy water or sticky lint rollers.

- Use of caulking, silicone, or expanding foam to fill cracks, holes, or other entry points where ant trails originate. If multiple entry points are suspected, diatomaceous earth dust could be injected into cracks before sealing (discussed below under chemical options).

- Pruning of outside vegetation that is touching structures if it attracts ants. Some species, such as citrus, are especially susceptible to sucking Homopteran insects that in turn attract ants. District may consider replacing these species of plants if adjacent to buildings and creating ant infestations.

- Removal of debris such as pieces of wood or masonry that that act as cover for ants nesting next to structures should be removed.

- Elimination of water leaks in, under or around structures that will attract ants or other pests.

Cockroaches. Manual and mechanical control treatment options could include:

- Use of caulking, silicone, or expanding foam to fill cracks, holes, or other entry points where cockroaches are known to hide or enter structures. If multiple entry points are suspected, diatomaceous earth dust could be injected into cracks before sealing.

- Use of a sticky-trap monitoring program to determine where in the building roaches are hiding.

- Removal of interior and exterior clutter and/or organic waste that create harborage and/or food for cockroaches.

- Ensuring there are no water leaks in, under or around structures that will create conducive conditions for cockroaches.

Flies. Manual and mechanical control treatment options could include:

- Use of caulking, silicone, or expanding foam to fill cracks, holes, or other entry points in building exteriors where flies can gain entry.

- Use of sticky fly traps to capture excess adult flies and remove them from building interiors.

- Use of baited electric traps for problem outside areas such as picnic grounds, barns, or livestock areas.

- Abate larval development sites. Identification of the fly species and larval food source is key to fly control; removal of decaying organic matter in and around structures and keeping lids on trashcans is essential in a fly management program.

- Install/repair functional screens on doors and windows.

- Inspect attic spaces and substructures for animal droppings or corpses if metallic colored flies are present.

House and deer mice. Manual and mechanical control treatment options could include:

- Install snap traps (i.e. basic hardware store mouse traps) for mouse population control.

- Install box traps that are capable of trapping multiple individuals per trapping event.

- Install glue boards (i.e., sticky boards). These are effective for supplementing other trapping methods in challenging areas (i.e., where other traps cannot be easily placed) or for trapping individuals that are trap shy. Glue traps are most effective when placed in a box or other cover to keep dust and debris from coating the surface, and can only be used inside buildings.

- Removal of food, water, and harborage for rodents in and immediately around structures.
- Install rodent proofing of structures to prevent rodent infestation.

Roof, Norway, and wood rats. Manual and mechanical control treatment options could include:

- Complete an inspection to identify the rodent species, find rodent entry points (holes ¼ inch or larger), and identify other conditions conducive to rodent infestation. Note: If wood rats are found to infest the structure, California Department of Fish and Wildlife should be contacted.
- Removal of food, water and harborage for rodents in and immediately around structures. If woodrat nests need to be moved away from structures to either reduce infestation of buildings or reduce wildfire hazard, California Department of Fish and Wildlife would be contacted.
- Install rodent proofing of structures to prevent rodent infestation.
- Install snap traps (see description above).
- Install glue boards (see description above).

Skunks, opossums, raccoons, and bats. Manual and mechanical control treatment options could include:

- Install one-way door, live box, or cage traps. Trap design varies but solid wall traps are preferred for skunks to shield the trapper from skunk spray during the control operation. The use of live trapping methods ensures that non-target animals can be released unharmed. Current California Department of Fish and Wildlife (CDFW) trapping regulations requires that trapped animals are either released immediately or euthanized, live animals may not be relocated without a permit from CDFW.
- Place ½-inch or smaller welded wire mesh over chimney tops (Check with your fire department for local regulations on spark arresters.) and install tighter-fitting screen. Bats can enter through open doors or windows. Other common entry points include chimneys that don't have grates and doors with loose-fitting screens. Conduct a room-by-room search for other points of entry, and seal holes that are more than ½ inch in diameter or cracks that are ¼ by 1½ inches or larger. Close openings around plumbing pipes by using steel wool or other suitable material. (UC IPM Pest Notes).

Chemical Control Treatment Options in Buildings

Where pesticide use is determined to be the only viable treatment option to address the specific infestation of concern, selection of least harmful products is required. Only pesticides on the District's List of Approved Pesticides (refer to Table 3-2) may be utilized. As an example, structural pest infestations that pose an immediate threat to human health or public safety would warrant use of pesticides if non-chemical control could not protect the staff, tenants, or visitors. The following chemical control options represent the least harmful, most efficient treatment methods for controlling structural pests covered under the IPMP in buildings. Approved pesticides for ant and roach control would only be used inside buildings and bait would be contained within tamper-proof stations.

Ants. Chemical control treatment options could include:

- *Insecticidal soap spray*. Insecticidal soaps are specially designed mixes of fatty acids that are made to penetrate an insect's covering and dissolve its cell membranes causing dehydration and mortality. Generally, the soaps are formulated to not dissolve plant cell membranes so are safe to apply directly to plants. Insecticidal soaps are not effective on all insects, but soft bodied insects, such as ants, are highly susceptible. When used for ant control, soaps are most effective in controlling the Homopteran insects (aphids, etc.) on plants that attract and sustain ant colonies.

- *Boric acid bait.* Boric acid is a naturally occurring compound found in many fruits and vegetables, but at concentrated doses it can be an effective stomach poison for insects. Baits use low concentrations of boric acid in the range of 0.5 – 5 percent to allow for ants to ingest the bait and take it back to the colony to share with other workers before there is a lethal effect. Higher concentrations risk killing the individual before it has time to take the bait back to the colony.

- *Fipronil.* Fipronil is a broad-spectrum insecticide common in household cockroach/ant baits and flea sprays for pets. When used as ant bait, it is toxic through ingestion where it blocks chloride channels in the central nervous system resulting in excess neuronal stimulation and death. It has higher binding affinity in insect receptor sites versus mammalian receptors so it is considered highly selective for insects and safe to use in human environments (Jackson et al. 2009). It is considered one of the most effective baits for colony control of Argentine ants in situations when boric acid-based baits are less effective (Hooper-Bui and Rust 2000, Mathieson et al. 2012) and is relatively quick-acting compared to other pesticides. Small amounts of fipronil would be used as a last-resort option when extremely high populations of ants must be controlled quickly.

- *Diatomaceous earth (DE)*. DE is a silica-based, naturally occurring mineral product that works as a generalist insect pesticide. It is composed of the fossilized silica cases of marine diatoms that have been mined from ancient marine sediments. The dusts are considered non-toxic although care should be taken to not inhale large amounts of dust during application as all mineral and wood dusts are considered hazardous in extremely large amounts. Food-grade DE is available to mix directly in human and pet foods to manage pests that occur in bulk food storage. DE works by mechanically abrading an insect's exoskeleton that leads to dehydration and eventual death of the insect. DE is non-selective so it must be used only in specific areas where the target pests travel. The dusts are not eaten – so must be applied in areas where it would make contact with the bodies of insect pests. For ant control, it is often applied to cracks and crevices and may also be used in conjunction with caulks and foams to fill problem areas.

Cockroaches. Chemical control treatment options could include:

- *Boric acid dusts.* Boric acid is a naturally occurring compound found in many fruits and vegetables, but at concentrated doses it can be an effective stomach poison for insects. Boric acid dusts are highly effective for cockroach control when applied to cracks and crevices where cockroaches are known to occur. The dusts (when kept dry) have a long service life and provide control for many years after application. They are practically non-detectible to cockroaches, so unlike many other chemical products that cockroaches can detect and avoid, they offer one of the more effective methods for cockroach control (Gore and Schel 2004). Because they have such a long service life, they are effectively applied inside building walls, plenum (false) ceilings, crawlspaces and other relatively inaccessible areas where cockroaches can occur. Boric acid dusts are relatively slow acting compounds that take up to 10 to 15 days to achieve effective elimination of problem insects and are therefore generally used to complement a baiting program to achieve full control of cockroach outbreaks.

- *Hydroprene.* Hydroprene is a synthetic insect growth regulator that mimics juvenile insect hormones to regulate insect pest populations. Although it does not poison an insect directly to cause a lethal effect, it does interrupt the development cycle of juvenile cockroaches so they do not reach a reproductive stage. This mode of action can be important in a long-term strategy by preventing young insects from reaching adulthood and breeding. Hydroprene is considered highly specific to insect pests and has low toxicity for birds and mammals.

- *Fipronil insecticidal baits* (see description above). Fipronil is relatively quick acting compared to other pesticides. Fipronil would be used as a last-resort option and in small amounts when extremely high populations of cockroaches must be controlled quickly.

- *Indoxacarb insecticidal baits.* Indoxacarb is a synthetic, non-systemic insecticide effective on chewing and sucking insects. When used as cockroach bait, it is toxic to insects through ingestion where it blocks

sodium channels in the central nervous system resulting in paralysis and elimination of the target insect pest. It is considered a organophosphate replacement that provides a fast acting, quick knockdown pest control option. In laboratory conditions, small amounts of gel baits can provide several generations of control when the product is re-consumed through feces, regurgitates, and through bodily contact from the primary exposed individual cockroach (Buczkowski et.al. 2008). This product would be used as a last-resort option in challenging cockroach pest control scenarios.

Flies. No chemical methods are recommended for control of flies.

House and deer mice. Chemical control of mice would not be considered except under very severe human health and safety considerations. In the unlikely event that chemical control of mice is deemed necessary, refer to the Chemical Control section for rats, below.

Roof, Norway, and woodrats. The District is aware of the potential for secondary effects of rodenticide use in and near natural lands on native wildlife species and domestic pets, and is committed to strictly regulating rodenticide uses on its lands to the fullest extent possible. The District would utilize non-chemical control options before selecting rodenticides as a treatment option except in cases where rodent infestations are determined an urgent human health issue. The District's goal is to reduce all rodenticide use on its lands over time to the fullest extent possible, while still protecting human health.

The only rodenticide that is being considered and evaluated for structural rodent control on District lands under the IPM is cholecalciferol. This rodenticide would only be used in cases where the infestation level is posing a risk to human health especially if non-chemical methods have been found to be ineffective. Rodenticides would only be used inside buildings and in bait formulations enclosed in anchored and tamper-proof stations. Tenants would not be allowed to use rodenticides; only trained District staff or licensed contractors would be allowed to use rodenticides in District buildings. The District's IPM Coordinator would determine rodenticide usage based on the proximity to urban areas, concerns for wildlife, and resistance management. No anticoagulant rodenticides (i.e., first generation anticoagulants: diphacinone, chlorophacinone or second generation anticoagulants: brodifacoum, bromadiolone, difenacoum or difethialone) would be allowed for use on District lands under the IPMP. Refer to Appendix B of this EIR for a more detailed description of these rodenticides and mode of action.

IPM FOR RECREATIONAL FACILITIES

Human use is typically concentrated on preserves at the recreational facilities provided by the District. Recreational facilities within District preserves currently include approximately 479 miles of access road and trails as well as associated infrastructure (i.e., bridges, culverts, drainage ditches, parking lots, gates, stiles), picnic areas, one campground, off-leash dog zones, managed turf and landscaped recreation areas, pond viewing and dam areas, and Deer Hollow Farm).

Nuisance pests in and around recreational facilities include plants, stinging insects and wildlife that can temporarily affect the District's visitor experience in a negative manner. Sometimes, nuisance pests at recreational facilities become problematic when there are extra resources readily available (e.g., food, water, shelter) and therefore can be managed through physical control options (e.g., maintaining crumb-free picnic and camping areas). The purpose of pest control in and around recreational facilities is to provide for human enjoyment of the natural and scenic qualities of the preserves while also minimizing human exposure to pests. The maintenance of vegetation alongside roads and trails and the control of stinging or biting insects or reptiles at recreational facilities must incorporate protection of the surrounding natural resources as a primary consideration.

The majority of IPM activity associated with recreational facilities is annual brushing (i.e., pruning of vegetation along roads and trails) which keeps them open for vehicular, horse, bicycle and human foot traffic, and furthermore provides a buffer area to separate humans from pests like ticks, rattlesnakes and poison oak. The District maintains guidelines for road and trail brushing that prescribe different treatments

for different vegetation types and slope conditions (District 2013). Mowers and saws may be used by District staff to maintain grass and shrubs near roads and trails in short stature, limb up overhanging tree branches, and remove dead or decadent vegetation. Wider strips of brushing occur along certain roads to provide access for emergency vehicles.

Manual and Mechanical Control Treatment Options for Recreational Facilities

The following summarizes manual and mechanical control treatment options for recreational facilities.

Mosquitoes. Manual and mechanical control treatment options include:

- Train staff to protect themselves from exposure by wearing long-sleeved clothing, tucking pant legs into socks and/or taping pant cuffs close to the body.

Social wasps. Manual/mechanical control treatment options include:

- Install baited non-toxic water traps in late winter and early spring to reduce queens in problem areas where wasps are known to be regularly problematic.
- Install pesticide-free lure traps set approximately 200 feet apart in outside problem areas where human/wasp conflicts are known to occur (e.g., picnic areas).
- Remove problem wasp nests with water jets or by digging them out of underground locations.

Ticks. Manual/mechanical control treatment options include:

- Train staff to protect themselves from tick exposure and posting of educational signs to help inform visitors of tick prevention and detection strategies.

Rattlesnakes. Manual/mechanical control treatment options include:

- Eliminate hiding places for snakes by trailheads and parking areas with brushing, removing rock and brush piles near busy human use areas especially those with children, and filling cracks and holes in publicly accessible buildings.
- Use snake tongs, snake hooks or shovels to capture and relocate or eliminate rattlesnakes that occur near people. Rattlesnakes are the only venomous snakes that occur in the District preserves and no other local snake species are a hazard to recreational visitors. Captured rattlesnakes can be placed in a secure container for relocation in the preserve to suitable habitat away from people. Occasionally, due to site conditions or the urgency of the situation, a staff member or tenant may need to kill a rattlesnake with a shovel.

Vegetation along trails and other recreational facilities. Manual/mechanical control treatment options include maintenance of existing recreational facilities within District preserves via brushing and/or mowing:

- *Road and trail brushing*. Mechanical mowing is used to prevent nuisance vegetation from impeding roads and trails. Vegetation along approximately 600 miles of trail and road edges (counting both sides of trails and roads) is cut back to maintain an open corridor for trail and road use. This work is primarily mechanical work done with brushcutters (a.k.a. weed-whips), chainsaws, poles saws, chippers, and tractor-operated mowers (mowing decks either pulled by a tractor or attached to the tractor as part of an articulated arm). All roads are mowed one to four times per year depending on the rainfall/vegetation growth in any one year. Most trails are mowed or brushcut on an annual basis; some trails may need to be brushed up to four times a year if there is a lot of rain and the trail is heavily used by the public. Some more remote trails may not be brushed every year.

- *Parking lots, gates, and stiles*. On an annual basis, a strip of land around 13 parking lots and 213 gates and stiles in the preserves are sprayed to maintain an open area for parking and visibility. A few of the locations are brushcut or mowed instead if they are large grassy areas or if there is water too close to allow spraying. Islands in the middle of parking lots or parking lots with narrow grassy edges are mowed.

- *Miscellaneous recreational areas.* A few miscellaneous recreational areas are mowed one to five times a year with a tractor pulling a mowing deck. This includes a model airplane field and three meadow areas along Rogue Valley Trail maintained at Rancho San Antonio OSP, the picnic table area at the top of Anniversary Trail on Windy Hill OSP, and the hang gliding take off and landing areas at the top and bottom of Spring Ridge Trail of Windy Hill OSP. In addition, special events occur in the preserves each year (i.e. Volunteer Recognition Event, summer camps, and other public gatherings) that require mowing of grassy areas. At Deer Hollow Farm in Rancho San Antonio OSP, pastures, animal pens and the Ohlone village are mowed four to five times per year with a tractor mower or brushcutters.

- *Campsite*. The Black Mountain campsite is mowed once a year to provide a comfortable camping experience and to reduce the risk of wildfire encroaching either into or out of the campground.

- *Pond Viewing Areas and Dams*. At some ponds, aquatic and terrestrial vegetation is managed at viewing areas and on dams. Windows of cattails and other tall wetland vegetation are removed in small select areas to allow public viewing of these water bodies. The California Division of Dam Safety requires all woody material be removed and tall herbaceous vegetation be cut on both faces of certain pond dams to improve visibility to see possible failure hazards. Vegetation on the water side of the dam is clipped with mowers and brush cutters; vegetation on the dry side of the dam is controlled with mowers and selective use of herbicides to maintain a light grassy vegetation cover. Woody vegetation is cut in pond spillway to prevent blockage of water flow. Duckweed or azola (aquatic fern) skimming has been done, with limited success, to control these plants from covering the entire surface of some ponds. Down trees which have fallen in a pond can require removal for aesthetic or other management reasons.

- *Streambed Alteration*. The District follows conditions of an annual routine maintenance Streambed Alteration Agreement from CDFW for manual and mechanical vegetation management activities located within CDFW's jurisdiction. Please refer to Section 4.2, "Biological Resources," Impact 4.2-2, of this EIR.

- *Hazard and downed trees*. An estimated 50 to 150 hazard and downed trees are limbed or removed every year with chainsaws, pole saws and chippers because they are blocking roads, trails and parking lots or are otherwise hazardous to visitors, staff, tenants or contractors They may be alive or dead. Stumps of live trees may be treated with herbicide to prevent re-growth.

Chemical Control Treatment Options for Recreational Facilities

The following summarizes chemical control treatment options for recreational facilities.

Mosquitoes

- *Bti - Bacillus thuringiensis israelensis* (Bti) in the form of small disks are placed in watering troughs throughout the preserves to control mosquitoes. Bti is a specific type of bacteria that prevent mosquito larvae from developing.

Where chemical control is determined to be the only viable treatment option to address the specific infestation of concern in and around recreational facilities, the District would contact the appropriate county Mosquito and Vector Control District for assistance and would comply with legal requirements to control mosquitos for human health and safety.

Social wasps. Chemical control treatment options include:

- Pyrethrin aerosol sprays containing d-trans allethrin and phenothrin would only be used in areas where immediate threats exist to human health and safety. These aerosol sprays are extremely effective at

immediately eliminating single, problem wasp nests that threaten District staff or visitors. The pyrethrin-type sprays work as a contact neuro-poison that results in near immediate mortality of any insect (Jackson 2011). The sprays offer a relatively safe and effective means for park ranger and maintenance workers responding to immediate threats of wasp nests. Contact pyrethrins are completely non-selective, so care must be taken to target only the pest wasp and not to impact other beneficial insects. Contact sprays do not offer population-level control for wasps; the seasonally-specific manual and mechanical control methods described above are the only known methods to effectively reduce populations of stinging wasps in open landscapes. If wasp sprays are used at Ravenswood OSP or Stevens Creek Shoreline Nature Study Area, the treatment can be no closer than 60 feet to the shoreline or marshes because these pesticides are covered by a recent injunction regarding pesticides and endangered species at locations that might support clapper rail habitat.

Vegetation along trails and other recreational facilities. Maintenance of required clear zones next to trails and related recreational facilities is primarily done with manual and mechanical methods as described above. Broadcast application of herbicides would not be used for this purpose. However, selective application of herbicides next to trails is sometimes used to control problematic vegetation (e.g., stands of poison oak and efficient control of woody plants in narrow zones).

Among the herbicides included in the IPM program are some that are formulated for use in and near aquatic habitats (Roundup Custom™ for example mixed with a surfactant). These formulations are useful in upland areas because the surfactants are better at adhering to certain plant species than the non-aquatic formulations. The District on rare occasions may need to use chemical treatments within or very near to aquatic habitats including treatments on seasonal wetlands (during the dry season) to control aquatic pest plant species and treatments on streambanks to control slender false brome.

Chemical control treatment options include:

- Glyphosate, the active ingredient in Roundup ProMax™ and Roundup Custom™ (previously sold as Aquamaster™). Glyphosphate is a broad-spectrum non-selective systemic herbicide used to control a wide variety of plants, including annual broadleaf weeds, grasses, perennials, and woody plants. It is absorbed through foliage and translocated to growing points. The Roundup Custom formulation is used near aquatic areas to avoid possible effects of the surfactant included in the Roundup ProMax formulation.

- Imazapyr, the active ingredient in Polaris™ (previously sold as Habitat™). Imazapyr is a non-selective herbicide used to control a broad range of weeds including grasses, broadleaf herbs, woody plants, riparian plants, and emergent aquatic species.

Refer to Table 3-2 or Appendix B of this EIR (see Section 7.7 and Appendix E of the IPM Guidance Manual) for description of mode of action for these chemicals.

IPM FOR FUEL MANAGEMENT

This management category addresses IPM as it affects staff selection of treatment options for required and ongoing maintenance of fuel management activities. Fuel management is the practice of removing or modifying vegetation to reduce wildfire ignitions, rate of fire spread, and fire intensity. Changing the continuity of the vegetation, and reducing its volume are the two primary actions in fuel management. Preventative treatment actions may include temporary trail or equipment closures during fire season.

The wildland urban interface (WUI) is the meeting point between wildland vegetation (i.e., fuels) and structures. The WUI warrants fuel management consideration because it is the area where there is the most threat of damage to human life and property. Other important areas to control flammable vegetation on District lands include access roads on and adjacent to District lands that are necessary for emergency access. In the context of IPM, vegetation at the WUI and vegetation around structures that could contribute

to large, uncontrolled wildfires is considered a potential "pest" that may warrant control, depending on site-specific circumstances. Specifically, vegetation may be considered a pest where it becomes overabundant, decadent or exceptionally close to facilities, structures, and communities that people inhabit and use. At the same time, fire is a natural component of many common plant communities in the District and helps to maintain species diversity of native grasslands, shrublands, and forests.

No new major fire breaks or other new major fuel management activities on District lands would be implemented as part of the IPMP. The use of prescribed burns to restore natural conditions in preserves is not currently included under the proposed IPMP. The IPMP would provide guidance to District staff in selecting the safest and most effective options to maintain existing fuel management activities. Consistent with current activities on District lands, the District's fuel management activities would first consider health, human safety, and regulatory requirements for local and state fire codes, and then balance these requirements with the District's goals to protect natural resources. For example, defensible space around structures is required and regulated under the Uniform Building Code, Uniform Fire Code, Public Resources Code Section 4291/4119, and County and City municipal codes and ordinances.

Clearing of flammable vegetation to provide defensible space occurs on an annual basis around an estimated 117 structures by District staff or by residential, commercial or agricultural/rangeland tenants. This work consists of manual and/or tractor mowing, brushcutting, chainsaw work, pole pruning, chipping, masticator and spraying depending on the site conditions. The District developed Defensible Space Clearing Guidelines that it adheres by (Appendix B). The required amount of clearance for defensible space can vary depending on the Fire District jurisdiction that a parcel falls within. Implementation of the proposed IPMP would not result in any changes to the District's Wildfire Management Policy (District 2012a; 76-84) or defensible space requirements (District, local, or state) on or adjacent to District lands.

Manual and Mechanical Control Treatment Options for Fuel Management

Manual and mechanical control treatment options for maintenance of fuel management activities include:

- *Preventative treatment.* Preventative treatment actions may include temporary trail or equipment closures during high fire danger conditions.

- *Defensible space.* Defensible space would continue to be maintained around structures and the perimeter of District lands consistent with District, local, and/or state regulations. Defensible space around buildings would be mechanically or manually maintained with use of tractors and/or bushcutters for mowing, and use of chippers, masticators, Jawz implement, and/or chainsaws for cutting.

- *Disc Lines*. Disc lines are a type of mechanical fuel treatment that utilize an agricultural cultivator attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. A disc line is typically placed along the perimeter of undeveloped land, ranches, and roadways. The District would continue to maintain 31 miles of disc lines on its land annually as required by local fire agencies. Occasional trimming of overhanging branches with a chainsaw or pole pruner would also be undertaken along disc lines where needed to allow passage of the tractor. Brush encroaching into disc lines is removed with chainsaws.

- *Shaded fuel breaks*. Shaded fuel breaks is a forest management strategy that requires selective thinning and removal of the more flammable understory vegetation while leaving the majority of larger, more fire tolerant tree species in place. On District lands, a shaded fuel break is maintained along Monte Bello Road in Monte Bello OSP. Maintenance of the fuel break along the road includes annual mowing in grasslands adjacent to the road, clearance of brush and all dead vegetation, and removal of ladder fuels to the canopy in forested areas. Manual and mechanical tools used for these activities include tractors, brushcutters, chainsaws, chippers, masticators, and/or a Jawz implement.

- *Mastication.* A masticator is a high-rotation drum with fixed teeth mounted on the hydraulic arm of an excavator that pulverizes vegetation. A masticator is used primarily for fuel breaks, but also sometimes

for brushing around structures, roads, parking lots and brush removal in grasslands. The masticator cuts vegetation ranging from grass to 6-inch diameter trees and can reach up to 22 feet horizontally. Masticators leave behind mulch and pieces of shattered wood up to approximately 12 inches long and can require, depending on vegetation, follow-up use of chainsaws by field staff. Use of a masticator would be limited by terrain and soil moisture (i.e. soft ground). A masticator would be used less than four miles per year.

- *Emergency helicopter landing zones.* Emergency helicopter zones are maintained annually or bi-annually via mowing with a tractor or brushcutter at 39 locations on District lands. As needed, encroaching brush is mechanically removed using a chainsaw or Jawz implement.

- *Trail and road brushing*. is an activity undertaken to facilitate visitor recreation and safety. Refer to discussion above, IPM For Recreational Facilities, for a more detailed discussion of mechanical and manual treatments used to maintain trails and roads.

- *Driveways.* Driveways to residences and other key structures receive additional treatment for ingress and egress in a fire emergency. Vegetation would be maintained to minimize flame length:

  - Within 10 feet of the road edge where flames are predicted to be 0-8 feet in length (generally grassy locations and in oak woodlands)

  - Within 30 feet of the road edge where flames are predicted to be over 8 feet in length (generally brushy locations and where understory shrubs are developed in woodlands)

- Occasionally, controlling invasive plants as described in the IPM on Natural Lands section below also provide fuel management benefits by removing dense, highly flammable brush stands such as French broom.

Chemical Control Treatment Options for Fuel Management

Chemical control is used for fuel management directly adjacent to structures as required and in some high-risk fire areas where perennial plants are not responding to manual or mechanical treatments and require permanent treatment. Chemical control treatment options for fuel management include:

- *Defensible space.* To meet legal requirements (District, local, and/or state) for defensible space, flammable vegetation may be spot sprayed annually within the inner 30 feet of a structure with glyphosate. Spot-spraying with glyphosate is sometimes conducted within this zone especially next to buildings and fences were it is difficult to operate a brushcutter or mower safely without damaging the structure or equipment. Spraying around buildings further avoids having to run a brushcutter blade against or around buildings, fences, pipes, rocks, and other obstacles which can be a fire hazard by causing sparks. Trees or large shrubs that require removal within the inner 30 feet of defensible space are likely to be treated by cut-stump method with glyphosate (refer to description in Table 3-2 above) to permanently remove them from this high hazard zone.

- *Disc lines*. Although brush encroaching into disc lines is primarily removed with chainsaws (as discussed above), more stubborn woody plants may require treatment with herbicides by cut-stump method with glyphosphate.

- *Shaded fuel breaks*. Use of glyphosphate in a cut-stump method is used to maintain fuel breaks that contain decadent woody vegetation.

IPM FOR RANGELANDS AND AGRICULTURAL PROPERTIES

Some District lands encompass rangelands, crop fields, and orchards that are actively managed as grazing or agricultural operations. Rangeland and agriculture activities on District preserves are primarily managed

by lessees who typically operate under a Rangeland Management Plan or Agricultural Management Plan that is attached to their lease. These site-specific management plans guide the rangeland and agricultural activities to ensure compatibility with natural resource protection and low-intensity public recreation. This IPMP does not replace the requirements of the individual range or agricultural management plans, nor does it present the full range of agricultural or range management options. Rather, it seeks to provide staff with tools that are consistent with IPM principles to select the safest, least harmful, and most effective treatment options for rangeland and agricultural pests. Insect management in field crops is very specific to the type of crop grown. Because the District has few properties that currently support row crops, agriculture insect pest management for agricultural fields is not covered under the IPMP but would be covered in future Agriculture Management Plans.

The purpose of IPM in rangelands and on agricultural properties is to manage pests to maintain the specific land uses (e.g., livestock grazing, crop production), while also providing natural resource protection and visitor access. Rangeland and agricultural pests that may be encountered include weeds, pathogens, and insects in croplands; rodents in farm fields and buildings; and weeds poisonous to livestock or otherwise detrimental to productive pastures, primarily thistles and brush.

IPM in rangelands and agricultural properties focuses on maintaining land uses (e.g., grazing, agricultural crop production) while also managing for the long-term functioning and stability of high value natural resources (e.g., grasslands, creeks) that surround the rangelands and agriculture. This requires landscape level monitoring to determine when pests such as agricultural pests and invasive plants are present in sufficient numbers to reduce the intended land uses or quality of the managed habitats.

Rangelands

The District established a Conservation Grazing Program in February 2007 with the goal of managing District land with livestock grazing that is protective of natural resources, compatible with public access, maintaining or enhancing the diversity of native plant and animal communities, managing vegetation fuel for fire protection, helping to sustain the local agricultural economy, and preserve or foster appreciation for the region's rural agricultural heritage.

By 2015, a total of 10 properties, totaling over 10,800 acres, is projected to be managed with livestock grazing. Table 3-3 provides a summary of District lands managed under the District's Conservation Grazing Program.

Table 3-3 District Properties Currently Managed Under the District's Conservation Grazing Program

Property	Preserve	Year First Grazed Under District Ownership	Acres
Big Dipper	Skyline Ridge OSP	2007	955
Bluebrush Canyon	Purisima Creek Redwoods OSP	2009	302
Lobitos Ridge	Purisima Creek Redwoods OSP	2010	389
Elkus Ranch Uplands	Purisima Creek Redwoods OSP	2009	450
October Farm	Purisima Creek Redwoods OSP	2012	270
Tunitas Creek Ranch	Tunitas Creek OSP	2008	707
Toto Ranch	Tunitas Creek OSP	2012	952
Driscoll Ranch	La Honda Creek OSP	2006	3,700
McDonald Ranch	La Honda Creek OSP	2014	2,060
Mindego Hill	Russian Ridge OSP	2015 (proposed)	1,047

Stocking rates and either year-round or seasonal grazing are prescribed for each property based on site-specific factors such as soil fertility, terrain, plant composition, water availability, and available

infrastructure. Typical vegetation pests on rangelands include thistles, Harding and velvet grass, poison hemlock and encroaching brush. Consistent with management plans for tenants leasing land, through existing rangeland management plans, grazing tenants are allowed to control pests through grazing, mowing, pulling and careful application of District approved herbicides. Brush, commonly the native coyote brush, limits the available forage for livestock, reduces grassland habitat areas and creates an increased wildfire fuel load. Grazing tenants typically treat brush encroachment with herbicide and then use a tractor and drag bar to break up dead vegetation in the following season.

Agricultural Fields and Farms

Two District properties contain agriculture fields. The Lobitos Ridge property consists of two crop fields containing flowers and vegetables on seven acres of Purisima Creek Redwoods OSP and the Madonna Creek Ranch property consists of 27 acres on Miramontes OSP on which a tenant cultivates dry farmed hay as well as smaller irrigated areas for pumpkins and other truck crops.

A draft Agriculture Production Plan has been prepared for the Lobitos property and is consistent with the District's IPM approach. It requires that best management practices (BMPs) as defined by the University of California Cooperative Extension Service and the USDA Natural Resources Conservation Service for farm production be followed, and specifically, that IPM techniques, as defined by the crop specific publications of the University of California Cooperative Extension Service are employed along with BMPs. Methods for control of weeds on the site can be by mowing, grazing, flaming or the use of an approved herbicide.

Lessees operate a Christmas tree farm and chestnut orchard at Skyline Ridge OSP and a vineyard at Picchetti OSP. A historic fruit orchard is maintained by District staff and volunteers on the Stevens Canyon property. The City of Mountain View operates Deer Hollow Farm, an educational farm located in the Rancho San Antonio OSP that offers classes and camps for thousands of schoolchildren in farm, garden, native peoples and history.

Manual and Mechanical Control Treatment Options for Rangelands and Agricultural Properties

Manual and mechanical control treatment options for rangelands include:

- *Mow/Cut*. A brushcutter, disc, brushrake, or other motorized cutting machine would be selected for mowing of weeds and cutting of brush based on the size of the infestation. Most species would require repeated cutting throughout the growing season (generally late spring through mid-summer) or they could re-sprout from their base and continue to grow, flower, and produce seed. Mowing would be carefully timed according to the phenology of each plant species to minimize the amount of re-sprouting and to avoid spreading ripe seed. Mowing is a temporary measure that controls reproductive spread and can eventually reduce populations of annual plants, but other subsequent treatments (e.g., pulling, herbicide) would be necessary to eradicate perennial plants. Mowing cannot be used on steep slopes or in locations with desirable native plants unless the timing of the mowing can be selected to affect only target plants.

Manual and mechanical control treatment options for agricultural lands include:

- *Cultural weed control.* Cultural weed control includes crop rotations, water and nutrient management, late-season planting, and cover/smothering crops (Smith 2000, Gunsolus et al. 2010). Cultural methods are the first line of defense in weed management on cropland.

- *Mechanical weed control.* Mechanical weed control is the most widely used weed control method for agriculture fields and can occur before, during, and after the crop is planted. This method includes primary tillage, row crop cultivating tillage, use of mulches (i.e., plastic sheeting, straw, wood chips, and sawdust), and/or soil sterilization techniques which use heat to kill weeds and weed seeds in soil. Passive sterilization uses clear plastic tarps to foster the germination of weeds under the tarp and then exposes the seedlings to hostile growing conditions and they perish; active sterilization uses extremely

high temperature steam to eliminate weed seeds and bulbs with direct contact. Both processes are expensive and require specialized equipment and/or high labor output.

- *Manual weed treatment.* Specific manual weed treatment methods allowed under the Lobitos Agricultural Management plan are mowing, pulling, flaming, mowing, mulching, weedmats, and hoeing.

Chemical Control Treatment Options for Rangelands and Agricultural Properties

Chemical control treatment options for rangeland and agricultural properties on District lands include:

- *Thistle, brush, and weeds*. Any of the herbicides approved under the IPM Program may be used to treat weeds on rangelands or agricultural fields if cultural or mechanical methods are not effective. Glyphosate and aminopyralid will likely be the primary herbicides used on thistles and brush on rangelands, and for weeds in agriculture fields and orchards.

- *Rodents*. For rodents in farm buildings or crop fields, refer to the procedures for controlling rodents under the Buildings section above.

- *Insects*. Insect management in field crops is very specific to the type of crop grown. Because the District has few properties that currently support row crops, agriculture insect pest management for agricultural fields is not covered under the IPMP. If any new pesticides are proposed for control of insects in agricultural fields, these would be evaluated in future Agriculture Management Plans, an environmental review may be required, and then the IPMP would be revised to add the new pesticide and new activity.

IPM ON NATURAL AREAS

Natural areas make up the majority of District lands, and typically experience minimal levels of human use. The purpose of IPM in natural areas is to preserve and restore natural resources while also maintaining safe and enjoyable human access for visitors and staff.

IPM in the District's natural areas focuses primarily on the control of pests that threaten the long-term viability of natural resources on District preserves. Pests that are commonly encountered on natural areas include invasive plants and invasive animals, including regulated species (i.e., plants and wildlife that are regulated under state and federal law or California Code) and feral pets. The District spends the majority of its IPM management efforts in natural areas on control of invasive plants.

Invasive plants are implicated in many natural resource and conservation problems and are considered by most land managers to be a threat to their resource management goals. When transplanted to a foreign landscape, invasive plants leave behind their associated predators, prey, and diseases that previously helped to balanced their growth and abundance. In addition, many invasive plants have inherent biological traits that allow them to rapidly reproduce and colonize new areas faster than the native plants of the invaded habitat. Some of these invasive plants become problematic because of abundance – they displace native species by outcompeting them for space and resources (CA Coastal Conservancy 2003, San Mateo County 1983, State of Washington 2003). Some invasive plants can alter ecosystem processes, such as reducing or changing seasonal food sources for wildlife, hydrological patterns, fire regimes, or soil chemistry (Keeley 2006, D'Antonio 1992, Vitousek and Walker 1989).

The California Department of Food and Agriculture designates a plant species as a noxious weed if they find it to be "troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate" (CDFA 2014). The Department designates a rating for each noxious weed species based on the present distribution of the pest within the state and the likelihood that eradication or control efforts will be successful. The ratings are not laws, but are policy guidelines that indicate the appropriate actions to take against pests. The District works closely with the Agricultural Commissioners for San Mateo and Santa Clara Counties to address state-designated noxious weeds on preserves. The California Invasive Plant Council maintains an Invasive Plant Inventory that rates

the threat of non-native plant species by evaluating their ecological impacts, invasive potential and ecological distribution (California Invasive Plant Council [Cal-IPC] 2014). The Bay Area Early Detection Network along with the San Mateo County Weed Management Area and the Santa Clara County Weed Management Area set regional priorities for eradication of invasive plants in the San Francisco Bay Area, particularly those for which early action could substantially reduce future risk (Cal-IPC 2009). District staff members are active with these organizations and further apply local knowledge to evaluate the invasive risk of existing and new non-native plants found on District preserves and to determine the best responses.

Invasive animals pose another threat to the District's natural areas. Escaped/released domestic animals and other non-native wildlife species can thrive in the favorable climate of the San Francisco peninsula. Once established in a preserve, they compete for valuable resources and disturb the sensitive balance of natural food webs. Bullfrogs and wild pigs are examples of invasive introduced animals found in District preserves that physically displace or consume the native plants and wildlife that normally inhabit natural areas, or otherwise alter natural processes.

Wild (feral) pigs are an example of an invasive wildlife species with obvious impact on District lands. They have been widespread in the central coast of California since about 1970, reproduce rapidly, dig up meadows and wetlands, and carry diseases that can affect people and livestock. They eat acorns, bulbs, and soil animals, and are difficult to control. Feral pigs were abundant in the South Skyline region in the 1990s. The District has been trapping feral pigs since 2000 and has substantially reduced their population and damage from their rooting.

The management of invasive species may sometimes involve eradication (i.e., the removal of all of the pest species, typically only achievable for new invasive species and small populations of pests), but more common natural area management methods involve incremental reduction of pest numbers (control), removal of individuals that have the greatest impact on critical resources, or the exclusion of a pest species from a defined sensitive area (containment). Programs to control invasive plant and animal species often require a long-term commitment. With many invasive species, short-term lapses in active management can negate years of expensive control programs.

First steps in all invasive species management focus on preventing the establishment of any new pest populations. Prevention or detection actions can minimize many invasive species problems in the future, reducing the need for more active management and costly treatment methods. In the future, the pest prevention tactics identified for the District's natural areas will be based on minimizing dispersal or reacting quickly to new invasions through anticipation and surveillance.

Manual and Mechanical Control Treatment Options for Natural Lands

Manual and mechanical control treatment options for Natural lands include:

Bullfrogs, non-native fish, and turtles. Manual and mechanical control treatment options for natural lands include:

- *Gigging or shooting.* Gigging or shooting American bullfrogs (a pest species not native to California that can threaten rare native California red-legged frogs, northern western pond turtles and San Francisco garter snake) is sometimes implemented with small caliber rifles and lead-free ammunition to eliminate individual adult bullfrogs. Gigging is the targeted spearing of fish or frogs with barbed tines mounted on a long pole. These treatment methods alone rarely eradicate bullfrogs from the target area because only a portion of adults are usually found. Collection of egg masses and juvenile bullfrogs at the appropriate time of year assists in effectively controlling the pest populations.

- *Submerged funnel traps.* Funnel traps designed for catching baitfish can be used to live capture bullfrog tadpoles and small non-native fish. Floating cage traps would be used to catch adult frogs. Specially designed traps and netting can be used to collect and remove snapping, slider and other non-native turtles.

- *Electrical currents.* Use of electrical currents to temporary disable frogs and non-native fish in netting and gigging operations is sometimes implemented on District lands. 12v DC electroshockers would be mounted on small boats or backpacks, and then the electroshock current would be applied to the surface of the wetland. This treatment is non-specific, and would affect all aquatic species within the range of the electroshocking 'wand'. Electroshocking is not lethal, rather it shocks the affected individuals which then float to the surface where they can be netted or otherwise collected. This treatment method, therefore, must be followed by another treatment method such as hand removal or gigging. Even with follow-up control of individuals found by electroshocking, this treatment method alone rarely eradicates bullfrogs and fish from the target area because only a portion of adults are usually found, and it does not control eggs or larval stages.

- *Habitat manipulation.* Pond draining may be implemented as a method for bullfrog, non-native fish (bass, bluegill, catfish, mosquitofish), and turtle control in areas where protected species may be present (i.e., native California red-legged frog). Type conversion of stock ponds to ephemeral wetlands can also reduce bullfrog and nonnative fish populations across a landscape scale although this is not a practice the District currently practices.

- *Exclusionary fencing.* The District may install exclusionary fencing to keep bullfrogs from entering non-infested wetlands as a temporary preventive tool for use while other control methods are applied concurrently. Fencing is not considered a long-term solution because it disrupts movement of other wildlife, can entrap non-target wildlife species, and may disrupt the natural processes of the wetlands. Exclusionary fences are useful during pond draining to limit the potential for dispersal of bullfrogs out of the treatment area. Exclusionary fencing may also be used in conjunction with funnel traps (described above) to collect bullfrogs as they attempt to disperse from drying ponds.

Feral pigs. Manual and mechanical control treatment options for natural lands include:

- *Feral Pig Management Program.* The District has conducted a feral pig management program since 2000. Feral pigs are not native to California, compete with native wildlife for food, and their destructive rooting activities disturb vegetation, wildlife habitat, and cause erosion and sedimentation into streams and wetlands. Under the direction of the California Department of Fish and Wildlife, the District has developed a management program to capture feral pigs using baited traps and humane termination (shooting). As part of the program, the District coordinates with other regional land management agencies that are controlling feral pig populations. Since 2000, over 300 feral pigs have been dispatched and pig rooting, damage, and sightings have substantially decreased.

Feral pets. Utilize catch pole or otherwise trap dogs, cats, turtles, rabbits and other domesticated animals found escaped or released in the preserves and return them to their owners or turn them over to local animal control departments or animal shelters.

Argentine ants. Refer to the ant provisions under the Buildings section.

Hairy weevil. Hairy weevil biocontrol insects for yellow starthistle.

- Release of approximately 20,000 hairy weevils (*Eustenopus villosus*) on approximately 800 acres per year at Fremont Older, Monte Bello, Rancho San Antonio, Russian Ridge, Skyline Ridge and St. Joseph's Hill and possibly biocontrol at other preserves in the future. This form of biocontrol is intended to control seed production of yellow starthistle. Selected areas are typically heavily infested with yellow starthistle, and other forms of control were determined to be infeasible due to site access limitations, labor costs or staffing safety issues. In these instances, biocontrol is intended to keep the infestations from spreading or becoming denser, until such time as other methods can be utilized.

Invasive plants. Manual and mechanical control treatment options for natural lands include:

- *Pull.* Pulling of individual plants by hand before flowering and seed development. Given the stout taproot of many annuals and biennials, hand removal would occur after regular periods of rain when the soil is moist and the entire taproot can be easily removed. Digging tools may be used to loosen the root out of the soil.

- *Cut.* Cutting plants below the root crown with a pick or shovel before flowering or seed set (to be applied only to crown-sprouting plant species). Perennial invasive plants with large amounts of vegetative material are often easier to control once the mass of above-ground vegetation is cut to near-ground level (e.g., large perennial grasses and shrubs) to improve access to the root system. For plants that can regenerate from underground root fragments, root and/or stem material would be carefully collected, then disposed of in compost or garbage offsite or completely covered (composted, solarized) onsite to prevent it from re-establishing onsite.

- *Mow.* Mowing of late season annuals/biennials when a very small percentage of plants are beginning to flower. These plants would be mowed as close to the ground as is safe (hitting rocks with mowing equipment may cause sparks and risk starting a fire). Follow-up mowing may be required at four- to six-week intervals.

- *Green-flaming.* Green-flaming of young seedlings with a hot propane flame immediately following germination on some species of non-fire adapted herbaceous and shrub species (dicots). This method would be applied in early winter and during or immediately after a rain event to reduce potential for wildfires.

- *Selective Grazing.* Implementation of selective grazing to remove or suppress some species when grazing is timed for periods when the plants are both palatable to the selected type of livestock (e.g., goats for brush, cattle or sheep for grasses) and susceptible to grazing effects (i.e., when plants are very young and do not have substantial underground energy reserves built up to support re-sprouting).

- *Hand Removal.* Hand removal of small insipient populations to control most perennial invasive plants. Hand-removal of mature plant parts would be done with the help of a weed wrench or by digging up individual plants to get as much of the root system as possible. Multiple re-treatments would be required for the control of most invasive perennials, because their root systems are often large and challenging to pull manually and many species have regenerating roots, stolons, and rhizomes that can break off during the removal effort and regrow. Digging can also promote soil disturbance, a secondary effect that can promote the germination of new seedlings in disturbed soils areas.

- *Burn.* After large stands of broom are pulled, the green plants would be stacked in piles no greater than six feet by six feet to dry out. The piles would be located on mineral soils with a 4-inch by 12-foot wide trench to catch debris and would not be located under the drip line of trees. Brush piles would be burned during the wet season on days that the Bay Area Air Quality Management District (BAAQMD) designates as “open burn status” and the piles would be monitored to ensure that all combustible material is consumed before leaving the site. Notification Form C for Hazard Reduction Fires would be filed with the BAAQMD, and all conditions of Hazard Reduction Fires per BAAQMD regulations would be followed.

- *Jawz.* Jawz is a hydraulic implement mounted onto an excavator or other tractor. Opposing jaws pinch the stalk of the plant and the arm of the excavator pulls the plant out by its roots and then drops it in a pile for future burning, chipping, or composting. The use of Jawz would be limited in steep terrain and areas where soil is either too hard or too muddy. Removal of coyote brush is the most common species that Jawz are used for on District lands.

Aquatic invasive plants. Manual and mechanical control treatment options for natural lands include:

- *Pull.* Similar to pulling terrestrial weeds, control of aquatic invasive plants requires removing the entire plant (i.e., leaves, stems, and roots) and disposing of the material away from the shoreline. In wetlands and shallow water, less than three feet deep, no special tools are required. Deeper water may require SCUBA divers equipped with mesh bags to collect plant fragments as they work.

- *Harvest.* The District may use of specialized equipment to excavate or 'harvest' floating or submerged aquatic vegetation. These types of control efforts seek to clear waterways for adequate water flow or boat access rather than completely eliminate the problem plant and can be effective tools for the removal of biomass from flood control channels and navigable waterways.

- *Pond Draining.* Pond draining may be implemented for small water bodies to eliminate invasive aquatic plants and invasive animals such as bullfrogs concurrently. Some plants have propagules that can remain viable during dry periods, so this method would only be effective on aquatic plant species that do not have propagules.

Sudden Oak Death (SOD). Manual and mechanical control treatment options for natural lands include:

At present, the District conducts research, monitors or manages SOD on Rancho San Antonio, Monte Bello, El Corte de Madera Creek, Los Trancos, Russian Ridge, Skyline Ridge, Long Ridge and Saratoga Gap OSPs. Because the long-term effect of the disease on California's forests are unknown, the District is working with the California Oak Mortality Task Force to further study and monitor the impacts of the disease on District lands. In 2006, the District adopted a ten-year Sudden Oak Death plan to map oak trees on District Preserves that are potentially resistant to the SOD pathogen, treat a selected number of specimen oak trees, and establish collaborative funding for SOD research to help guide land management decisions.

SOD work includes removal of California bay trees or their branches within 15 feet of the trunks of high value oaks. Ongoing research at the District and other locations in the state are evaluating whether bay removal is effective for managing larger stands or forests infested with SOD or to prevent or slow down the spread of SOD. This option is costly and requires regular maintenance and monitoring and, therefore, is implemented in limited areas.

Chemical Control Treatment Options for Natural Lands

Chemical control treatment options for Natural lands include:

Invasive plants. Chemical control of annual and biennial weeds includes two strategies to treat different life stages: 1) post-emergent (i.e., direct application of herbicide to eliminate the plant), and 2) pre-emergent (i.e., treatment to prevent the germination of seeds). Herbicides are also classified as either selective or non-selective. Selective herbicides control plants in specific plant families or life stages, while allowing other plants to survive uninjured. Utilizing selective herbicides can be a powerful tool in balancing active management with protecting desirable, native vegetation types. Non-selective herbicides and application methods injure all plant species that are directly exposed to treatment, so should be directed only to the target species. Selectivity may be based on either the chemistry of the herbicide, but can change with the timing of the application.

- Aminopyralid, the active ingredient in Milestone™, a selective herbicide used to control broadleaf invasive plants, especially sunflower and bean plant families. Milestone™ is considered to have low exposure risks associated with wildlife and humans, especially in natural areas where exposure levels will be of short duration and low total exposure rates. Plants in the nightshade, bean, rose, and sunflower families are particularly sensitive to this herbicide. However, grasses are not affected by the herbicide when used after grass seed germination, making it an attractive IPM option for annual plant control in grasslands. Refer to Table 3-2 or Appendix B of this EIR (see Section 7.7 and Appendix E of the IPM Guidance Manual) for description of mode of action for these chemicals.

- Clopyralid, the active ingredient in Transline™, a selective herbicide used to control broadleaf invasive plants, especially thistles and clovers, and woody leguminous plants. Plants in the nightshade, bean, and sunflower families are particularly sensitive to this herbicide. Grasses are not affected by it, making it an attractive IPM option for annual invasive plant control of these susceptible broadleaf plants in grasslands. Clopyralid is a growth regulator, is rapidly transported through plants primarily through the phloem and accumulates in growing points. It is absorbed into the plant by leaves, stems, and roots. Symptoms of effective clopyralid application include bending and twisting of stems and petioles, swelling at nodes, stem elongation, leaf curling, chlorosis (yellowing) of growing points, and plant mortality within three to five weeks. Clopyralid can travel through soil and should not be used where soils have very rapid permeability, such as loamy sand to sand. Transline™ is very similar to Milestone™ but it is more selective (i.e., active on a narrower list of susceptible plant families). It is useful in controlling invasive thistles and legumes on rangelands, so is used in situations when the less-selective Milestone™ could affect desirable native plants. Transline™ is also generally more effective than Milestone™ on later plant growth stages so it is a valuable backup for Milestone in certain conditions.

- Glyphosate, the active ingredient in both Roundup ProMax™ and Roundup Custom™ (formerly sold as Aquamaster™), a non-selective herbicide used to control a wide variety of plants, including annual broadleaf plants, grasses, perennials, and woody invasive plants. It is absorbed through foliage and moves throughout the plant's growing points. Glyphosate is the most commonly used herbicide in invasive plant control in natural areas, and herbicide resistance is a growing problem in some annual species (Monsanto 2008). Refer to Table 3-2 or Appendix B of this EIR (see Section 7.7 and Appendix E of the IPM Guidance Manual) for description of mode of action for these chemicals.

- Roundup ProMax™ contains a surfactant (i.e., a substance that adhere pesticides to plant leaves) that enhances the absorption of glyphosate on treated leaves so it is considered by herbicide applicators to be an efficient product to mix and apply. Roundup Custom™ contains only glyphosate dissolved in water with no surfactant, and is thus recommended for use on plants in aquatic, riparian, and other sensitive habitats. It is often mixed with an appropriately labeled surfactant to enhance the spread, adhesion, and penetration to the target plant, thereby increasing effectiveness of the entire mixture.

- Imazapyr, the active ingredient in Stalker™ and Polaris™ /Habitat™, a non-selective herbicide used to control a broad range of invasive plants including grasses, broadleaf herbs, woody plants, riparian plants, and emergent aquatic species. Imazapyr has a similar mode of action as glyphosate but acts on a different suite of essential amino acids. Imazapyr is absorbed by leaves and roots, and moves to growing points; it disrupts protein synthesis and interferes with cell growth and DNA synthesis, causing plant mortality. Unlike glyphosate, imazaypyr has pre- and post-emergent effects. It also has moderate soil persistence, which can be useful for difficult-to-control species for which glyphosate is less effective or when parallel treatments of the parent population and seedlings are desired.

- Clethodim, the active ingredient in Envoy Plus™, a selective herbicide that provides post-emergent control of grasses. It does not affect broadleaf plants or sedges and has no uptake through roots or pre-emergent effect. Clethodim is a lipid-synthesis regulating herbicide that impacts chemical pathways that are only present in some monocots (e.g., grasses). Clethodim is most effective on young grasses, especially annuals, and thus is recommended for early season application only. Grass-specific herbicides are highly effective tools for problem invasive grasses that grow in complex native vegetation. They are effective tools for the elimination of annual and perennial grasses in broadleaf (dicot) dominated environments or in eliminating annual grasses from some perennial grassland systems.

- For individual high value oaks such as very large mature oaks, the District would consider use of spot treatment of individual oaks with a fungicide (e.g., Agri-Fos™) intended to reduce potential for SOD infection.

Aquatic invasive plants. Among the herbicides included in the IPM program are some that are formulated for use in and near aquatic habitats (Roundup Custom™ for example mixed with a specific surfactant suitable for aquatic areas). These formulations are sometimes also useful in upland areas because special

surfactants can be added that are better at adhering to certain plant species than the surfactants included in non-aquatic formulations. The District on rare occasions may need to use chemical treatments within or very near to aquatic habitats such as treatments on seasonal wetlands (during the dry season) to control aquatic pest plant species and treatments on streambanks to control slender false brome or other target pest species.

- Roundup CustomTM contains only glyphosate dissolved in water with no surfactant, and is thus recommended for use on plants in aquatic, riparian, and other sensitive habitats.

- Imazapyr, the active ingredient in StalkerTM and PolarisTM /HabitatTM, a non-selective herbicide used to control a broad range of invasive plants including grasses, broadleaf herbs, woody plants, riparian plants, and emergent aquatic species.

Chemical Application

Chemical treatment methods used within natural lands would include cut-stump, spray, and wipe application. Refer to Section 3.4.2, Treatment Actions (above) for a description of these modes of chemical applications.

3.5.4 Best Management Practices Incorporated Into the IPMP

The District has developed BMPs that consist of management actions that the District would incorporate into IPM proposals for the purpose of protection of human health and preventing significant environmental effects. The District would implement the following BMPs as an element of the project. Many of these BMPs are currently being implemented. Some of these BMPs have been adapted from publications of the California Invasive Plant Council and were originally developed by a technical advisory team made up of experts in California with experience in invasive plant control and land management.

BMPs would be applied to IPM projects District-wide, as required. These requirements were developed from District policies, the District's existing BMPs, known regulatory requirements, and the evaluation within this EIR. For example, a BMP addressing how to treat the inadvertent discovery of archeological features is assigned to all projects District-wide that include ground disturbing work. However, for a project that does not have ground disturbance, such as tree pruning, this BMP would not be necessary and, therefore, not apply to the specific project being implemented. District BMPs for IPMP are presented in Table 3-4.

Table 3-4 District BMPs for IPMP

BMP ID#	Best Management Practices
1	All pesticide use shall be implemented consistent with Pest Control Recommendations prepared annually by a licensed Pest Control Advisor.
2	Surfactants and other adjuvants shall be used and applied consistent with the District's Pest Control Recommendations.
3	Applicators shall follow all pesticide label requirements and refer to all other BMPs regarding mandatory measures to protect sensitive resources and employee and public health during pesticide application.
4	Pesticide applicators shall have or work under the direction of a person with a Qualified Applicator License or Qualified Applicator Certificate. Contractors and grazing and agricultural tenants may apply approved herbicides after review and approval by the District and under the direction of QAL/QAC field supervisors. Employees, contractors and tenants may install approved ant and roach bait stations inside buildings in tamper-proof containers without review by a QAL/QAC. Tenants may not use rodenticides; only qualified District staff or District contractors may use approved rodenticides and these should only be used in the event of an urgent human health issue and in anchored, tamper-proof containers inside buildings.
5	All storage, loading and mixing of herbicides shall be set back at least 300 feet from any aquatic feature or special-status species or their habitat or sensitive natural communities. All mixing and transferring shall occur within a contained area. Any transfer or mixing on the ground shall be within containment pans or over protective tarps.
6	Appropriate non-toxic colorants or dyes shall be added to the herbicide mixture to determine treated areas and prevent over-spraying.

Table 3-4 District BMPs for IPMP

BMP ID#	Best Management Practices
7	Application Requirements - The following general application parameters shall be employed during herbicide application: ◢ Application shall cease when weather parameters exceed label specifications, when wind at site of application exceeds 7 miles per hour (MPH), or when precipitation (rain) occurs or is forecasted with greater than a 40 percent probability in the next 24-hour period to prevent sediment and herbicides from entering the water via surface runoff; ◢ Spray nozzles shall be configured to produce a relatively large droplet size; ◢ Low nozzle pressures (30-70 pounds per square inch [PSI]) shall be observed; ◢ Spray nozzles shall be kept within 24 inches of vegetation during spraying; ◢ Drift avoidance measures shall be used to prevent drift in locations where target weeds and pests are in proximity to special-status species or their habitat. Such measures can consist of, but would not be limited to the use of plastic shields around target weeds and pests and adjusting the spray nozzles of application equipment to limit the spray area.
8	Notification of Pesticide Application – Signs shall be posted notifying the public, employees, and contractors of the District's use of pesticides. The signs shall consist of the following information: signal word, product name, and manufacturer; active ingredient; EPA registration number; target pest; preserve name; treatment location in preserve; date and time of application; date which notification sign may be removed; and contact person with telephone number. Signs shall generally be posted 24 hours before the start of treatment and notification shall remain in place for 72 hours after treatment ceases. See the IPM Guidance Manual for details on posting locations, posting for pesticide use in buildings and for exceptions.
9	Disposal of Pesticides – Cleanup of all herbicide and adjuvant containers shall be triple rinsed with clean water at an approved site, and the rinsate shall be disposed of by placing it in the batch tank for application. Used containers shall be punctured on the top and bottom to render them unusable, unless said containers are part of a manufacturer's container recycling program, in which case the manufacturer's instructions shall be followed. Disposal of non-recyclable containers shall be at legal dumpsites. Equipment shall not be cleaned and personnel shall not bathe in a manner that allows contaminated water to directly enter any body of water within the treatment areas or adjacent watersheds. Disposal of all pesticides shall follow label requirements and local waste disposal regulations.
10	All appropriate laws and regulations pertaining to the use of pesticides and safety standards for employees and the public, as governed by the U.S. Environmental Protection Agency, the California Department of Pesticide Regulation, and local jurisdictions shall be followed. All applications shall adhere to label directions for application rates and methods, storage, transportation, mixing, and container disposal. All contracted applicators shall be appropriately licensed by the state. District staff shall coordinate with the County Agricultural Commissioners, and all required licenses and permits shall be obtained prior to pesticide application.
11	Sanitation and Prevention of Contamination - All personnel working in infested areas shall take appropriate precautions to not carry or spread weed seed or SOD-associated spores outside of the infested area. Such precautions will consist of, as necessary based on site conditions, cleaning of soil and plant materials from tools, equipment, shoes, clothing, or vehicles prior to entering or leaving the site.
12	All staff, contractors, and volunteers shall be properly trained to prevent spreading weeds and pests to other sites.
13	District staff shall appropriately maintain facilities where tools, equipment, and vehicles are stored free from invasive plants.
14	District staff shall ensure that rental equipment and project materials (especially soil, rock, erosion control material and seed) are free of invasive plant material prior to their use at a worksite.
15	Suitable onsite disposal areas shall be identified to prevent the spread of weed seeds.
16	Invasive plant material shall be rendered nonviable when being retained onsite. Staff shall desiccate or decompose plant material until it is nonviable (partially decomposed, very slimy, or brittle). Depending on the type of plant, disposed plant material can be left out in the open as long as roots are not in contact with moist soil, or can be covered with a tarp to prevent material from blowing or washing away.
17	District staff shall monitor all sites where invasive plant material is disposed on-site and treat any newly emerged invasive plants.
18	When transporting invasive plant material off-site for disposal, the plant material shall be contained in enclosed bins, heavy-duty bags, or a securely covered truck bed. All vehicles used to transport invasive plant material shall be cleaned after each use.
19	Aquatic Areas –A District biologist shall survey all treatment sites prior to work to determine whether any aquatic features are located onsite. On a repeating basis, grassland treatment sites shall be surveyed once every five years and brushy and wooded sites shall be surveyed once every three years. Brush removal on rangelands will require biological surveys before work is conducted in any year. Aquatic features are defined as any natural or manmade lake, pond, river, creek, drainage way, ditch, spring, saturated soils, or similar feature that holds water at the time of treatment or typically becomes inundated during winter rains. If during the survey it is found that aquatic features are present within 15 feet of the proposed treatment area, the District shall either eliminate all treatment activities within 15 feet of the aquatic feature from the project (i.e.

Table 3-4 District BMPs for IPMP

BMP ID#	Best Management Practices
	do not implement treatment actions in those areas) or if the District chooses to continue treatment actions in these areas, it shall follow the requirements of the mitigation measure for special-status wildlife species and the CDFW Streambed Alteration Agreement.
20	Application of herbicides shall be conducted in accordance with the California Red-Legged Frog Injunction (Center For Biological Diversity v. U.S. Environmental Protection Agency (2006) Case No.: 02-1580-JSW) in known or potential California red-legged frog habitat specifically by: not applying glyphosate within 15 feet of aquatic features (including areas that are wet at time of spraying or areas that are dry at time of spraying but subsequently might be wet during the next winter season); utilizing only spot-spraying techniques and equipment by a certified applicator or person working under the direct supervision of a certified applicator; and not spraying during precipitation or if precipitation is forecast to occur within 24 hours before or after the proposed application. Preserves in which these precautions must be undertaken are: Miramontes Ridge, Purisima Creek Redwoods, El Corte de Madera, La Honda Creek, Picchetti Ranch, Russian Ridge, Sierra Azul, Tunitas Creek, Skyline Ridge, Rancho San Antonio, Monte Bello and Coal Creek OSPs and Toto Ranch.
21	A District biologist shall survey all selected treatment sites prior to work to determine site conditions and develop any necessary site-specific measures. On a repeating basis, grassland treatment sites shall be surveyed once every five years and brushy and wooded sites shall be surveyed once every three years. Brush removal on rangelands will require biological surveys before work is conducted in any year. Site inspections shall evaluate existing conditions at a given treatment site including the presence, population size, growth stage, and percent cover of target weeds and pests relative to native plant cover and the presence of special-status species and their habitat, or sensitive natural communities. In addition, worker environmental awareness training shall be conducted for all treatment field crews and contractors for special-status species and sensitive natural communities determined to have the potential to occur on the treatment site by a District biologist. The education training shall be conducted prior to starting work at the treatment site and upon the arrival of any new worker onto sites with the potential for special-status species or sensitive natural communities. The training shall consist of a brief review of life history, field identification, and habitat requirements for each special-status species, their known or probable locations in the vicinity of the treatment site, potential fines for violations, avoidance measures, and necessary actions if special-status species or sensitive natural communities are encountered.
22	Nesting Birds - For all IPM activities that could result in potential noise and other land disturbances that could affect nesting birds (e.g., tree removal, mowing during nesting season, mastication, brush removal on rangelands), treatment sites shall be surveyed to evaluate the potential for nesting birds. Tree removal will be limited, whenever feasible, based on the presence or absence of nesting birds. For all other treatments, if birds exhibiting nesting behavior are found within the treatment sites during the bird nesting season: March 15 – August 30 for smaller bird species such as passerines and February 15 - August 30 for raptors, impacts on nesting birds will be avoided by the establishment of appropriate buffers around active nests. The distance of the protective buffers surrounding each active nest site are: 500 feet for large raptors such as buteos, 250 feet for small raptors such as accipiters, and 250 feet for passerines. The size of the buffer may be adjusted by a District biologist in consultation with CDFW and USFWS depending on site specific conditions. Monitoring of the nest by a District biologist during and after treatment activities will be required if the activity has potential to adversely affect the nest. These areas can be subsequently treated after a District biologist or designated biological monitor confirms that the young have fully fledged, are no longer being fed by the parents and have left the nest site. For IPM activities that clearly would not have adverse impacts to nesting birds (e.g. treatments in buildings and spot spraying with herbicides), no survey for nesting birds would be required.
23	San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat – All District staff, volunteers or contractors who will implement treatment actions shall receive training from a qualified biologist on the identification of dusky-footed woodrat, Santa Cruz kangaroo rat, and their nests. Generally, all San Francisco dusky-footed woodrat, Santa Cruz kangaroo rat, and their nests will be avoided and left undisturbed by proposed work activities. If a nest site will be affected, the District will consult with CDFW. Rodenticides, snap traps, and glue boards shall not be used in buildings within 100 feet of active San Francisco dusky-footed woodrat nests or Santa Cruz kangaroo rat nests; instead rodent control in these areas will be limited to non-lethal exclusion and relocation activities including relocation of nests if approved by CDFW. Tenants will contact the District for assistance in managing rat populations in buildings and under no circumstances will be allowed to use rodenticides.
24	Where appropriate, equipment modifications, mowing patterns, and buffer strips shall be incorporated into manual treatment methods to avoid disturbance of grassland wildlife.
25	Rare Plants – All selected treatment sites shall be surveyed prior to work to determine the potential presence of special-status plants. On a repeating basis, grassland treatment sites shall be surveyed once every five years and brushy and wooded sites shall be surveyed once every three years. Brush removal on rangelands will require biological surveys before work is conducted in any year. A 15-foot buffer shall be established from special-status plants. No application of herbicides shall be allowed within this buffer. Non-herbicide methods can be used within 15 feet of rare plants but they shall be designed to avoid damage to the rare plants (e.g., pulling).

Table 3-4 District BMPs for IPMP

BMP ID#	Best Management Practices
26	Cultural Resources – District staff, volunteer crew leaders, and contractors implementing treatment activities shall receive training on the protection of sensitive archaeological, paleontological, or historic resources (e.g., projectile points, bowls, baskets, historic bottles, cans, trash deposits, or structures). In the event volunteers would be working in locations with potential cultural resources, staff shall provide instruction to protect and report any previously undiscovered cultural artifacts that might be uncovered during hand-digging activities. If archaeological or paleontological resources are encountered on a treatment site and the treatment method consists of physical disturbance of land surfaces (e.g., mowing, brushcutting, pulling, or digging), work shall avoid these areas or shall not commence until the significance of the find can be evaluated by a qualified archeologist. This measure is consistent with federal guidelines 36 CFR 800.13(a), which protects such resources in the event of unanticipated discovery.
27	Post-Treatment Monitoring – District staff shall monitor IPM activities within two months after treatment (except for routine minor maintenance activities which can be evaluated immediately after treatment) to determine if the target pest or weeds were effectively controlled with minimum effect to the environment and non-target organisms. Future treatment methods in the same season or future years shall be designed to respond to changes in site conditions.
28	Erosion Control and Revegetation - For sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover will be removed, or near aquatic features that could be adversely affected by an influx of sediment, erosion control measures shall be implemented after treatment. These measures could consist of the application of forest duff or mulches, straw bales, straw wattles, other erosion control material, seeding, or planting of appropriate native plant species to control erosion, restore natural areas, and prevent the spread or reestablishment of weeds. Prior to the start of the winter storm season, these sites shall be inspected to confirm that erosion control techniques are still effective.
29	Operation of noise-generating equipment (e.g., chainsaws, wood chippers, brush-cutters, pick-up trucks) shall abide by the time-of-day restrictions established by the applicable local jurisdiction (i.e., City and/or County) if such noise activities would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship) located in the applicable local jurisdiction. If the local, applicable jurisdiction does not have a noise ordinance or policy restricting the time-of-day when noise-generating activity can occur, then the noise-generating activity shall be limited to two hours after sunrise and two hours before sunset, generally Monday through Friday. Additionally, if noise-generating activity would take place on a site that spans over multiple jurisdictions, then the most stringent noise restriction, as described in this BMP or in a local noise regulation, would apply. For IPM sites where the marbled murrelet has the potential to nest, as identified in the District's 2014 maps (see attachment) if noise-generating activities would occur during its breeding season (March 24 to September 15), the IPM activities would be subject to the noise requirements listed in the most current in the CDFW RMA issued to the District (see attachment).
30	All motorized equipment shall be shut down when not in use. Idling of equipment and off-highway vehicles will be limited to 5 minutes.

3.5.5 Project Actions Excluded From the Program

This EIR covers the program of activities described in the proposed IPM Guidance Manual. The IPMP is intended to provide the District flexibility in the design of its annual IPM activities and to allow growth in the program. If additional IPM activities that are substantially different from the activities described above; substantially greater growth in the IPMP occur (e.g., the District substantially increases staffing and funding year-over-year to substantially expand the program), or new chemicals with different active ingredients from those described above are proposed for use, the District would independently assess whether this EIR and the IPM Guidance manual provide adequate evaluation of those activities. If it is determined that adequate evaluation is not provided, the District may be required to amend the IPM Guidance Manual and prepare any appropriate subsequent/supplemental environmental documents.

As described above, the IPMP applies to specific IPM actions on District land. Actions that are not included in IPMP include:

- pest control of termites and ground squirrels,
- prescribed burns,
- management of predators (coyotes, mountain lions),

- pesticides for the purposes of managing insects in agricultural fields,
- vegetation removal associated with utility easements, and

- treatment of invasive *Spartina* (cordgrass) species in the San Francisco Bay-Delta estuary is done by the Invasive *Spartina Projec*t, established by the California State Coastal Conservancy including on some *District* preserves such as Ravenswood OSP. The Invasive Spartina Project operates under a programmatic EIR for the treatment program as well as the U.S. Fish and Wildlife Service for minimizing impacts to sensitive and listed marsh species during treatment, monitoring and restoration.

3.6 PROJECT REQUIREMENTS AND INTEGRATED PEST MANAGEMENT PROGRAM

The IPMP provides an objective and systematic approach for making decisions regarding IPM on District lands. This process is described below and graphically displayed in Exhibit 3-1 above.

3.6.1 Adaptive Use Management Strategy

The proposed IPMP would include adaptive use management to monitor and correct, if necessary, natural resource and natural systems issues. Adaptive strategies are commonly included in projects affecting natural resources and natural systems, where conditions and effects can change over time, such as ecosystem restoration projects, water resources projects, or, in this case, projects involving IPM in natural settings.

Given the types and rates of change observed on District preserves resulting from global, regional, and local factors (many of which are beyond the District's control), adaptive management is an important tool to help the District implement IPM in the face of change and uncertainty. To assess the effectiveness of the IPMP as a whole, adaptive management procedures under the IPMP would include establishing monitoring protocols, conducting program monitoring, evaluating the program, and undertaking program modifications to make the program safer, more effective, and efficient. Monitoring protocols are intended to quantitatively and qualitatively measure and evaluate changes in the IPMP over time. Using the monitoring protocol, District staff would monitor pest control projects and tally quantitative and qualitative results on an annual basis to evaluate the overall safety, effectiveness, and purpose of the IPMP.

The results of the evaluation would be presented to the Board in the Annual IPM Report. The Board-approved Annual IPM Report would be the basis for making changes to the Guidance Manual, including modification of any IPM procedures or changes to the List of Approved Pesticides. Each year following Board review of the Annual IPM Report, the IPM Coordinator would implement recommended changes to the Guidance Manual and IPMP, as needed (See Chapter 4 of Appendix B).

4 ENVIRONMENTAL IMPACT ANALYSIS APPROACH

INTRODUCTION

As noted in Chapter 3, "Project Description," IPM is a process of efficiently managing pests while protecting human health and environmental quality. IPM is a long-term, science-based, decision-making system that uses a specific methodology to manage damage from pests. IPM requires monitoring site conditions before, during, and after treatment to determine if objectives are being met and if methods need to be revised. IPM requires that non-chemical methods be considered in addition to chemical methods (i.e., pesticides, herbicides, insecticides). If chemical methods are necessary to meet a pest control objective, the potential for harm to the public and workers are carefully considered, as are effects on the environment, and then the least toxic and most effective, efficient, and target-specific method is chosen.

IMPACT ANALYSIS APPROACH

The primary objective of the proposed IPMP is to control damage from pests through formal and consistent implementation of IPM principles to protect and restore the natural environment and provide for human safety and enjoyment while visiting and working on District lands. Two major types of treatment are considered: manual and mechanical control treatments; and chemical treatments. Manual control treatments consist of pulling and digging and mechanical control treatments include motorized mowing and cutting. Chemical treatments consist of herbicides, fungicides, rodenticides, and insecticides; surfactants/adjuvants are used to allow adsorption to target species and increase efficacy. These treatment types are used under each IPM management category: buildings, recreational facilities, fuel management, rangelands and agricultural properties, and natural lands.

Role of BMPs in the IPM Program and Determination of Significance in the EIR

The District has developed a list of best management practices (BMPs) for the purpose of protection of resources and preventing significant environmental effects. BMPs would be applied to selected IPM projects District-wide, as required. These requirements were developed from District policies, the District's existing BMPs, known regulatory requirements, and the evaluation within this EIR.

Under the project, the District would determine the effects of the IPM on the project after consideration of BMPs incorporated into the project. For example, a BMP addressing how to treat the inadvertent discovery of archeological features is assigned to all projects District-wide that include ground disturbing work. However, for a project that does not have ground disturbance, such as tree pruning, this BMP would not be necessary and, therefore, not apply to the IPM project.

If an environmental impact cannot be avoided or maintained at a less-than-significant level after consideration of the BMPs, then it would be a significant or potentially significant effect of implementing the IPMP and mitigation measures would be warranted, if feasible. If an environmental impact cannot be avoided or maintained at a less-than-significant level after consideration of BMPs and feasible mitigation is not available to clearly avoid the significant or potentially significant effect or reduce it to insignificance, the impact is considered to be significant and unavoidable.

Contents of the Environmental Analysis Sections

This EIR has been prepared to evaluate the program of activities proposed under the IPMP at a project-specific level of analysis. As described in Chapter 1, the District has determined that the project would result in certain effects found not to be significant, and therefore, those effects would not need detailed discussion. The reasoning and evidence supporting the determination that certain environmental resource topic would not result in significant effect is provided in Section 1.3, "Effects Found not to be Significant." The remaining resources sections, which have been evaluated, are:

- 4.1 Aesthetics;
- 4.2 Biological Resources;
- 4.3 Cultural Resources;
- 4.4 Hydrology and Water Quality; and
- 4.5 Hazards, Hazardous Materials, and Public Health.

Section 4.1 through 4.5 of this EIR are organized into the following major subsections:

Introduction: This section presents the applicable regulatory framework and planning context, in any, for the specific technical issue as it related to federal, state, and local requirements.

Environmental Setting: This section describes the environmental setting of the existing environmental conditions of the project site and surrounding vicinity, as appropriate. The extent of the environmental setting area evaluated differs among resources, depending on the locations where impacts would be expected. For example, air quality impacts are assessed for the air basin, whereas aesthetic impacts only need to be assessed for the project site vicinity.

Environmental Impacts: This section identifies and describes the methods and assumptions used in the environmental impact analysis, the criteria used to determine the level of significance of environmental impacts, the environment effects of implementing the proposed project, and feasible mitigation measures that could reduce potentially significant and significant impacts to a less-than-significant level. The potential impacts of the proposed project are determined by comparing implementation of the proposed project to the existing affected environment (as defined above). The significance determination for each impact is also determined with this comparison. Project impacts are numbered sequentially in each section. A summary impact statement precedes a more detailed discussion of the environmental effects of the proposed project. The detailed discussion provides the analysis, rationale, and substantial evidence upon which conclusions are drawn. Impact conclusions are provided for each treatment type under the five IPM management categories.

4.1 AESTHETICS

This chapter describes the existing visual characteristics of the project area and evaluates the potential of the project to result in substantial adverse visual impacts. The visual impact analysis considers existing scenic resources and the potential for public views to be affected by the project.

For the purposes of this analysis a scenic vista is considered to be a location from which the public can experience unique and exemplary high-quality views—typically from elevated vantage points that offer panoramic views of great breadth and depth.

4.1.1 Regulatory Setting

FEDERAL

There are no federal programs or policies addressing visual resources that pertain to the project.

STATE

California Scenic Highway Program

California's Scenic Highway Program was created by the California Legislature in 1963 and is managed by the California Department of Transportation (Caltrans). The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. A highway may be designated "scenic" depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers' enjoyment of the view (Caltrans 2013).

The Program includes a list of eligible highways and officially designated scenic highways, and includes a process for the designation of official State or County Scenic Highways. Highways designated as Eligible (E) or Officially Designated (OD) State Scenic Highways located within the Midpeninsula Regional Open Space District (District) are Interstate 280 (I-280), State Route (SR) 35, and SR 9. As shown in Exhibit 4.1-1, these highways pass through, adjacent, or near many of the District's Open Space Preserves (OSPs).

LOCAL

Midpeninsula Regional Open Space District Resource Management Policies

District resource management includes management of natural, cultural, and agricultural resources. Additionally, the District recognizes the protection of scenic values as one of the primary benefits of open space. Goal SA (Scenic and Aesthetic Resources) provided in the District Resource Management Policy Document is as follows:

> Preserve lands with natural appearance, diversity, and minimal evidence of human impacts.

This goal is supported by the following polices:

- **Policy SA-1** Minimize evidence of human impacts within preserves.
  - Clarify and document appropriate standards for designing and locating trails, parking areas, and buildings.

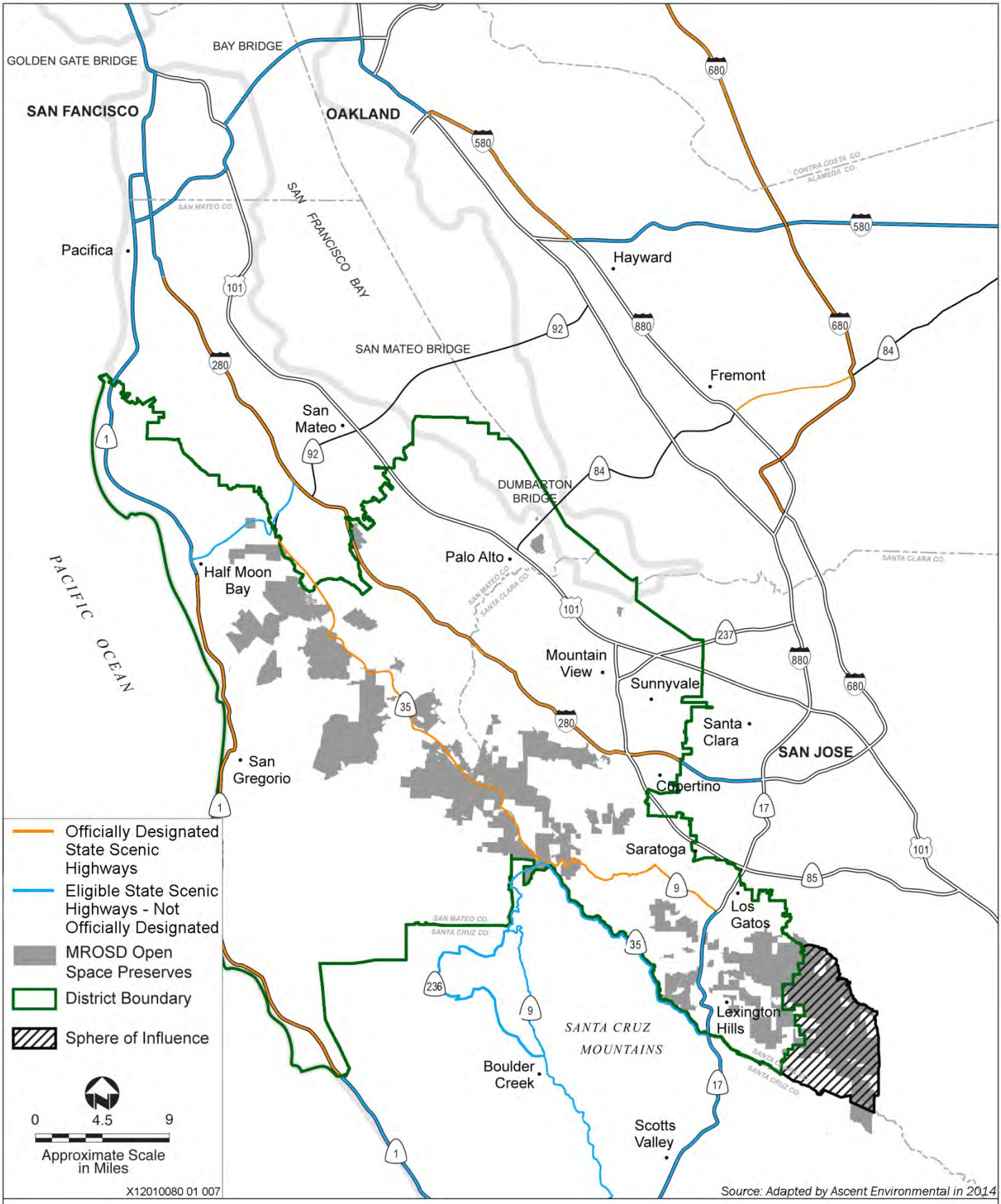


Exhibit 4.1-1 **Scenic Highways**

- Locate trails to minimize their visibility from a distance.
- Where feasible, locate telecommunication towers, power lines, water towers, firebreaks, and other infrastructure along margins of roads, next to existing structures or where vegetation and terrain help ease undesirable visual and environmental impacts. Install utility lines underground, if practical.
- Cluster new facilities near existing development, where possible.
- Design facilities such as structures, bridges, fencing, benches, and barriers to harmonize with natural landscape features, colors, and materials.
- Cluster, reduce, and place signs to lessen their visual impact.
- Rehabilitate areas degraded by human use by restricting access or type(s) of use, rerouting trails and roads, removing unsightly human- made features and non-native plants, restoring natural contours, and revegetating with native plants.

- Policy SA-2 Maintain significant landscapes or features that were formerly maintained by natural processes.
  - Control encroaching vegetation where it adversely affects significant scenic, historic or habitat resources (See Vegetation Management, Cultural Resources, and Invasive Species Management policies).
  - Control vegetation to create or maintain important scenic viewpoints and vistas (See Vegetation Management and Invasive Species Management policies).
  - Require District tenants to maintain landscapes and improvements to acceptable visual standards that do not detract from a visitor's experience or adversely impact wildlife.

4.1.2 Environmental Setting

REGIONAL LANDSCAPE CHARACTER

The District is located on the San Francisco Peninsula south of the City of San Francisco. The character of the regional landscape is influenced by urban, suburban, semi-rural, agricultural, and natural landscape features. The peninsula is dominated by the Santa Cruz Mountains with terrain that features steep, narrow canyons, water courses, and rolling hills. The mountains separate the flat bay lands and Santa Clara Valley on the east side of the peninsula from the coastal areas on the west side of the peninsula. Seasonal streams flow from the upper slopes of the mountains, with steep-sided forested canyons and ridges extending to the bay lands and to the coast. Ridge top grasslands or balds provide open areas within the more densely forested landscapes. The western slopes of the Santa Cruz Mountains are densely forested with redwood and Douglas fir, mixed evergreen forest, and coastal scrub. The drier eastern slopes are vegetated with chaparral, grasslands, mixed evergreen forest, and oak woodlands. Protected drainages host riparian and mixed evergreen forest with large native oaks and California bay trees in some areas. Agricultural landscapes that include vineyards and grazing operations are also interspersed among the forested areas on the slopes and ridge tops.

Dense urban and suburban landscapes are primarily located along the shores of the southern San Francisco Bay and the Santa Clara Valley, which extends from the southern end of the Bay south to the City of Hollister. Low density suburban development also extends from the flat bay lands westward into the foothills of the Santa Cruz Mountains where narrow, meandering roadways provide access to single family homes situated among the chaparral-covered hillsides. Development on the lower western slopes of the Santa Cruz Mountains consists of scattered small communities and rural residences. Much of the land in the upper

portions of the Santa Cruz Mountains includes natural areas that are held in OSPs and parks. The variety of intact natural settings and landscapes that include scenic vistas from ridge and mountain tops featuring vivid contrasts in vegetation provide high quality visual experiences throughout the region.

LANDSCAPE CHARACTER OF THE DISTRICT AND SURROUNDING AREA

The visual character of the District includes a variety of natural landscapes typical of the region, as described above. These landscapes provide a scenic backdrop to the urbanized areas on the eastern side of the San Francisco Peninsula. Some of the District OSPs also include rural/agricultural landscapes that feature structures set in a working landscape such as barns and residences surrounded by pastures or orchards. Well maintained and actively used structures are part of picturesque and distinctive landscapes set against the backdrop of adjacent natural areas. District facilities such as trails, restrooms, parking lots, fencing, offices, and residences are designed to blend into the natural surroundings and are typically located within or adjacent to previously disturbed areas. Typical views found in District OSPs are shown in Exhibits 4.1-2a–e. Many of the OSPs and surrounding areas are largely in an intact natural state with visually distinctive natural features. Vegetation consists of chaparral-covered hillsides, open grassy balds on ridge tops, forested canyons and riparian vegetation; therefore, lands within the District possess a high level of scenic integrity. This high level of scenic integrity, combined with public access to recreation trails and open space provides nearby residents and visitors to the area with striking views of forested areas, grasslands, oak woodlands, and scenic vistas from ridgelines and peaks of the Bay Area and Pacific Ocean. The District lands are a high quality scenic resource in close proximity to a large urban area.

VIEWER EXPOSURE AND SENSITIVITY

An important element in assessing a project's visual impacts is defining the potential viewers of the landscape and their sensitivity to landscape change. Viewer sensitivity is gauged based on the visibility of resources in the landscape, the proximity of viewers to the visual resource, the elevation of viewers relative to the visual resource, the frequency and duration of views, the number of viewers, and the type and expectations of individuals and viewer groups.

For purposes of analysis, landscapes are separated into foreground, middleground, and background views (U.S. Department of Agriculture, Forest Service 1995). In general, the foreground is characterized by clear details (within 0.25 or 0.5 mile of the viewer); the middleground is characterized by the loss of clear detail in a landscape, creating a uniform appearance (from the foreground to 3–5 miles in the distance); and the background extends from the middleground to the limit of human sight.

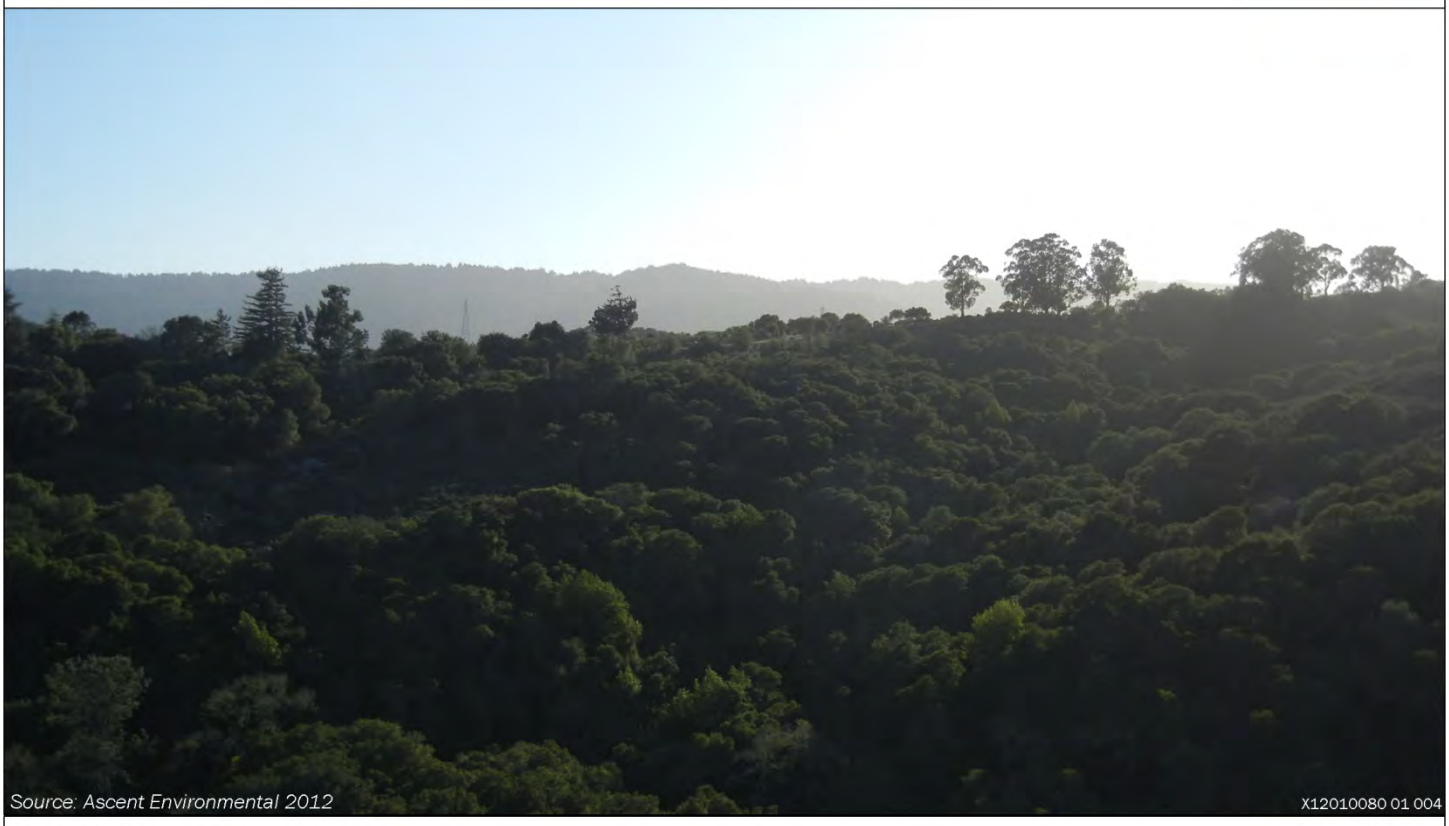
The main viewer groups that would be exposed to Integrated Pest Management (IPM) activities would be tenants of residences and agricultural properties leasing land from the District; employees of the District at buildings or working in the field; motorists traveling through the District on area roadways; and the general public engaged in recreational activities on OSP trails and at recreational facilities. Due to the proximity of District OSPs and recreational facilities to a large urban area, viewer exposure would be high and most viewers engaged in recreational activities would be aware of and sensitive to changes in visual resources.

VIEWER ACCESS

The accessibility that viewers have to a landscape view or vista is another factor in assessing aesthetic impacts. The primary determinant of viewer access is the number of people that can view the resource or site. Because of the proximity of District OSPs recreational facilities to a large urban area and the accessibility of OSPs by trails and roads, numerous people have access to the visual resources in the OSPs.

Source: Ascent Environmental 2012

Exhibit 4.1-2a **View of Bear Creek Redwoods Open Space Preserve from Roadway**



Source: Ascent Environmental 2012

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Exhibit 4.1-2b **View of Pulgas Ridge Open Space Preserve**

Exhibit 4.1-2c **Existing Drainage Restoration at Skylne Ridge Open Space Preserve**

Exhibit 4.1-2d **View of Skyline Ridge Open Space Preserve**

Exhibit 4.1-2e **Scenic Vista of Bay Area from Grasslands on Los Trancos Open Space Preserve**

LIGHT AND GLARE CONDITIONS

Surrounding urban development is the major source of light and glare in the project area. Outdoor lighting is not provided on District OSP parking lots. Exterior lighting at residences and offices is limited to safety lighting (porch lights, walkways) and these features are limited and dispersed within the District.

4.1.3 Environmental Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

Pursuant to the State CEQA Guidelines Appendix G, an adverse effect on visual resources impact is considered significant if implementation of the project would do any of the following:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

ANALYSIS METHODOLOGY

This visual impact analysis is based on field observations, review of aerial photographs, and photographs of the District lands. Analysis of the project's visual impacts is based on evaluation of potential changes to the existing visual resources that would result from project implementation. In determining the extent and implications of the visual changes, consideration was given to:

- existing visual qualities of the affected environment and potential changes in the visual character and qualities of the affected environment;
- the visual context of the affected environment;
- the extent to which the affected environment contains places or features that provide unique visual experiences or that have been designated in plans and policies for protection or special consideration; and
- the sensitivity of viewers, access of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by the project-related changes.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

The project would not result in the construction or installation of new buildings, lighting facilities, or other potential sources of light and glare. No work would take place at night time requiring lighting. No impacts related to light and glare would occur with implementation of the IPMP. Therefore, this topic is not discussed further in this EIR.

IMPACT ANALYSIS

Impact 4.1-1: Adverse Effects on Scenic Vistas or Substantial Degradation of the Existing Visual Character or Quality of the Site and its Surroundings.

Manual and mechanical treatments for recreational facilities and fuel management would affect limited areas adjacent to trails, roads and other recreation facilities and adjacent to structures. These treated areas would not be dominant in panoramic views that provide scenic vistas. Mechanical IPM treatments for vegetation management on rangelands, agricultural lands, and natural lands have the potential to affect large areas yet would be subject to best management practice (BMP) 28 that requires erosion control be applied to areas that are susceptible to runoff or erosion, and this would likewise prevent degradation of visual resources. Chemical IPM treatments around buildings and recreational facilities would be limited in area; treatments on rangelands, agricultural areas, and natural lands would be selectively applied to target species. Therefore, IPM chemical treatments would not result in visual changes over large areas that would be dominant in panoramic views and scenic vistas. Overall, this impact would be **less than significant**.

A scenic vista is considered to be a location from which the public can experience unique and exemplary high-quality views—typically from elevated vantage points that offer panoramic views of great breadth and depth.

Manual and Mechanical Treatment

Buildings

Buildings located on the District include barns and residences set in the context of working rural or agricultural landscapes. These structures provide picturesque and distinctive features in foreground views with the backdrop of adjacent natural areas. Abandoned or neglected structures, usually associated with recent property acquisitions, can create visual blight and harbor rodent and insect pests. Manual treatments

for structural pests would include sanitation, habitat modification, traps, barriers, demolition of vacant structures. The manual and mechanical IPM activities taking place inside structures or on the exterior of structures and would not be visible from nearby public areas and have no potential to damage scenic resources that would be visible as part of a scenic vista. In limited circumstances and when the protection of public health requires, demolition of vacant structures may be considered for older buildings and would be subject to permit requirements from the appropriate County planning departments in which they are located. These structures may be visible from public viewing areas and demolition would have the potential to alter views; however, removal of vacant and derelict structures, would eliminate built environment features that are intrusive in foreground views and detract from natural elements of the views. This would facilitate implementation of the District's scenic and aesthetic Resource Management Plan Policy SA-1 to minimize evidence of human impacts within OSPs. Therefore, these activities would not have a substantial adverse effect on a scenic vista or result in substantial degradation to visual character or qualities of the treatment sites.

Recreational Facilities

Manual and mechanical treatment for recreation facilities would include non-toxic baited and lure traps, physical removal by water jet or digging for wasps; elimination of hiding places, capture and removal for rattlesnakes; mechanical road and trail brush cutting, mowing; chainsaw, pole saws, and chippers for hazard tree removal. Many mechanical IPM treatments would not be visible in middleground views (lure traps, digging for wasps, elimination of hiding places) and, therefore, would not have any adverse effects on a scenic vista. Mechanical road and trail brush cutting, mowing, and tree removal would change the visual landscape in the areas where activities occur. However, these activities are currently occurring throughout District lands and would continue to be implemented in a similar manner to control pest populations. While the visual landscape would change from that of a weedy/overgrown natural landscape to a mowed/trimmed landscape in selected areas, this type of change would be seasonal and would result in a beneficial change to natural vegetation as the pests are removed and native vegetation re-establishes itself. Users of the District's recreational facilities would have selective views of these areas but views would only be provided because the activities would continue to provide access to the area (i.e., removal of the pests/plants would allow trails to remain open). While IPM activities would expand overtime as the District purchases additional properties, this expansion is not expected to be substantial, such that large changes in the scenic landscape would be observable. Overall, changes in the views of District recreational facilities would be barely perceptible or subordinate in a panoramic view of the surrounding areas. Therefore, these activities would not substantially degrade the visual quality and character of the sites or have a substantial adverse effect on a scenic vista.

Fuel Management

As described in the project description, vegetation at the wildland/urban interface and vegetation around structures that could contribute to large, uncontrolled wildfires is considered a potential "pest" that may warrant control, depending on site-specific circumstances. Specifically, vegetation may be considered a pest where it becomes overabundant, decadent or exceptionally close to facilities, structures, and inhabited areas. At the same time, fire is a natural component of many common plant communities in the District and helps to maintain species diversity of native grasslands, shrublands, and forests.

The project would not involve construction of new major fire breaks or implement new fuel management activities on existing District lands, and the use of prescribed burns to restore natural conditions in OSPs would not be permitted under the proposed IPMP. Consistent with current activities on District lands, the District's fuel management activities would first consider health, human safety, and regulatory requirements for local and state fire codes, and then balance these requirements with the District's goals to protect natural resources.

These activities are currently used throughout District lands and would continue to be implemented in a similar manner for fuel management purposes and expanded where necessary where the District purchases additional lands in the future. Clearing of flammable vegetation to provide defensible space currently occurs on an annual basis around an estimated 117 structures as required and regulated under the Uniform

Building Code, Public Resources Code Section 4291/4119, and County and City municipal codes and ordinances). This work is conducted by District staff or by residential, commercial or agricultural/rangeland tenants and consists of manual and/or tractor mowing, brushcutting, chainsaw work, pole pruning, chipping, and masticator depending on the site conditions. The District has developed Defensible Space Clearing Guidelines that it adheres by (see Appendix B of this EIR). The required amount of clearance for defensible space can vary depending on the Fire District jurisdiction that a parcel falls within. Implementation of the project would not result in any changes to the District's Wildfire Management Policy (District 2011; 76-84) or defensible space requirements (District, local, or state) on or adjacent to District lands.

Soil disturbance over a large area could result in erosion that could cause degradation of scenic vistas or general degradation of scenic quality. However, where firebreaks are required, IPM activities would be subject to the requirements of BMP 28, which requires that the District implement erosion control measures at treatment sites with loose or unstable soils, steep slopes (greater than 30 percent), or where a large percentage of the groundcover would be removed. Brushing treatments would occur only along roadways and trails and would occur in limited areas on an annual basis. Alterations to vegetation along roadways and trails would be consistent views along most trails and roadways in the District. Therefore, the IPM activities for fuel management would not substantially alter the overall visual character and quality of the surrounding area or result in a substantial adverse effect on scenic vistas.

Rangelands and Agricultural Properties

The purpose of IPM in rangelands and on agricultural properties is to manage pests to maintain the specific land uses (e.g., livestock grazing, crop production), while also providing natural resource protection and visitor access. Rangeland Management Plans are typically attached to an individual grazing lease, and address natural resource management objectives (e.g., riparian/wildlife habitat protection, special status species protection, native grassland restoration, invasive species control); wildfire prevention objectives; recreational uses within leased lands; agricultural viability; and lessee livestock management and infrastructure needs for a particular parcel and lessee. Therefore, the project does not replace the requirements of the individual range or agricultural management plans, nor does it present the full range of agricultural or range management options. Rather, it seeks to provide staff with tools that are consistent with IPM principles to select the safest, least harmful, and most effective treatments for rangeland and agricultural pests.

Consistent with agriculture and rangeland management plans, agriculture and rangeland tenants are allowed to control pests through grazing, mowing, pulling and careful application of District approved herbicides under the oversight of District staff Brush, commonly the native coyote brush, limits the available forage for livestock, reduces grassland habitat areas and creates an increased wildfire fuel load. Grazing tenants typically treat brush encroachment with herbicide and then use a tractor and drag bar to break up dead vegetation for the following season.

Existing manual and mechanical treatments for rangelands and agricultural properties would continue to be used and size of treatment areas would be similar to existing practice. Therefore, the project would not result in substantial changes to the landscape. These treatments include mowing and brush control for rangelands, and cultural weed control (crop rotation, water and nutrient management), and mechanical weed control (mulching, tilling, passive sterilization) for agricultural fields. Some treatments, such as plowing, disturb soil and could contribute to erosion of slopes that could detract from scenic vistas. However, BMP 28 requires erosion control measures be implemented after treatment for sites with loose or unstable soils, steep slopes (greater than 30 percent), or where a large percentage of the groundcover would be removed. Further, while IPM activities on rangeland and agricultural properties would expand overtime as the District purchases additional properties, this expansion is not expected to be substantial, such that large changes in the scenic landscape would be observed. Therefore, IPM for rangelands and agricultural properties would not result in a substantial adverse effect on a scenic vista.

Natural Lands

Manual control treatments for natural lands would consist of gigging or shooting for American bullfrogs, submerged traps for life stages of American bullfrog and certain fishes, use of electricity to temporarily

disable frogs and fish used in combination with netting and gigging; habitat manipulation; and exclusionary fencing for bullfrogs. Type conversion of stock ponds to ephemeral wetlands can also reduce bullfrog and nonnative fish populations across a landscape scale. Feral pig management includes trapping and shooting. Aquatic invasive weeds would be pulled, "harvested" using specialized equipment, or pond draining for small bodies of water. Most of the mechanical IPM treatments for Natural Lands would not be visible at a distance, or would affect minor features in an overall panoramic view. Stock ponds that are converted to ephemeral wetlands or are drained would revert to natural ground condition that would be consistent with the natural landscape. These features are generally small and are not dominant features in the landscape. Therefore, conversion of stock ponds to ephemeral wetlands and pond draining would not be considered a degradation of visual quality or character or a substantial adverse impact on scenic vistas. Further, while IPM activities for natural lands would expand overtime as the District purchases additional properties, this expansion is not expected to be substantial, such that large changes in the scenic landscape would be observable.

Chemical Treatment

Buildings

Chemical control treatments in buildings would include insecticidal soap spray, boric acid bait, fipronil, and various other pesticides listed on the District's List of Approved Pesticides to control invertebrate pests and rodents. IPM activities taking place inside structures or on the exterior of structures and would not be visible as part of a scenic vista and would not result in changes to views of District lands or the surrounding area.

Recreational Facilities

Chemical control treatments for recreational facilities would include use of spray for social wasps; and glyphosate and imazapyr for vegetation control. Vegetation treatments would change the visual landscape in the areas where activities occur. However, these activities are currently occurring throughout District lands and would continue to be implemented in a similar manner to control pest populations. While the visual landscape would change from that of a weedy/overgrown natural landscape to a less densely vegetated landscape in selected areas, this type of change would be seasonal and would change to natural vegetation patterns as the pests are removed and native vegetation re-establishes itself. Users of the District's recreational facilities would have selective views of these areas but views would only be provided because the activities would continue to provide access to the area (i.e., removal of the pests/plants would allow trails to remain open). Overall, changes in the views of District recreational facilities would be barely perceptible or subordinate in a panoramic view of the surrounding areas. Therefore, these activities would not substantially degrade the visual quality and character of the sites and would not have a substantial adverse effect on a scenic vista.

Fuel Management

Treatments for fuel management include chemical control when needed for fuel management directly adjacent to structures and where perennial plants require permanent treatment. IPM chemical treatments would be limited to areas adjacent to structures and would not result in visual changes to large areas that include broad panoramic views within the District. These activities are currently occurring throughout District lands and would continue to be implemented in a similar manner for fuel management.

IPM chemical treatments would be used at District boundaries in relation to adjacent structures, roads, and other human use areas. Although some change to the visual appearance would occur, it would not substantially alter or degrade the landscape character and would be in keeping with the context of the wildland/urban interface. Further, while IPM activities would expand overtime as the District purchases additional properties, this expansion is not expected to be substantial, such that large changes in the scenic landscape would be observable. Therefore, chemical treatment activities for fuel management would not result in a substantial adverse effect on a scenic vistas or visual quality or character of District lands.

Rangelands and Agricultural Properties

Chemical control used for management of rangelands and agricultural properties would be used on thistles and brush on rangelands, and weeds in agriculture fields or orchards. IPM chemical treatments for weed control would help to restore the visual integrity of the working landscapes and would not result in visual

changes that would be dominant in broad panoramic views within OSPs. Therefore, these IPM activities would not have a substantial adverse effect on a scenic vista and would not substantially change the visual landscape in these areas.

Natural Lands

Chemical controls on natural lands involves the use of selective herbicides that target broadleaf invasive plants in grasslands, and non-selective herbicides to control a wider variety of broadleaf plants, perennials, grasses and woody invasive plants. For individual high value oaks such as very large mature oaks near picnic facilities, spot treatment of individual oaks with pest control sprays (e.g., Agri-Fos™) intended to reduce potential for SOD infection will be considered. Treatment of natural lands would eliminate invasive vegetation and help to restore native vegetative patterns. These IPM treatments would improve the visual integrity of landscapes in foreground and middleground views. These treatments are currently occurring throughout District lands and would continue to be implemented in a similar manner to control invasive plant species and SOD. Therefore, these IPM activities would not have a substantial adverse effect on a scenic vista and would be considered to improve views of the overall landscape.

Conclusion

Manual and mechanical treatment methods would affect limited areas adjacent to structures, along trails, and at recreation facilities. These treated areas would not be dominant in panoramic views that provide scenic vistas and would not substantially change views of the site or surrounding areas. Manual and mechanical methods used for invasive plants on rangelands, agricultural lands, and natural lands may affect broader areas. Those mechanical treatment methods that have the potential to affect large areas would be subject to BMP 28 that requires erosion control be applied to areas that are susceptible to runoff erosion, which would prevent degradation of visual resources. Chemical treatments around buildings and recreational facilities would be limited in area; treatments on rangelands, agricultural areas, and natural lands would be selectively applied to target invasive species. Therefore, IPM chemical treatments would not result in visual changes over large areas that would be dominant in panoramic views and scenic vistas. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are necessary.

Impact 4.1-2: Impacts to Scenic Resources within a State Scenic Highway.

Use of manual and mechanical treatment methods for pest control and fire prevention would affect limited areas adjacent to structures, along trails, and at recreation facilities. These treated areas would not be dominant in views from state scenic highways. Manual and mechanical methods for invasive plants on rangelands, agricultural lands, and natural lands may affect broader areas and some may occur near or be visible from scenic highways. However, those mechanical treatment methods that have the potential to affect large areas would be subject to BMP 28 that requires erosion control be applied to areas that are susceptible to runoff or erosion, which would prevent degradation of visual resources. Chemical treatments around buildings and recreational facilities would be limited in area because treatments on rangelands, agricultural areas, and natural lands would be selectively applied to target pest species. The treatments would restore scenic integrity of working and natural landscapes. These activities, which are limited in scale, are currently occurring throughout District lands. Under the IPMP these activities would continue to be implemented in a similar manner and at a similar scale to control pests. Therefore, implementation of the proposed IPMP would not cause a substantial adverse effect on scenic resources within a state scenic highway. This impact would be **less than significant**.

Highways designated as Eligible (E) or Officially Designated (OD) State Scenic Highways located within the District are I-280, SR 35, and SR 9. As shown in Exhibit 4.1-1, these highways pass through, adjacent to or near to many of the District OSPs.

Manual and Mechanical Treatment

Buildings

Abandoned or neglected structures, usually associated with recent property acquisitions, can create visual blight and harbor rodent and insect pests. Manual treatments for structural pests would include sanitation, habitat modification, installation of traps and barriers, and demolition of vacant structures. The manual and mechanical IPM activities taking place inside structures or on the exterior of structures and would not be visible from a state scenic highway. In limited circumstances and when the protection of public health requires, demolition of vacant structures may be considered for older buildings and would be subject to permit requirements from the County planning departments in which they are located. Demolition of vacant structures that are visible from a state scenic highway would eliminate built environment features that detract from natural elements of views as seen from the highways. This would facilitate implementation of the District scenic and aesthetic Resource Management Plan Policy SA-1 to minimize evidence of human impacts within OSPs. Therefore, these activities would not have a substantial adverse effect on scenic resources within the vicinity of a state scenic highway. If buildings have the potential to be historic, these would be evaluated separately prior to any decision regarding demolition as required by Mitigation Measure 4.3-1 (see Section 4.3, Cultural Resources).

Recreational Facilities

Mechanical road and trail brush cutting, mowing, and tree removal would change the visual landscape in the areas where activities occur. However, these activities are currently occurring throughout District lands and would continue to be implemented in a similar manner to control pest populations. While the visual landscape would change from that of a weedy/overgrown natural landscape to a mowed/trimmed landscape in selected areas, this type of change would be seasonal and would change to natural vegetation as the pests are removed and native vegetation re-establishes itself. Many mechanical IPM activities would be limited in area, and would be minimally visible or not at all visible from roadways (lure traps, digging for wasps). Trail or road brushing treatments would not be dominant in views and would be limited in duration due to the vehicle traveling speeds as they are passing through a treatment area. The activities would benefit visual resources by eliminating invasive vegetation that encroaches upon recreational facilities and detracts from natural landscapes. Overall, changes in the views of District recreational facilities would be barely perceptible or subordinate in views from nearby scenic highways. Therefore, these activities would not have a substantial adverse effect on scenic resources within the vicinity of a state scenic highway.

Fuel Management

Manual and mechanical treatment for fuel management would use mowing, discing (cultivation), overhead trimming, brushing. Clearing of flammable vegetation to provide defensible space currently occurs on an annual basis around an estimated 117 structures as required and regulated under the Uniform Building Code, Public Resources Code Section 4291/4119, and County and City municipal codes and ordinances). Implementation of the proposed IPMP would not result in any changes to the District's Wildfire Management Policy (District 2011; 76-84) or defensible space requirements (District, local, or state) on or adjacent to District lands. Therefore, the IPM activities for fuel management would not substantially alter the overall visual character and quality of the surrounding area or result in substantial adverse effects on scenic resources within a state scenic highway.

IPM for Rangelands and Agricultural Properties

Existing manual and mechanical treatment for rangelands and agricultural properties would continue to be used and size of treatment areas would be similar to existing practice. Therefore, the project would not result in substantial changes to the landscape. These treatments include use mowing and brush control for rangelands, and cultural weed control (crop rotation, water and nutrient management), and mechanical weed control (mulching, tilling, passive sterilization) for agricultural fields. The project would not replace the requirements of the individual range or agricultural management plans. Some treatments, such as plowing disturbs soil and could contribute to erosion of slopes that could detract from scenic vistas. However, BMP 28 requires erosion control measures be implemented after treatment for sites with loose or unstable soils, steep slopes (greater than 30 percent), or where a large percentage of the groundcover would be removed.

Further, while IPM activities on rangeland and agricultural properties would expand overtime as the District purchases additional properties, this expansion is not expected to be substantial , such that large changes in the scenic landscape would be observable. Therefore, IPM activities for rangelands and agricultural properties would not result in a substantial adverse effect on scenic resources within a state scenic highway.

IPM for Natural Lands

IPM treatments for natural lands would have no effect on scenic resources because they are generally not implemented at a scale that would be visible to vehicles or passersby along scenic highways. Stock ponds that are converted to ephemeral wetlands or are drained would revert to natural ground condition that would be consistent with the natural landscape. These features are generally small and are not dominant features in the landscape. The overall natural appearance of the landscape would remain intact and reduction or elimination of invasive plant species would restore natural landscape integrity. The project would not substantially damage scenic resources within a state scenic highway

Chemical Treatment

Buildings

IPM activities taking place inside structures or on the exterior of structures and would not be visible from nearby roadways, and, therefore would not have any adverse effect on scenic resources within a scenic highway.

Recreational Facilities

Chemical control treatments for recreational facilities would benefit visual resources by eliminating invasive vegetation that encroaches upon recreational facilities and detracts from natural landscapes. Therefore, these IPM activities would not substantially damage scenic resources within a state scenic highway.

Fuel Management

Treatments for fuel management include chemical control when needed for fuel management directly adjacent to structures and where perennial plants require permanent treatment. IPM chemical treatments would be limited to areas adjacent to structures and would not result in visual changes to large areas that would adversely affect scenic resources. Fuel management activities are currently occurring throughout District lands and would continue to be implemented in a similar manner.

IPM chemical treatments would be used at District boundaries in relation to adjacent structures, roads, and other human use areas. Although some change to the visual appearance would occur, it would not substantially alter or degrade the landscape character and would be in keeping with the context of the wildland/urban interface. Therefore, IPM for chemical treatment for fuel management areas would not result in a substantial adverse effect on scenic resources within a scenic highway.

Rangelands and Agricultural Properties

Chemical control used for management of rangelands and agricultural properties would be used on thistles and brush on rangelands, and weeds in agriculture fields or orchards. These treatments are currently occurring throughout District lands and would continue to be implemented in a similar manner. IPM chemical treatments for weed control would help to restore the visual integrity of the working landscapes that would be visible and would not result in visual changes that would be dominant in views from nearby roadways. Therefore, these IPM activities would not have a substantial adverse effect on a scenic vista and would not result in degradation of scenic resources within a state scenic highway.

Natural Lands

Chemical controls on natural lands involve the use of selective herbicides that target broadleaf invasive plants in grasslands, and non-selective herbicides to control a wider variety of broadleaf plants, perennials, grasses and woody invasive plants. For individual high value oaks such as very large mature oaks near picnic facilities, spot treatment of individual oaks with pest control sprays (e.g., Agri-Fos™) intended to reduce potential for SOD infection will be considered. Treatment of natural lands would eliminate invasive vegetation and help to restore native vegetative patterns. These IPM treatments would improve the visual

integrity of landscapes in foreground and middleground views. These treatments are currently occurring throughout District lands and would continue to be implemented in a similar manner to control invasive plant species and SOD. Therefore, these IPM activities would not have a substantial adverse effect on scenic resources within a state scenic highway and would be considered to improve views of the overall landscape.

Conclusion

Use of manual and mechanical treatment methods would affect limited areas adjacent to structures, along trails, and at recreation facilities, and near structures for fire prevention. These treated areas would not be dominant in views from state scenic highways. Manual and mechanical methods used for invasive plants on rangelands, agricultural lands, and natural lands may affect broader areas. Those mechanical treatment methods would be subject to BMP 28 that requires erosion control be applied to areas that are susceptible to runoff erosion, which would prevent degradation of visual resources. Chemical treatments around buildings and recreational facilities would be limited in area; treatments on rangelands, agricultural areas, and natural lands would be selectively applied to target invasive species. The described manual, mechanical, and chemical treatments are currently used throughout District lands and would continue to be implemented in a similar manner under the IPMP. The treatments would restore scenic integrity of working and natural landscapes. Therefore, implementation of the proposed IPMP would not cause a substantial adverse effect on scenic resources within a state scenic highway. This impact would be **less than significant**.

Mitigation Measures

No mitigation measures are necessary.

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4.2 BIOLOGICAL RESOURCES

This section addresses biological resources that could be affected by implementation of the IPMP. The information presented is based on review of existing documentation including District vegetation maps (Midpeninsula Regional Open Space District [District] 2007) and special-status species maps (District 2013).

4.2.1 Regulatory Setting

Biological and forest resources in California are protected and/or regulated by a variety of federal and state laws and policies. Key regulatory and conservation planning issues applicable to the project are discussed below.

FEDERAL

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) regulate the taking of terrestrial and inland species and anadromous and marine species listed as threatened or endangered under the Endangered Species Act (ESA). In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under Federal jurisdiction or in violation of state law. Under ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take. If a project would result in take of a Federally-listed species, either the project applicant must acquire an incidental-take permit, under Section 10(a) of ESA, or if a federal discretionary action is involved, the federal agency consult with USFWS or NMFS under Section 7 of the ESA.

Birds of Conservation Concern

USFWS' Birds of Conservation Concern (USFWS 2012a) was developed to fulfill the mandate of the 1988 amendment to the Fish and Wildlife Conservation Act (Public Law 100-653 (102 Stat. 3825) to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA of 1973" and to stimulate coordinated and proactive conservation actions among federal and state agencies and private entities. The bird species included on the Birds of Conservation Concern lists include "nongame birds, gamebirds without hunting seasons, and Endangered Species Act candidate, proposed endangered or threatened, and recently delisted species."

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act declares it is illegal to take bald eagles, including their parts, nests, or eggs unless authorized. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause injury to an eagle, a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

Section 404 of the Clean Water Act

Section 404 of the Federal Clean Water Act (CWA) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United

States, including wetlands. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land, or changing the bottom elevation of any portion of a water of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters, and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of CWA pending USACE verification.

Section 401 Water Quality Certification

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine regional water quality control boards (RWQCB).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all migratory birds native to the United States.

Stipulated Injunctions

To settle a to a lawsuit in Federal District Court for the Northern District of California in April of 2002, alleging the EPA did not comply with section 7(a)(2) of the ESA by ensuring that the registration of pesticide did not affect California red-legged frog (California red-legged frog (*Rana draytonii*), the Court issued a Stipulated Injunction Regarding Pesticides and the California Red-legged frog. This Injunction limited the use of 66 pesticides in 33 counties until the EPA completed effects determination to determine their potential effect on the California red-legged frog. A similar Stipulated Injunction was granted by the Courts for pesticides and eleven species found in the greater San Francisco Bay Area (Center for Biological Diversity v. EPA (2010) Case No.: 07-2794-JCS), including bay checkerspot butterfly (*Euphydras editha bayensis*), California clapper rail (*Rallus longirostris obsoletus*), California tiger salamander (*Ambystoma californiense*), salt marsh harvest mouse (*Reithrodontomys raviventris*), San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), and tidewater goby (*Eucyclogobius newberryi*).

These two injunctions resulted in revised application guidelines from the EPA based on the location and habitats of proposed application areas.

STATE

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing. Project proponents may obtain a Section 2081 incidental take permit if the impacts of the take are minimized and fully mitigated, and the take would not jeopardize the continued existence of the species. A "take" of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include "harm" or "harass" as is included in the federal act. As a result, the threshold for a take under CESA may be higher than under ESA.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the United States as well as areas that meet the definition of "waters of the state." Waters of the state is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under Clean Water Act Section 404 provided they meet the definition of waters of the state. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required by the RWQCB.

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by California Department of Fish and Wildlife (CDFW) under Sections 1600 et seq. of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or use any material from the streambeds, without first notifying CDFW of such activity and obtaining a final agreement authorizing such activity. "Stream" is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Fully Protected Species

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species unless the take is covered under a Natural Community Conservation Plan that is approved by CDFW.

Protection for Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. Section 3513 of the California Fish and Game Code codifies the federal Migratory Bird Treaty Act.

LOCAL

Midpeninsula Regional Open Space District Resource Management Policies

The District prepared a Resource Management Policy document to define the policies and practices used to protect and manage resources on District lands (District 2012). The Resource Management Policies are intended as a tool to:

- set the framework for the District's resource management program;
- provide general direction for issue-specific and site-specific planning;
- give staff and Board the basis for informed, consistent, and effective resource management decisions;
- inform the public of the purpose and intentions of the District's resource management program;
- provide a basis for evaluation of the District's progress in reaching its resource management objectives.

From District's Basic Policy:

Objective 2: Open Space Management: The District follows management policies that ensure proper care of the land, that provide public access appropriate to the nature of the land, and that are consistent with ecological values and public safety.

The resource management mission of the District is to protect and restore the natural diversity and integrity of its resources for their value to the environment, and the public, and provide for the use of the preserves consistent with resource protection.

Specifically, the District will:

- Favor protection of resources when use significantly interferes with resource protection.
- Provide an effective interdisciplinary resource management program to protect and enhance natural and cultural resources. This program should include planning, interpretation, research, protective measures, maintenance, and monitoring practices.
- Prevent or minimize human-caused and accelerated impacts, including erosion, invasion by non-native species, disruption of the natural flow of water, degradation of water quality, trampling of vegetation, and displacement of wildlife.
- Protect and restore known rare, endangered, or special concern species and habitats, as well as seriously degraded or deteriorating areas. Give priority to endangered habitats and consider the relative scarcity of the specific resources involved.
- Manage open space as a composite resource, not separate and isolated parts. Maintain ecological processes as well as individual species and features. Consider the regional context and cumulative impacts of resource management decisions. Favor long-term goals over short-term benefits.
- Support recreational use of District lands, consistent with resource protection. Consider present and potential use.
- Balance efforts to protect and restore resources with efforts to acquire and provide public access to lands.
- Monitor changing conditions and the effectiveness of resource management practices.

4.2.2 Environmental Setting

REGIONAL SETTING

The District is located along the San Francisco peninsula between the Pacific Ocean and the San Francisco Bay. The unique location is dominated by the Santa Cruz Mountains which are influenced by a Mediterranean climate composed of mild, wet winters and long, hot, and dry summers cooled by coastal fog. The eastern edge of the District is heavily influenced by the urban areas of San Francisco, San Jose, and other San Francisco Peninsula cities. The San Andreas Fault, one of the world's longest and most active faults, cuts through the eastern side of the Santa Cruz Mountains. Continuing movement along the fault and differing composition of the underlying rocks created many soil types and terrain features including steep, narrow canyons, rolling hills, and flat bay lands.

LOCAL SETTING

District lands protect a variety of habitats rich in both numbers and variety of plants and animals. The center of the District straddles the eastern and western flanks of the Santa Cruz Mountains covered in a diverse

mix of oak woodland, grassland, chaparral, coastal scrub, and both evergreen and coniferous forests. The eastern portion of the District contains tidal salt marshes adjacent to the urban areas of San Francisco, San Jose, and other peninsula cities.

LAND COVER AND WILDLIFE

Land cover types and acreages found within the region surrounding the District's sphere of influence are listed in Table 4.2-1 (see Exhibit 4.2-1). This information is based on District mapping, supplemented by the USGS Gap Land Cover Data Set. District mapping was performed using normal procedures in vegetation mapping, including initial field reconnaissance, preliminary photo interpretation, ground truthing, and quality control. The USGS GAP Land Cover data set includes detailed vegetation and land use patterns for the continental United States and is mainly focused on habitat identification. Wildlife associated with each land cover type is also described below.

Table 4.2-1 Regional Land Cover in the District's Sphere of Influence

Land Cover Type	Acres
Forest	112,157
Herbaceous	25,057
Shrubland	70,540
Unvegetated	11,134
Urban	119,070
Water	16,179
Woodland	10,424
Total	**364,561**

Source: Data compiled by Ascent Environmental

Forests

Mixed-conifer Forest

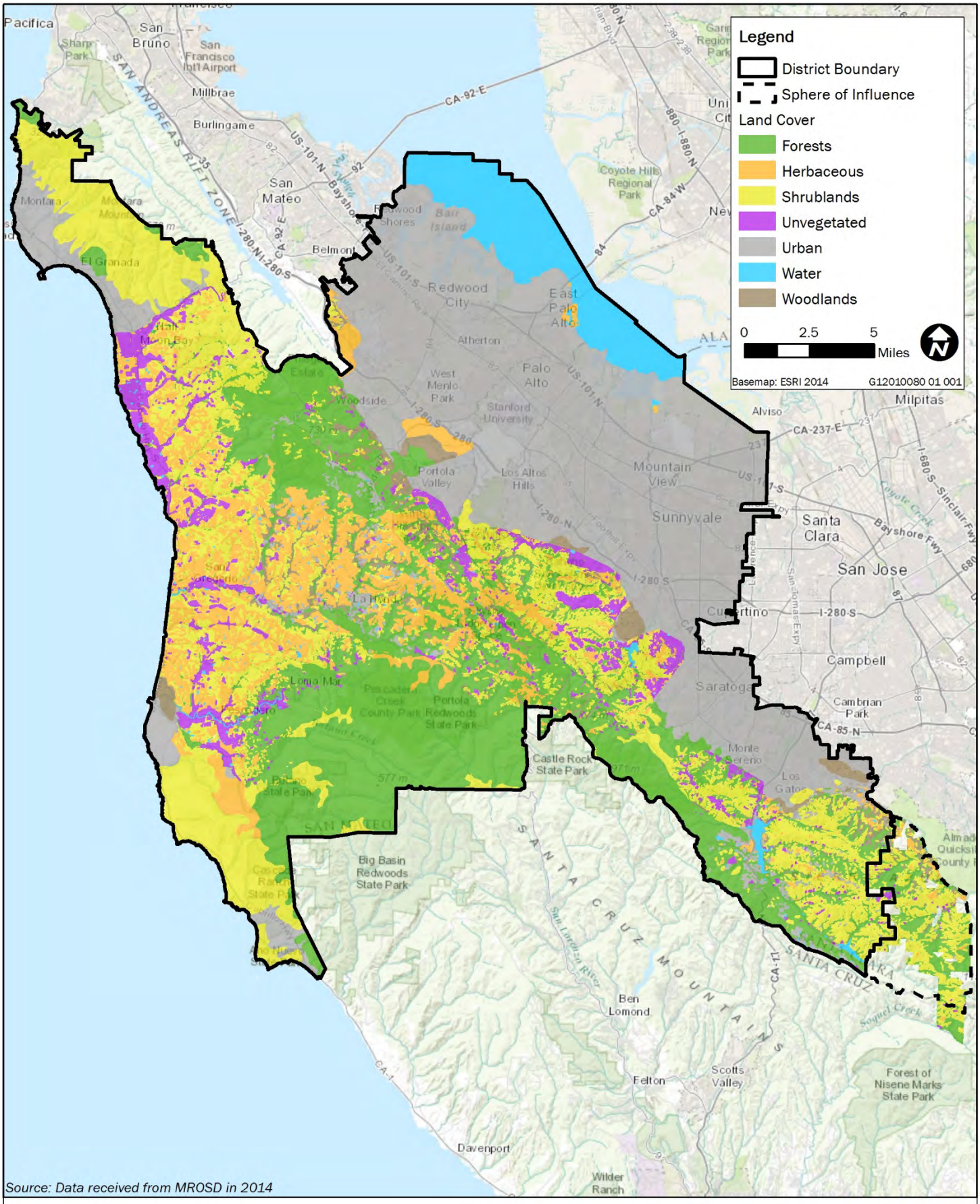
Mixed conifer forest is typically dominated by Douglas-fir (*Pseudotsuga menziesii*). Other species consist of coast redwoods (*Sequoia sempervirens*) and California bay (*Umbellularia californica*).

Bird species typical of this habitat consist of Pacific-slope flycatcher (*Empidonax difficilis*), chestnut-backed chickadee (P*oecile* rufescens), and Cassin's vireo (*Vireo cassinii)*. Other wildlife species consist of Pacific giant salamander (*Dicamptodon ensatus)*, deer mouse (*Peromyscus maniculatus)*, dusky-footed woodrat (*Neotoma fuscipes*), and Trowbridge's shrew (*Sorex trowbridgii*).

Knobcone Pine Forest

Knobcone pine forest is a generally open-canopy forest of more or less evenly spaced trees of knobcone pine (*Pinus attenuata*), a pine that is essentially dependent on fire for its reproduction. Few other tree species occur in well-developed knobcone pine forest. The understory vegetation in knobcone pine forest consists of chaparral shrubs species and grassland species.

Representative wildlife species typical of this habitat consist of California mountain kingsnake (*Lampropeltis zonata*), hairy woodpecker (*Picoides villosus*), western wood-pewee (*Contopus sordidulus*), brown creeper (*Certhia americana*), and western gray squirrel (*Sciurus griseus*).



Source: Data received from MROSD in 2014

Exhibit 4.2-1 **District Land Cover**

ASCENT ENVIRONMENTAL

Redwood Forest

Redwood forest habitat in the project area is dominated by redwoods (*Sequoia sempervirens*). Other species may consist of big-leaf maple (*Acer macrophyllum*) and Douglas-fir.

Redwood habitats provide food, cover, or special habitat elements for a number of wildlife species including California red-legged frog (*Rana* sp.), ensatina (*Ensatina escholtzii*), osprey (*Pandion haliaetus*), ringtail (*Bassariscus astutus*), and marbled murrelet (*Brachyramphus marmoratus*).

Riparian Forest

The riparian forest of the study area is located in sites within Los Trancos, Purisima Creek, Sierra Azul, Skyline Ridge, and St. Joseph's Hill Open Space Preserves. Riparian forest is typically tree- or shrub dominated and occurs along streams and rivers. Dominant species consist of arroyo willow (*Salix lasiolepis*), white alder (*Alnus rhombifolia*), and big-leaf maple. Other willows (*Salix* spp.) and alders (*Alnus* spp.) may also be present.

Riparian forests are particularly valuable in their function as an interface between aquatic and terrestrial communities. Riparian zones provide nutrients, shade, and bank stabilization for aquatic systems, as well as nesting and foraging habitat, migration corridors, and refuges for wildlife. Common mammals found in this habitat type consist of raccoon (*Procyon lotor*), gray fox, striped skunk (*Mephitis mephitis*), and dusky-footed woodrat. Numerous birds are also found in this habitat, such as Wilson's warbler (*Wilsonia pusilla*), yellow warbler (*Dendroica petechia*), red-shouldered hawk (*Buteo lineatus*), song sparrow (*Melospiza melodia*), and black-headed grosbeak (*Pheucticus melanocephalus*).

Plantation

Artificially established forests, groves, and farms are located in the District. These include Christmas tree farms, olive groves, plantation pines, and planted stands of pine. These trees may provide nesting habitat for birds, but generally the habitat value of homogenous stands of trees is much less than native forest communities described above.

Herbaceous

Grassland

Annual and perennial grasslands are found in the District. Annual grasslands are typically dominated by non-native, mostly annual grasses such as slender wild oat (*Avena barbata*), soft chess (*Bromus hordeaceus*), ripgut grass (*Bromus diandrus*), and six-weeks fescue (*Vulpia bromoides*). Native perennial grasses include purple needlegrass (*Nassella pulchra*) and meadow barley (*Hordeum brachyantherum*).

In areas where serpentine soils are present, serpentine grassland may mix with California grassland. Serpentine grassland is characterized by having generally lower vegetation cover than is typical for most California annual grassland, and generally lower plant stature. The serpentine grasslands on District lands are quite variable in species composition, but native grasses are typically among the dominant species. These consist of perennial species such as one-sided bluegrass (*Poa secunda* ssp. *secunda*), big squirreltail grass (*Elymus multisetus*), June grass (*Koeleria macrantha*), California melic grass (*Melica californica*), and purple needlegrass. A diverse and somewhat distinctive assemblage of native herb species is associated with these serpentine grasslands, including hayfield tarweed (*Hemizonia congesta* ssp. *luzulifolia*), Fremont's western rosinweed (*Calycadenia fremontii*), California plantain (*Plantago erecta*), flaxflowered linanthus (*Linanthus liniflorus*), and blue-eyed grass (*Sisyrinchium bellum*).

In general, grasslands support lower wildlife diversity than woodland and shrub-dominated habitats, but are invaluable to a number of grassland-dependent species (Mayer and Laudenslayer 1988, p. 118). A great diversity and abundance of insects rely on grasslands. Reptiles found in annual grasslands consist of northern alligator lizard (*Elgaria coerulea*) and common gopher snake (*Thamnophis sirtalis*). Birds that are common in this habitat consist of western meadowlark (*Sturnella neglecta*) and savannah sparrow (*Passerculus sandwichensis*). Annual grassland also provides important foraging habitat for turkey vulture

(*Cathartes aura*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), and red-tailed hawk (*Buteo jamaicensis*). Mammals known to use this habitat consist of California ground squirrel (*Spermophilus beecheyi*), black-tailed jackrabbit (*Lepus californicus*), and Botta's pocket gopher (*Thomomys bottae*).

Freshwater Marsh

Freshwater marsh habitat develops in shallow, standing or slow-moving water at the edge of lakes, ponds, and rivers that support emergent vegetation adapted to permanently or seasonally flooded soils. Dominant vegetation consists of cattails (*Typha* spp.), sedges (*Carex* spp.), and rushes (*Juncus* spp.).

Wildlife values of freshwater marsh habitat are generally high, because of the available surface water, abundance of insects, algae, and plant forage, and protective cover. Various birds, amphibians, and reptiles are often abundant. Typical species consist of marsh wren (*Cistothorus palustris*), red-winged blackbird (*Agelaius phoeniceus*), and Pacific chorus frog (*Pseudacris regilla*).

Salt Marsh

Salt marsh is a coastal ecosystem between land and open salt water or brackish water that is regularly flooded by the tides. Typical plant species include salt grass (*Distichlis spicata*), Franconia (*Frankenia salina*), pickleweed and glasswort (*Salicornis* spp.), cordgrass (*Spartina foliosa*), and seep weed (*Suaeda caliofornica*).

Little wildlife inhabits the coastal salt marsh. Resident wildlife includes the salt marsh harvest mouse and Alameda song sparrow (*Melospiza melodia pusillula*).

Shrubland

Shrublands and chaparral are widespread throughout the District and typically consists of dense, often impenetrable scrub dominated by a variety of shrub species, especially including chamise (*Adenostoma fasciculatum*), big berry manzanita (*Arctostaphylos glauca*), coyote brush (*Baccharis pilularis)*, birch leafed mountain mahogany (*Cercocarpus betuloides*), and poison oak (*Toxicodendron diversilobum*). It may also consist of such species as manzanita (*Arctostaphylos* spp.) and California sagebrush (*Artemisia californica*).

Shrubland and chaparral habitat generally has lower wildlife diversity than most forest and woodland habitats (Mayer and Laudenslayer 1988, pp. 104-107). However, scrub does provide habitat for many wildlife species, including some that are considered rare elsewhere. Common reptiles found in chaparral consist of western rattlesnake (*Crotalus oreganus*), California kingsnake (*Lampropeltis getula californiae*), and western fence lizard (*Sceloporus occidentalis*). Common birds in scrub habitat consist of California thrasher (*Toxostoma redivivum*), Bewick's wren (*Thryomanes bewickii*), and California quail (*Callipepla californica*). Mammals commonly associated with scrub consist of gray fox (*Urocyon cinereoargenteus*) and black-tailed deer (*Odocoileus hemionus*).

Woodland

Mixed coastal woodland habitats within the District consist of plant communities dominated by coast live oak (*Quercus agrifolia*), valley oak (*Quercus lobata*), California bay (*Umbellularia californica*), and California buckeye (*Aesculus californica*). Blue oak (*Quercus douglasii*) and eucalyptus (*Eucalyptus globulus*) may also be present. Most of the woodlands are dense, closed-canopy broadleaved evergreen forests, but some areas are deciduous.

Woodland habitats support a wide variety of wildlife species (Mayer and Laudenslayer 1988, pp. 72-79). This rich fauna largely results from acorn production and the availability of cavities for breeding and cover in large oak trees. In fact, the presence of at least some oaks in any habitat type increases wildlife abundance (CalPIF 2002, p. 8). Typical reptiles and amphibians that use this habitat consist of ringneck snake (*Diadophis punctatus*), California slender salamander (*Batrachoseps attenuatus*), and western skink *(Eumeces skiltonianus*). Representative bird species consist of: wild turkey (*Meleagris gallopavo*), Cooper's hawk (*Accipiter cooperii*), great horned owl (*Bubo virginianus*), acorn woodpecker (*Melanerpes formicivorus*),

and oak titmouse (*Baeolophus inornatus*). Common mammals in coastal woodlands consist of black-tailed deer (*Odocoileus hemionus*), mountain lion (*Felis concolor*), and wild boar (*Sus scrofa*).

Unvegetated

Landslides, Rocky Cliffs, and Outcrops

Due to the thin soil layer developed on the serpentine bedrock, a low moisture-holding capacity and a unique chemical composition, the serpentine areas support numerous endemic plant species. Fremont's western rosinweed, smooth lessingia (*Lessingia micradenia* var. *glabrata*), flax-flowered linanthus (*Linanthus liniflorus*), coast range false bindweed (*Calystegia collina* ssp. *collina*), and most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*) are species that are entirely or largely restricted to serpentine substrate or are regionally uncommon.

Water

Aquatic Habitat

Aquatic features within the District include a variety of freshwater, estuarine, and marine habitats. Surface water bodies include reservoirs, ponds, and ephemeral and perennial streams. Additional aquatic features within include seeps, wetlands, and freshwater marshes. The coastline supports tidepools, estuaries, and lagoons; and salt marshes occur occasionally along the edge of San Francisco Bays. Drainages range from ephemeral and intermittent to perennial streams. Runoff from the peninsula flows to the Pacific Ocean to the west and the San Francisco Bay and estuaries to the east.

Aquatic habitat supports a wide variety of species. Fish include coho salmon – central California coast evolutionarily significant unit (ESU) (*Oncorhynchus kisutch*), steelhead –central California coast distinct population segment (*Oncorhynchus mykiss*); tidewater goby. Amphibians include California red-legged frog, foothill yellow-legged frog (*Rana boylii*), and California tiger salamander. Northwestern pond turtle (*Emys marmorata*) may also use this habitat.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources evaluated as part of this analysis include special-status species and sensitive natural communities. The District maintains its own database of sensitive species known to occur or have the potential to occur within the District (District 2013). The District database compiles reported occurrences from District biologists, the California Natural Diversity Database (CNDDB), and the California Native Plant Society's online *Inventory of Rare and Endangered Plants*. The CNDDB is a statewide database, managed by CDFW that is continually updated with the location and condition of the state's rare and declining species and habitats. Although the CNDDB is the most current and reliable tool available for tracking occurrences of special-status species, it contains only those records that have been reported to CDFW.

Special-Status Species

Special-status species are plants and animals in the following categories:

- Listed or proposed for listing as threatened or endangered under the federal ESA or candidates for possible future listing;
- Listed or candidates for listing by the State of California as threatened or endangered under CESA;
- Listed as Fully Protected under the California Fish and Game Code;
- Animals identified by CDFW as species of special concern;
- Plants considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks of 1A, presumed extinct in California; 1B, considered rare or endangered in California and

elsewhere ; and 2, considered rare or endangered in California but more common elsewhere). Note, that while these ranking do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under CEQA;

- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or

- Otherwise meets the definition of rare or endangered under CEQA §15380(b) and (d).

Special-Status Plants

Searches of the District database, CNDDB, and CNPS online electronic inventory identified 45 special-status plant species that have the potential to occur within the District (Appendix C-1). Appendix C-1 identifies the vegetation types where the species has the potential to occur.

Special-Status Animals

Based on a review of the results of the District database and CNDDB search, a list of special-status wildlife species in vicinity of the District was compiled (Appendix C-2). Six special-status amphibians, 32 special-status birds, four special-status invertebrates, three special-status fish, and eight special-status mammals have the potential to occur within the District (Appendix C-2).

Sensitive Natural Communities

Sensitive natural communities are of limited distribution statewide or within a county or region that provides important habitat value to native species. Most types of wetlands and riparian communities are considered sensitive natural communities because of their limited distribution in California. In addition, sensitive natural communities include habitats that are subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of CWA, Section 1602 of the California Fish and Game Code, and the state's Porter-Cologne Water Quality Control Act, which protects waters of the state. Sensitive natural communities are of special concern because they have high potential to support special-status plant and animal species. Sensitive natural communities can also provide other important ecological functions, such as enhancing flood and erosion control and maintaining water quality.

Most natural communities within the District are considered sensitive, with a few exceptions such as annual grasslands. Sensitive natural communities within the District include, but are not limited to California bay forests, redwood forests, California buckeye groves, oak woodlands, bigleaf maple forests, northern maritime chaparral, northern interior cypress forest, riparian woodlands, and wetlands. Serpentine grassland is a sensitive natural community that is not mapped in the study area because of the scale of mapping unit, but may be present in small patches.

Critical Habitat

Critical habitat is a USFWS-designated geographic area that is considered essential for the conservation of a federally threatened or endangered species that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species, but that will be needed for its recovery. A critical habitat designation only applies to activities performed by Federal agencies or that involve a Federal permit, license, or funding, and that are likely to destroy or adversely modify the area of critical habitat.

Critical habitat within the District has been designated for steelhead (USFWS 2005), tidewater goby (USFWS 2013), California red-legged frog (USFWS 2010), bay checkerspot butterfly (USFWS 2008), western snowy plover (*Charadrius alexandrines nivosus* USFWS 2012b), and marbled murrelet (*Brachyramphus marmoratus* USFWS 2011) (Exhibit 4.2-2).

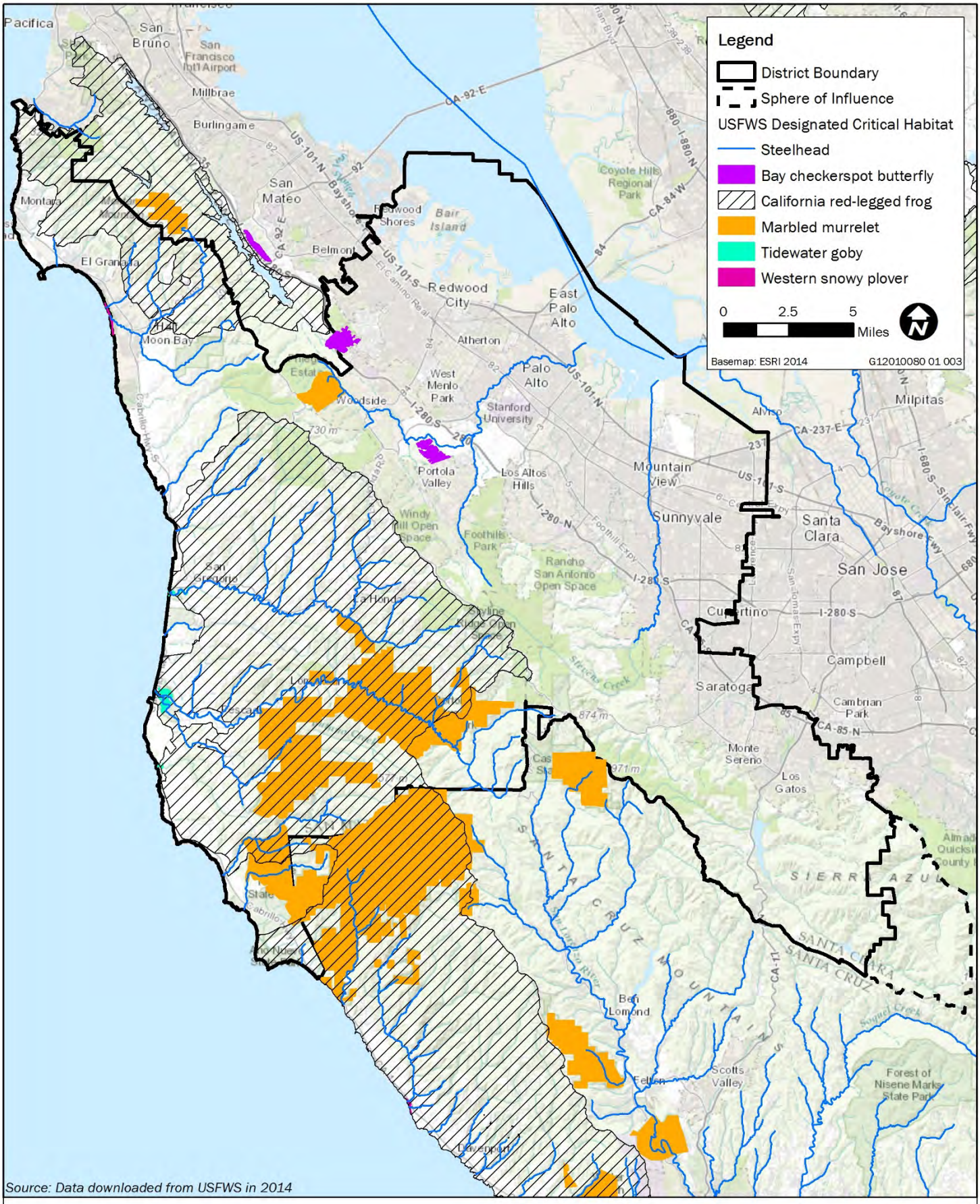


Exhibit 4.2-2 **USFWS Designated Critical Habitat**

4.2.3 Environmental Impacts and Mitigation Measures

This section describes the analysis of impacts to biological resources associated with the implementation of the IPMP. It describes the methods used to determine the project's impacts and the thresholds of significance of those impacts. Mitigation to avoid or reduce significant impacts is provided following the discussion of the impact.

SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to biological resources were based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance.

Impacts on biological resources resulting from implementation of the project would be considered significant if the project would:

- substantially reduce the habitat of a fish or wildlife species;
- cause a fish or wildlife species to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community;
- substantially reduce the number or restrict the range of an endangered, rare, or threatened species;
- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- have a substantial adverse effect on federally-protected wetlands, as defined by Section 404 of CWA, through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or State conservation plan.

ANALYSIS METHODS

Potential impacts on biological resources resulting from implementation of the IPMP were determined by evaluating the project treatments in relation to the habitat characteristics of the project, quantifying potential loss of common and sensitive habitats, and evaluating potential effects to common and special-status species that could result from this habitat loss.

Mitigation measures are provided for impacts determined to be significant or potentially significant after the District's BMPs are considered.

Potential impacts associated with the project can be classified as related to either manual/mechanical treatment methods or chemical treatment methods, and are dependent if the treatment method is implemented in or around buildings, or in recreational facilities, rangelands, agricultural properties, and other natural lands throughout the project area.

ISSUES OR POTENTIAL ISSUES NOT DISCUSSED FURTHER

The project has been designed with the dual goals of protecting and restoring the natural environment while providing for human safety and enjoyment. The plan would guide staff in defining, preventing, and managing pests on District lands and would standardize existing practices used by staff and leaseholders, and has been designed with specific BMPs to ensure that the plan goals are met in the least environmentally damaging way. The project would not result in a change in land use or habitat type, with the exception of the conversion of stockponds to ephemeral ponds for management of non-native wildlife species as discussed in Impact 4.2-1. This issue is not evaluated further in this EIR.

The District's BMP 25 (Table 3-4) mandates that special-status plant species would be surveyed for before implementation of any IPM treatment and then avoided. Because a standard protocol for survey and avoidance of special-status plant species would be implemented for each IPM project selected on an annual basis, the project would not adversely affect special-status plant species. The incorporation of weed control BMPs 11-18 (Table 3-4) into the project would ensure that project activities would not result in weed propagation and dispersal and that no indirect impact to special-status plant species would occur. Therefore, direct and indirect impacts to special-status plant species are not anticipated and are not evaluated further in this EIR.

BMP 22 (Table 3-4) would require that all treatment sites be evaluated for the potential for nesting birds and that active nests be avoided through the establishment of buffers to ensure the project would not impact special-status nesting birds. Additionally, because no new construction, land conversion, or other permanent site alterations would occur under the project, the project would not result in a change in land use or loss of habitat, and would not affect foraging habitat for special-status bird species. Impacts to special-status bird species is not evaluated further in this EIR.

Consequently the plan would not degrade the natural environment, substantially reduce the habitat of a fish or wildlife species, threaten to eliminate a native plant or animal community, or reduce the number or restrict the range of a rare or endangered plant. The project is expected to restore and protect the long-term ecological integrity of the project area. This issue is not evaluated further in this EIR.

Impact 4.2-1: Impacts to Special-Status Wildlife Species.

Manual, mechanical, or chemical treatments could result in direct mortality of special-status amphibian, reptile or fish species, or impacts to their federally designated critical habitat. Manual or mechanical treatment of host plants or chemical application of pyrethrin could result in direct mortality of special-status invertebrates. Manual treatments could result in direct mortality through trapping within structures and loss of occupied roosting habitat for special-status bats. As a result the project would result in **potentially significant** impacts to special-status amphibian and reptile species (California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco garter snake, California tiger salamander), special-status fish (tidewater goby, central California coast steelhead, central California coast coho salmon), special-status invertebrate species (bay checkerspot butterfly, Callippe silverspot butterfly, Smith's blue butterfly, and Zayante band-winged grasshopper), and special-status bat species (Townsend's big-eared bat, western red bat, fringed myotis, hoary bat, long-eared myotis, long-legged myotis, and pallid bat, San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat).

Manual and Mechanical Treatment

Buildings

There would be no adverse effects to amphibian and reptile species, birds, fish or invertebrate species through the implementation of manual or mechanical treatments within the Districts 103 buildings, as these structures do not provide suitable habitat. Species that may occur within or directly adjacent to structures or buildings include special-status bats (Townsend's big-eared bat, western red bat, fringed myotis, hoary bat, long-eared myotis, long-legged myotis, and pallid bat), San Francisco dusky-footed woodrat, and Santa Cruz kangaroo rat.

Manual and mechanical treatments that seal potential entry points to maintain existing structures as bat-free may result in the loss of roosting or nesting habitat within a building, as well as the mortality of individuals should the sealing points of egress result in the inadvertent entrapment of individuals. Exclusion of bats during the nesting season may result in the death of young. Additionally, when vacant structures are deemed too expensive or time consuming to maintain, or otherwise damaging to the surrounding natural environment, and the buildings would be demolished by the District, permanent removal of roosting or nesting habitat if bats are occupying the structure could occur. This would be considered a potentially significant impact.

While Santa Cruz kangaroo rat has not been found in existing District buildings, the acquisition of additional buildings within the District throughout the timeframe of the IPMP may result in management of buildings adjacent to Santa Cruz kangaroo rat. San Francisco dusky-footed woodrat has been known to occur within District buildings. Snap traps and glue boards used to control Norway and roof rats within buildings may incidentally injure or kill San Francisco dusky-footed wood rats or Santa Cruz kangaroo rat, and as such would not be utilized within 100-feet of woodrat or kangaroo rat nests. As a component of the project, buildings are maintained using mechanical exclusions to prevent colonization by San Francisco dusky-footed woodrat, and management actions throughout natural lands are designed to enhance habitat for San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat. BMP 23 would ensure that District staff and contractors implementing treatment actions are trained in the identification of woodrat and kangaroo rat nests, and that lethal manual and mechanical treatments are not utilized within 100-feet ofknown nest sites.

As part of management activities San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat nests located in buildings, or within 100-feet for buildings may be removed to prevent reinfestation from woodrats and kangaroo rats. The removal of nests could results in direct mortality to adults and young during removal or through increased depredation resulting in a significant impact to San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat.

Recreational Facilities, Fuel Management, Rangelands and Agricultural Properties, and Natural Lands

Manual and mechanical treatments conducted in in approximately one acre of aquatic habitat may directly or indirectly affect species that breed or live in aquatic habitats, including, central California coast coho salmon ESU, central California coast steelhead DPS, tidewater goby, California red-legged frog, foothill yellow-legged frog, California tiger salamander, San Francisco gartersnake, and northern western pond turtle.

Implementation of BMP 28 requires erosion control and restoration of disturbed soils near aquatic features and would limit the discharge of sediment to waterways that provide habitat for amphibian, reptile, and fish species from upland land disturbing activities (vegetation removal and discing). Direct impacts because of mechanical treatments in upland areas are not anticipated as vegetation removal would occur in a limited area, and is transient in nature. Discing within existing fire breaks and cultivated fields would not include new areas of disturbance within existing District lands. If discing or brush rakes would be used for control of brush on rangeland on soils near aquatic features, straw bales or wattles or other erosion control materials would be used as provided in BMP 28. BMPs 21, 22, 23 and 25 require pre-surveys of brush removal projects on rangelands, and if any special-status species are discovered, the brush removal would be changed in season or location to avoid habitat of special-status species. It is anticipated that special-status

species would move out of the treatment area during treatment, and treatment would not result in a permanently changed habitat. Rather, IPM projects would be implemented to enhance the natural habitat values through the removal of pest species.

BMP 19 would require the District to conduct site surveys for aquatic features before implementation of IPM activities, and would require the District to either not conduct the work within 15- feet of aquatic habitats, or comply with the mitigation measures and CDFW Streambed Alteration Agreement.

Manual and mechanical vegetation removal within aquatic habitat occupied by California red-legged frog, central California coast steelhead trout, northern western pond turtle, central California coast coho salmon, tidewater goby, foothill yellow-legged frog, or California tiger salamander could result in damage to habitat and the direct mortality eggs and young that cannot actively move out of the treatment area. Additionally the removal of vegetation in occupied upland habitat for California red-legged frog, foothill yellow-legged frog, and San Francisco garter snake could leave these species exposed to predators resulting in mortality, and could disrupt breeding behavior when adjacent aquatic breeding habitat. This would be considered a significant impact.

Manual and mechanical habitat manipulation through pond draining as a method to reduce populations of nonnative species such as bullfrog, fish (bass, bluegill, catfish, mosquitofish) and turtles in areas where protected species may be present (i.e., native California red-legged frog) could result in the loss of eggs and young. Conversion of stock ponds to ephemeral wetlands to reduce bullfrog and nonnative fish populations across a landscape scale would also affect native frog and turtle populations and could result in California red-legged frog, foothill yellow-legged frog, California tiger salamander, and northern western pond turtle habitat loss. Additionally, the removal of these non-native food sources may affect the distribution and abundance of San Francisco garter snake. This would be considered a significant impact.

Mechanical and manual trapping, gigging, shooting, or electroshocking of nonnative bullfrogs and fish could result in the direct mortality of California red-legged frog, central California coast steelhead trout, northern western pond turtle, San Francisco gartersnake, and California tiger salamander if they are accidentally captured or killed. This would be considered a significant impact.

In riparian and other aquatic areas that support San Francisco gartersnake habitat, District biological monitors or biologist would be onsite, vegetation on berms or in suitable habitat would be removed with handtools, and the area would be surveyed before further vegetation removal, and removal of cut vegetation stockpiled on-site would be moved piece by piece under the supervision of a biologist, as required by the Streambed Alteration Agreement. As such, these activities would not adversely affect San Francisco gartersnake. This would be a less-than-significant impact.

Chemical Treatment

Buildings

Chemical treatments include the application of herbicides, fungicide, rodenticide, and insecticide that have been screened minimal ecological toxicity and environmental fate, and minimal transport, and proven efficacy against target pests (see Appendix A of IPM Guidance Manual). As a standard practice and goal of the IPMP, before the use of chemicals, District staff would first determine if there are other viable non-chemical treatment options to address the pest removal. Only if it is determined that other treatment options are unavailable or would not be effective in pest removal, would the District select chemical treatment options of a selected IPM project. Chemical treatments include the use of insecticides and diatomaceous earth for the control of ant and cockroaches, and the use of rodenticides for control of rats. Rodenticides are only used indoors to control infestations in structures and on a limited basis. Prior to the use of rodenticides, the District must determine that an infestation is severe, and is a risk to human health and safety. As required by BMP 23 rodenticides would not be used in buildings located within 100 feet of San Francisco dusky-footed woodrat nests or Santa Cruz kangaroo rat nests, and would not be permitted for use by lease holders and are not anticipated to impact these species.

Use of rodenticides and other chemicals in the District's 103 buildings would have no impacts to amphibian and reptile species, birds, fish, or invertebrate species because these structures do not provide suitable habitat for these species. Additionally, BMPs 1 through 4, and 8 through 10require that pesticides be applied by a trained and/or licensed staff, consistent with label guidelines, and that waste products be properly disposed of to reduced potential impacts to non-treatment areas.

Under existing conditions, the District does not always know about the use of pesticides in buildings by tenants. The proposed IPMP would require lease holders to comply with the IPMP BMPs, and implementation of BMPs 1 through 10 would ensure that leaseholders are using ant and roach control in approved bait formulations only and restricted to indoor locations in tamper-proof containers. Tenants would not be allowed to use rodenticides. Only trained District staff or contractors could use rodenticides (including on leased properties) and only indoors in tamper-proof and anchored bait stations when an urgent human health issue is determined. This would be an improvement over existing conditions. Indirect effects to wildlife occurring adjacent to building facilities would be minimized though the implementation of the BMPs 1 through 4, and 8 through 10, that regulate the application of pesticides, and ensuring that only approved rodenticides are used as outlined in the IPMP, reducing the risk of secondary poisoning to wildlife that may occur if the project is not implemented. Overall, less-than-significant impacts would occur.

Due to the limited use of specialized chemicals to control insects and rodents within buildings, combined with the ongoing mechanical exclusion activities to prevent colonization of buildings by bats, special-status bat species are typically not expected to be present within buildings and, therefore, would not be adversely affected by the limited application of chemicals to control ants, cockroaches, and rodents within buildings. This would be a less-than-significant impact.

The San Francisco dusky-footed woodrat has been known to occur within District buildings, and Santa Cruz kangaroo rat could occur in buildings acquired in the future. With implementation of the IPMP it is possible that incidental poisoning could occur during the use of rodenticides to control roof and Norway rats in District buildings. Buildings are maintained using mechanical exclusions to prevent colonization by San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat, and management actions throughout natural lands are designed to enhance habitat for the species in areas away from buildings. BMP 23 would prevent the inadvertent application of rodenticides adjacent to an identified nesting colony. Therefore, this would be a less-than-significant impact.

Recreational Facilities, Fuel Management, Rangelands and Agricultural Properties, and Natural Lands

As described in BMPs 19 and 20, treatments would avoid aquatic areas when possible or would be conducted in a manner consistent with the CDFW Streambed Alteration Agreement and the red-legged frog injunction, would be transient in nature, and would not change overall habitat types. Chemicals have been screened for minimal ecological toxicity and environmental fate and minimal transport, and are focused on plant pests and pathogens. Treatments would avoid nesting birds as outlined in BMP 22. As a result chemical treatments implemented as part of this plan are not expected to adversely affect nesting birds.

BMP 20 limits the application of glyphosate within 15 feet of known or potential California red-legged frog habitat. Chemical applications within or adjacent to aquatic habitat occupied by Central California coast steelhead trout, Northwestern pond turtle, Central California coast coho salmon, tidewater goby, foothill yellow-legged frog, or California tiger salamander could result in damage to habitat and the direct mortality of eggs and young that cannot actively move out of the treatment area. This would be considered a significant impact to special-status amphibian, reptile, and fish species.

Chemical treatments in recreational facilities include the use of pyrethrin and bacterial pathogens (*Bacillus thuringiensis* var. *israelensis, Bti*) to control stinging insects and mosquitoes. Since Bti disks will only be used in water troughs, they would not affect larval special-status butterflies which are associated with plants and soil in serpentine grassland, dune and sandhill habitats. While pyrethrin use under the IPMP would be limited to the direct spraying of single problem wasps and nests where a threat exists to human health and safety, pyrethrin is a non-selective pesticide that kills all invertebrates on contact. Pyrethrin chemicals may be used near recreational facilities including access road and trails as well as associated infrastructure (i.e.,

bridges, parking lots, gates, stiles, and bathrooms), picnic areas, one campground, off-leash dog zones, managed turf and landscaped recreation areas, pond viewing and dam areas, and Deer Hollow Farm. The use of pyrethrins could result in the direct mortality of larva and individuals of bay checkerspot butterfly, Callippe silverspot butterfly, Smith's blue butterfly, and Zayante band-winged grasshopper and vegetation management activities could result in the loss of host plants. This would be a significant impact to these federally threatened or endangered special-status invertebrates.

For these special-status invertebrate species, the loss of habitat is the most significant threat, and chemical treatments would not result in any overall habitat conversion, and in most cases IPM chemical treatments would improve habitat for host plants by removing non-native plant species. Nonetheless, the project has the potential to result in the direct mortality of bay checkerspot butterfly, Callippe silverspot butterfly, Smith's blue butterfly, and Zayante band–winged grasshopper during chemical treatments, and this would be a significant impact.

Herbicide treatment over approximately 1,700 acres could coat the food sources of special-status mammals (e.g., plants browsed by San Francisco dusky-footed woodrat, Santa Cruz kangaroo rat, salt-marsh harvest mouse, salt-marsh wandering shrew, and insects on the surface of treated vegetation which are the primary diet of special-status bats), resulting in indirect herbicide ingestion. However, impacts to these species resulting from food source exposure would be less than significant because of the limited potential for exposure and low toxicity to small mammals of the dilute herbicides used for this project. As outlined in Appendix A of the IPM Guidance Manual and Pesticide Technical Background Information, all proposed herbicides, fungicides, insecticides and adjuvants/surfactants have a low toxicity or are practically non-toxic to humans. While special-status mammals were not specifically addressed in toxicity studies, testing for human toxicity was primarily conducted on rabbits and rats, and it can be expected that effects on special-status mammals in the project area is similar to those found in humans. Increased toxicity to mammals is observed in high doses or under prolonged exposure. IPM treatment sites represent a small percentage of the overall vegetative cover within the project area, and treatments would not occur more than a few times a year at any one particular location and at doses that are low to non-toxic to humans and are not anticipated to affect special-status mammals. Given the limited nature of the treatment application, it is unlikely that moths and other prey insects would be exposed to herbicide spray, and less likely that that special-status bat species would consume such insects as they would represent only a tiny portion of the overall food supply. Rodenticides would not be used in for recreational facilities, fire management, rangelands and agricultural properties or natural lands under this IPMP. Overall, this would be a less-than-significant impact.

Conclusion

Manual and mechanical treatment methods in buildings would affect special-status bats through inadvertent trapping, or removal of habitat if buildings are demolished, resulting in a **potentially significant** impact. Manual and mechanical treatments for recreational facilities, for fuel management areas, in rangelands and agricultural properties, and natural lands would result in **potentially significant** impacts to central California coast coho salmon ESU, central California coast steelhead DPS, tidewater goby, California red-legged frog, foothill yellow-legged frog, California tiger salamander, San Francisco gartersnake, and northern western pond turtle through removal of egg masses and larva, conversion of aquatic habitat, or removal of food sources.

Chemical treatments in buildings, when conducted consistent with the IPMP and recommended BMPs would not affect special-status species and this would be a **less-than-significant** impact. Chemical treatments for recreational facilities, for fuel management areas, in rangelands and agricultural properties, and natural lands could result in the loss of host plants, and the direct mortality of larva and individuals of bay checkerspot butterfly, Callippe silverspot butterfly, Smith's blue butterfly, and Zayante band-winged grasshopper and would result in a **potentially significant** impact.

Mitigation Measure 4.2-1a: Mitigation for impacts to special-status amphibian and reptile species (California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco gartersnake, California tiger salamander).

- Prior to conducting any mechanical or chemical IPM treatments in an area that is both federally designated critical habitat and suitable aquatic habitat for California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco gartersnake, or California tiger salamander, the District will consult with the USFWS and CDFW as appropriate pursuant to ESA/CESA. Appropriate measures will be developed in consultation with USFWS and CDFW to ensure there is no loss of critical habitat for these species, or that unavoidable loss of critical habitat will be replaced through habitat enhancement or restoration. Such measures may include may include avoidance of breeding habitat, limiting activities to manual removal of vegetation, conducting activities outside the breeding season, or relocation and mitigation.

- Prior to conducting any mechanical or chemical IPM treatments within 15 feet of occupied habitat for California red-legged frog, foothill yellow-legged frog, northern western pond turtle, San Francisco gartersnake, or California tiger salamander, the District will consult with USFWS and CDFW. Appropriate measures will be developed in consultation with USFWS and CDFW to ensure there is no take of these species, or that unavoidable take is fully compensated for through for through habitat enhancement or restoration activities, or purchase of mitigation credits. Shooting, trapping, and gigging of aquatic species will be conducted only by a qualified biologist with experience in the identification of frog and turtle species. Inadvertently trapped California red-legged frogs, foothill yellow-legged frogs or northern western pond turtles will be released immediately upon discovery.

- If permanent loss of federally designated critical habitat cannot be avoided, compensation will be provided through protection and enhancement of habitat within the District open space, purchase of off-site mitigation credits, and/or contribution to regional conservation and recovery efforts for the species as determined in consultation with the USFWS and CDFW.

Mitigation Measure4.2-1b: Mitigation for impacts to special-status fish (tidewater goby, central California coast coho salmon, central California coast steelhead).

- All mechanical or chemical IPM treatments will be avoided within estuarine marshes, lagoons, or adjacent stream reaches that provide suitable habitat for tidewater goby. If manual, mechanical or chemical IPM treatments are required in areas where suitable habitat for tidewater goby is present, the District will conduct protocol level surveys for tidewater goby before implementation of IPM such treatments. If tidewater goby is identified during these surveys only manual IPM treatments will be implemented. Manual IPM treatments will not occur during the tidewater goby spawning period (spring through summer). Prior to conducting any mechanical or chemical IPM treatments in an area that is federally designated critical habitat for central California coast coho salmon or central California coast steelhead, the District will consult with the USFWS, NMFS and CDFW as appropriate pursuant to ESA/CESA.

- Prior to conducting any mechanical or chemical IPM treatments in occupied habitat of central California coast coho salmon or central California coast steelhead, the District will consult with USFWS, NMFS, and CDFW.

- If permanent loss of federally designated, critical habitat, or occupied habitat outside of federally designated critical habitat, cannot be avoided, compensation will be provided through protection and enhancement of habitat within the District open space, purchase of offsite mitigation credits, and/or contribution to regional conservation and recovery efforts for the species as determined in consultation with the USFWS, NMFS, and CDFW.

Mitigation Measure4.2-1c: Mitigation for impacts to special-status invertebrates.

- To avoid impacts to special-status invertebrates from pyrethrin spray, all District staff and contractors using pyrethrin spray will be trained in the identification of problem wasps and special-status invertebrates to

ensure that proper species are being targeted. If special-status invertebrates are observed, pyrethrin treatment will not be used in these areas.

- Prior to conducting any manual, mechanical, or chemical IPM treatment in serpentine habitats surveys will be conducted for dwarf plantain (*Plantago* erecta), purple owl's clover (*Castilleja* densiflora), and exserted paintbrush (*Castilleja* exserta) during the appropriate blooming period and host plants containing eggs, larva, or pupa of bay checkerspot butterfly will not be treated.

- Prior to conducting any manual, mechanical, or chemical IPM treatment in suitable dune habitats, surveys will be conducted for host buckwheats *(Eriogonum latifolium* and *Eriogonum parvifolium*) during the appropriate blooming period, and host plants containing eggs, larva, or pupa of Smith's blue butterfly will not be treated.

- Prior to conducting any manual, mechanical, or chemical IPM treatment in Zayante sandhills, surveys will be conducted for Zayante band–winged grasshopper and they will be avoided by treatments.

Mitigation Measure4.2-1d: Mitigation for impacts to special-status bats.

- To mitigate for IPM activities to remove roosting bats in buildings:

  - If removal of bats is necessary in a human-occupied building or prior to demolition or major renovation of a building in which signs of bats are evident, a qualified biologist will conduct surveys for roosting bats. Surveys will consist of daytime pedestrian surveys to look for visual signs of bats (e.g., guano), and if determined necessary, evening emergence surveys to note the presence or absence of bats. If evidence of bat roosting is found, the number and species of roosting bats will be determined. If no evidence of bat roosts is found, then no further study will be required.

  - When bat roosting sites are located in buildings, exclusion of bats from the building will occur outside of the April through August nursery season.

  - If roosts of special-status bats are determined to be present and must be removed, a bat exclusion plan will be prepared and submitted to CDFW. The exclusion plan will describe the method of exclusion, which may include the use of one-way doors at roost entrances (bats may leave but not re-enter), or sealing roost entrances when the site can be confirmed by a bat expert to contain no bats. No bats will be excluded until the plan is approved by CDFW and alternative roosting habitat is available. The bats will be excluded from the roosting site before the site is closed.

- To mitigate for removal of large trees during the April through August nursery season to tree roosting bats:

  - Avoid removal of trees greater than sixteen inches dbh during the April through August nursery season when possible.

  - If removal of trees greater than sixteen inches dbh during the April through August nursery season cannot be avoided, a qualified biologist will conduct surveys for roosting bats where suitable large trees are to be removed. Surveys will consist of daytime pedestrian surveys to look for visual signs of bats (e.g., guano), and if determined necessary, evening emergence surveys to note the presence or absence of bats. If evidence of roosting bats is found, the number and species of roosting bats will be determined. If no evidence of bat roosts is found, then no further study will be required.

    - If bat roosting sites are located in trees to be removed, such removal will occur outside of the April through August nursery season if possible.

    - If roosts of special-status bats are determined to be present and must be removed during the April through August nursery season, a bat exclusion plan shall be prepared and submitted to CDFW. The exclusion plan will describe the method of exclusion, which may include the use of

one-way doors at roost entrances (bats may leave but not re-enter), or sealing roost entrances when the site can be confirmed by a bat expert to contain no bats. No bats will be excluded until the plan is approved by CDFW and alternative roosting habitat is available. The bats will be excluded from the roosting site before the site is closed.

Mitigation Measure4.2-3: Mitigation for Impacts to San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat.

- The District will consult with CDFW in areas where IPM treatments require removal of San Francisco dusky-footed woodrats occupying buildings or require removal of woodrat nests located within 100 feet of buildings. Consultation will occur prior to removal of woodrats or their nests. Management actions will be determined in consultation with CDFW and may include the live capture and relocation of woodrats to suitable adjacent habitats, and removal of nesting sites within buildings. Nest middens will be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material will be placed back on the nest, and the nest will remain undisturbed for two to three weeks in order to give the young enough time to mature and leave the nest on their own accord. After two to three weeks, the empty nest can be dismantled. Nest material will be moved to suitable adjacent areas within the mixed oak woodland that will not be disturbed. As woodrats exhibit high site fidelity, buildings with previous woodrat nests will be regularly inspected for potential intrusion to prevent infestation.

  The District will consult with CDFW on management in areas where Santa Cruz kangaroo rat is found occupying buildings, or nests located within 100 feet of buildings must be removed, prior to nest removal occurring. Management actions will be determined in consultation with agencies.

Level of Significance after Implementation of Mitigation Measure

With the implementation of Mitigation Measure 4.2-1a through4.2-1d, the project would not have substantial adverse effect on any special-status wildlife species. The recommended mitigation measures would minimize the risk of take of individual special-status species by avoiding sensitive breeding periods, and limiting activities that may result in direct impacts. Therefore, implementation of the IPMP with mitigation would result in **less-than-significant** impacts to special-status wildlife species.

Impact 4.2-2: Impacts to riparian habitat or other sensitive natural communities.

Manual and mechanical treatment methods used for pest control and fire prevention would affect limited areas of sensitive habitats where they occur adjacent to structures, along trails, and at recreation facilities. Manual and mechanical and methods used for invasive plants and other pests on rangelands, agricultural lands, and natural lands would improve habitat function and ensure continued success of sensitive natural communities. Because the District restores natural conditions of riparian habitat and other sensitive natural communities to ensure no loss of habitat function, no net loss of sensitive habitat function would occur. Manual, mechanical, and chemical treatments would have a **less-than-significant** impact on riparian habitat or other sensitive natural communities.

Manual and Mechanical Treatment

Buildings

No riparian habitat or other sensitive natural communities are located within the building treatment areas. Therefore, no impact would occur.

Recreational Facilities, Fuel Management, Rangelands and Agricultural Properties, and Natural Lands

Manual and mechanical activities used for pest control and fire prevention over approximately 2,000 acres would affect limited areas of riparian woodland and oak woodland adjacent to structures, along trails, and at recreation facilities. Manual and mechanical activities for invasive plants and weeds on approximately 950 acres of rangelands, agricultural lands and natural lands may result in the cutting or trampling of broader areas of serpentine bunchgrass, northern maritime chaparral, northern interior cypress forest, valley oak

woodland, and valley needlegrass grassland, however, the goal of these activities is specifically to enhance the function of these habitats and these activities would not result in significant impacts to these habitats.

Manual and mechanical removal and chemical cut-stump treatment of a small number of California bay trees may be conducted to protect adjacent oak trees from sudden oak death (SOD), however, this action is not appropriate for managing oak stands or areas forested with oaks and would only be used on a limited basis near high value oaks. Therefore, cut-stump application of fungicides would not result in significant impacts to oak habitats.

Manual and mechanical activities would only occur within riparian habitats under the term of the existing CDFW Streambed Alteration Agreement which limits treatment areas and activities, and requires habitat replacement, restoration, and monitoring to ensure no net-loss of special habitats, these requirements would continue to be implemented under the IPMP and would minimize impacts to specific riparian habitats and ensure there is no net loss of functioning riparian habitat in the project area. Chemical treatment options around buildings and recreational facilities would be limited in locations and would not be used in riparian habitat or other sensitive communities; treatments on rangelands, agricultural areas, and natural lands would be selectively applied to target invasive species and would have a positive effect on sensitive communities.

As mandated by the CDFW the Streambed Alteration Agreement, the District replaces riparian habitat and other sensitive natural communities affected by pest management activities in CDFW jurisdiction. Per the District's existing CDFW Streambed Alteration Agreement, all riparian trees that are removed are be replaced and monitored to ensure that restoration areas meet pre-treatment conditions. Non-native trees that provide creek canopy cover are replaced at a 1:1 ratio, native trees that provide creek canopy cover are replaced at a 2:1 ratio. All vegetation is replaced at a minimum 1:1 ratio, and sycamore alluvial woodland and other rare habitats are replaced at a 5:1 ratio. Where restoration is conducted for impacts to riparian habitat, a revegetation plan is prepared and implemented, including monitoring and remediation to ensure that habitat restoration goals are met.

Because the District ensures that no net loss of riparian or other sensitive communities occurs in CDFW jurisdiction, the IPMP does not include changes in land use or habitat, and in many cases has a goal of habitat enhancement, the modification resulting from chemical and manual/mechanical treatments considered a less-than-significant impact.

Chemical Treatment

Buildings, Recreational Facilities, Fuel Management, Rangelands and Agricultural Properties, and Natural Lands

No riparian habitat is located within the District's buildings, therefore, no impact to riparian habitat would occur. Further, no chemical treatments would occur in riparian habitat and no impacts would occur.

Conclusion

Manual and mechanical activities would result in the replacement of riparian trees that are removed under the Streambed Alteration Agreement and would not significantly impact riparian or other sensitive communities. Therefore, overall impacts would be **less-than-significant**. No chemical treatments would be used in riparian habitats. Therefore, **no impact** would occur from these activities.

Mitigation Measures

No mitigation measures are necessary.

Impact 4.2-3: Impacts to Federally protected wetlands.

Application of herbicides adjacent to or within wetlands or other waters, the discharge of dredge or fill during manual and mechanical activities, and the conversion of wetland habitats from stock ponds to ephemeral wetlands may alter the chemical and biological integrity of wetland and other waters, and result in a change

to wetland type, function, and overall acreage resulting in a **potentially significant** impact to wetlands and other waters of the US.

Manual and Mechanical Treatment

Buildings

No federally protected wetlands are located within the building treatment areas. Therefore, no impact would occur.

Recreational Facilities, Fuel Management, Rangelands and Agricultural Properties, and Natural Lands

Removal of vegetation in wetlands when necessary may result in the deposition of dredge or fill material through the removal or re-deposition of root wads and vegetation into federally protected wetlands, as well as a temporary decrease in water quality because of sediment, and would temporarily impact wetlands. These activities may be permitted within existing stock ponds actively used for agriculture under CWA section 404(f)(1)(A), and are not anticipated to significantly alter habitat function or overall wetland acreage because of the minimal amount of disturbance, dredge, or fill. However, these activities within wetland or other waters of the U.S. could result in the deposition of dredge of fill, as well as reductions in water quality due to sediment plumbs and would constitute a significant impact.

Habitat manipulation by pond draining for pond bullfrog, non-native fish (bass, bluegill, catfish, mosquitofish) and turtles control could adversely affect the hydrological integrity and plant species assemblage of protected wetlands and result in a change of wetland function. Activities may include the seasonal draining of ponds to reduce bullfrog habitat while avoiding the breeding season for native frogs, and conversion of stock ponds to ephemeral wetlands. This would be a significant impact.

Chemical Treatment

Buildings

No federally protected wetlands are located within the building treatment areas. Therefore, no impacts to wetlands would occur.

Recreational Facilities, Fuel Management, Rangelands and Agricultural Properties, and Natural Lands

Implementation of BMPs 1 through 10, require that herbicides be applied by a trained and/or licensed staff, consistent with label guidelines, and that waste products be properly disposed of to reduced potential impacts to non-treatment areas would prevent discharge of chemicals to wetlands. Treatment sites would be surveyed prior to work to determine if aquatic features, including wetlands, are located onsite and avoided when possible. Chemical treatment methods would be minimized within 15-feet of aquatic features, including federally protected wetlands, when possible. Treatment of slender false brome on stream banks would require use of chemical treatment in order to avoid creating stream bank erosion resulting from manual treatments. Because the District proposes to use chemical treatments on rare occasions in wetlands (dry season) and along stream banks, there is a potential for residual aquatic pesticide discharges to result from implementation of the IPMP. These discharges would be considered pollutants and would be a significant impact.

Conclusion

Alterations to the hydrology of ponds, including the conversion of ponds to ephemeral wetlands, would result in a change in wetland type and acreage would have a **potentially significant** impact on federally protected wetlands. Treatments in buildings, recreational facilities, fuel management areas, rangelands and agricultural properties, and in natural lands occurring adjacent to or within wetlands could results in the discharge of pollutants (sediment, herbicides) to wetlands and would be a **significant** impact.

Mitigation Measure4.2-3: Mitigation for impacts to federally protected wetlands.

When seeking a change in habitat type from stock pond to ephemeral wetland to control bull frogs and non-native fishes, the District will implement the following measures to compensate for the loss of wetlands and other waters of the United States:

- The District will prepare a wetland delineation and will determine the exact acreage of waters of the United States and waters of the state that would be affected as a result of project implementation.

- The District will replace on a "no net loss" basis (minimum 1:1 ratio) (in accordance with USACE and/or RWQCB) the acreage and function of all wetlands and other waters that would be permanently removed, lost, or degraded as a result of project implementation. Wetland habitat will be replaced at an acreage and location agreeable to USACE and the RWQCB and as determined during the Section 401 and Section 404 permitting processes. Compensatory mitigation will be approved by USACE and RWQCB.

- The District will obtain a USACE Section 404 Permit and RWQCB Section 401 certification before fill or dredge of wetlands or water of the United States. The District will implement all permit conditions.

When conducting manual and mechanical treatments within waters, the District will implement the following measures to compensate for the loss of wetlands and other waters of the United States:

- The District will estimate the quantity of dredge or fill material that may be discharged incidental to these activities and coordinate permitting with the USACE, including application for coverage under the Nationwide Permit program as appropriate.

- If activities will result in permanent impacts to waters, the District will replace or restore on a "no net loss" basis (minimum 1:1 ratio) (in accordance with USACE and/or RWQCB) the acreage and function of all wetlands and other waters that would be removed, lost, or degraded as a result of project implementation. Wetland habitat will be replaced at an acreage and location agreeable to USACE and the RWQCB and as determined during the Section 401 and Section 404 permitting processes. Compensatory mitigation will be approved by USACE and RWQCB.

When conducting chemical treatments within or with potential to affect waters and with the potential to discharge directly or indirectly to waters of the United States, the District will implement the following measures to compensate for the loss of wetlands and other waters of the United States:

- The District must consult with the San Francisco Bay RWQCB which may require the District to submit a Notice of Intent to Discharge, develop an Aquatic Pesticide Application Plan. The permit includes design and operational BMPs that must be implemented to reduce the level of contaminated runoff, including monitoring and reporting to document and minimize pollutant discharge and ensure pollutants do not adversely affect waters. If pollutants are found to be exceeding water quality standards application must stop, or additional BMPs must be developed to bring the activities into compliance.

Significance Conclusion

Implementation of Mitigation Measure 4.2-3 would ensure that IPM activities would not result in a loss of wetland habitat or adversely affect downstream wetlands or waters because the District would replace wetlands on a "no net loss" basis consistent with appropriate regulatory agency requirements. Therefore, this impact would be reduced to a **less-than-significant** level.

Impact 4.2-4: Interfere with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Manual, mechanical, and chemical IPM activities would not impede wildlife use of corridors or interfere with wildlife movement in the region because no loss of habitat would occur and no barriers would be constructed. Therefore, this is considered a **less-than-significant** impact.

Manual, Mechanical, and Chemical Treatment

A wildlife corridor connects fragmented habitats and, by doing so, helps to increase movement and gene flow between core habitat areas resulting in improved fitness for a species. Often drainages, creeks, or riparian areas are used by wildlife as movement corridors as these features can provide cover and access across a landscape. Preserves within the District to protect open space lands benefit wildlife by permanently protecting habitat and by providing opportunities for foraging, movement, and breeding. The mechanical, manual, and chemical treatment methods used by the District would not interfere with the movement of migratory wildlife species because treatment methods to remove invasive species are designed to enhance native habitat and no loss of habitat or conversion of habitat type would occur. In addition, the project does not involve construction of any barrier to wildlife movement. No native wildlife nursery sites, such as important deer fawning areas, would be affected. Because the IPM activities would not impede wildlife use of corridors or interfere with wildlife movement in the region, would not result in the loss of habitat, and no barriers would be constructed, this impact is considered a less than significant.

Conclusion

Manual, mechanical, and chemical IPM activities in buildings, recreational facilities, for fire management, in rangelands and agricultural properties, and for natural lands would not interfere with the movement of migratory wildlife species or impede the use of native wildlife nursery sites. This impact would be **less-than-significant.**

Mitigation Measures

No mitigation measures are necessary.

Impact 4.2-5: Conflict with local policies, ordinances protecting biological resources.

The manual, mechanical, and chemical IPM activities would be consistent with and would further implementation of the District's goals and policies adopted for the protection and restoration of the natural environment. Therefore, proposed IPM activities would not conflict with any local policies or ordinances and this would be a **less-than-significant** impact**.**

Manual, Mechanical, and Chemical Treatment

The District's mission statement is "To acquire and preserve a regional greenbelt of open space land in perpetuity; protect and restore the natural environment; and provide opportunities for ecologically sensitive public enjoyment and education." One of the District's goals is to control invasive species that have a substantial impact on preserve resources to foster the restoration of native vegetation and habitat. The proposed IPM activities would be consistent with and would further implementation of the District's goals and policies adopted for the protection and restoration of the natural environment. Therefore, proposed IPM activities would not conflict with any local policies and ordinances and this would be a less-than-significant impact.

Conclusion
Manual, mechanical, and chemical IPM activities in buildings, recreational facilities, fuel management areas, rangelands and agricultural properties, and in natural lands would not conflict with local policies or ordinances. This impact would be **less-than-significant.**

Mitigation Measures

No mitigation measures would be necessary.

Impact 4.2-6: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The Santa Clara Valley Habitat Plan covers a small area within the District. The area is in an urban area where IPM activities would not be applied. Therefore, the project would not conflict with an adopted habitat conservation plan (HCP), natural community conservation plan (NCCP), or other HCP and this would be a **less-than-significant** impact**.**

The Santa Clara Valley Habitat Plan is a habitat conservation plan and natural community conservation plan that was adopted in 2013. A small portion (approximately 200 acres) of the District is within the plan area for the Santa Clara Valley Habitat Plan. The area is in an urban area where IPM treatments would not be applied. The District is not a signatory of the plan, but coordinates with the signatory parties to the plan regarding any biological issues should they arise. However, because IPM activities would not be implemented in an area where an adopted HCP or NCCP would apply, no conflicts with such plans would occur. This impact would be less-than-significant.

Conclusion
IPM treatments in buildings, recreational facilities, fuel management areas, rangelands and agricultural properties, and for natural lands would not conflict with an adopted habitat conservation plan (HCP), natural community conservation plan (NCCP), or other HCP. This impact would be less-than-significant

Mitigation Measures

No mitigation measures would be necessary.

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4.3 CULTURAL RESOURCES

This section of the EIR includes an evaluation of the potential impacts on cultural resources that could be affected by implementation of the project. Cultural resources are defined as historical, architectural, archeological, and paleontological elements that are listed or have been determined eligible for listing on the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), or are listed on a local register. This section discusses known historic and prehistoric resources in the District and the potential for unknown resources to exist. This section also assesses potential adverse impacts on paleontological resources that could result from the project.

Archaeological resources include both prehistoric and historic remains of human activity. Built environment resources include an array of historic buildings, structures, and objects serving as a physical connection to California's past. Traditional or ethnographic cultural resources include Native American sacred sites (traditional cultural properties), traditional cultural places, and traditional resources of any ethnic community that are important for maintaining the cultural traditions of any group. Paleontological resources include mineralized, partially mineralized, or unmineralized bones and teeth, soft tissues, shells, wood, leaf impressions, footprints, burrows, and microscopic remains that are more than 5,000 years old and occur mainly in Pleistocene or older sedimentary rock units.

4.3.1 Regulatory Setting

Federal and State laws and regulations applicable to historical and architecturally-significant resources, as well as archaeological and paleontological resources are described briefly below.

FEDERAL

National Historic Preservation Act

Among those statutes enacted by Congress that affect historic properties, the National Historic Preservation Act of 1966 (NHPA) is the most significant law that addresses historic preservation. One of the most important provisions of the NHPA is the establishment of the National Register of Historic Places (NRHP), the official designation of historical resources. Districts, sites, buildings, structures, and objects are eligible for listing in the Register. Nominations are listed if they are significant in American history, architecture, archeology, engineering, and culture. The NRHP is administered by the National Park Service. To be eligible, a property must be significant under criterion A (history), B (persons), or C (design/construction); possess integrity; and ordinarily be 50 years of age or more.

Listing in the NRHP does not entail specific protection or assistance for a property but it does guarantee recognition in planning for federal or federally-assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.

Once a heritage resource has been recorded and if it is determined to be significant, the potential impacts (or effects) of a project on a heritage property are assessed. Federal regulatory impact thresholds are contained in Section 106 of the NHPA and accompanying regulations (36 Code of Federal Regulations [CFR] Part 800). Section 106 requires that federal agencies consider the effects of their actions on significant archaeological properties before implementing a project or "undertaking." The criteria of effect are found in 36 CFR 800.0(a) and state that:

> An undertaking has an effect on a historic property when the undertaking may alter characteristics of the property that may qualify the property for inclusion in the National Register.

The Advisory Council's regulations require that the federal agency apply the criteria of adverse effect to historic properties that would be affected by a proposed undertaking (36 CFR 800.9b). An undertaking is considered to have an adverse effect when the effect on a historic property may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association, or the quality of data suitable for scientific analysis.

STATE

California Register of Historical Resources

All properties listed in or formally determined eligible for listing in the NRHP are eligible for the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant within the context of California's history. The CRHR is a statewide program of similar scope and with similar criteria for inclusion as those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historic resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations (CCR) Title 15, Chapter 11.5, Section 4850. The CRHR criteria are similar to the NRHP criteria and are tied to CEQA because any resource that meets the criteria below is considered a historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

1. Is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

2. Is associated with the lives of persons important to local, California, or national history.

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a resource must meet one of the above criteria and retain integrity. The CRHR uses the same seven aspects of integrity as the NRHP.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether projects would have effects on unique archaeological resources.

Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC, Section 21084.1; determining significant impacts to historical and archaeological resources is described in the State CEQA Guidelines, Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (PRC Section 5024.1).

2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the California Register of Historical Resources (Public Resources Code, Section 5024.1), including the following:

    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    b) Is associated with the lives of persons important in our past;

    c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    d) Has yielded, or may be likely to yield, information important in prehistory or history.

4) The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Section 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects would impact unique archaeological resources. PRC Section 21083.2, subdivision (g), states that unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner be notified. If the remains are of a Native American, the coroner must notify the Native American Heritage Commission (NAHC). The NAHC then notifies those persons most likely to be descended from the Native American's remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

California Health and Safety Code

Section 7050.5 (b) of the California Health and Safety code specifies protocol when human remains are discovered. The code states:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

LOCAL

Midpeninsula Regional Open Space District Resource Management Policies

The Resource Management Policies (RMPs) document defines the policies and practices used by the District to protect and manage resources on District lands. Chapter VI contains policies related to paleontological and geologic features while Chapter VIII addresses cultural resource management. Policies relevant to the IPMP are described below:

- **Policy GS-3:** Protect unique or exceptional geologic features from human damage.
- **Policy CR-1:** Maintain an inventory of cultural resources on District preserves.
- **Policy CR-2**: Address cultural resources in the development of preserve use and management plans.
- **Policy CR-3:** Protect cultural resources from disturbance to the maximum extent feasible.
- **Policy CR-4**: Preserve and maintain cultural resources wherever feasible.

Santa Clara County General Plan

The Resource Conservation section of the Santa Clara County General Plan (Santa Clara County 1994) contains a number of goals and objectives related to the identification, protection, and enhancement of important cultural resources in the unincorporated areas of Santa Clara County. Strategies and policies that are applicable to the project include the following:

- **Policy C-RC 49**. Cultural heritage resources within Santa Clara County should be preserved, restored wherever possible, and commemorated as appropriate for their scientific, cultural, historic and place values.

- **Policy C-RC 50.**Countywide, the general approach to heritage resource protection should include the following strategies:

    1. Inventory and evaluate heritage resources.
    2. Prevent or minimize adverse impacts on heritage resources.
    3. Restore, enhance, and commemorate resources as appropriate.

- **Policy C-RC 51.** Inventories of heritage resources should be maintained as the basis for local decision-making regarding such resources.

- **Policy C-RC 52.** Prevention of unnecessary losses to heritage resources should be ensured as much as possible through adequate ordinances, regulations, and standard review procedures. Mitigation efforts, such as relocation of the resource, should be employed where feasible when projects will have significant adverse impact upon heritage resources.

- **Policy C-RC 54.** Heritage resources should be restored, enhanced, and commemorated as appropriate to the value and significance of the resource.

San Mateo County General Plan

Chapter 5 of the San Mateo County General Plan (San Mateo County 1986) contains a number of goals and objectives related to the identification, protection, and enhancement of important cultural resources in the unincorporated areas of San Mateo County. Goals and objectives applicable to the project include the following:

- **Policy 5.1** Historic Resource Protection. Protect historic resources for their historic, cultural, social and educational values and the enjoyment of future generations.

- **Policy 5.2** Rehabilitation of Historic Structures. Encourage the rehabilitation, preservation and use of historically significant structures.

- **Policy 5.3** Protection of Archaeological/Paleontological Sites. Protect archaeological/paleontological sites from destruction in order to preserve and interpret them for future scientific research, and public educational programs.

- **Policy 5.20** Site Survey. Determine if sites proposed for new development contain archaeological/paleontological resources. Before approval of development for these sites, require that a mitigation plan, adequate to protect the resource and prepared by a qualified professional, be reviewed and implemented as a part of the project.

- **Policy 5.21** Site Treatment.

    a. Encourage the protection and preservation of archaeological sites.

    b. Temporarily suspend construction work when archaeological/paleontological sites are discovered. Establish procedures which allow for the timely investigation and/or excavation of such sites by qualified professionals as may be appropriate.

    c. Cooperate with institutions of higher learning and interested organizations to record, preserve, and excavate sites.

Santa Cruz County General Plan

The Conservation and Open Space chapter of the Santa Cruz County General Plan (Santa Cruz County 1994) contains a number of goals and policies related to the identification, protection, and enhancement of important cultural resources in the unincorporated areas of Santa Cruz County. Policies applicable to the project include the following:

- **Policy 5.19.1.** Evaluation of Native American Cultural Sites. Protect all archaeological resources until they can be evaluated. Prohibit any disturbance of Native American Cultural Sites without an appropriate permit. Maintain the Native American Cultural Sites ordinance.

- **Policy 5.19.2.** Site Surveys. Require an archaeological site survey (surface reconnaissance) as part of the environmental review process for all projects with very high site potential as determined by the inventory of archaeological sites, within the Archaeological Sensitive Areas, as designated on General Plan and LCP Resources and Constraints Maps filed in the Planning Department

- **Policy 5.19.3.** Development around Archaeological Resources. Protect archaeological resources from development by restricting improvements and grading activities to portions of the property not containing these resources, where feasible, or by preservation of the site through project design and/or use restrictions, such as covering the site with earthfill to a depth that ensures the site will not be disturbed by development, as determined by a professional archaeologist.

- **Policy 5.19.4.** Archaeological Evaluations. Require the applicant for development proposals on any archaeological site to provide an evaluation, by a certified archaeologist, of the significance of the resource and what protective measures are necessary to achieve General Plan and LCP Land Use Plan objectives and policies.

- **Policy 5.19.5.** Native American Cultural Sites. Prohibit any disturbance of Native American Cultural Sites without an archaeological permit which requires, but is not limited to, the following:

  (a) A statement of the goals, methods, and techniques to be employed in the excavation and analysis of the data, and the reasons why the excavation will be of value.

  (b) A plan to ensure that artifacts and records will be properly preserved for scholarly research and public education.

  (c) A plan for disposing of human remains in a manner satisfactory to local Native American Indian groups.

- **Policy 5.20.5.** Encourage Protection of Historic Structures. Encourage and support public and private efforts to protect and restore historic structures and to continue their use as an integral part of the community.

4.3.2 Environmental Setting

The project is located on the San Francisco Peninsula and consists of 60,000 acres of land in 26 open space preserves (OSPs) ranging in size from 55 to more than 15,000 acres. The OSPs span across Santa Clara, San Mateo, and Santa Cruz counties and are bound by other protected open space or park lands, land trusts, watersheds, and other public agency and developed land.

CULTURAL RESOURCE SETTING

Prehistoric Overview

The prehistory of the region surrounding the project area overlays dynamic cultural transformations that began sometime over 12,000 years ago when people first arrived along the west coast of North America during the late Pleistocene. Geologic interpretation of sediment profiles from deep borings in the south Bay indicate that between 17,000 and 7,000 years ago, post-Pleistocene warming trends in the global environment caused a rapid rise in sea level as glacial ice melted. Sometime around 10,000 years ago, during the Early Holocene period, the progressively rising sea began to encroach up through the deeper stream channels that meandered through the wide oak woodland and grassland valley plains of what was to become San Francisco Bay. The level coastal terrace terrain that once extended considerably farther offshore, facilitated submerging of the landscape until sea level reached its present height by Middle Holocene times 6,000 years ago.

During the Middle Holocene, stone mortars and pestles appear in the archaeological record, of the San Francisco peninsula and coast, which indicates that acorns had increased in importance as a dietary staple. This addition augmented an earlier, archaic reliance on hard seeds (tarweeds, clarkia seeds, and others) that were milled through the use of handstones and milling slabs. With the increasing reliance on acorns as a food staple that took place during the Middle Period, access to productive oak woodlands necessarily became a crucial factor in the subsistence economy. Evidence of an earlier milling stone tradition and the transition to an acorn dependent economy has been noted at sites along the peninsula coast and within the Santa Clara Valley. Within the valley, greater numbers of milling tools relative to projectile points suggest that there was a greater reliance on vegetal resources than on hunting.

The landscape of the project area achieved its historic equilibrium shortly after the advent of the Late Holocene (5,500 years ago). The relative environmental stability promoted dramatic cultural developments among the ancestral Ohlone people. During the last three thousand years of the Late Holocene, the ancestral Ohlone people of the Santa Clara Valley had come to tend a landscape that offered a great range of ecological diversity. They were surrounded by an environment that brought them within close proximity to habitats that included marine, tidal marsh, freshwater marsh, grassland prairie, oak grassland savanna, riparian, chaparral, mixed hardwood, and evergreen forest communities. These habitats provided for most of the valley people's needs. Locally available stone tool materials, such as Franciscan cherts for flaked stone tools, sandstone for milling tools, and cinnabar for paint pigment was abundant throughout the western foothills of the valley. Intermarriage and exchange brought coastal resources such as sea foods, Monterey cherts for chipped stone tools, shells for beads and ornaments, and other exotic items from more distant neighbors specializing in a marine economy. In addition, other resources, particularly obsidian projectile points, knives, and other chipped stone tools were obtained from neighbors far to the east and northeast.

Ethnographic Overview

At the time of European contact, California was the home of approximately 310,000 indigenous peoples with a complex of cultures distinguished by linguistic affiliation and territorial boundaries. At least 70 distinct native Californian cultural groups, with even more subgroups, inhabited the vast lands within the State. The groups and subgroups spoke between 74 and 90 languages, plus a large number of dialects. These are assigned by linguists to five primary language families that are also found in other parts of western North America (Athabaskan, Algic, Uto-Aztecan, Penutian, and Hokan) and two unaffiliated families (Chumashan and Yukian). The San Francisco Peninsula was home to the Costanoan group, which is part of the Penutian family. The descendants of the native groups who lived between the Carquinez Strait and the Monterey area prefer to be called Ohlone, although they are often referred to by the name of their linguistic group, Costanoan.

The Ohlone, like most Native California groups, were organized according to politically independent land-holding groups referred to by anthropologists as "tribelets." There were approximately 40 Ohlone tribelets. The basic Ohlone social unit was the family household of about 15 individuals, which was extended patrilineally. Households grouped together to form villages, and villages combined to form tribelets. Tribelets exchanged trade goods such as obsidian, shell beads, and baskets; participated in ceremonial and religious activities together; intermarried; and could have extensive reciprocal obligations to one another involving resource collection.

The year 1769 marked the advent of Spanish explorations of the valley. The subsequent colonization of the region was accomplished through the introduction of the Hispanic mission system. The subjugation of the native people resulted in dramatic environmental changes after they could no longer influence the native landscape, while poor nutrition and repeated exposure to introduced European diseases and violence served to decimate the Ohlone. Nonetheless, many survived and their descendants continue to live in the region. Today the descendants of the missions of San Jose and Santa Clara (the *Muwekma*) use the designation of *Ohlone* to encompass the families from as far south as Soledad and Monterey, all the way northward to Livermore and San Francisco.

Historic Overview

Spain's colonization of California began in earnest in 1769 with the overland expeditions from San Diego to San Francisco Bay by Lt. Colonel Gaspar de Portolá, and the establishment of a mission and settlement at San Diego. With the establishment of the Royal Presidio at Monterey in 1770 and Upper California's first Mission, *San Carlos de Boromeo*, Imperial Spain began its efforts to take control of coastal California. Soon a number of other missions were to follow, and the Royal Presidio of San Francisco was founded in 1776, along with Mission Dolores, soon to be succeeded by Mission Santa Clara and California's first civilian town, el pueblo de San Jose de Guadalupe, in 1777.

The presidio was the military and legal authority responsible for defending the coast, subduing hostile Indians, and maintaining peace with allied and subjugated tribes. The presidio was a defensive fortification

manned by infantry and cavalry, with detachments of soldiers assigned to the missions to protect the priests and enforce mission rules. Pueblos were civil communities established for the purpose of supplying the military with food. This reduced the cost of maintaining the presidios by sea. Pueblo citizens were also to function as a reserve militia in times of emergency. The presidio-mission-pueblo system was Spain's method of settling California. Therefore the selection of strategic sites was of primary importance.

After the Mexican Revolution began in 1812, Spain stopped sending supply ships to the presidios. By 1815 the missions became the sole supporter of these communities. The missions expanded their facilities to encompass a greater range of tasks so that by the end of Spanish rule in 1821, they were the farmers, bankers, manufacturers and traders. Following independence from Spain in 1822, the economy during the Mexican period depended on the extensive rancho system, carved from the former Franciscan missions and at least 500 land grants awarded in the State's interior to Mexican citizens.

Santa Clara County

For seventy-five years the mission, pueblo, and an evolving rancho system developed under Spanish and then Mexican rule, transforming the fertile Santa Clara valley into a frontier agricultural region that exported beef and hides to world markets. After California's admission to the United States, Santa Clara County gained a worldwide reputation as an important agricultural region known as the "Valley of Heart's Delight." During the Gold Rush, the city of San Jose served as one of the supply centers for hopeful miners. Sawmills established in the Santa Cruz Mountains utilized an abundance of old-growth redwood that fueled construction in the valley until the beginning of the twentieth century.

A railroad was completed from San Francisco to San Jose in 1864, and distribution of Santa Clara County's agricultural products was further facilitated with a regional connection to the transcontinental railroad in 1869. By the late 1880s, fruit orchards supplanted grain as land was subdivided into smaller parcels. During the early twentieth century, large canneries and packing plants were built to process the abundant production of fruit.

World War II also had a major effect on Santa Clara County. The large naval air station at Moffett Field became a gateway to military activity in the Pacific, with thousands of personnel brought to the area for training and processing. Soon after the war, the local business community launched an active campaign to attract new nonagricultural-related industries. Cold war industries began to locate near Moffett Field in the Sunnyvale and Mountain View areas. When IBM settled in downtown San Jose in the early 1940s, the invention of the Winchester Disk Drive set the stage for the eventual creation of the place we now know as Silicon Valley.

Between 1945 and 1964, orchards were subdivided further into residential tracts, industrial parks, shopping centers, and schools at an average rate of 17,000 acres per year. Within cities and their environs that constitute the urban topology of the county, some of the rural character that was once the "Valley of Heart's Delight" continues to exist today, side by side with the modern constructions that house high-tech factories and think tanks. (Cerny 2007.)

San Mateo County

After the mission lands were secularized in 1835, seventeen land grants were carved out of what would become San Mateo County. The southern hill country between Woodside and Redwood City became a significant area for logging operations after gold was discovered in 1848 and early San Mateo industries focused on providing San Francisco with resources: agriculture, lumbering, oyster cultivation, shrimp fishing, whaling, and waterworks. After the completion of the San Francisco/San Jose Railroad in 1864, San Mateo County became the first railroad suburb west of the Mississippi where the elite of San Francisco's industrial and commercial circles established country estates. Large suburban estates, not subdivided until the first third of the twentieth century, retarded growth and gave San Mateo County a distinctive character.

The twentieth century brought considerable growth to San Mateo County. After the 1906 earthquake, there was a large migration to the peninsula. A newly constructed streetcar system from San Francisco all the way to San Mateo allowed the hamlets along the line to become home to a new middle-class suburbanite. The

affordability and popularity of the automobile through the 1920s added to this growth. However, it was World War II that had the greatest impact on the built environment. San Francisco International Airport, termed a "mud hole" before the war, was improved to such an extent by the U.S. Army that it was handling one-tenth of all air traffic in the United States by 1946. Supporting businesses sprang up nearby. Partially because of the growth of the airport, a wartime electronics industry exploded onto the scene. (Cerny 2007.)

Midpeninsula Regional Open Space District

Post World War II was a time of rapid growth in the Bay Area. As tract housing and commercial development began to dominate the "Valley of Heart's Delight," concern for the preservation of the Midpeninsula's irreplaceable foothill and bayland natural resources mounted among open space advocates. The District was created by successfully placing a voter initiative, Measure R, on the ballot in 1972.

> Measure R will preserve open space by creating the Midpeninsula Regional Park District (currently named the Midpeninsula Regional Open Space District). Open space is our green backdrop of hills. It is rolling grasslands - cool forests in the Coast Range – orchards and vineyards in the sun. It is the patch of grass between communities where children can run. It is uncluttered baylands where water birds wheel and soar, where blowing cordgrass yields its blessings of oxygen, where the din of urban life gives way to the soft sounds of nature. It is the serene, unbuilt, unspoiled earth that awakens all our senses and makes us whole again … it is room to breathe.

At that time, the District was created in northwestern Santa Clara County. Fulfilling the conservationists' original dream to include portions of San Mateo County within the District's boundaries, the voters expanded the District in 1976 to include southern San Mateo County. And in 1992, the District further expanded by annexing a small portion of Santa Cruz County. With the final approval of the Coastside Protection Program on September 7, 2004, the District's boundary was extended to the Pacific Ocean in San Mateo County, from the southern borders of Pacifica to the San Mateo/Santa Cruz County line.

PALEONTOLOGICAL SETTING

Significant nonrenewable vertebrate and invertebrate fossils and unique geologic units have been documented throughout California. The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks (refer to geologic timescale in Table 4.6-1). Paleontological potential refers to the likelihood that a rock unit will yield a unique or significant paleontological resource. All sedimentary rocks, some volcanic rocks, and some low-grade metamorphic rocks have potential to yield significant paleontological resources. Depending on location, the paleontological potential of subsurface materials generally increases with depth beneath the surface, as well as with proximity to known fossiliferous deposits.

Table 4.3-1 Divisions of Geologic Time

Era	Period	Time in Millions of Years Ago (approximately)	Epoch
Cenozoic	Quaternary	< 0.01	Holocene
		2.6	Pleistocene
	Tertiary	5.3	Pliocene
		23	Miocene
		34	Oligocene
		56	Eocene
		65	Paleocene
Mesozoic	Cretaceous	145	
	Jurassic	200	
	Triassic	251	

Table 4.3-1 Divisions of Geologic Time

Era	Period	Time in Millions of Years Ago (approximately)	Epoch
Paleozoic	Permian	299	
	Carboniferous	359	
	Devonian	416	
	Silurian	444	
	Ordovician	488	
	Cambrian	542	
Precambrian		2,500	

Source: U.S. Geological Survey 2010

Santa Clara County, located at the southern end of San Francisco Bay, is about 35 miles wide (east-west), over 40 miles long (north-south), and is flanked on the west by the Santa Cruz Mountains. The Santa Cruz Mountains are composed primarily of Franciscan Assemblage sandstone, shale, chert and serpentine with lesser amounts of Santa Clara, Purisima, San Lorenzo, Monterey, and Vaqueros formations of Tertiary age also occurring. The Franciscan Assemblage was deposited originally in a deep marine trench off the California Coast. As a result of convergence of the Pacific and North American plates, those sediments were folded, faulted, and accreted onto the continental margin, forming the Coast Ranges. During the Tertiary period, marine and non-marine sediments were deposited in portions of the Coast Ranges, creating the Tertiary formations mentioned above (Santa Clara County 1994).

Some of the oldest rocks in the San Mateo County portion of the District belong to the Franciscan Complex, formed some 150 to 90 million years ago as the Farallon Plate was subducted under the North American Plate. Many of the soils within this area are developed on sedimentary rocks and consist of sandy loam and silt loam surface layers over silty clay and silty clay loam subsoils (District 2002).

Pleistocene or older (older than 11,000 years) continental sedimentary deposits are considered as having a high paleontological potential while Holocene-age deposits (less than 10,000 years old) are generally considered to have a low paleontological potential because they are geologically immature and are unlikely to have fossilized the remains of organisms. Metamorphic and igneous rocks have a low paleontological potential, either because they formed beneath the surface of the earth (such as granite), or because they have been altered under high heat and pressures, chaotically mixed or severely fractured. Generally, the processes that form igneous and metamorphic rocks are too destructive to preserve identifiable fossil remains.

IMPORTANT CULTURAL RESOURCES

The District maintains in-house records regarding the confidential locations of all known cultural resources within its boundaries. The District has compiled this information over time through direct information provided by qualified archaeologists as well as a variety of reports and record searches that have been performed for many projects throughout the District. The resources listed in Table 4.6-2 have been identified by the District, though not all have been formally recorded or evaluated for historical significance.

Table 4.3-2 Cultural Resources Located in the Midpeninsula Regional Open Space District

Primary #	Other Identifier/Historic Name/Common Name	Component	Resource Type
P-41-000088	Mortar	Prehistoric	bedrock mortar
P-41-000089	"Indian Huts"	Prehistoric	unknown
P-41-000161	Hassler Health Home	Historic	building
P-41-000186	Filoli (Bourne) Estate	Historic	estate complex
P-41-000275	bedrock mortars	Prehistoric	bedrock mortar/cupule
P-41-000464	Kabcenell Access Road Site No. 1	Prehistoric/ Historic	lithic/midden/refuse scatter
P-41-000510	Historic Logging Road	Historic	road
P-41-000511	Historic Logging Road #2	Historic	road
P-41-000512	Historic Logging Road #3	Historic	road
P-41-002113	Russian Ridge 2001 VMP Project Rock Wall	Historic	fence
P-41-002153	Historic site	Historic	machinery
P-41-002199		Prehistoric	lithic scatter
P-41-002290	prehistoric site	Prehistoric	lithic scatter
P-41-000243	Peter's Site #1	Prehistoric	midden, bedrock mortar, lithic
P-43-000088	bedrock mortar/cupules	Prehistoric/ Historic	bedrock mortar/cupule
P-43-000224	Prehistoric site	Prehistoric	lithic scatter possible hearth
P-43-000403	Woodhills; Cora and Fremont Older House	Historic	building
P-43-000419	Picchetti Bros. Winery	Historic	building complex
P-43-000597	midden/ historic residential complex	Prehistoric/ Historic	buildings
P-43-000973	Radio Tower	Historic	radio tower
P-43-000980	Alma College Bridge over Briggs Creek	Historic	bridge
P-43-000981	Tevis Ranch Stables/ Bear Creek Stables	Historic	building complex
P-43-000982	Dairy Ranch/ Tripp Residence	Historic	building
P-43-001063	prehistoric site	Prehistoric	midden, burial
P-43-001079	Felton Homesite	Historic	building complex
P-43-001521	Possible Bedrock Mortar	Prehistoric	bedrock mortar
P-43-001522	Bedrock Mortar	Prehistoric	bedrock mortar
P-43-001633	Historic Trash Scatter	Historic	refuse scatter
P-43-001779	Saratoga-Pescadero Turnpike; Saratoga Toll Road	Historic	road
P-43-001787	FSCL-007	Historic	rock wall
P-43-001867	Hanson Permanente Cement Plant; Kaiser Permanente Quarry	Historic	mining complex
P-43-002012	prehistoric site	Prehistoric	midden complex
P-43-002113	Historic site	Historic	building
P-43-002400	Mining District: Guadalupe Mines and town of Guadalupe	Historic	mining complex
P-43-002472	Generator; Building 563, Moffet Federal Airfield	Historic	building
P-43-002641	Windy Hill Open Space Preserve	Historic	open space
P-44-000252		Prehistoric	midden complex
P-44-000298; P-43-002456	Prehistoric site	Prehistoric/ Historic	bedrock mortar
P-44-000354	Old Saratoga Toll Road	Historic	road
P-44-000393	Old lightened sign supports	Historic	utility line
P-44-000401	Highway 9	Historic	road
P-44-000403	Highway 35	Historic	road

Source: Pacific Legacy, Inc. 2013.

4.3.3 Environmental Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

Criteria for determining the significance of impacts related to cultural resources were based on the environmental checklist form in Appendix G of the State CEQA Guidelines and mandatory findings of significance. Adverse impacts to cultural resources would be considered significant if a project would:

- cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines;
- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- disturb any human remains, including those interred outside of formal cemeteries.

ANALYSIS METHODOLOGY

The impact analysis considers the known cultural resource environmental setting in District lands, the potential for previously undocumented resources, including human remains, and physical effects (i.e., disturbance, material alteration, demolishment) to known and previously undocumented cultural and paleontological resources that could result from implementation of the project. The analysis is also informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources.

ISSUES OR POTENTIAL ISSUES NOT DISCUSSED FURTHER

Chemical treatment options would be applied by spray application, wipe application, or cut-stump application. All methods of spraying under this project would be selective, that is, the operator (who is trained in identifying invasive plants) is in direct control of the sprayer, points the spray tip directly at the target weed or pest, and turns the spray equipment on and off to control the amount and direction of spray. Under the wipe-application treatment, herbicide is applied to the target plant using a sponge or rope wick applicator for selective treatment. With cut-stump application, herbicide is immediately applied to the circle of living cells after a woody plant has been cut close to the ground. These treatments would not involve earth-disturbing activities or affect any built-environment structures. Therefore, chemical treatment options would not adversely affect cultural resources and this topic is not discussed further in this EIR.

IMPACT ANALYSIS

Impact 4.3-1: Change the Significance of an Historical Resource.

The project includes manual and mechanical IPM activities for buildings that could change the significance of an historical resource by incorporating barriers or building retrofits to buildings or structures that have not been evaluated for historical significance. This would be a **potentially significant** impact.

Manual and Mechanical Treatment

Buildings

District properties include over 182 buildings, including an administrative office in a city, three field offices, a nature center, residences, and numerous outbuildings such as barns, sheds, and water tanks in the OSPs.

Many of these properties have reached the threshold for historic-age (50 years) but have not yet been evaluated for historic significance.

Certain animals and plants may be incompatible with human use of these structures or may harm the building itself. For example, rodents, ants, and similar structural pest species are typically controlled in buildings when their population numbers may result in structural damage or health risks to humans. Management of pests in buildings is estimated to occur in 103 of the total buildings and it may be conducted by District staff or by residential, commercial or, agricultural/rangeland tenants at some level almost every year.

For the purposes of this analysis, structural pests include common insects, plants, and animals that routinely occupy the open interiors and immediate exteriors of buildings. Structural pests that live within the soil and wood components of these structures such as termites, wood boring beetles and wood decaying fungi are not included in the IPMP and would be addressed by the District on a case-by-case basis.

Manual and mechanical IPM activities for buildings include installation of traps (sticky, electric, snap, box, glue boards), barriers, building retrofits, and habitat modification. Building retrofits could include sealing off openings or eliminating ledges under roof eaves, and barriers which could include bird spikes, wires, netting, or flap valves or screens in downspouts, 12”-diameter downward-facing cones or 18”-diameter discs, or a 12” band of glossy paint on exterior vertical pipes. Because many District properties have not been evaluated for historic significance, these activities could have a potentially significant impact on the significance of a historical resource.

Recreational Facilities

Manual and mechanical IPM activities for recreational facilities consist of brushcutting, tractor mowing, and chainsaws and chippers for downed trees, which would not affect built-environment historical resources. Therefore, there would be no impact.

Fuel Management

The District aims to manage flammable vegetation in a context that supports the maximum safety to adjacent human communities while also allowing fire as a natural process to maintain native species diversity on its preserves. Clearance around buildings for fire safety is regulated by many state and local laws and regulations. Primary are the Uniform Building Code, Uniform Fire Code, Public Resources Code Section 4291/4119 and County and City municipal codes and ordinances.

Clearing of flammable vegetation to provide defensible space occurs on an annual basis around an estimated 117 structures by District staff or by residential, commercial or agricultural/rangeland tenants. This work consists of tractor mowing, brushcutting, chainsaw work, pole pruning, chipping, masticator and spraying depending on the site conditions. To be consistent with the legal requirements for defensible space around structures under the regulations described above, every year 100 feet is mowed or treated with limited herbicide spraying at least once to remove flammable vegetation. The Woodside Fire Protection District fire code requires additional clearing of a minimum of 30 feet from the perimeter of the property line for those District properties that occur within their jurisdiction. These activities would not affect built-environment historical resources and there would be no impact.

Rangelands and Agricultural Properties

Manual and mechanical IPM activities for rangelands and agricultural properties would consist of tractor mowing and discing which would not affect built-environment historical resources. Therefore, there would be no impact.

Natural Lands

Manual and mechanical IPM activities for natural lands would consist of brushcutting, tractor mowing, and tree removal in cases of Sudden Oak Death which would not affect built-environment historical resources. Therefore, there would be no impact.

Conclusion

As discussed above, the cultural resources listed in Table 4.6-2 have been identified by the District, though not all have been formally recorded or evaluated for historical significance. Because the project includes barriers and building retrofits that could potentially affect the significance of a historical resources, this would be a **potentially significant** impact.

Mitigation Measure 4.3-1: Built-environment survey.

Prior to implementation of building retrofits or barriers that are visible on the exterior and not consistent with the vernacular nature of rural buildings, historic-age (50 years) structures will be surveyed by an architectural historian who meets the Secretary of the Interior's Standards. The structure will be evaluated for eligibility for listing on the California Register of Historic Resources. If structures are determined to be eligible for the California Register of Historic Resources, building retrofits or barriers will follow the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings.

Level of Significance after Implementation of Mitigation Measure

Implementation of this mitigation measure would reduce impacts associated with the adversely changing the significance of an historical resource to a **less-than-significant** level because it requires the performance of professionally accepted and legally compliant procedures.

Impact 4.3-2: Cause a Substantial Change in the Significance of an Archaeological Resource.

It is unlikely that unknown archaeological resources would be disturbed by earth-disturbing activities associated with the project because of their limited area and techniques which are limited to shallow soil disturbance. BMP 26 requires that District staff at each site receive training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find. Because appropriate BMP measures are in place to recognize and avoid cultural resources at selected IPM sites, this impact would be **less than significant**.

Manual and Mechanical Treatment

Buildings

Manual and mechanical IPM activities in buildings would not include earth-disturbing activities that could affect archaeological resources. Therefore, there would be no impact.

Recreational Facilities

Manual and mechanical IPM activities for recreational facilities consist of brushcutting, tractor mowing, and chainsaws and chippers for downed trees. Mowers and saws are used by District staff to maintain grass and shrubs near roads and trails, limb up overhanging tree branches, and remove dead or decadent vegetation. A brushcutter or other motorized cutting machine would be selected for mowing of weeds based on the size of the infestation. Most species would require repeated cutting throughout the growing season (generally late spring through mid-summer) or they could re-sprout from their base and continue to grow, flower, and produce seed. Mowing cannot be used on steep slopes or in locations with desirable native plants unless the timing of the mowing can be selected to affect only target plants. These mechanical treatments are not earth-disturbing and, therefore, would not damage or destroy previously undiscovered or unrecorded archaeological resources. Therefore, there would be no impact.

Fuel Management

Manual and mechanical IPM activities for fuel management areas would include the creation of defensible space, fuel breaks, and emergency helicopter landing zones. Trail and road brushing, similar to methods described under "IPM for Recreational Facilities," is the routine annual maintenance of road and trail corridors to facilitate visitor and fire safety. A disc line, or cultivation, is a type of mechanical fuel treatment that is typically placed along the perimeter of undeveloped land, ranches, and roadways. Disc lines utilize an

agricultural cultivator attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. The intent of discing is to create small swaths of barren soil that do not support fuel or conduct fire. Fire breaks are wide cleared areas that are often plowed, disced, or otherwise modified to remove all vegetation. These activities would result in the disturbance of soil at shallow depths (up to 12 inches), therefore, sites selected for these activities would be subject to BMP 26 which requires that District staff at each site has received training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find. For these reasons, IPM activities in fuel management areas would result in less-than-significant impacts to archaeological resources.

Rangelands and Agricultural Properties

Manual and mechanical IPM activities for rangelands and agricultural properties would consist of tractor mowing and discing. As described under "IPM for Fuel management," discing uses an agricultural cultivator attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. These IPM activities would result in the disturbance of soil at shallow depths (up to 12 inches), therefore, sites selected for these activities would be subject to BMP 26 which requires that District staff at each site has received training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find. For these reasons, IPM activities in rangelands and agricultural properties would result in less-than-significant impacts to archaeological resources.

Natural Lands

Manual and mechanical IPM activities for natural lands would consist of brush-cutting and tractor mowing as described under "IPM for Recreational Facilities" along with and tree removal in cases of Sudden Oak Death. Manual treatments include pulling individual plants by hand before flowering and seed development; cutting plants below the root crown with a pick or shovel before flowering or seed set; torching young seedlings with a hot propane flame immediately following germination; and hand removal using a weed wrench. These IPM activities are not earth-disturbing and, therefore, would not damage or destroy previously undiscovered or unrecorded archaeological resources. Therefore, there would be no impact.

Conclusion

Because of the largely non-invasive nature of the treatment action (i.e., tractor mowing, shallow soil disturbance from digging out roots, limited discing) it is not likely that disturbance of archaeological, resources would occur. While it is possible that previously undiscovered archaeological resources could be disturbed by minor earth-disturbing activities, as described above and in the project description, BMP 26 requires that District staff at each site has received training in the recognition of sensitive cultural resources and that in the event of a find, a qualified archaeologist shall evaluate the significance of any discovered cultural resources before commencement or recommencement of work. In addition, District RMP CR-3 calls for the assessment of existing operations within areas of known archaeological sensitivity to protect and preserve cultural resources. For these reasons, this impact would be considered **less than significant.**

Mitigation Measures

No mitigation measures are necessary.

Impact 4.3-3: Disturb Human Remains.

It is unlikely that unknown human remains would be unearthed by earth-disturbing activities associated with pest management activities because of their limited area and techniques which are limited to shallow soil disturbance. Nevertheless, the potential exists for previously undiscovered human remains to be discovered when soils are disturbed. This would be a **potentially significant** impact.

Manual and Mechanical Treatment

Buildings
Manual and mechanical IPM activities in buildings would not include earth-disturbing activities that could unearth human remains. Therefore, there would be no impact.

Recreational Facilities
Manual and mechanical IPM activities for recreational facilities consist of brushcutting, tractor mowing, and chainsaws and chippers for downed trees. As described under Impact 4.3-2, these mechanical treatments are not earth-disturbing. Therefore, IPM activities for recreational facilities would not unearth previously undiscovered human remains and there would be no impact.

Fuel Management
Manual and mechanical IPM activities for fuel management would include the creation of defensible space, fuel breaks, and emergency helicopter landing zones. These treatments would include trail and road brushing, creating disc lines, and fire breaks. As described under Impact 4.3-2, disc lines utilize an agricultural cultivator attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. While it is unlikely that human remains would be discovered in 6 to 12 inches of soil, the potential exists. Therefore, this would be a potentially significant impact.

Rangelands and Agricultural Properties
Manual and mechanical IPM activities for rangelands and agricultural properties would consist of tractor mowing and discing. As described under "IPM for Fuel Management," discing uses an agricultural cultivator attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. While it is unlikely that human remains would be discovered in 6 to 12 inches of soil, the potential exists. Therefore, this would be a potentially significant impact.

Natural Lands
IPMs for natural lands would consist of mechanical treatments including brushcutting and tractor mowing as described under "IPM for Recreational Facilities," along with tree removal in cases of Sudden Oak Death. Manual treatments include pulling individual plants by hand before flowering and seed development; cutting plants below the root crown with a pick or shovel before flowering or seed set; torching young seedlings with a hot propane flame immediately following germination; and hand removal using a weed wrench. These IPM activities are not earth-disturbing and, therefore, would not unearth previously undiscovered human remains and there would be no impact.

Conclusion
As noted above, it is unlikely that human remains would be disturbed by the treatment activities because of their limited area and techniques which are limited to shallow soil disturbance. Nevertheless, the potential exists for previously undiscovered human remains to be discovered when soils are disturbed even at shallow depths. This would be a **potentially significant** impact.

Mitigation Measure 4.3-3: Halt ground-disturbing activity.

If human remains are encountered, all work within 100 feet of the remains will cease immediately. The District will contact the appropriate county coroner (San Mateo County, Santa Clara County, or Santa Cruz County) to evaluate the remains, and follow the procedures and protocols set forth in §15064.5(e) of the CEQA Guidelines. No further disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains will occur until the County Coroner has made a determination of origin and disposition, which will be made within two working days from the time the Coroner is notified of the discovery, pursuant to State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98. If the remains are determined to be Native American, the Coroner will notify NAHC within 24 hours, which will determine and notify the Most Likely Descendant (MLD). The MLD may recommend within 48 hours of their notification by the NAHC the means of treating or disposing of, with appropriate dignity, the human remains and grave goods. In the event of difficulty locating a MLD or failure of the MLD to make a timely recommendation, the human remains and

grave goods shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

Level of Significance after Implementation of Mitigation Measure

Implementation of this mitigation measure would reduce impacts associated with the discovery of human remains to a **less-than-significant** level because it requires the performance of professionally accepted and legally compliant procedures in the event remains are discovered.

Impact 4.3-4: Destroy a unique paleontological resource.

It is unlikely that paleontological resources would be disturbed by earth-disturbing activities associated with the IPM because of their limited area and techniques which are limited to shallow soil disturbance. Paleontological resources typically occur at significant depths (i.e., greater than 5 feet). Nonetheless, BMP 26 requires that District staff at each site receive training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find. Therefore, this impact would be **less than significant**.

Manual and Mechanical Treatment

Buildings

Manual and mechanical IPM activities in buildings would not include earth-disturbing activities that could affect paleontological resources. Therefore, there would be no impact.

Recreational Facilities

Manual and mechanical IPM activities for recreational facilities consist of brushcutting, tractor mowing, and chainsaws and chippers for downed trees. Mowers and saws are used by District staff to maintain grass and shrubs near roads and trails, limb up overhanging tree branches and remove dead, or decadent vegetation. A brushcutter or other motorized cutting machine would be selected for mowing of weeds based on the size of the infestation. Most species would require repeated cutting throughout the growing season (generally late spring through mid-summer) or they could re-sprout from their base and continue to grow, flower, and produce seed. Mowing cannot be used on steep slopes or in locations with desirable native plants unless the timing of the mowing can be selected to affect only target plants. These mechanical treatments are not earth-disturbing and, therefore, would not damage or destroy previously undiscovered or unrecorded paleontological resources. Therefore, there would be no impact.

Fuel Management

Manual and mechanical IPM activities for fuel management areas would include the creation of defensible space, fuel breaks, and emergency helicopter landing zones. Trail and road brushing, similar to methods described under “IPM for Recreational Facilities,” is the routine annual maintenance of road and trail corridors to facilitate visitor and fire safety. A disc line, or cultivation, is a type of mechanical fuel treatment that is typically placed along the perimeter of undeveloped land, ranches, and roadways. Disc lines utilize an agricultural cultivator attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. T Fire breaks are wide cleared areas that are often plowed, disced, or otherwise modified to remove all vegetation. These IPM activities include earth-disturbing activities and would, therefore, be subject to BMP 26 which requires that District staff at each site has received training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find. District RMP GS-3 calls for the protection of paleontological resources by identifying locations and documenting the condition of unique or exceptional geologic features such as tafoni sandstone formations, serpentine outcrops, sag ponds. For these reasons, this impact would be considered less than significant.

Rangelands and Agricultural Properties

Manual and mechanical IPM activities for rangelands and agricultural properties would consist of tractor mowing and discing. As described under “IPM for Fuel Management,” discing uses an agricultural cultivator

attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. These IPM activities include earth-disturbing activities and would, therefore, be subject to BMP 26 which requires that District staff at each site has received training in the recognition of sensitive cultural resources and that in the event of a find, work in the area is halted until a qualified archaeologist can evaluate the significance of the find. District RMP GS-3 calls for the protection of paleontological resources by identifying locations and documenting the condition of unique or exceptional geologic features such as tafoni sandstone formations, serpentine outcrops, sag ponds. For these reasons, this impact would be considered less than significant.

Natural Lands

Manual and mechanical IPM activities for natural lands would consist of mechanical treatments including brushcutting and tractor mowing as described under "IPM for Recreational Facilities," along with tree removal in cases of Sudden Oak Death. Manual treatments include pulling individual plants by hand before flowering and seed development; cutting plants below the root crown with a pick or shovel before flowering or seed set; torching young seedlings with a hot propane flame immediately following germination; and hand removal using a weed wrench. These IPM activities are not earth-disturbing and, therefore, would not damage or destroy previously undiscovered or unrecorded paleontological resources. Therefore, there would be no impact.

Conclusion

Because of the largely non-invasive nature of the treatment action (i.e., tractor mowing, shallow soil disturbance from digging out roots, limited discing) it is not likely that disturbance of paleontological, resources would occur. Discing for fuel management and for rangeland would overturn soil only 6 to 12 inches and paleontological potential of subsurface materials generally increases with depth beneath the surface. While it is possible that previously undiscovered paleontological resources could be disturbed by minor earth-disturbing activities, as described above and in the project description, BMP 26 requires that District staff at each site has received training in the recognition of sensitive cultural resources and that in the event of a find, a qualified archaeologist will evaluate the significance of any discovered cultural resources before commencement or recommencement of work. In addition District RMP GS-3 calls for the protection of paleontological resources by identifying locations and documenting the condition of unique or exceptional geologic features. For these reasons, this impact would be considered **less than significant.**

Mitigation Measures

No mitigation measures are necessary.

4.4 HYDROLOGY AND WATER QUALITY

This chapter describes the existing hydrologic conditions at the project site, presents a summary of the regulatory setting, and provides an analysis of the hydrology and water quality impacts of the project. Mitigation measures are provided to reduce potentially significant impacts, when feasible.

4.4.1 Regulatory Setting

FEDERAL

Federal Emergency Management Agency

In 1968, Congress created the National Flood Insurance Program in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations to limit development in floodplains. FEMA also issues flood insurance rate maps that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. FEMA has established a minimum level of flood protection for new development as the 1-in-100 Annual Exceedance Probability (i.e., 100-year flood event).

Clean Water Act

The U.S. Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. Various elements of the CWA address water quality. These are discussed below.

Federal Antidegradation Policy

The federal antidegradation policy, established in 1968, is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected;
- where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and
- where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the act, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described

in the discussion of state regulations below, the State Water Resources Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

National Toxics Rule and California Toxics Rule

In 1992, EPA issued the National Toxics Rule (NTR) (40 CFR 131.36) under the CWA to establish numeric criteria for priority toxic pollutants in 14 states and jurisdictions, including California, to protect human health and aquatic life. The NTR established water quality standards for 42 pollutants for which water quality criteria exist under CWA Section 304(a) but for which the respective states had not adopted adequate numeric criteria. EPA issued the California Toxics Rule (CTR) in May 2000. The CTR establishes numeric water quality criteria for 130 priority pollutants for which EPA has issued Section 304(a) numeric criteria that were not included in the NTR.

Section 404 of the Clean Water Act

In accordance with Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the United States. Waters of the United States and their lateral limits are defined in Title 33, Part 328.3(a) of the Code of Federal Regulations to include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Waters of the United States are often categorized as "jurisdictional wetlands" (i.e., wetlands over which the USACE exercises jurisdiction under Section 404) and "other waters of the United States" when habitat values and characteristics are being described. "Fill" is defined as any material that replaces any portion of a water of the United States with dry land or that changes the bottom elevation of any portion of a water of the United States. Any activity resulting in the placement of dredged or fill material within waters of the United States requires a permit from the Corps. In accordance with Section 401 of the Clean Water Act, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate RWQCB indicating that the project will uphold state water quality standards. Wetland protection elements of the CWA administered by the USACE are further discussed in Section 4.2, "Biological Resources."

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff. Each NPDES permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. "Nonpoint source" pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities and the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the discussion of state regulations below).

Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still be in compliance with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. EPA must either approve a TMDL prepared by the state or disapprove the state's TMDL and issue its own. NPDES

permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

STATE

State Water Resources Control Board

SWRCB has jurisdiction throughout California. Created by the State Legislature in 1967, SWRCB protects water quality by setting statewide policy, coordinating and supporting RWQCBs efforts, and reviewing petitions that contest RWQCBs actions. There are nine RWQCBs that exercise rulemaking and regulatory activities by basins. The majority of the District is located within the San Francisco Bay RWQCB Region 2. The portions the District located in the southern portion of Santa Clara County and in Santa Cruz County are located in the Central Coast RWQCB Region 3.

Water Quality Control Plan for San Francisco Bay RWQCB (Region 2)

The San Francisco Bay RWQCB regulates surface water and groundwater quality in the region. The Water Quality Control Plan (Basin Plan) is the master policy document that contains descriptions of the legal, technical, and programmatic basis of water quality regulation in the region. In 1995, the SWRCB initiated a watershed management approach to regulating water quality, expanding its primary focus form point sources of pollution to include more diffuse sources such as urban and agricultural runoff. A statewide Strategic Plan was completed in 2001 that guides the water resource protection efforts of by SWRCB and RWQCBs. A key component of the Strategic Plan is the Watershed Management Initiative. (San Francisco Bay RWQCB 2011.)

Watershed Management Initiative

The Watershed Management Initiative for San Francisco Bay involves regionwide activities that address watershed issues that impact San Francisco Bay as a whole, as well as addressing issues that are common to many watersheds. Regionwide activities include: (1) Basin planning and policy development, (2) monitoring and assessment, (3) the Nonpoint Source Program, (4) wetlands and stream protection, (5) core regulatory programs (NPDES, Waste Discharge Requirements, and Chapter 15 WDRs), (6) groundwater management, (7) GIS, and (8) TMDLs.

Water Quality Control Plan for the Central Coast Basin Region 3

The objective of this Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, is to show how the quality of the surface and ground waters in the Central Coast Region should be managed to provide the highest water quality reasonably possible. Water quality objectives are intended to protect those present and probable future beneficial uses and to protect existing high quality waters of the State. These objectives will be achieved primarily through the establishment of waste discharge requirements and through implementation of this water quality control plan.

RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally delegated NPDES permits for discharges to surface water.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Porter-Cologne Act (California Water Code Section 13000) the SWRCB, and the state's nine RWQCBs that it oversees, are responsible for administering federal and state water quality regulation and permitting duties. The act sets forth the obligations of the SWRCB and RWQCBs under the CWA to adopt and periodically update water quality control plans, or basin plans. Basin plans are plans in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Porter-Cologne Act also requires waste dischargers to notify the

RWQCBs of such activities by filing Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals.

National Pollutant Discharge Elimination System Permits

The application of pesticides at, near, or over waters of the United States that results in discharges of pollutants to waterbodies requires coverage under a NPDES permit (SWRCB 2014). The proposed IPM activities may require dry season use of herbicides in wetlands and on stream banks, therefore, the project would subject to NPDES permitting for these activities. The SWRCB oversees pesticide NPDES permitting in California. The permit applies to the following:

- point source*discharge of biological and residual pesticides resulting from spray applications using the following: acetamiprid, aminopyralid, Bacillus thuringiensis kurstaki (Btk), carbaryl, chlorsulfuron, clopyralid, cyfluthrin, dinotefuran, glyphosate, imazapyr, imidacloprid, malathion, naled, nuclear polyhedrosis virus (NPV), pheromone, pyrethrins, Spinosad A and D, triclopyr butoxyethyl ester (BEE) and triclopyr triethylamine salt (TEA);

- residual aquatic pesticide discharges to waters of the United States from algae and aquatic weed control applications; and

- point source discharge of biological and residual pesticides resulting from direct and spray applications for vector control using: 1) larvicides containing monomolecular films, methoprene, Bacillus thuringiensis subspecies israelensis (or Bti), Bacillus sphaericus (or B. sphaericus), temephos, petroleum distillates, or spinosad; and 2) adulticides containing malathion, naled, pyrethrin, permethrin, resmethrin, sumithrin, prallethrin, piperonyl butoxide (PBO), etofenprox, or N-octyl bicycloheptene dicarboximide (or MGK-264). Users of products containing these active ingredients are required to obtain coverage under this General Permit before direct application to waters of the United States.

SWRCB and the San Francisco Bay RWQCB (Region 2) have required specific NPDES permits for a variety of activities that have potential to discharge pollutants to waters of the state and adversely affect water quality. To receive an NPDES permit a Notice of Intent to discharge must be submitted to the San Francisco Bay RWQCB and design and operational BMPs must be implemented to reduce the level of contaminated runoff. BMPs can include the development and implementation of regulatory measures (local authority of drainage facility design) various practices, including educational measures (workshops informing public of what impacts result when household chemicals are dumped into storm drains), regulatory measures (local authority of drainage facility design), public policy measures (label storm drain inlets as to impacts of dumping on receiving waters), and structural measures (filter strips, grass swales, and retention basins). All NPDES permits also have inspection, monitoring, and reporting requirements.

State Nondegradation Policy

In 1968, as required under the federal antidegradation policy described previously, the SWRCB adopted a nondegradation policy aimed at maintaining high quality for waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

a) Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.

b) Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements.

Safe Drinking Water Act

As mandated by the Safe Drinking Water Act (Public Law 93-523), passed in 1974, EPA regulates contaminants of concern to domestic water supply. Such contaminants are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary maximum contaminant levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the Safe Drinking Water Act enacted in 1986 established an accelerated schedule for setting drinking water MCLs. EPA has delegated to the DHS the responsibility for California's drinking water program. DHS is accountable to EPA for program implementation and for adoption of standards and regulations that are at least as stringent as those developed by EPA. Title 22 of the California Administrative Code (Article 16, Section 64449) defines secondary drinking water standards, which are established primarily for reasons of consumer acceptance (i.e., taste) rather than for health issues.

LOCAL

San Mateo County

On July 21, 1999, the Regional Board reissued an NPDES permit for San Mateo Countywide Stormwater program (twenty cities and towns and unincorporated areas). The permit requires reduction of pollutants in stormwater discharges to the maximum extent practicable and the elimination of unauthorized non-stormwater discharges. It also requires reduction of pollutants that cause or contribute to violations of water quality standards. The permit requires the permit holders to implement Stormwater Management Plans (the Plans), which specify the measures that are needed to control pollutants in stormwater. The Plans consist of a series of pollution control activities designed to identify and implement control measures to reduce, if not eliminate, pollutants in storm runoff to the maximum extent practicable and to demonstrate compliance with water quality objectives in receiving waters.

Watershed Groups and Watershed Management Efforts

Currently, there are watershed management projects in progress in many watersheds throughout the County, led by local community groups, the San Mateo County Resource Conservation District, Mid-Peninsula Open Space District and others.

Santa Clara County

Santa Clara County's Clean Water Program is a function of the County government that exists to maintain compliance with a NPDES Storm Water Discharge Permit and to promote storm water pollution prevention within that context. County compliance with the NPDES Permit is mandated by state and federal laws. In 1989 the SWRCB listed the south San Francisco Bay as impaired because water quality standards for heavy metals were frequently exceeded. The Basin Plan issued by the Regional Board in 1986 and its subsequent amendments, requires the Program to submit proposals for determining pollutant loading, sources and control measures for nonpoint source pollution to the south San Francisco Bay.

North Santa Clara Valley's 13 cities, Santa Clara County and the Santa Clara Valley Water District (all jurisdictions which contribute runoff to the South Bay) operate under a joint NPDES municipal storm water permit.

Santa Cruz County

Santa Cruz County's Water Resources Program is organized within Environmental Health Services under the Health Services Agency. The Water Resources Program works in collaboration with other County departments, agencies, special districts and non-governmental organizations to solve water resources and environmental issues through long-range water supply planning, water quality protection and watershed management. The County's Water Resources Program focuses on water quality, water supply, watershed and stream habitat protection, and water conservation with input and oversight from two advisory commissions (Water Advisory Commission and Fish and Game Advisory Commission).

4.4.2 Environmental Setting

HYDROLOGY AND DRAINAGE

Regional Hydrology

The District is located in the Santa Cruz Mountains, which are situated on the San Francisco Peninsula. The peninsula separates the San Francisco Bay from the Pacific Ocean and extends from the Golden Gate south to the Santa Clara Valley and northern end of Monterey Bay. Runoff from the peninsula flows to the Pacific Ocean to the west and the San Francisco Bay and estuaries to the east. Rainfall occurs mostly between November and April with seasonal rainfall totals varying greatly depending upon topography, exposure, and elevation. The greatest rainfall quantities occur along the west facing slopes of the Santa Cruz Mountains near the summit of the mountain range where totals can reach 40 to 50 inches per year, however, averages around 20 to 30 inches per year are more typical. In the Santa Cruz Mountains, fog accounts for approximately 10 to 20 inches of this precipitation, much of which is delivered in the dry summer months. Many smaller creeks and streams are intermittent, reflecting this seasonal distribution of rainfall. Winter flows are higher, especially during and immediately following storms.

Surface Hydrology

District open space preserves (OSPs) are located within seven major watersheds within the Santa Cruz Mountains, extending from the Pacific Ocean in San Mateo County to the baylands in San Mateo and Santa Clara Counties (Exhibit 4.4-1). Watersheds are land or "basins" within which all precipitation within a given watershed drains to a single body of water, often a creek or stream. Many of the District's lands are located within the headwaters or uppermost sections of these watersheds. Most preserve watersheds contain steep ridges and deep canyons typical of the Santa Cruz Mountains. The elevation of the treatment sites range between approximately 600 feet and 2,400 feet above mean sea level, and the topography consists of a number of steep slopes and valleys. A number of surface water bodies, including reservoirs, ponds, ephemeral, and perennial streams are located on or downstream from District OSPs.

Annual rainfall can be heavy within much of the program area. A notable climactic feature of the Santa Cruz Mountains is the occurrence of storms of extreme intensity and duration that can be responsible for periodic flooding in the area. The extensive open spaces and undeveloped private lands within the program area provide a vegetated setting for the proposed program and allow rain to percolate into the ground rather than running off rapidly.

Groundwater Hydrology

The District OSPs are located, for the most part, in the Santa Clara Valley groundwater basin. Groundwater supplies approximately 50 percent of the potable water supply for the residents of the Santa Clara Valley. The groundwater basin is bounded on the west by the Santa Cruz Mountains and the San Andreas Fault, on the east by the Diablo Range and Franciscan Basement, on the north by the San Francisco Bay, and on the south by the Santa Clara Valley ground-water divide. This ground-water divide at Cochrane Road in Morgan Hill separates the northerly flow of water toward San Francisco Bay from the southerly flow of water towards Monterey Bay.

Natural recharge to the ground-water flow system in the Santa Clara Valley occurs along the mountain fronts, and flows toward the center of the basin and toward the southern San Francisco Bay. However, the predominant recharge mechanisms for the ground-water flow system are artificial recharge from the infiltration of imported water and leakage from transmission pipelines that transport the imported water, as well as return flow from landscape irrigation. The predominant source of recharge in the San Francisco Peninsula region is infiltration of precipitation and streamflow (U.S. Geological Survey 2009).

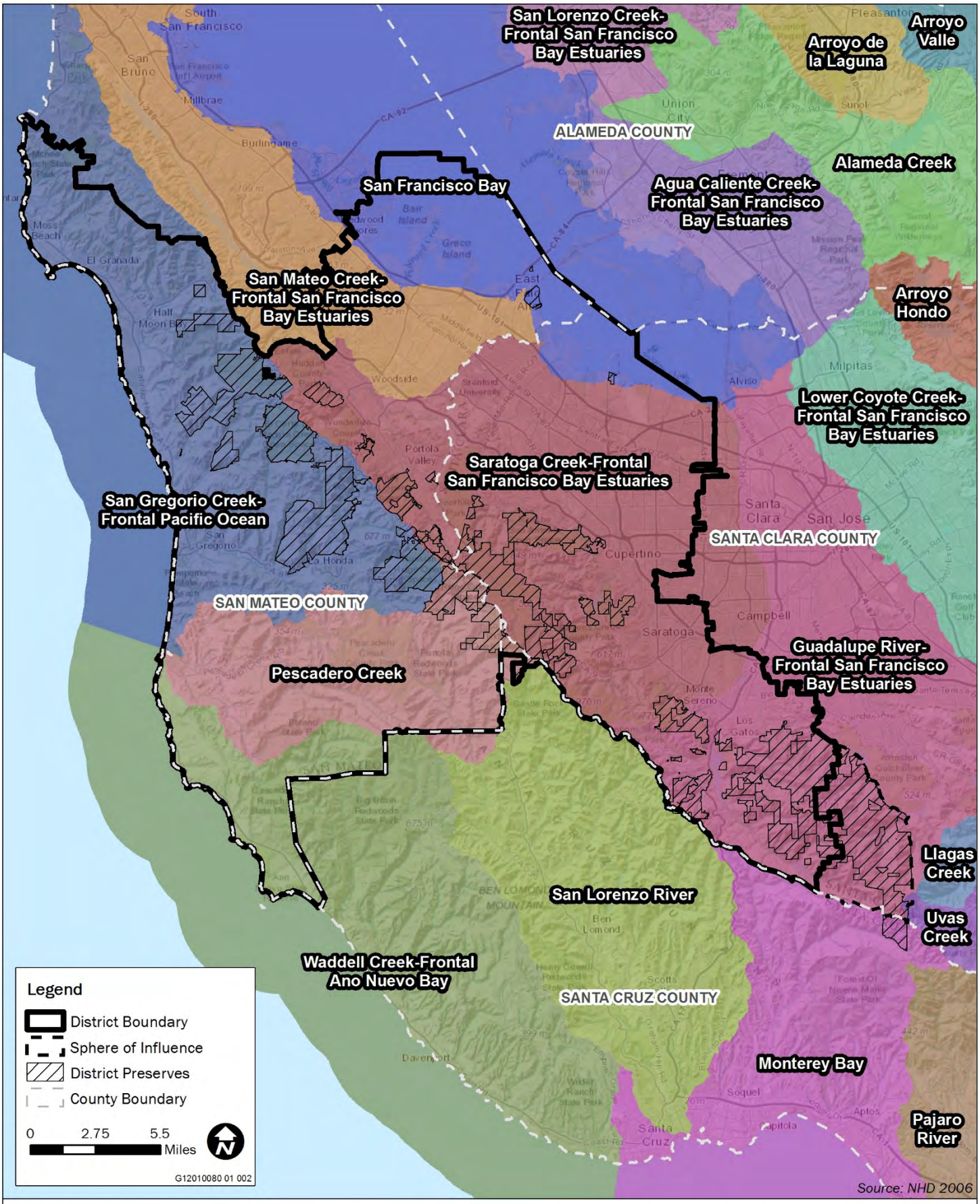


Exhibit 4.4-1 **Project Area Watersheds**

In the Santa Cruz Mountains groundwater conditions vary locally, depending on specific geologic conditions. The occurrence of groundwater is dependent on the presence of porous, permeable rock stratum capable of storing and transmitting water. In hard and fine-grained rock formations, as occur in the Santa Cruz Mountains and Diablo Range, water available to wells is commonly from the secondary permeability and porosity, which results from deep weathering, shearing and fracturing of the rock. Groundwater of sufficient quantity to supply individual domestic wells and springs can also occur locally in deep colluvial and landslide deposits. (Santa Clara County 2013: p. 58)

WATER QUALITY

Surface Water Quality

Impaired water bodies are water bodies that are not meeting water quality standards established by the EPA (303(d) list). Several water bodies in the Santa Clara Basin have been designated under Section 303(d) of the Clean Water Act as impaired because of certain pollutants. These include South San Francisco Bay for copper, nickel, mercury, selenium, diazinon, polychlorinated biphenols (PCBs), dioxins, furans, dieldrin, chlordane, and dichlorodiphenyltrichloroethane (DDT). Urban creeks (Calabazas, Coyote, Guadalupe, Los Gatos, Matadero, San Francisquito, Saratoga, and Stevens) have been listed for diazinon. Water bodies in the Guadalupe River watershed (Guadalupe River, Alamitos Creek, Guadalupe Creek, Calero Reservoir, and Guadalupe Reservoir) have been listed for mercury. San Francisquito Creek has been listed for excessive siltation (sediment).

In Santa Clara County the Pajaro River and Llagas Creek are listed as impaired. In San Mateo County, San Gregorio Creek, Pescadero Creek, and San Francisquito Creek are listed as impaired as a result of sediment resulting in degradation of salmonid habitat.

In northern Santa Clara County, nonpoint source pollutants flow into local creeks and streams, and eventually flow into south San Francisco Bay. Pollutants entering creeks and streams in the southern portion of the county ultimately flow to the Pajaro River and to Monterey Bay.

Surface water quality is not uniformly distributed throughout all streams. Some reaches of some streams, especially, though not exclusively, in the upper undeveloped areas of the watersheds, such as District OSPs, have retained sufficient value to sustain fisheries and riparian habitat.

Groundwater Quality

The principle groundwater basins located in the project area are the South Bay Basins located in San Mateo and Santa Clara counties. Groundwater quality varies throughout the South Bay Basins, but is generally of very high quality, particularly in deeper aquifer systems (USGS Santa Clara Valley Groundwater Basin, Santa Clara Subbasin bulletin 118.

The Priority Basin Project of the Groundwater Ambient Monitoring and Assessment (GAMA) study of the groundwater basins of the 620-square mile San Francisco Bay study unit (USGS and DWR 2009) includes the Santa Clara Valley groundwater basin. This study tested raw water samples for a variety of organic and inorganic constituents. Fourteen volatile organic compounds (VOCs) and six pesticides were detected in the wells sampled; however all detections of VOCs and pesticides in study area wells were below health-based thresholds, and most were less than one-tenth of the threshold values. Pharmaceutical compounds were not detected in any of the study area wells. All detections of perchlorate, N-nitrosodimentylamine (NDMA), and trace elements in study area wells were below established thresholds, although the concentration of nitrate was above the Maximum Contaminant Level established by the United States Environmental Protection Agency (MCL-US) in one well. (USGS 2009.)

4.4.3 Environmental Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

Based on CEQA Guidelines Appendix G, the project would result in a significant impact to hydrology or water quality if it would:

- violate any water quality standards or waste discharge requirements;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the amount of surface runoff in a manner which would result in flooding on- or offsite;
- create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- otherwise substantially degrade water quality;
- place housing within 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard area delineation map;
- place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or a dam; and
- result in substantial risk of inundation by seiche, tsunami, or mudflow.

ANALYSIS METHODOLOGY

Evaluation of potential hydrologic and water quality impacts was based on a review of documents available from federal, state and local government, including: the San Francisco Bay Regional Water Quality Control Board's. *Water Quality Control Plan for San Francisco Bay Basin*; Santa Clara County's *Santa Clara County Onsite Wastewater Treatment Systems Ordinance Update Draft EIR;* and the California Groundwater Ambient Monitoring and Assessment Program's *Ground-Water Quality Data in the San Francisco Bay Study Unit, 2007: Results from the California GAMA Program*.

The information obtained from these sources was reviewed and summarized to establish existing conditions and to identify potential environmental effects, based on the standards of significance presented in this chapter. In determining the level of significance, the analysis assumes that the project would comply with relevant federal, State, and local ordinances and regulations.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

The project would not use groundwater or otherwise interfere with groundwater recharge (i.e., no impermeable surfaces are proposed). Therefore, no impact would occur and the topic is not addressed further in this EIR.

The project site is not connected to any municipal storm drainage system. The project would not involve construction of buildings, parking lots, or other features that would increase the area of impervious surface and would not require connection to a storm drainage system. Consequently, the project would have no effect on the capacity of existing or planned stormwater drainage systems. Therefore, this topic is not addressed further in this EIR.

The project would not involve the construction of any buildings, residential, commercial or otherwise or change patterns of land use. Therefore, no further discussion regarding potential effects on housing within 100-year flood hazard area or the effect of structures on flood flows within a 100-year flood hazard area is necessary. Further, the project would have no potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or a dam. No impact would occur and these issues are not discussed further in this EIR.

The project would not result in changes or alterations to land use patterns, patterns of visitation to OSPs, or construct new buildings. Therefore, the project would not alter existing conditions regarding risk of inundation by seiche, tsunami, or mudflow. While some steep slopes on the OSPs may be susceptible to mudflow, vegetation management activities would not take place on the sites during or immediately after times of heavy rain and, therefore, would not expose people to potential mudflow risks. Additionally, BMP 28 requires erosion control on treatment sites with loose or unstable soils, steep slopes (greater than 30 percent), or where a large percentage of the groundcover would be removed. Therefore, this topic is not addressed further in this EIR.

IMPACT ANALYSIS

Impact 4.4-1: Violate water quality standards or waste discharge requirements.

Manual control methods used for pests in buildings, recreational facilities, fuel management areas, rangeland and agricultural fields, and natural areas would not result in discharge of sediments into aquatic areas. Erosion control measures required by BMP 28 would be implemented on sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover would be removed, or near aquatic features that could be adversely affected by an influx of sediment.

Chemical treatments, when used, would be implemented consistent with Pest Control Recommendations prepared annually by a licensed Pest Control Advisor, would be conducted in accordance with proposed BMPs. BMPs would require that chemical control operations be conducted under the supervision of a person holding a Qualified Applicator License or Qualified Applicator Certificate for pesticides; require all storage, loading and mixing of herbicides be set back at least 300 feet from any aquatic feature and all mixing and transferring occur within a contained area; require that application cease when weather parameters exceed label specifications, when wind at site of application exceeds seven miles per hour (MPH), or when precipitation (rain) occurs or is forecasted with greater than a 40 percent probability in the next 24-hour period.

Because the District proposes to use chemical treatments on rare occasions in wetlands (dry season) and along stream banks; the IPMP would have the potential to result in residual aquatic pesticide discharges to waters of the United States. Therefore, implementation of the IPMP would have the potential to result in violations of water quality standards or waste discharge requirements. This is a **potentially significant** impact

Manual and Mechanical Treatment

Buildings

Manual and mechanical activities for structural pests would include sanitation, debris removal, habitat modification, traps, barriers, caulking of cracks in walls are along windows, demolition of vacant structures. These activities would not result in discharge of chemicals or pollutant-laden runoff into surface waters. Use of manual treatment for structural pests would be restricted to the structures and would not be applied in

close proximity to creeks or reservoirs. Therefore, IPM treatments for buildings would have no potential to violate water quality standards or waste discharge requirements. This would be is a less-than-significant impact.

Recreational Facilities

Mechanical and manual activities for recreation facilities would include non-toxic baited and lure traps, physical removal by digging for wasps; elimination of hiding places, capture and removal for rattlesnakes; mechanical road and trail brushing, mowing; chainsaw, pole saws, and chippers for hazard tree removal.

Mechanical and manual activities for recreational facilities would not result in substantial ground disturbance or discharge of chemicals or pollutant-laden runoff into surface waters. The District follows conditions of a routine maintenance Streambed Alteration Agreement (SAA) from the California Department of Fish and Wildlife for additional vegetation management activities at berms, outlets, basins and dam faces, water supply facilities and associated structures, culverts, bridges, fords, swales, roadside and trailside ditches, bank stabilization projects, and minor relocation of trails and roads. Therefore, IPM treatments for recreational facilities would have no potential to violate water quality standards or waste discharge requirements. This would be a less-than-significant impact.

Fuel Management

Mechanical and manual activities for fuel management would use mowing, discing (cultivation), overhead trimming, and brushing. Some treatments, such as plowing or discing, disturbs soil and could contribute to runoff carrying sediment into surface waters. BMP 28 requires that for sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover would be removed, or near aquatic features that could be adversely affected by an influx of sediment, erosion control measures such as covering disturbed areas with forest duff or mulches, seeding, or planting of appropriate native plant species to control erosion be implemented after treatment. These measures would prevent an influx of sediment into aquatic features. These practices are not implemented on disc lines because revegetation and installation of flammable erosion control material disable the fire prevention intention of disc lines. However, District disc lines have not been observed to have erosion problems primarily because the rough surface created by the discing equipment intercepts overland flow and do not result in erosive conditions. Therefore, it would be unlikely that IPM treatments for fuel management would violate water quality standards or waste discharge requirements.

Rangelands and Agricultural Properties

Mechanical and manual activities for rangelands and agricultural properties would use mowing and brush control for rangelands, and cultural weed control (crop rotation, water and nutrient management), and mechanical weed control (mulching, tilling, passive sterilization) for agricultural fields. Some treatment options, such as plowing disturbed soil and could contribute to runoff carrying sediment into surface waters. BMP 28 requires the District to implement erosion control measures such as covering disturbed areas with forest duff or mulches, seeding, or planting of appropriate native plant species to control erosion to prevent an influx of sediment into aquatic features. For agricultural fields, the agricultural management plans have additional field-specific conditions to avoid erosion after cultivation practices. As a result, mechanical and manual treatments would not result in a violation of water quality standards or waste discharge requirements. This would be a less-than-significant impact.

Natural Lands

Manual activities for natural lands would consist of gigging or shooting for American bullfrogs, installation of submerged traps American bullfrog and certain fishes, use of electricity to temporarily disable frogs and fish used in combination with netting and gigging; implementation of habitat manipulation; and installation of exclusionary fencing for bullfrogs. Feral pig management would include trapping and shooting. Aquatic invasive weeds would be pulled, “harvested” using specialized equipment, or pond draining for small bodies of water. Refer to Section 4.2, Biological Resources regarding potential for discharge to aquatic features. Research and monitoring for SOD includes selective removal of California bay trees on a limited basis. These activities would not affect runoff conditions or result in a substantial increase in erosion.

Chemical Treatment

Buildings

Chemical treatments in buildings would include the use of insecticidal soap spray, boric acid bait, fipronil, and various other pesticides listed on the District's List of Approved Pesticides (Appendix B, [Table 1.1 in Appendix A of the Guidance Manual]) to control invertebrate pests and rodents. Application of these chemicals in buildings would be performed in compliance with the IPM Guidance Manual (Chapter 6). Use of chemical treatments for structural pests would be restricted to the structures and would have very little potential for entering aquatic areas. All pesticide application would occur under the direction of personnel holding a Qualified Applicator License in accordance with BMP 4. Other BMPs applicable to IPM in buildings include BMP 5, which requires that storage, loading, mixing and handling of herbicides take place at least 300 feet from any aquatic feature; and BMP 9, which describes required procedures for cleanup and disposal of herbicide containers and rinsate, pesticide bait stations and wasp spray cans .

Compliance with the IPM Guidance Manual (Chapter 6) requirements and BMPs proposed as part of this EIR, Table 3-4 in the Project Description, would prevent improper or over-application of chemicals, improper disposal of rinsate and pesticide containers, and would prevent discharge or runoff of chemicals into aquatic areas. Therefore, chemical treatments in District buildings would not result in a violation of water quality standards or waste discharge requirements. This would be a less-than-significant impact.

Recreational Facilities

Chemical control treatments for recreational facilities would include the use of pyrethrin aerosol spray (containing D-trans allethrin) and phenothrin for social wasps; and glyphosate and imazapyr for vegetation control. See the District's List of Approved Pesticides in Table 1.1 in Appendix A in the Guidance Manual (Appendix B). Application of these chemicals at recreational facilities (trails, parking lots, viewing areas) would be performed in compliance with the IPM Guidance Manual (Chapter 6). Use of chemical treatment options for insect pests and invasive vegetation would be restricted to the recreational facility. All pesticide application would occur under the direction of personnel holding a Qualified Applicator License in accordance with BMP 4. Other BMPs applicable to IPM for recreational facilities include BMP 5, which requires that storage, loading, mixing and handling of herbicides take place at least 300 feet from any aquatic feature; BMP 9, which describes required procedures for cleanup and disposal of herbicide containers and rinsate, pesticide bait stations and wasp spray cans**.** Additionally BMP 7 restricts application of pesticides during precipitation events or if precipitation is forecast within 24 hours.

Compliance with the IPM Guidance Manual and proposed BMPs would prevent improper or over-application of chemicals, improper disposal of rinsate and pesticide containers, and would restrict application of pesticides during precipitation events or if precipitation is forecast within 24 hours and would prevent discharge or runoff of chemicals into aquatic features. Therefore, chemical treatments on recreational facilities would not result in a violation of water quality standards or waste discharge requirements. This would be a less-than-significant impact.

Fuel Management

Chemical control is used for fuel management areas directly adjacent to structures. Chemical control treatments for fuel management areas include spot spray or cut-stump application of herbicides. Application of these chemicals around buildings would be performed in compliance with the IPM Guidance Manual (Chapter 6). Use of chemical treatment adjacent to structures would be restricted to within 30 feet of the structure for spot-spraying and within 100 feet of the structure for cut-stump treatment. All pesticide application would occur under the direction of personnel holding a Qualified Applicator License in accordance with BMP 4. Other BMPs applicable to IPM for fuel management include BMP 5, which requires that storage, loading, mixing and handling of herbicides take place at least 300 feet from any aquatic feature; and BMP 9, which describes required procedures for cleanup of containers, including proper disposal of rinsate and used pesticide containers.

Compliance with the IPM Guidance Manual and BMPs, as described above, would prevent improper or over-application of chemicals, improper disposal of rinsate and pesticide containers, would prevent discharge or

runoff of chemicals into aquatic features. Therefore, chemical treatments in fuel management areas would not result in a violation of water quality standards or waste discharge requirements. This would be a less-than-significant impact.

Rangelands and Agricultural Properties

Chemical treatments used for management of rangelands and agricultural properties would likely include application of herbicides used on thistles and brush on rangelands, and weeds in agriculture fields or orchards. Application of these chemicals would be performed in compliance with the IPM Guidance Manual (Chapter 6). All pesticide application would occur under the direction of personnel holding a Qualified Applicator License in accordance with BMP 4. Other BMPs applicable to IPM for rangelands and agricultural properties include BMP 5, which requires that storage, loading, mixing, and handling of herbicides take place at least 300 feet from any aquatic feature; BMP 9, which describes required procedures for cleanup of pesticide containers, including proper disposal of rinsate and used pesticide containers. Additionally BMP 7 restricts application of pesticides during precipitation events or if precipitation is forecast within 24 hours.

Compliance with the IPM Guidance Manual and BMPs, as described above, would prevent improper or over-application of chemicals, improper disposal of rinsate and pesticide containers, during precipitation events preventing discharge or runoff of chemicals into aquatic features. Therefore, chemical treatments in rangelands and agricultural properties would not result in a violation of water quality standards or waste discharge requirements. This would be a less-than-significant impact.

Insect management in field crops is very specific to the type of crop grown. Because the District has few properties that currently support row crops, the use of pesticides for agriculture insect pest management in agricultural fields is not covered under the IPMP.

Natural Lands

Chemical controls on natural lands involves the use of selective herbicides that target broadleaf invasive plants, and non-selective herbicides to control a wider variety of broadleaf plants, perennials, grasses and woody invasive plants. The District may need to use chemical treatment for aquatic plants in seasonal wetlands, during the dry season, which would require the use of herbicides formulated for aquatic environments. Treatment of slender false brome on stream banks may also require use of chemical treatment in order to avoid creating stream bank erosion resulting from manual treatments. Because the District proposes to use chemical treatments on rare occasions in wetlands (dry season) and along stream banks, there is a potential for residual aquatic pesticide discharges to result from implementation of the IPMP.

For individual high value oaks such as very large mature oaks near picnic facilities, spot treatment of individual oaks with pest control sprays (e.g., Agri-Fos™) intended to reduce potential for SOD infection will be considered. Application of these chemicals would be performed in compliance with the IPM Guidance Manual (Chapter 6). All pesticide application would occur under the direction of personnel holding a Qualified Applicator License in accordance with BMP 4. Other BMPs applicable to IPM for natural lands include BMP 5, which requires that storage, loading, mixing, and handling of herbicides take place at least 300 feet from any aquatic feature; BMP 9, which describes required procedures for cleanup of pesticide containers, including proper disposal of rinsate and used pesticide containers. Additionally BMP 7 restricts application of pesticides during precipitation events or if a 40 percent probability of precipitation is forecast within 24 hours.

Compliance with the IPM Guidance Manual and BMPs, as described above, would prevent improper or over-application of chemicals, improper disposal of rinsate and pesticide containers, would restrict application during precipitation events preventing discharge or runoff of chemicals into aquatic features. Research and monitoring for SOD includes removal of California bay trees on a limited basis. These activities would not affect runoff conditions or result in a substantial increase in erosion. Therefore, chemical treatments on natural lands would not result in a violation of water quality standards or waste discharge requirements. This would be a less-than-significant impact.

Conclusion

Manual and mechanical activities used for pests in buildings, recreational facilities, for fuel management, on rangeland and agricultural fields, and natural areas would not result in discharge of chemicals into aquatic areas. Erosion control measures required by BMP 28 would be implemented on sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover would be removed, or near aquatic features that could be adversely affected by an influx of sediment. Chemical control options, when used, would be implemented consistent with Pest Control Recommendations prepared annually by a licensed Pest Control Advisor, be conducted in accordance with best management practices and under the supervision of a person holding a Qualified Applicator License or Qualified Applicator Certificate. As a result, for most treatment activities the likelihood for a violation of water quality standards or waste discharge requirements to occur would be small. However, because the District proposes to use chemical treatments on rare occasions in wetlands (dry season) and along stream banks; the IPM program would have the potential to result in residual aquatic pesticide discharges to waters of the United States. Therefore, implementation of the IPMP would have the potential to result in violations of water quality standards or waste discharge requirements and the District would be required to submit a Notice of Intent to discharge to the San Francisco Bay RWQCB and obtain an NPDES permit. This is a **potentially significant** impact

Mitigation Measures

Implement Mitigation Measure 4.2-3, "Mitigation for impacts to federally protected wetlands." The District shall obtain an NPDES permit from the SF Bay RWQCB and comply with design and operational BMPs required under the permit.

Significance Conclusion

Implementation of Mitigation Measure 4.2-3, "Mitigation for impacts to federally protected wetlands," would ensure that IPM activities would not result in a loss of wetland habitat or adversely affect downstream wetlands or waters because the District would replace wetlands on a "no net loss" basis consistent with appropriate regulatory agency requirements. Therefore, this impact would be reduced to a **less-than-significant** level.

Impact 4.4-2: Result in on- or offsite flooding.

The project does not involve earthmoving or recontouring of land. Ground disturbance would be limited to mowing, discing, and weed or brush pulling. No manual or chemical treatment options for any of the treatment categories would result in the alteration of drainage patterns or stream courses.

If needed, placement of ground cover, or seeding of native perennial grasses and pasture grasses would occur to stabilize exposed soils and to reduce the potential for increased runoff as a result of this project as required under BMP 28. With implementation of this BMP, no significant erosion or siltation impacts would occur. The project would not cause an increase in runoff that would result in flooding. This would be a **less-than-significant** impact.

Manual and Mechanical Treatment

The project does not involve earthmoving or recontouring of land. Ground disturbance would generally be limited to mowing, discing, weed or brush pulling. Brush control on rangelands may include the use of discing equipment or brush rakes, however, this work only scrapes the top surface of the soil (no greater than 6 inches deep) and erosion control measures including seeding, straw bales and wattles are installed afterwards if needed near aquatic areas or on steep slopes as required by BMP 28.

The project would not create additional hardscape resulting in increased runoff, and would not create substantial ground disturbance or alter drainage patterns. If needed, placement of ground cover, or seeding of native perennial grasses and pasture grasses would occur to stabilize exposed soils and to reduce the potential for increased runoff as a result of this project as required under BMP 28. With implementation of this BMP, no significant erosion or siltation impacts would occur. The project does not propose construction

that would result in an increase in impervious surfaces. Therefore, the project would not increase the amount of surface runoff in a manner which would result in flooding on- or off-site. This would be a less-than-significant impact.

Buildings

Mechanical and manual activities for structural pests include sanitation, non-toxic bait traps, and barriers. IPM activities inside or on the exterior of structures would have no effect on drainage patterns of nearby waterways. Therefore, implementation of mechanical and manual treatments in buildings would not increase the amount of surface runoff in a manner which would result in flooding on- or off-site. This would be a less-than-significant impact.

Recreational Facilities

Mechanical and manual activities for recreation facilities would include non-toxic baited and lure traps, physical removal by digging for wasps; elimination of hiding places, capture and removal for rattlesnakes; mechanical road and trail brushing, mowing; chainsaw, pole saws, and chippers for hazard tree removal. None of these activities would have the potential to alter drainage patterns or result in substantial erosion or siltation. Therefore, implementation of mechanical and manual treatments at recreational facilities would not increase the amount of surface runoff in a manner which would result in flooding on- or off-site. This would be a less-than-significant impact.

Fuel Management

Mechanical and manual activities in fuel management areas would use mowing, discing (cultivation), overhead trimming, brushing. Some treatment options, such as plowing or discing, would disturb soil. However, District disc lines have not been observed to cause erosion problems because the rough surface created by the discing equipment intercept overland flow and do not result in erosive conditions. Additionally, ground disturbance would be minor with little potential for alteration of stream courses or drainage patterns. BMP 28 requires erosion control measures be implemented after treatment for sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover would be removed, or near aquatic features that could be adversely affected by an influx of sediment. These erosion control practices are not implemented on disc lines because revegetation and installation of flammable erosion control material disable the fire prevention intention of disc lines. As noted above disc lines have not been observed to have erosion problems. Erosion control measures would prevent the substantial alteration of stream courses or aquatic features. Therefore, implementation of mechanical and manual treatments in fuel management areas would not increase the amount of surface runoff in a manner which would result in flooding on- or off-site. This would be a less-than-significant impact.

Rangelands and Agricultural Properties

Mechanical and manual activities for rangelands and agricultural properties would use mowing and brush control for rangelands, and cultural weed control (crop rotation, water and nutrient management), and mechanical weed control (mulching, tilling, passive sterilization) for agricultural fields. Ground disturbance would be minor with little potential for alteration of stream courses or drainage patterns. Some treatment options, such as plowing disturbs soil and could contribute to runoff carrying sediment into surface waters. As described above, BMP 28 requires erosion control to prevent an influx of sediment, into aquatic features. For agricultural fields, the Agricultural management plans have additional field-specific conditions to avoid erosion after cultivation practices. These measures would prevent the substantial alteration of stream courses or aquatic features. Therefore, implementation of mechanical and manual treatments in rangelands and agricultural properties would not increase the amount of surface runoff in a manner which would result in flooding on- or offsite. This would be a less-than-significant impact.

Natural Lands

Manual and mechanical activities for natural lands focus on control of invasive species (bullfrogs, feral pigs, aquatic invasive weeds, upland invasive weeds). Treatment methods for bullfrogs include trapping, gigging, and pond drainage; for feral pigs treatment options include trapping and shooting, treatment options for invasive aquatic weeks includes pulling/harvesting, and pond drainage; treatment options for invasive upland weeds involve pulling, cutting, mowing, torching, and grazing. These treatment practices would not

cause ground disturbance that would result in a substantial increase in erosion or runoff or that would result in alteration of drainage patterns or flooding. Therefore, implementation of mechanical and manual treatments in natural lands would not increase the amount of surface runoff in a manner which would result in flooding on- or off-site. This would be a less-than-significant impact.

Chemical Treatment

Chemical treatments under any of the treatment categories would not involve ground disturbance and therefore, would have no potential to cause the alteration of drainage patterns or stream courses, or cause flooding. Therefore, this would be a less-than-significant impact.

Conclusion

The project does not involve earthmoving or recontouring of land. Ground disturbance would be limited to mowing, discing, weed or brush pulling. No manual or chemical treatment options for any of the treatment categories would result in the alteration of drainage patterns or stream courses.

If needed, BMP 28 would be implemented, which would employ ground cover, or seeding of native perennial grasses and pasture grasses to stabilize exposed soils and to reduce the potential for increased runoff as a result of this project. With implementation of this BMP, no significant erosion or siltation impacts would occur. The project would not cause an increase in runoff that would result in flooding. This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation measures are necessary.

4.5 HAZARDOUS MATERIALS, PUBLIC HEALTH, AND SAFETY

This section evaluates the potential environmental impacts related to hazardous materials, public health, and safety, which could result as a consequence of implementation of the IPMP. This section presents the environmental setting and potential impacts of the IPMP related to hazards and hazardous materials. This section incorporates the Pesticide Technical Background Information included as Appendix A of the IPM Guidance Manual (Appendix B of this EIR). Impacts associated with adverse chemical effects on fish and wildlife are discussed in Section 4.2, "Biological Resources." Section 4.4, "Hydrology and Water Quality," describes potential adverse chemical effects on waterways, runoff, storm drainage, and flood control.

4.5.1 Regulatory Setting

FEDERAL

Federal Insecticide, Fungicide, and Rodenticides Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provides the basis for regulation, sale, distribution, and use of pesticides in the United States. FIFRA authorizes the U.S. Environmental Protection Agency (EPA) to review and register pesticides for specified uses. EPA also has the authority to suspend or cancel the registration of a pesticide if subsequent information shows that continued use would pose unreasonable risks. Some key elements of FIFRA include:

- is a product licensing statute; pesticide products must obtain an EPA registration before manufacture, transport, and sale;
- registration based on a risk/benefit standard;
- strong authority to require data--authority to issue Data Call-ins;
- ability to regulate pesticide use through labeling, packaging, composition, and disposal;
- emergency exemption authority--permits approval of unregistered uses of registered products on a time limited basis; and
- ability to suspend or cancel a product's registration: appeals process, adjudicatory functions, etc.

FIFRA has been amended by the Pesticide Registration Improvement Act of 2003, which provides for the enhanced review of covered pesticide products, to authorize fees for certain pesticide products, and to extend and improve the collection of maintenance fees.

Federal Food, Drug, and Cosmetic Act

The FFDCA authorizes EPA to set tolerances (i.e., maximum allowable amounts) for pesticide residues in/on food. Thus, the Federal Food, Drug, and Cosmetic Act does not expressly regulate pesticide use, but exceedance of tolerances may result in prosecution or changes in the approved use of a pesticide regulated under FIFRA.

Safe Drinking Water Act of 1974

Under the Safe Drinking Water Act of 1974, the EPA establishes maximum contaminant levels (MCLs), which are specific concentrations that cannot be exceeded for a given contaminant in surface water or groundwater. EPA has the ability to enforce these nationwide standards or delegate administration and

enforcement duties to state agencies. The California Department of Public Health (CDPH) administers the federal Safe Drinking Water Act in California.

Occupational Health and Safety Administration

Enacted in 1970, the Occupational Safety and Health Act established this administration to ensure healthy working conditions in the United States. There are approximately 2,100 Occupational Health and Safety Administration (OSHA) inspectors, who along with other experts and support staff, establish and enforce protective standards in the workplace. California, under an agreement with OSHA, operates an occupational safety and health program in accordance with Section 18 of the Occupational Safety and Health Act of 1970. The program applies to all public and private sector places of employment in the State, with the exception of federal employees, the U.S. Postal Service, private sector employers on Native American lands, maritime activities on the navigable waterways of the United States, private contractors working on land designated as exclusive Federal jurisdiction, and employers that require Federal security clearances.

U.S. EPA

EPA oversees pesticide use through the Worker Protection Standard (WPS). The WPS is a regulation for agricultural pesticides which is aimed at reducing the risk of pesticide poisonings and injuries among agricultural workers and pesticide handlers. The WPS protects employees on farms, forests, nurseries, and greenhouses from occupational exposure to agricultural pesticides. The regulation covers two types of workers:

- Pesticide handlers -- those who mix, load, or apply agricultural pesticides; clean or repair pesticide application equipment; or assist with the application of pesticides in any way.

- Agricultural workers -- those who perform tasks related to the cultivation and harvesting of plants on farms or in greenhouses, nurseries, or forests. Workers include anyone employed for any type of compensation (including self-employed) doing tasks -- such as carrying nursery stock, repotting plants, or watering -- related to the production of agricultural plants on an agricultural establishment. Workers do not include office employees, truck drivers, mechanics, and any others not engaged in handling, cultivation, or harvesting activities.

The WPS contains requirements for pesticide safety training, notification of pesticide applications, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance.

U.S. Department of Transportation

The U.S. Department of Transportation, in conjunction with EPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 (49 U.S. Code 5101 et seq.) directs the U.S. Department of Transportation to establish criteria and regulations regarding safe storage and transportation of hazardous materials. Hazardous materials regulations are contained in 49 Code of Federal Regulations (CFR) 171–180, and address transportation of hazardous materials, types of materials defined as hazardous, and the marking of vehicles transporting hazardous materials. In particular, 49 CFR 173, titled “Shippers’ General Requirements for Shipments and Packagings,” defines hazardous materials for transportation purposes; within this portion of the code, 49 CFR 173.3 provides specific packaging requirements for shipment of hazardous materials, and 49 CFR 173.21 lists categories of materials and packages that are forbidden for shipping. 49 CFR 177, titled “Carriage by Public Highway,” defines unacceptable hazardous materials shipments.

STATE

California’s programs for the registration of pesticides and commercial chemicals parallel federal programs, but many of California’s requirements are stricter than federal requirements. The California Environmental Protection Agency (Cal/EPA) regulates registration of pesticides and commercial chemicals in California.

Within Cal/EPA, the California Department of Pesticide Regulations (CDPR) oversees pesticide evaluation and registration through use enforcement, environmental monitoring, residue testing, and reevaluation. The CDPR works with County Agricultural Commissioners, who evaluate, develop conditions of use, approve, or deny permits for restricted-use pesticides; certify private applicators; conduct compliance inspections; and take formal compliance or enforcement actions.

California also requires commercial growers and pesticide applicators to report commercial pesticide applications to local county agricultural commissioners. The CDPR compiles this information in annual pesticide use reports. CDPR's Environmental Hazards Assessment Program collects and analyzes environmental pesticide residues, characterizes drift and other off-site pesticide movement, and evaluates the effect of application methods on movement of pesticides in air. If a pesticide is determined to be a toxic air contaminant, appropriate control measures are developed with the California Air Resources Board to reduce emissions to levels that adequately protect public health. Control measures may include product label amendments, applicator training, restrictions on use patterns or locations, and product cancellations.

Safe Drinking Water Act 1976

CDPH administers the federal Safe Drinking Water Act in California. In addition to enforcing the primary MCLs, CDPH uses as guidelines Secondary MCLs that regulate constituents that affect water quality aesthetics (such as taste, odor, or color). Additionally, under the California Safe Drinking Water Act, Cal/EPA's Office of Environmental Health Hazard Assessment develops Public Health Goals (PHGs) for contaminants in California's publicly supplied drinking water. PHGs are concentrations of drinking water contaminants that pose no significant health risk if consumed for a lifetime, based on current risk assessment principles, practices, and methods. Public water systems use PHGs to provide information about drinking water contaminants in their annual Consumer Confidence Reports.

The Safe Drinking Water and Toxic Enforcement Act

This Safe Drinking Water and Toxic Enforcement Act (Proposition 65), passed as a ballot initiative in 1986, requires the state to annually publish a list of chemicals known to the state to cause cancer or reproductive toxicity so that the public and workers are informed about exposures to potentially harmful compounds. Cal/EPA's Office of Environmental Health Hazard Assessment administers the act and evaluates additions of new substances to the list. Proposition 65 requires companies to notify the public about chemicals in the products they sell or release into the environment, such as through warning labels on products or signs in affected areas, and prohibits them from knowingly releasing significant amounts of listed chemicals into drinking water sources.

California Pesticide Regulatory Program

CDPR regulates the sale and use of pesticides in California. CDPR is responsible for reviewing the toxic effects of pesticide formulations and determining whether a pesticide is suitable for use in California through a registration process. Although CDPR cannot require manufacturers to make changes in labels, it can refuse to register products in California unless manufacturers address unmitigated hazards by amending the pesticide label. Consequently, many pesticide labels that are already approved by the EPA also contain California-specific requirements. Pesticide labels defining the registered applications and uses of a chemical are mandated by EPA as a condition of registration. The label includes instructions telling users how to make sure the product is applied only to intended target pests, and includes precautions the applicator should take to protect human health and the environment. For example, product labels may contain such measures as restrictions in certain land uses and weather (i.e., wind speed) parameters.

California Department of Forestry and Fire Protection

Public Resources Code 4201-4204 directs California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazards within State Responsibility Areas based on relevant factors such as fuels, terrain, and weather. These statutes were passed after significant wildland-urban interface fires occurred; consequently, these hazards are described according to their potential for causing ignitions to buildings. These zones, referred to as Fire Hazard Severity Zones, provide the basis for application of various mitigation strategies to

reduce risks to buildings associated with wildland fires (CAL FIRE 2007). Additionally, the Public Resources Code, beginning with Section 4427, includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment with internal combustion engines; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on site for various types of work in fire-prone areas. These requirements would apply to Program activities within a "Very High Fire Hazard Severity Zone."

California Environmental Protection Agency

The California Department of Toxic Substances Control (DTSC), a division of Cal/EPA, has primary regulatory responsibility over hazardous materials in California, working in conjunction with the federal EPA to enforce and implement hazardous materials laws and regulations. DTSC can delegate enforcement responsibilities to local jurisdictions.

The hazardous waste management program enforced by DTSC was created by the Hazardous Waste Control Act (California Health and Safety Code Section 25100 et seq.), which is implemented by regulations described in CCR Title 26. The State program thus created is similar to, but more stringent than, the federal program under RCRA. The regulations list materials that may be hazardous and establish criteria for their identification, packaging, and disposal.

Environmental health standards for management of hazardous waste are contained in CCR Title 22, Division 4.5. In addition, as required by California Government Code Section 65962.5, DTSC maintains a Hazardous Waste and Substances Site List for the state, commonly called the Cortese List. Lands within the District's open space preserves (OSPs) are not included on this list (DTSC 2014).

California's Secretary for Environmental Protection has established a unified hazardous waste and hazardous materials management regulatory program (Unified Program) as required by Senate Bill 1082 (1993). The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental programs:

- hazardous waste generator and hazardous waste onsite treatment programs;
- Underground Storage Tank program;
- hazardous materials release response plans and inventories;
- California Accidental Release Prevention Program;
- Aboveground Petroleum Storage Act requirements for spill prevention, control, and countermeasure plans; and
- California Uniform Fire Code hazardous material management plans and inventories.

The six environmental programs within the Unified Program are implemented at the local level by local agencies—Certified Unified Program Agencies (CUPAs). CUPAs carry out the responsibilities previously handled by approximately 1,300 State and local agencies, providing a central permitting and regulatory agency for permits, reporting, and compliance enforcement.

California Department of Industrial Relations, Division of Occupational Health Administration

The California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA), assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are more stringent than federal OSHA regulations, and are presented in CCR Title 8. Standards for workers dealing with hazardous materials include practices for all industries (General Industry Safety Orders); specific practices are described for construction, and hazardous waste operations

and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

California Office of Emergency Services

The California Office of Emergency Services (OES) issued the State of California Multi-Hazard Mitigation Plan (Multi-Hazard Mitigation Plan) (California OES 2013) in 2013. The federal Disaster Mitigation Act required all state emergency services agencies to issue such plans, for the states to receive federal grant funds for disaster assistance and mitigation under the Stafford Act (44 CFR 201.4). The overall intent of the Multi-Hazard Mitigation Plan is to reduce or prevent injury and damage from natural hazards in California, such as earthquakes, wildfires, and flooding. The plan identifies past and present hazard mitigation activities, current policies and programs, and mitigation goals, objectives, and strategies for the future.

LOCAL

Santa Clara County Office of Emergency Preparedness

The Santa Clara County OES implements the State's Right-to-Know Ordinance that gives Santa Clara County OES the authority to inventory hazardous materials used by businesses. Santa Clara County OES is responsible for the administration of the Santa Clara County emergency management program on a day-to-day basis and during disasters. The office is charged with providing the necessary planning, coordination, response support, and communications with all agencies affected by large-scale emergencies or disasters. Santa Clara County OES works in a cooperative effort with other disciplines such as law enforcement, fire, emergency medical services, state and federal agencies, utilities, private industry and volunteer groups in order to provide a coordinated response to disasters. The Emergency Services Coordinator also manages the Santa Clara County Emergency Operations Center (EOC). In any disaster, the EOC becomes the single focal point for centralized management and coordination of emergency response and recovery operations during a disaster or emergency affecting the Santa Clara Operational Area. The EOC will be activated when an emergency situation occurs that exceeds local and/or in field capabilities to adequately respond to and mitigate the incident.

San Mateo County Emergency Management Program

The Emergency Management Program is a county-wide (Operational Area) system that provides emergency management actions for the prevention of, preparedness for, response to, and recovery from, any emergency or disaster. The system encompasses all jurisdiction organizations, agencies, departments, entities, and individuals responsible for emergency management activities. The program provides a common framework for which a variety of agencies may work together effectively. Additionally, the program provides standardized and coordinated emergency management procedures.

Association of Bay Area Governments Multi-Jurisdictional Multi-Hazard Mitigation Plan

The purpose of the Association of Bay Area Governments multi-jurisdictional Local Hazard Mitigation Plan for the San Francisco Bay Area is to maintain and enhance the disaster resistance of the region, but also fulfill the requirements of the Disaster Mitigation Act of 2000. The plan was prepared to meet the Disaster Mitigation Act of 2000 requirements in order to maintain Santa Clara County's eligibility for the Federal Emergency Management Agency Pre-Disaster Mitigation and Hazard Mitigation Grant Programs.

The plan puts forth several mitigation goals and objectives that are based on the results of the risk assessment. To meet identified goals and objectives, the plan also includes specific recommendations for actions that can mitigate future disaster losses. The multi-jurisdictional plan includes the participating Counties of Alameda, Contra Costa, Marin, San Mateo, Santa Clara, Solano, and Sonoma; many incorporated Cities and special districts within each of those Counties. This plan has been formally adopted by each participating entity and is required to be updated a minimum of every five years.

Certified Unified Program Agency

The Unified Program is a consolidation of state environmental programs into one program under the authority of a CUPA. A CUPA can be a county, city or Joint Powers Authority. This program was established by amendments to the California Health and Safety Code made in SB 1082 in 1994.

The Hazardous Materials Program is part of the Hazardous Materials Compliance Division (HMCD) within Santa Clara County Department of Environmental Health. HMCD is the CUPA for all areas of Santa Clara County other than the cities of Santa Clara, Gilroy, and Sunnyvale. HMCD provides comprehensive environmental regulatory compliance inspection services to protect human health and the environment. Additionally, program personnel perform plan reviews and inspections associated with the construction, upgrading, and closure of hazardous materials storage facilities and equipment (Santa Clara County 2014).

Santa Clara County General Plan

The Santa Clara County General Plan was adopted by the County Board of Supervisors in 1994. The Health and Safety Element within the County General Plan include the following policies relevant to hazardous material and human safety-related impacts within rural unincorporated Santa Clara County (Santa Clara County 1994):

- **Policy R-HS 7:** Areas of significant natural hazards, especially high or extreme fire hazard, shall be designated in the County's General Plan as Resource Conservation Areas, with generally low development densities in order to minimize public exposure to risks associated with natural hazards and limit unplanned public costs to maintain and repair public infrastructure.

- **Policy R-HS 12:** Proposals shall be conditioned as necessary to conform with County General Plan policies on public safety. Projects which cannot be conditioned to avoid hazards shall be conditioned to reduce the risks associated with natural hazards to an acceptable level or shall be denied.

- **Policy R-HS 23:** Areas for which inadequate access is a general concern, either due to lack of secondary access, dead-end roads of excessive length, and substandard road design or conditions, should be examined to determine if there are means by which to remedy the inadequacies. Such means may include:

    a. specific local area circulation plans to establish alternative access;

    b. specific roadway improvements to remedy hazardous situations, financed by those most benefited by the improvements; and

    c. traffic routing and controls to discourage the use of such roads by non-residents.

- **Policy R-HS 33:** For areas where it may be appropriate, fire protection agencies and districts should utilize controlled burns and other forms of vegetation management to reduce the build up of vegetative matter and the potential fire hazard within an area.

- **Policy R-HS 34:** Public awareness of the prevalence and risks of natural hazards should be maintained and enhanced by activities and programs of the County, safety service providers, and through the educational system.

San Mateo County General Plan

In 2010, the City of San Mateo updated its General Plan - "Vision 2030." The General Plan provides the framework for all zoning and land use decisions within a community. State planning law requires that the General Plan include a comprehensive, long-term plan for a city's physical development. City policy requires periodic review and updating of the General Plan. This update provides for an extension of the General Plan to the year 2030, and includes revisions to existing goals, policies and associated text. Policies applicable to the IPMP are provided as follows (San Mateo County 2010).

- **Policy S 4.1:** Emergency Readiness. Maintain the City's emergency readiness and response capabilities, especially regarding hazardous materials spills, natural gas pipeline ruptures, earthquakes, and flooding due to dam failure, tsunami, peak storms and dike failure. Increase public awareness of potential hazards and the City's emergency readiness and response program.

- **Policy S 5.1:** County Cooperation. Cooperate with the County of San Mateo in the regulation of hazardous materials and transportation of such material in San Mateo.

Santa Cruz County General Plan

The Santa Cruz County General Plan was adopted by the County Board of Supervisors in 1994. The Public Safety and Noise Element within the County General Plan includes the following objectives and policy relevant to project's potential hazardous material and human safety-related impacts within rural unincorporated Santa Cruz County (Santa Cruz County 1994):

Objective 6.5 Fire Hazards: To protect the public form the hazards of fire through citizen awareness, mitigating the risks of fire, responsible fire protection planning and built-in systems for fire detection and suppression.

Objective 6.6 Hazardous and Toxic Materials: To eliminate, to the greatest extent possible, the use of hazardous and toxic materials, and where it is not feasible completely to eliminate the use of such materials, then to minimize the reduction in the use of such materials, so as to ensure that such materials will not contaminate any portion of the County's environment, including the land, water, and air resources of the County.

- **Policy 6.6.1** Hazardous Materials Ordinance: Maintain the County's Hazardous Materials ordinance, placing on users of hazardous and toxic materials the obligation to eliminate or minimize the use of such materials wherever possible, and in all cases to minimize the release, emission, or discharge of hazardous materials to the environment, and properly to handle all hazardous materials and to disclose their whereabouts. Further maintain the County's ordinance relating to ozone-depleting compounds. Ensure that any amendment of existing ordinance provisions is based on a finding that the amendments will provide protection to the environment and the community against toxic hazards that is equal to or stronger than the existing provisions.

4.5.2 Environmental Setting

PROJECT SITE AND SURROUNDING AREA

Existing Land Uses

The District is a public agency that owns and manages 26 OSPs totaling over 60,000 acres of land. District boundaries enclose an area of 227,900 acres in northern Santa Clara and southern San Mateo counties, and a small portion of Santa Cruz County. The District's Sphere of Influence, or the area within which the District is likely to expand, includes an additional 12,333 acres. Extending from Montara in the north to the Lexington Hills in the south, the District directly serves more than 25 communities having a combined population of over 700,000. OSPs vary in size from 59 acres (Stevens Creek Nature Study Area) to over 17,000 acres (Sierra Azul). Elevations range from sea level in the baylands OSPs to 3,486 feet atop Mount Umunhum in the Sierra Azul Range.

The District manages land primarily to preserve a regional greenbelt of open space land. There are few improvements, other than parking areas, some rest rooms, and informational signs. Over 220 miles of public trails invite activities such as hiking, biking, jogging, horseback riding, dog walking, and picnicking. The OSPs are open to the public every day, free of charge. Because the OSPs are "close to home," they serve as popular weekday and weekend recreational destinations.

District lands protect a variety of habitats rich in both numbers and variety of plants and animals. The District OSPs tidal salt marshes in the east, home to the endangered clapper rail and salt marsh harvest mouse and used by thousands of migratory birds. The heart of the District straddles the eastern and western flanks of the Santa Cruz Mountains. These lands are covered in a diverse mix of oak woodland, grassland, chaparral, coastal scrub, and both evergreen and coniferous forests that form an impressive scenic backdrop for the densely populated San Francisco Bay Area and Central California Coast. Creeks and streams that run through District lands provide refuge area for endangered central California coast coho salmon and threatened central California coast steelhead trout.

HAZARDOUS MATERIALS

California Health and Safety Code (Section 25501) defines "hazardous materials" as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Soil contamination generally occurs in areas that are or have been previously developed, especially with industrial-type uses. Soil contamination can also occur in areas where pesticides have been historically applied, as well as in areas that have historically been mined. Contamination is also sometimes associated with leaking utilities (i.e., leaking petroleum or gas pipelines, or leaking transformers on utility poles), or accidental spills. For the most part, sites that are currently considered to be open space preserves, or may become open space preserves, are not located on previously developed land. Remnant contamination from previous industrial uses, particularly in Bayside areas, may be present within the District. Some active or abandoned agricultural sites may have residual materials in soils or have hazardous materials present in containers or tanks. Table 4.5-1 provides a list of known sites of contamination on District OSP land; as shown, no hazardous materials sites are considered to be active.

Table 4.5-1 Hazardous Materials Sites on District Preserve

Preserve	Address	Type	Potential Contaminant	Potentially Affected Resource	Status
Sierra Azul	Mt. Umunhum Road Alviso, CA 95033	Military UST Site	Benzene, Toluene, Xylene, Diesel, Gasoline, Heating Oil/Fuel Oil	Groundwater (other than drinking), soil	Remediated
Bear Creek Redwoods	19480 Bear Creek Road Los Gatos, CA 95030	LUST Cleanup Site	Heating Oil/Fuel Oil	Soil	Complete – Case Closed
Bear Creek Redwoods	19480 Bear Creek Road Los Gatos, CA 95030	LUST Cleanup Site	Diesel	Soil	Complete – Case Closed
Bear Creek Redwoods	19480 Bear Creek Road Los Gatos, CA95030	LUST Cleanup Site	Gasoline	Soil, Surface Water	Completed – Case Closed
Foothill	3300 Page Mill Road Palo Alto, CA 94304	LUST Cleanup Site	Diesel	Soil	Completed – Case Closed
La Honda Creek	5701 La Honda Road La Honda, CA 94020	Cleanup Program Site	Insecticides/Pesticides/Fungicides/ Herbicides, Diesel, Heating Oil/Fuel Oil	Soil	Completed – Case Closed
Picchetti Ranch	13326 Stevens Canyon Road Cupertino, CA 95014	LUST Cleanup Site	Diesel	Soil	Completed – Case Closed
Pulgas Ridge	Hassler San Carlos, CA 94070	Cleanup Program Site	Diesel	Groundwater (other than drinking), Soil	Completed – Case Closed

Table 4.5-1 Hazardous Materials Sites on District Preserve

Preserve	Address	Type	Potential Contaminant	Potentially Affected Resource	Status
Saratoga Gap	Congress Springs Road Saratoga, CA 95070	LUST Cleanup Site	Diesel	Groundwater (other than drinking)	Completed – Case Closed
Saratoga Gap	13500 Skyline Blvd. Los Gatos, CA 95030	LUST Cleanup Site	Diesel	Soil Vapor, Under Investigation	Completed – Case Closed
Stevens Creek Nature Study Area	Moffet Field Mountain View, CA 94035	Voluntary Cleanup	TPH – Diesel TPH – Gas	Soil	Certified

Source: State Water Resources Control Board 2014

Wildland Fire Hazards

The project area is in western portion of Santa Clara County and San Mateo County in the Santa Cruz Mountains. The biggest potential public hazard on District OSPs is unplanned wildland fires. Factors contributing to higher risk of wildland fires are frequency of critical fire weather, slope, and fuel load in grasslands or on forest floors. CAL FIRE designates the project area as a zone of moderate, high and very high fire hazard severity, based on local vegetation type (fuel loading), slope, and weather. Fire Hazard Severity Zones within District lands are depicted in Exhibit 4.5-1.

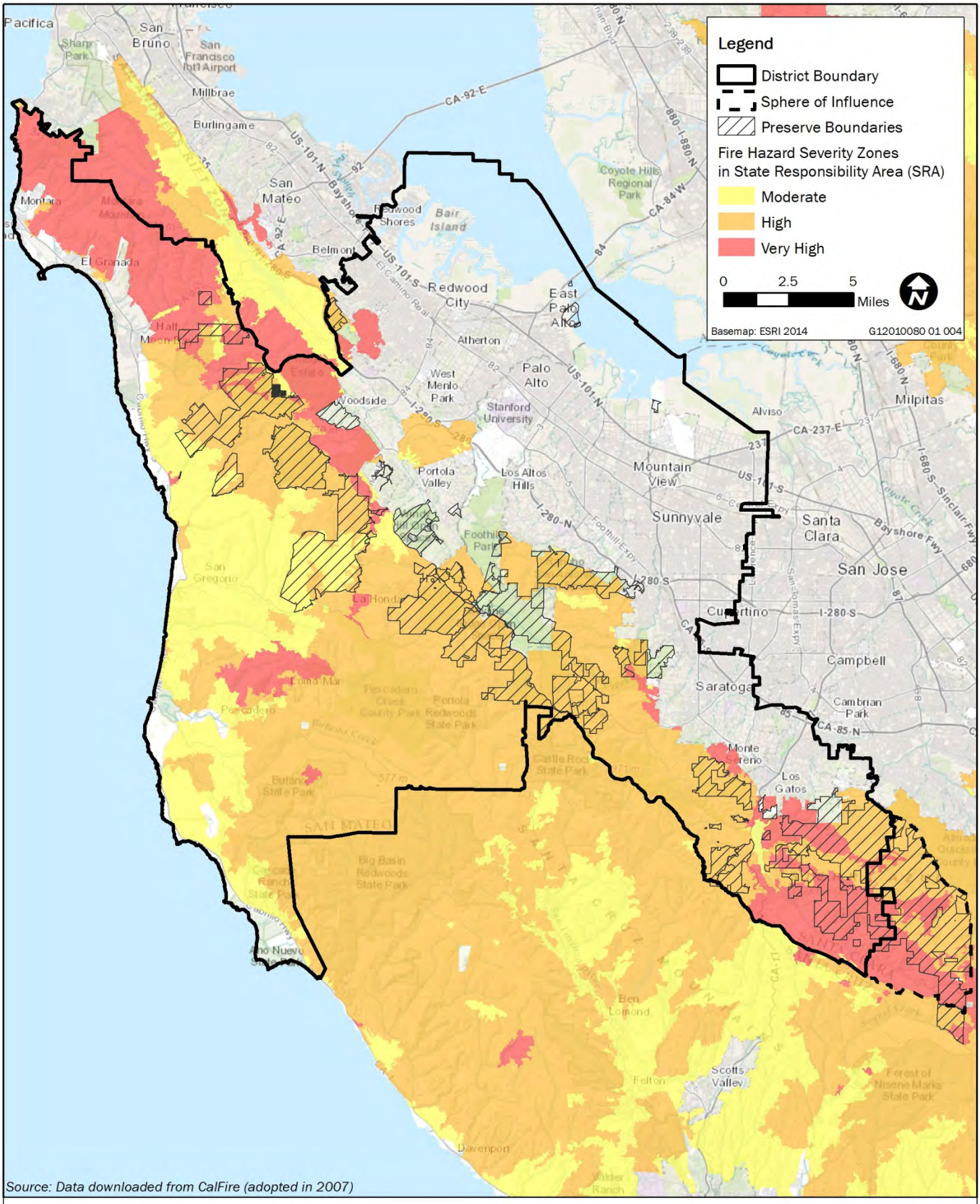
User Groups and Sensitive Receptors

Predominant land uses on District OSPs are open space, recreational facilities, agriculture, and rangeland. User groups and sensitive receptors near to and within the District boundary include: recreational users, residents, and schools. Generally, visitors to District OSPs use the land for recreational activities such as hiking, biking, jogging, horse-back riding, dog walking, and picnicking.

In general, District OSPs are tracts of open space well removed from developed urban centers where schools are most likely to be located. However, schools located within 1 mile of District OSPs include, but are not limited to: Kings Mountain Elementary School (Purisima and El Corte de Madera); La Honda Elementary School (La Honda); Lakeside Elementary School (Felton Station); Lexington Elementary School and Loma Prieta Elementary School (Sierra Azul); Monte Bello Elementary School (Picchetti); Regnart Elementary School (Fremont Older); Tunitas School (Tunitas); Corte Madera School (Windy Hill); Coastano and East Palo Alto School (Ravenswood).

Airports

There are a total of eight airports in San Mateo and Santa Clara counties: San Francisco International, San Carlos, and Half Moon Bay County Airport in San Mateo County; and Palo Alto, Reid-Hillview, South County, San Jose International, and Moffett Federal Field in Santa Clara County. Stevens Creek Open Space Preserve is adjacent to Moffett Federal Field and Ravenswood Open Space Preserve is located within 5-miles of the Palo Alto Airport. The Watsonville Municipal Airport in Santa Cruz County is located approximately 11 miles from the Sierra Azul Open Space Preserve.



Source: Data downloaded from CalFire (adopted in 2007)

Exhibit 4.5-1 **Fire Hazard Severity Zones in State Responsibility Area**

ASCENT ENVIRONMENTAL

Environmental Impacts and Mitigation Measures

SIGNIFICANCE CRITERIA

Based on Appendix G of the State CEQA Guidelines, a public health and hazards impact is considered significant if implementation of the project would do any of the following:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- result in a safety hazard associated with private airstrips or airports;
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, or otherwise increase the risks of fire damage to these areas.

ANALYSIS METHODOLOGY

This analysis considers the range and nature of foreseeable hazardous materials use, storage, and disposal resulting from the project and identifies the primary ways that these hazardous materials could expose individuals or the environment to health and safety risks. Federal, state, and local agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. In determining the level of significance of potential impacts, the analysis assumes that development in the project area would comply with relevant federal, state, and local ordinances and regulations. As described in Chapter 3, Project Description, BMPs have been developed to implement IPM. Applicable BMPs are incorporated into the impact statements below, and considered for determination of significance conclusions of environmental impacts.

ISSUES OR POTENTIAL IMPACTS NOT DISCUSSED FURTHER

As shown in Table 4.5-1, while hazardous materials sites have existed within District preserve land, there are no currently active sites. Thus, issues related to a site listed pursuant to Government Code Section 65962.5 would not occur and this issue is not discussed further in this EIR.

Implementation of the IPMP would not alter roadways or other potential emergency evacuation routes and plans as no permanent alterations to the land would occur. Rather, the project would implement measures to maintain the integrity and accessibility of fire access roads and other access points. Thus, there would be no impacts on adopted emergency response or emergency evacuation plans. This issue is not discussed further in this EIR.

Implementation of the IPMP would not alter operations within or near to airport lands. Activities associated with the manual, mechanical, and chemical treatments would not be performed within airport lands, and would not violate height standards associated with airport land use requirements. This issue is not discussed further in this EIR.

As described above, nine schools are located in close proximity to District OSPs. While children are considered to be of greater sensitivity to hazards and hazardous materials than adults, the relative effects of implementing treatments under the IPMP are considered inclusive in the impact analysis below. No substantial differences between the effects on schools compared to the general public are anticipated. Thus, impacts associated with schools are not discussed further in this EIR.

IMPACT ANALYSIS

Impact 4.5-1: Expose the public or environment to hazardous materials.

Manual, mechanical, and chemical treatments associated with the IPMP would result in activities that could require the transportation, use, and storage of various pesticides (see Table 4.5-2 and 4.5-3) and other hazardous materials (e.g., fuel, paint, and other household hazardous chemicals). Existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP such that the project would not result in adverse exposure conditions to hazardous materials. The District complies with all relevant regulatory requirements pertaining to the handling of hazardous materials including pesticides. Further, the District would implement several BMPs (BMPs 1 through 10, 19, 20, Table 3-4) to minimize the potential for unwanted adverse impacts to non-target species (i.e., humans, animals, and special-status species). Thus, treatments, manual, mechanical or chemical, that would require the transportation, use, and storage of hazardous materials associated with the IPMP would not result in the exposure of the public or environment to adverse conditions associated with the use of these materials. This would be a **less-than-significant** impact.

Manual and Mechanical Treatment

Buildings

Manual and mechanical IPM activities in buildings would consist of actions necessary to provide habitat modification, installation of physical barriers, and building retrofits. These activities could require the transport, use, storage and disposal of hazardous materials and petroleum products commonly in buildings (e.g., diesel fuel, household solvents, lubricants, paints, and cement products containing strong basic or acidic chemicals). Accidental spills or improper use, storage, transport, or disposal of these hazardous materials could result in pollutant contamination at the location(s) of these occurrences, and could be a potential, although unlikely, hazard offsite with regard to nearby sensitive receptors and the general public. Although these hazardous materials could pose a hazard as described above, IPM activities would be required to comply with extensive federal, State, and local regulations so that substantial risks would not result. Examples of compliance with these regulations would include preparation of a hazardous materials business plan, which would include a training program for employees, an inventory of hazardous materials, and an emergency plan (Cal OES 2014). Implementation of the applicable provisions of EPA, OSHA, Cal/OSHA, Cal/EPA, Cal EMA, and CUPA handling processes would fully address potential hazardous materials conditions. Further, as described in Table 3-4, the District would implement BMPs (BMPs 1 through 10) for safety and housekeeping, including spill prevention and response measures. Implementation of the IPMP is not expected to result in substantial increases in the number of spills and accidents. Therefore, the existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP and this impact would be less than significant.

Recreational Facilities

Manual and mechanical IPM activities for recreational facilities would include habitat modification, digging, mowing, and tree removal. These activities may require the transport, use, storage, and disposal of

hazardous materials and petroleum products. As described above under "Buildings" existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP such that the project would not result in adverse exposure conditions to hazardous materials. Thus, manual and mechanical treatments associated with IPM for recreational facilities would be less than significant.

Fuel Management

Manual and mechanical IPM activities for fuel management areas would include the creation of defensible space, fuel breaks, and emergency helicopter landing zones. These activities may require the transport, use, storage, and disposal of hazardous materials and petroleum products. As described above under "Buildings" existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP such that the project would not result in adverse exposure conditions to hazardous materials. Thus, manual and mechanical treatments associated with IPM for fuel management areas would be less than significant.

Rangelands and Agricultural Properties

Manual and mechanical IPM activities for rangelands and agricultural properties would include weeding, mowing, and brush control. These activities may require the transport, use, storage, and disposal of hazardous materials and petroleum products. As described above under "Buildings" existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP such that the project would not result in adverse exposure conditions to hazardous materials. Thus, manual and mechanical treatments associated with IPM for rangelands and agricultural properties would be **less than significant**.

Natural Lands

Manual and mechanical IPM activities for natural lands would include habitat modification, digging, mowing, and tree removal. These activities may require the transport, use, storage, and disposal of hazardous materials and petroleum products. As described above under "Buildings" existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP such that the project would not result in adverse exposure conditions to hazardous materials. Thus, manual and mechanical treatments associated with IPM for natural lands would be less than significant.

Chemical Treatment

The toxicity of a pesticide (i.e., herbicides, rodenticides, fungicides, and insecticides) is determined by the documented adverse laboratory and field effects to target and non-target organisms that occur after an exposure to that compound. The key to potential adverse (toxic) effects is the nature of the exposure to the compound, which is based on the specific amount of the compound that reaches an organism's tissues (i.e., the dose). Several other factors are involved in an exposure, such as the duration of time over which the dose is received, the target tissue or physiological function affected, and the sensitivity of the organism of interest to the compound.

The toxicity of pesticides are generally measured in controlled laboratory or field studies in which the test organisms are provided only contaminated food (or oral doses of a test substance) at several concentrations for certain times from which a series of toxicity estimates are developed. Most studies are designed to evaluate toxic responses based on tiered increases of dose and to determine at what dose the onset of an adverse physiological or behavioral effect occurs. Toxicity studies commonly evaluate the lethal dose (LD) or the lethal concentration for half of a population (LC50), the highest dose that results in no toxicity to the test organisms (the NOAEL: no observed adverse effect level); or the lowest concentration that causes a measured adverse effect, such as mortality or altered reproduction, in the test organisms (the lowest observed adverse effect level [LOAEL]). In many acute (48 to 96 hours post-exposure) oral toxicity tests, laboratory organisms are not provided alternative food sources, and as a result, these laboratory tests are not particularly representative of realistic exposures in the environment. Furthermore, effects in laboratory species may not adequately represent effects in environmentally relevant species due to genetic, physiological, and behavioral differences. For many pesticides, the suite of tests required for approval of a compound includes other types of exposure, such as dermal, inhalation, and dietary. All of these laboratory data are combined to develop the pesticide product label recommendations and restrictions, incorporating

several "safety" factors to provide acceptable use of each product. As a result of the extensive use of safety factors, surrogate test species, and unrealistic exposures to the laboratory animals, the pesticide data available for evaluation of potential adverse impacts for these compounds are subject to uncertainty and conservatism in actual potential effects as described in the Pesticide Technical Background Report, Appendix A of the Guidance Manual (refer to Appendix B of this EIR).

Table 4.5-2 provides a list of active ingredients, production formulations, mode of action, and purpose of the herbicides, fungicides, rodenticides, insecticides, and adjuvants/surfactants that could be use under the IPMP. Human toxicity associated with these active ingredients is provided in Table 4.5-3.

Table 4.5-2 Active Ingredients, Product Formulations, Modes of Action, and Purpose of Chemical Treatment Options

Pesticide Category	Active Ingredient	Product Formulations (Manufacturer)	Mode of Action	Purpose
Herbicides	Glyphosate	Roundup Custom, Roundup ProMax (Monsanto)	Amino acid synthesis inhibitor	Nonselective post-emergent broad-spectrum weed control
	Aminopyralid	Milestone (Dow AgroSciences)	Auxin growth hormone mimic	Nonselective post-emergent broad-spectrum weed control
	Clopyralid	Transline (Dow AgroSciences)	Auxin growth hormone mimic	Selective broadleaf weed control
	Imazapyr	Polaris (Nufarm), Stalker (BASF)	Amino acid synthesis inhibitor	Nonselective pre-and post-emergent broad-spectrum weed control
	Clethodim	Envoy Plus (Valent)	Fatty acid synthesis inhibitor	Selective post-emergent grass weed control
Fungicide	Potassium salts of phosphorus acid	Agri-Fos (AgBio)	Fungal oxidative phosphorylation inhibitor	Prevents sudden oak death
Rodenticide	Cholecalciferol	Cholecalciferol baits	Calcification of soft tissues	Rodent pest control (e.g., rats, mice)
Insecticides	*d-trans* allethrin	Wasp-Freeze (BASF)	Voltage-gated sodium channel interference	Wasp and hornet control
	Phenothrin	Wasp-Freeze (BASF)	Voltage-gated sodium channel interference	Wasp and hornet control
	Indoxacarb	Advion Gel Baits (DuPont)	Sodium channel blocker	Structural pest control (e.g., ants, cockroaches)
	Hydroprene	Gentrol Point Source (Wellmark International)	Juvenile growth hormone mimic	Pest control (e.g., cockroaches, beetles, moths)
	Fipronil	Maxforce Bait Stations (Bayer)	GABA-gated chloride channel blocker	Ant control
	Sodium tetraborate decahydrate (borax)	Prescription Treatment Baits (BASF), Terro Ant Killer II (Terro)	Water balance disruptor	Ant control
	Diatomaceous earth	Diatomaceous earth	Water balance disruptor	Structural pest control (e.g., ants, cockroaches)
Surfactants/ Adjuvants	Modified Vegetable Oil/Methylated Seed Oil	Competitor MSO (Wilbur-Ellis)	Decrease surface tension, increase herbicide uptake, enhance wetting and spreading	Increase delivery and efficacy of pesticides to targets
	Lecithin	Liberate (Loveland Products, Inc.)	Enhances uptake of herbicides and pesticides	Increase delivery and efficacy of pesticides to targets
	Alcohol ethoxylates	Liberate (Loveland Products, Inc.)	Enhances uptake of herbicides and pesticides	Increase delivery and efficacy of pesticides to targets
	Alkylphenol ethoxylate (APE)	Pentra-Bark (Quest)	Enhances uptake of Agri-Fos	Increase delivery of Agri-Fos to trees

Table 4.5-3 Human Toxicity of Proposed Chemicals

Chemical	Target Pest	Human Toxicity
Glyphosate	Grasses, brush, vines, thistles, unwanted woody plants, spurges	Low toxicity. Skin and eye irritation possible. No evidence of carcinogenicity, neurotoxicity, immunotoxicity, or toxicity. Reproductive toxicity at very high doses.
Aminopyralid	Thistles, sweet pea, Cape ivy	Low toxicity. No evidence of carcinogenicity, neurotoxicity, immunotoxicity, or reproductive/developmental toxicity.
Clopyralid	Thistles, clover	Generally low toxicity. Neurotoxicity caused by acute poisoning. No evidence of carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Imazapyr	Grasses, Scotch broom	Low toxicity. No evidence of carcinogenicity, neurotoxicity, immunotoxicity, or reproductive/developmental toxicity.
Clethodim	Annual and perennial grasses	Low toxicity. No evidence of carcinogenicity, neurotoxicity, immunotoxicity, or reproductive/developmental toxicity.
Potassium salts of phosphorus acid	*Phytophthora ramorum,* cause of sudden oak death	Low toxicity. No evidence of carcinogenicity, neurotoxicity, immunotoxicity, or reproductive/developmental toxicity.
Cholecalciferol	Rats, mice	High acute toxicity to mammals.
D-trans allethrin	Wasp	Low toxicity. Dermal and eye irritation possible. Neurotoxicity caused by acute poisoning. No evidence of carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Phenothrin	Wasp	Low toxicity. Dermal and eye irritation possible. Neurotoxicity caused by acute poisoning. No evidence of carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Indoxacarb	Cockroaches, ants	Low toxicity. Eye irritation possible. No evidence of neurotoxicity, carcinogenicity, immunotoxicity, or reproductive/developmental toxicity
Hydroprene	Cockroaches, beetles, moths	Low toxicity; does not pose acute dietary risk. No evidence of neurotoxicity, carcinogenicity, immunotoxicity. May be developmentally toxic at very high doses.
Fipronil	Argentine ants	Moderate toxicity. No evidence of neurotoxicity or immunotoxicity. Possible human carcinogen.
Sodium tetraborate decahydrate (borax)	Argentine ants	Low toxicity. Eye irritation possible. No evidence of neurotoxicity, carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Diatomaceous Earth	All insects	Low toxicity. Mild skin and eye irritation possible. No evidence of neurotoxicity, carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Modified vegetable seed oil	Surfactant	Low toxicity. No evidence of neurotoxicity, carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Lecithin	Surfactant	Low toxicity. No evidence of neurotoxicity, carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Alcohol ethoxylates	Surfactant	Low toxicity. No evidence of neurotoxicity, carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.
Alkylphenol ethoxylates	Detergents, wetting agents, dispersants, emulsifiers, solubilizers and foaming agents	Low toxicity. No evidence of neurotoxicity, carcinogenicity, immunotoxicity, or reproductive/developmental toxicity.

Source: Pesticide Technical Background Information (see Appendix A of the Integrated Pest Management Guidance Manual, Appendix B of this DEIR).

Buildings

Chemical treatments associated with IPM in buildings could result in transportation, use, and storage of soap spray, diatomaceous earth, boric acid, hydroprene, indoxacarb (0.1 percent and 0.5 percent), sodium tertaborate decahydrate, Fipronil, and cholecalciferol. Detailed information related to chemicals that may be

used under the IPMP is provided in Guidance Manual Appendix A, Pesticide Technical Background information (refer to Appendix B of this EIR).

As shown in Table 4.5-3, chemicals associated with pesticides proposed for use under the IPMP pose varying levels of toxicity to humans. Application of pesticides and use of surfactants/adjuvants would release these chemicals into the environment and could result in varying degrees of exposure to humans, including applicators of chemicals and the general public within and near to OSPs. Pesticides pose risks of short- and long- term illness to farmworkers and their families. Workers who mix, load or apply pesticides (known as pesticide handlers) can be exposed to toxic pesticides due to spills and splashes, defective, missing or inadequate protective equipment, direct spray, or drift. Workers who perform hand labor tasks in areas that have been treated with pesticides face exposure from direct spray, drift or contact with pesticide residues on the crop or soil.

Pesticides can present a hazard to applicators, harvesters reentering a sprayed field, family members due to take-home contamination, and to rural residents via air, ground water and food. Workers may be exposed to pesticides in a variety of ways, including: working in a field where pesticides have recently been applied; breathing in pesticide "drift" from adjoining or nearby fields; working in a pesticide-treated field without appropriate personal protective equipment; eating with pesticide-contaminated hands; eating contaminated fruits and vegetables; and eating in a pesticide-contaminated field. Workers may also be exposed to pesticides if they drink from, wash their hands, or bathe in irrigation canals or holding ponds, where pesticides can accumulate.

As discussed above under Section 4.5.1, "Regulatory Setting," EPA oversees pesticide use through the WPS. The WPS is a regulation for agricultural pesticides which is aimed at reducing the risk of pesticide poisonings and injuries among agricultural workers and pesticide handlers. The WPS contains requirements for pesticide safety training, notification of pesticide applications, use of personal protective equipment, restricted-entry intervals after pesticide application, decontamination supplies, and emergency medical assistance. While EPA covers the use of respirators in the application of pesticides, OSHA's Safety and Health Topic page on Respiratory Protection provides general information on respirator use and OSHA standards that may apply with the use of other chemicals.

In addition to existing regulations that reduce potential effects of exposure of pesticides on humans, numerous BMPs (BMPs 1 through 10 Table 3-4) have been incorporated into the IPMP to minimize the potential for unwanted adverse impacts on humans. In general, the BMPs would require that pesticides be applied under the guidance of licensed and certified personnel and according to the District's recommendations and label requirements; storage, loading and mixing would be conducted according to specifications that would protect against spills or entry of chemicals into aquatic features; application would be restricted during times when precipitation is likely or is occurring; application requirements would address method of application and include drift avoidance measures; in areas open to the public, notification would be required prior to and following application for a specified period; cleanup of containers would be conducted according to guidelines that prevents contamination from entering surface water bodies; and all appropriate laws and regulations pertaining to the use of pesticides and safety standards for employees and the public, as governed by the EPA, the California Department of Pesticide Regulation, and local jurisdictions would be followed. Furthermore, all pesticide use in buildings would consist of tamper-proof bait stations. The culmination of the protective measures and regulatory requirements provides a foundation for assuring the most effective, yet relatively safe, use of pesticides when treatment is determined to be needed. Thus, use of chemical treatment options associated with IPM activities in buildings would be less than significant.

Recreational Facilities

Chemical treatment options associated with IPM for recreational facilities could result in transportation, use, and storage of pyrethrin, bacterial pathogens, glyphosate Round-up ProMax, glyphosate Aquamaster, clopyralid, and imazapyr. Detailed information related to chemicals that may be used under the IPM, is provided in Guidance Manual Appendix A, Pesticide Technical Background information (refer to Appendix B of this EIR).

As shown in Table 4.5-3, chemicals associated with pesticides proposed for use under the IPMP pose varying levels of toxicity to humans. However, for the reasons described above under "Chemical Treatment Options, Buildings," chemical treatment options associated with IPM activities for recreational facilities would be less than significant.

Fuel Management

Chemical treatment options associated with IPM for fuel management could result in transportation, use, and storage of glyphosate Round-Up Promax. Detailed information related to chemicals that may be used under the IPMP, is provided in Guidance Manual Appendix A, Pesticide Technical Background information (refer to Appendix B of this EIR).

As shown in Table 4.5-3, chemicals associated with pesticides proposed for use under the IPM pose varying levels of toxicity to humans. However, for the reasons described above under "Chemical Treatment Options, Buildings," chemical treatment options associated with IPM activities for fuel management areas would be less than significant.

Rangelands and Agricultural Properties

Chemical treatment options associated with IPM for rangelands and agricultural properties could result in transportation, use, and storage of aminopyralid, clopyralid, and glyphosate Round-Up Promax. Detailed information related to chemicals that may be used under the IPMP, is provided in Guidance Manual Appendix A, Pesticide Technical Background information (refer to Appendix B of this EIR).

As shown in Table 4.5-3, chemicals associated with pesticides proposed for use under "Chemical Treatment Options, Buildings," chemical treatment options associated with IPM activities for rangelands and agricultural properties would be less than significant.

Natural Lands

Chemical treatment options associated with IPM for natural lands could result in transportation, use, and storage of glyphosate Round-Up Promax, clethodim, aminopyralid, clopyralid, imazapyr, and phosophite. Detailed information related to chemicals that may be used under the IPMP, is provided in Guidance Manual Appendix A, Pesticide Technical Background information (see Appenidx B of this EIR) .

As shown in Table 4.5-3, chemicals associated with pesticides proposed for use under "Chemical Treatment Options, Buildings," chemical treatment options associated with IPM activities for natural lands would be less than significant.

Conclusion

Manual, mechanical, and chemical treatment options associated with the IPMP would result in activities that could require the transportation, use, and storage of various pesticides (see Table 4.5-2 and 4.5-3) and other hazardous materials (e.g., fuel, paint, and other household hazardous chemicals). Existing measures and regulatory requirements currently in place to address spills and accidents would be sufficient for the IPMP such that the project would not result in adverse exposure conditions to hazardous materials. Further, the District would implement several BMPs (BMPs 1 through 10, Table 3-4) to minimize the potential for unwanted adverse impacts to non-target species (i.e., humans, animals, and special-status species). Thus, the transportation, use, and storage of hazardous materials associated with the IPMP would not result in the exposure of the public or environment to adverse conditions associated with the use of these materials, This would be a **less-than-significant** impact.

Mitigation Measures

No mitigation measures are necessary.

Impact 4.5-2: Wildland fire hazard.

Manual, mechanical, and chemical treatment options associated with the IPMP would result in activities that would require the transportation, use, and storage of various pesticides (see Table 4.5-2 and 4.5-3) and transportation and use of mechanical equipment (e.g., mowers, chippers, chainsaws, Jawz, etc.). Heat or sparks from equipment activity could ignite dry vegetation and cause fire. Further, handling of flammable materials including pesticides could increase fire ignition hazards. However, the District implements strict practices for operation of this equipment and appropriately trains staff and volunteers in fire suppression techniques in the event operation of equipment results in inadvertent fire ignition. Appropriate fire suppression equipment (e.g., extinguishers) would be provided at the work sites and the project would result in an overall reduction in fuel loads through the removal of pest species from District lands. Thus, impacts related to wildland fire hazards are considered **less than significant**.

As described above, under Section 4.5.2, Environmental Settings, lands within the District are generally designated as zones of moderate, high and very high fire hazard severity, based on local vegetation types, slope, and weather. Locations associated with fire hazard severity zone are shown in Exhibit 4.5-1.

Manual and Mechanical Treatment

Buildings

Manual and mechanical IPM activities in buildings would consist of installation of physical barriers, traps, and implementation of enhanced sanitation practices. No mechanical gas-powered equipment would be used. Further, the potential to ignite wildfires in a built environmental is relatively low. Thus, impacts associated with implementation of manual or mechanical IPM activities in buildings would be less than significant.

Recreational Facilities

Manual and mechanical IPM activities for recreational facilities would include habitat modification, digging, mowing, and tree removal through the use of mechanical gas-powered equipment (e.g., chainsaws, chippers, Jawz, mowers, etc.). Heat or sparks from this equipment, if not properly handled, could ignite dry vegetation and cause fire. However, the District implements strict practices for operation of this equipment and appropriately trains staff and volunteers in fire suppression techniques in the event operation of the equipment would ignite a fire. Further, work crews at sites would also maintain appropriate fire suppression equipment (e.g., extinguishers) to suppress inadvertently ignited fires. Finally, the purpose of the project is to remove pest species from District lands and to reduce the overall fuel loads within District boundaries. The project would improve fuel load conditions by removing plant and woody debris that could be a source of ignition risk or could exacerbate wildfire conditions, and would specifically provide safe conditions at roads and trails used for emergency evacuation or ingress and egress of emergency response vehicles. Ignition risk would be reduced compared to existing conditions. For the reasons described above, implementation of IPM activities for recreational facilities would result in a low wildland fire risk and this impact would be less than significant.

Fuel Management

Manual and mechanical IPM activities for fuel management areas would include creation of defensible space, fuel breaks, and emergency helicopter landing zones through the use of mechanical gas-powered equipment (e.g., chainsaws, chippers, Jawz, mowers, etc.). As described above under “Recreational Facilities,” while use of mechanical equipment could ignite dry vegetation and cause fire, the District appropriately trains staff in fire suppression techniques and would provide appropriate fire suppression equipment (e.g., extinguishers) onsite in the event of an inadvertent ignition. Further, the project would result in the reduction of fuel loads on District lands thereby reducing overall fire ignition risk compared to existing conditions. Thus, impacts associated with IPM activities for fuel management areas would be less than significant.

Rangelands and Agricultural Properties

Manual and mechanical IPM activities for rangelands and agricultural properties would include weeding, mowing, and brush control through the use of mechanical gas-powered equipment (e.g., chainsaws, chippers, Jawz, mowers, etc.). As described above under "Recreational Facilities," while use of mechanical equipment could ignite dry vegetation and cause fire, the District appropriately trains staff in fire suppression techniques and would provide appropriate fire suppression equipment (e.g., extinguishers) onsite in the event of an inadvertent ignition. Further, the project would result in the reduction of fuel loads on District lands, particularly of heavy brush on some rangelands, thereby reducing overall fire ignition risk compared to existing conditions. Thus, impacts associated with IPM activities for rangelands and agricultural properties would be less than significant.

Natural Lands

Manual and mechanical IPM activities for natural lands would include habitat modification, digging, mowing, and tree removal through the use of mechanical gas-powered equipment (e.g., chainsaws, chippers, Jawz, mowers, etc.). As described above under "Recreational Facilities," while use of mechanical equipment could ignite dry vegetation and cause fire, the District appropriately trains staff in fire suppression techniques and would provide appropriate fire suppression equipment (e.g., extinguishers) onsite in the event of an inadvertent ignition. Further, the project would result in the reduction of fuel loads on District lands thereby reducing overall fire ignition risk compared to existing conditions. Thus, impacts associated with IPM activities for natural lands would be less than significant.

Chemical Treatment

Buildings

Chemical treatment options associated with IPM in buildings could result in transportation, use, and storage of pesticides. Although pesticides may pose some risk of increased fire though the handling of flammable materials, particularly depending on the surfactant used, the specific characteristics of a pesticide are considered before and during any pesticide application to minimize potential hazards to the environment including wildfire ignition potential. In addition to the District's compliance with safety standards required by EPA and CDPR, described above in Section 4.5.1, "Regulatory Setting," the District would implement additional BMPs (BMPs 1 through 10, Table 3-4) that would minimize the potential for increased risk of fires resulting from the application of pesticides.

These BMPs would reduce the potential for increased risk of fire through proper handling and use of pesticides, limiting the risk of excessive distribution of flammable chemicals or other actions that may result in accidental fires. Furthermore, removal of flammable vegetation, through the use of herbicides, would reduce fuel loads on District lands, thereby decreasing wildland fire hazards compared to existing conditions. Thus, use of chemical treatment options associated with IPM activities in buildings would be less than significant.

Recreational Facilities

Chemical treatment options associated with IPM activities for recreational facilities could result in transportation, use, and storage of pesticides. Although pesticides may pose some risk of increased fire because of their flammable properties, particularly depending on the surfactant used, for the reasons described above under "Buildings," chemical treatment options associated with IPM activities for recreational facilities would be less than significant because all appropriate regulatory requirements would be followed, the District would implement BMPs (BMPs 1 through 10, Table 3-4) to further reduces hazards associated with handling of flammable materials, and overall fuel loads on District lands would be reduced.

Fuel Management

Chemical treatment options associated with IPM activities for fuel management areas could result in transportation, use, and storage of pesticides. Although pesticides may pose some risk of increased fire because of their flammable properties, particularly depending on the surfactant used, for the reasons described above under "Buildings," chemical treatment options associated with IPM activities for fuel management areas would be less than significant because all appropriate regulatory requirements would be

followed, the District would implement BMPs (BMPs 1 through 10, Table 3-4) to further reduces hazards associated with handling of flammable materials, and overall fuel loads on District lands would be reduced.

Rangelands and Agricultural Properties

Chemical treatment options associated with IPM activities for rangelands and agricultural properties could result in transportation, use, and storage of pesticides. Although pesticides may pose some risk of increased fire because of their flammable properties, particularly depending on the surfactant used, for the reasons described above under "Buildings," chemical treatment options associated with IPM activities for rangelands and agricultural properties would be less than significant because all appropriate regulatory requirements would be followed, the District would implement BMPs (BMPs 1 through 10, Table 3-4) to further reduces hazards associated with handling of flammable materials, and overall fuel loads on District lands would be reduced.

Natural Lands

Chemical treatment options associated with IPM activities for natural lands could result in transportation, use, and storage of pesticides. Although pesticides may pose some risk of increased fire because of their flammable properties, particularly depending on the surfactant used, for the reasons described above under "Buildings," chemical treatment options associated with IPM activities for natural lands would be less than significant because all appropriate regulatory requirements would be followed, the District would implement BMPs (BMPs 1 through 10, Table 3-4) to further reduces hazards associated with handling of flammable materials, and overall fuel loads on District lands would be reduced.

Conclusion

Manual, mechanical, and chemical treatment options associated with the IPMP would result in activities that would require the transportation, use, and storage of various pesticides (see Table 4.5-2 and 4.5-3) and transportation and use of mechanical equipment (e.g., mowers, chippers, chainsaws, Jawz, etc.). Heat or sparks from equipment activity could ignite dry vegetation and cause fire. Further, handling of flammable materials including pesticides could increase fire ignition hazards. However, the District implements strict practices for operation of this equipment and appropriately trains staff and volunteers in fire suppression techniques in the event operation of equipment results in inadvertent fire ignition. Appropriate fire suppression equipment (e.g., extinguishers) would be provided at the work sites and the project would result in an overall reduction in fuel loads through the removal of pest species from District lands. Thus, impacts related to wildland fire hazards are considered less than significant.

Mitigation Measures

No mitigation measures are necessary.

5 CUMULATIVE

5.1 CUMULATIVE IMPACTS OF THE PROPOSED CHANGE-IN-USE PROCESS

Section 15130 of the State CEQA Guidelines requires that an EIR discuss cumulative impacts of a project and determine whether the project's incremental effect is "cumulatively considerable." The definition of cumulatively considerable is provided in Section 15065(a)(3):

> "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

According to Section 15130(b) of the State CEQA Guidelines,

> [t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

For purposes of this EIR, the IPMP would have a significant cumulative effect if:

- the cumulative effects of related projects (past, current, and probable future projects) are not significant and the incremental impact of IPM activities implemented under the IPMP is substantial enough, when added to the cumulative effects of related projects, to result in a new cumulatively significant impact; or

- the cumulative effects of related projects (past, current, and probable future projects) are already significant and the IPM activities implemented under the IPMP make a considerable contribution to the effect. In accordance with CEQA Section 21083.3(b)(2),"cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." The California Supreme Court has determined that in certain circumstances, miniscule contributions to a cumulative significant impact can be determined to be less than considerable (*Save the Plastic Bag Coalition v. City of Manhattan Beach*, S180720, July 14, 2011).

  Issues that could contribute considerably to cumulatively significant effects are discussed below.

5.2 GEOGRAPHIC CONTEXT OF THE CUMULATIVE IMPACTS ANALYSIS

A review of cumulative impacts is limited to Santa Clara, San Mateo, and Santa Cruz Counties, the jurisdictions in which IPM activities would occur. The geographic area that could be affected by the project varies depending upon the type of environmental resources being considered. Table 5-1 presents the general geographic areas associated with each of the resources addressed in this analysis.

Table 5-1 Geographic Scope of Cumulative Impacts

Resource Issue	Geographic Area
Aesthetics	District OSPs and immediately surrounding areas
Biological Resources	District OSPs and regional
Cultural Resources	District OSPs and regional
Hazards and Hazardous Materials	District OSPs and immediately surrounding areas
Hydrology and Water Quality	Immediate project vicinity and regional watersheds

Related Projects

The District and other agencies, special districts, and open space land trusts (Santa Clara County Parks Department, San Mateo County Parks Department, Santa Clara County Open Space Authority, Land Trust of Santa Cruz County, Peninsula Open Space Trust, Santa Cruz County Parks Department, and California State Parks) that manage nearby open space and park lands conduct similar management and maintenance activities. These activities include natural area restoration, control of invasive plants, pest control, and maintenance of existing buildings, roads, and recreational facilities. These activities are evaluated on an individual basis to determine their likelihood to result in environmental effects and whether they are part of the agency's ongoing management activities or would be considered "projects' under the California Environmental Quality Act. Related projects that are typical of the projects that the District undertakes, include the Mt. Umunhum Environmental Restoration and Public Access Project, the La Honda Creek Pond Restoration Project; the Cooley Landing Park at the Ravenswood OSP (in conjunction with the City of East Palo Alto); and the Mindego Ranch Use and Management Plan. The District and other public lands managing entities in the vicinity of the District are expected to acquire additional lands in the foreseeable future, and would continue to conduct maintenance, management, restoration projects and pest management on those lands. These types of activities are considered in the following cumulative impacts analysis.

AESTHETICS

Development of past and current projects, and future projects continue to alter the visual environment in the region as whole. However, the majority of projects that combine to create a considerable cumulative impact to visual resources occur in the urbanized and developed portion of the region that is located beyond the District boundaries, and are not generally visible within the viewsheds that would be affected by the IPM activities. Overall, cumulative visual impacts from related cumulative project would be less-than-significant.

Within the District boundaries, the District's mission is to restore, preserve, maintain, and enhance the natural aspects of the landscape. Implementation of the IPMP would support this mission by restoring the scenic integrity of working and natural landscapes. Additionally, the dispersed location of IPM treatment sites on various different OSPs would limit the number of treatment sites that would be visible within the same viewshed. The environmental effects of implementation of the IPMP would be specific to treatment sites and generally would not combine to create a considerable contribution to cumulative aesthetic impacts. The project would have a less-than-significant cumulative impact on aesthetic resources.

BIOLOGICAL RESOURCES

Past development in the District and surrounding counties, ranging from conversion of land to agricultural production more than a hundred years ago to expansion of urban development, has resulted in a substantial loss of native habitat to other uses. This land conversion has benefited a few species, such as those adapted to agricultural uses, but the overall effect on native plants, animals, and habitat has been adverse. Although future development projects proposed in and in the vicinity of the District would be required to mitigate significant impacts on biological resources, in compliance with CEQA, the federal ESA, CESA, and other state, local, and federal statutes, many types of habitats and species are provided no protection.

Therefore, it can be expected that the net loss of native habitat for plants and wildlife, agricultural lands, and open space areas that support important terrestrial biological resources in project area will continue. This is expected to be a significant cumulative impact.

The project is intended to restore and protect the long-term ecological integrity of the project area. The IPMP incorporates focused actions with the dual goals of protecting and restoring the natural environment while providing for human safety and enjoyment. Similarly, other related projects implemented by land management agencies would also be implemented to restore and protect the long-term ecological integrity of those lands.

The IPMP would guide staff in defining, preventing, and managing pests on District lands and would standardize existing practices used by staff and leaseholders, and has been designed with specific best management practices (BMPs) to ensure that the plan goals are met in the least environmentally damaging way. Threats to biological resources in the vicinity (San Mateo, Santa Clara, and Santa Cruz Counties) are primarily because of loss of habitat from development and change of land use. The project would not result in a change in land use or habitat type, with the exception of the conversion of stock ponds to ephemeral ponds for management of non-native wildlife species. IPM activities would occur on less than 10 percent of the area managed by the District each year, and activities would be conducted on a rotating basis as staff and funding resources allow.

As analyzed and described in Section 4.2, "Biological Resources," implementation of the IPMP could result in significant impacts to waters of the United States, special-status wildlife species (e.g., bay checkerspot butterfly, Callippe silverspot butterfly, Smith's blue butterfly, and Zayante band-winged grasshopper, special-status bat species, San Francisco dusky-footed woodrat, Santa Cruz kangaroo rat, central California coast steelhead trout, central California coast coho salmon, northern western pond turtle, San Francisco garter snake, California red-legged frog, California yellow-legged frog, California tiger salamander), and federally protected wetlands. Potential impacts of the proposed plan related to wildlife would be associated with vegetation removal, manual/mechanical exclusion in buildings, and chemical application which would result in the direct mortality of wildlife species and/or reduction in habitat.

Vegetation removal in wetland and other waters, and conversion of ponds to ephemeral ponds would affect federally protected wetlands. Implementation of Mitigation Measure 4.2-3 would ensure that IPM activities would not result in a loss of wetland habitat or adversely affect downstream wetlands or waters because the District would replace wetlands on a "no net loss" basis consistent with appropriate regulatory agency requirements (Section 404 and 401 of the Clean Water Act). These activities would not result in a substantial contribution to a significant cumulative biological impact and this would be a less-than-significant cumulative project impact.

Implementation of Mitigation Measures in 4.2-1a through 4.2-1e would require the District to reduce, avoid, and/or compensate for impacts in accordance with the requirements of federal ESA and CESA and other regulatory programs that protect habitats would ensure that the plan's temporary impacts to special-status species are reduced to a less-than-significant level. Implementation of Mitigation Measure 4.2-3 would require the District to replace on a "no-net-loss" basis acreage and function of any wetlands and other waters that would be removed, lost or degraded as a result of project activities and obtain and comply with applicable permits (Section 404, 401 of the Clean Water Act and NPDES permit) before conducting IPM activities that would affect wetlands. Therefore, these activities would not result in a substantial contribution to a significant cumulative biological impact and this would be a less-than-significant cumulative project impact.

CULTURAL AND PALEONTOLOGICAL RESOURCES

The cumulative context for the cultural resources analysis considers a broad regional system of which the resources are a part. The cumulative context for historical resources is the San Francisco Peninsula where common patterns of historic-era settlement have occurred over roughly the past two centuries. The

cumulative context for archaeological resources and human remains is the Ohlone territory. Before Spanish missionaries arrived, Ohlone territory comprised the coast from San Francisco through Monterey. Because all significant cultural resources are unique and nonrenewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. The loss of any one archaeological or historic site affects all others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. Cumulative development in the region, could cause a substantial adverse change in the significance of an historical resource or unique archaeological resource as defined in §15064.5 of the State CEQA Guidelines. This would be a significant cumulative impact.

As described in Section 4.6, project-related earth-disturbing activities could potentially damage human remains and barriers or building retrofits could change the historical significance of built-environment resources.

However, mitigation has been recommended (Mitigation Measures 4.3-1 and 4.3-3), which would ensure the proper protection, preservation, and recordation of significant human burials or historic structures. The project's cultural resources impacts would be reduced to a less-than-significant level. Therefore, the project would not contribute to a cumulative loss of cultural resources. This would be a less-than-significant cumulative project impact.

HYDROLOGY AND WATER QUALITY

Alteration of Drainage Patterns and Flooding

The creeks and rivers that originate in the Santa Cruz Mountains and flow through San Mateo and Santa Clara counties are the source of periodic flooding in Santa Clara Valley and the areas near the Bay in San Mateo County. Substantial investments have been necessary in the region for flood protection programs, including constructing major flood protection projects, and protection of properties in previously flood-prone areas. Therefore, there is an existing significant cumulative condition related to flooding in the region. The IPMP project would not involve earthmoving or re-contouring of land that would result in alteration of drainage systems or result in an increase in impervious surfaces that would increase downstream flooding potential. Ground disturbance would be limited to mowing, discing, weed or brush pulling. Therefore the project would not make a contribution to cumulative flooding conditions. This is a less-than-significant cumulative project impact

Surface Water Quality

Overall water quality in the region has degraded over time as natural habitat has been converted to urban uses, and these uses have resulted in runoff of various pollutants into creeks, streams, and the south San Francisco Bay. Several water bodies in the Santa Clara Basin have been designated under Section 303(d) of the Clean Water Act as impaired because of certain pollutants. These include South San Francisco Bay and urban creeks (Calabazas, Coyote, Guadalupe, Los Gatos, Matadero, San Francisquito, Saratoga, and Stevens) have been listed for diazinon. Water bodies in the Guadalupe River watershed (Guadalupe River, Alamitos Creek, Guadalupe Creek, Calero Reservoir, and Guadalupe Reservoir) have been listed for mercury. San Francisquito Creek has been listed for excessive siltation (sediment). Pollutants entering creeks and streams in the southern portion of Santa Clara County ultimately flow to the Pajaro River and to Monterey Bay. However, surface water quality conditions are not uniform throughout all streams. Some reaches of some streams, especially in the upper undeveloped areas of the watersheds, such as District preserves, have retained sufficient value to sustain fisheries and riparian habitat. Nonetheless, a cumulative adverse water quality condition exists for surface waters in the region.

Under the IPMP, erosion control measures required by BMP 28 (Table 3-4) would be implemented on sites with loose or unstable soils, steep slopes (greater than 30 percent), where a large percentage of the groundcover would be removed, or near aquatic features that could be adversely affected by an influx of sediment. Chemical control options, when used, would also be implemented consistent with BMPs that require prescriptive transportation, handling, and storage requirements. Specifically, BMPs would prohibit

mixing and handling of pesticides within 300 feet of aquatic features, prohibit application within 15 feet of aquatic features, and restrict application of pesticides during wet weather conditions (BMPs 1-7, 19). Overall, the project's potential to result in a violation of water quality standards or waste discharge requirements to occur would be small. However, because the District proposes to use chemical treatments on rare occasions in wetlands (dry season) and along stream banks; the IPM program would have the potential to result in residual aquatic pesticide discharges to waters of the United States. Biological Resources Mitigation Measure 4.2-3 would ensure that the District submit a Notice of Intent to discharge to the San Francisco Bay RWQCB and comply with design and operational BMPs required under the NPDES permit . This measure would ensure that the IPMP would not make a considerable contribution to an existing cumulative impact to surface water quality. This is a less-than-significant cumulative project impact

Groundwater Quality

Industrial and agricultural activities have contributed to the degradation of the groundwater in some parts of the Santa Clara Valley. Pollutants that contaminate shallow groundwater have found their way into the deeper drinking water zones through a combination of leaky aquitards and numerous improperly abandoned wells. Development in the Basin margins has removed large portions of the recharge area from the hydrogeologic regime. This has a two-fold effect on the regions groundwater. First it reduces the amount of surface area available for water to infiltrate into the aquifers and secondly it places potentially polluting activities in the recharge area.

A variety of programs have been implemented with the goal of halting degradation of water quality and reversing this trend. Nonetheless, a cumulative adverse water quality condition exists for groundwater. As described above under surface water quality, BMP 28 (Table 3-4) required under the IPMP would prevent runoff of pollutants that could contribute to adverse impacts to surface water. Therefore, the project would not contribute to percolation of pollutants into groundwater. The IPMP would not cause significant cumulative hydrology, water quality, and sedimentation impacts or considerable contributions to existing cumulative hydrology, water quality, and sedimentation problems; this would be a less-than-significant cumulative project impact.

HAZARDS, HAZARDOUS MATERIALS, AND PUBLIC HEALTH

Expose the Public or Environment to Hazardous Materials

Hazardous material exposure is typically site-specific and does not combine with other projects to result in significant adverse cumulative impact. Further, the pesticides used under the IPMP would not be persistent compounds and would degrade within a few hours to a few weeks when exposed to sunlight, moisture, and soil. These substances do not accumulate to produce known long-term impacts. Thus, because exposure of the public or environment to hazardous materials would be site-specific, there would be no cumulative effect. This would be a less-than-significant cumulative impact.

Wildland Fire Hazard

The project area is in western portion of Santa Clara County and San Mateo County in the Santa Cruz Mountains. While wildland fires are not frequent in the Santa Cruz Mountain, CAL FIRE has designated the project area as a zone of moderate to high fire hazard severity. Cumulative wildfire hazards would be considered significant.

Manual, mechanical, and chemical treatment options associated with the IPMP would result in activities that would require the transportation, use, and storage of various pesticides (see Table 4.5-2 and 4.5-3) and transportation and use of mechanical equipment (e.g., mowers, chippers, chainsaws, Jawz, etc.). Heat or sparks from equipment activity could ignite dry vegetation and cause fire. Further, handling of flammable materials including pesticides could increase fire ignition hazards. However, the District implements strict practices for operation of this equipment and appropriately trains staff and volunteers in fire suppression techniques in the event operation of inadvertent fire ignition. Appropriate fire suppression equipment (e.g., extinguishers) would be provided at the work sites and the project would result in an overall reduction in fuel

loads through the removal of pest species from District lands. Thus, impacts related to wildland fire hazards are considered less than significant and the project would not have a considerable contribution to existing significant cumulative risks of wildland fires. This would be a less-than-significant cumulative project impact.

6 ALTERNATIVES

6.1 INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines (State CEQA Guidelines) Section 15126. 6[a] requires an EIR to "describe a range of reasonable alternatives to the project, …[that] would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects, and evaluate the comparative merits of the alternatives." The purpose of the alternatives analysis is to determine whether or not an alternative to the proposed IPMP would feasibly reduce or eliminate significant project impacts, within the basic framework of the objectives.

The range of alternatives studied in an EIR is governed by the "rule of reason," requiring evaluation of only those alternatives "necessary to permit a reasoned choice" (State CEQA Guidelines Section 15126.6[f]). Further, an agency "need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (State CEQA Guidelines Section 15126.6[f][3]). The analysis should focus on alternatives that are feasible (i.e., that may be accomplished in a successful manner within a reasonable period of time, taking economic, environmental, social, and technological factors into account). Alternatives that are remote or speculative or that do not feasibly meet most of the project objectives need not be discussed. Furthermore, the alternatives analyzed for a project should focus on reducing or avoiding significant environmental impacts associated with the project, as proposed.

The objectives of the proposed IPMP are listed below. The evaluation of alternatives is conducted in the context of seeking to meet most of these objectives. The primary objective of the proposed IPMP is to control damage from pests through formal and consistent implementation of IPM principles to protect and restore the natural environment and provide for human safety and enjoyment while visiting and working on District lands. Specific objectives of the proposed IPMP include:

- development and implementation of an IPM Guidance Manual to standardize pest management and IPM procedures on District lands;
- implementation of IPM strategies and priorities consistent with the five pest management categories identified in the IPM Guidance Manual;
- monitoring and reporting IPM activities and annually assessing consistency with the IPM Guidance Manual and need for changes;
- communicating to the public and staff what pest management activities are being undertaken on District lands and how people and natural resources are being protected;
- implementing actions to prevent the introduction of new pest species to District preserves, especially new invasive plants in natural areas and weeds in agricultural areas;
- reducing the use of pesticides in buildings, and for those pesticides which are required in buildings and at recreational facilities, use ones with lower concentrations of hazardous substances; and
- reducing the per-acre amount of herbicides used over time at individual sites in natural areas.

6.2 SUMMARY OF ENVIRONMENTAL IMPACTS OF THE PROJECT

The purpose of this section is to summarize and identify significant impacts to the environment with implementation of the proposed IPMP. Significant and potentially significant impacts of project implementation were identified for biological and cultural resources.

As discussed in Section 4.2, "Biological Resources," manual and mechanical treatments in suitable aquatic habitat could result in direct mortality and loss of special-status amphibian and reptile habitat (see Impact 4.2-1). As a result the project would result in potentially significant impacts to special-status invertebrates (bay checkerspot butterfly, Callippe silverspot butterfly, Smith's blue butterfly, and Zayante band-winged grasshopper), bat species (Townsend's big-eared bat, western red bat, fringed myotis, hoary bat, long-eared myotis, long-legged myotis, and pallid bat),central California coast steelhead trout, central California coast coho salmon, special-status amphibian and reptile species (northern western pond turtle, San Francisco gartersnake, California red-legged frog, California yellow-legged frog, California tiger salamander). As discussed under Impact 4.2-3, IPM activities could result in the conversion of wetland habitats from stock ponds to ephemeral wetlands, a potentially significant impact to these resources as they may change the wetland type, function, and overall acreage of wetlands. With implementation of recommended BMPs and mitigation measures, these impacts would be reduced to a less-than-significant level.

As discussed in Section 4.3, "Cultural Resources," IPM activities could include barriers and building retrofits that could potentially affect the significance of historical resources. This would be a potentially significant impact. With implementation of IPM activities, potential also exists for previously undiscovered human remains to be discovered when soils are disturbed. This would be a potentially significant impact. Mitigation is available to reduce these cultural resource impacts to a less-than-significant level.

6.3 ALTERNATIVES EVALUATED IN THIS EIR

Because the project is an evaluation program intended to formalize and improve the consistency, comprehensiveness, and efficiency of IPM on District lands, the alternatives analysis is tailored to variations in the program. As a result, two alternatives are evaluated:

- No-Project Alternative, which would involve the case-by-case, individual evaluation pest management issues on District lands.
- Early Detection and Rapid Response (EDRR) Alternative, which dedicated additional resources to EDRR strategies to identify and reduce new pest populations.
- Pesticide Avoidance in Buildings, which would involve elimination of chemical control treatments in buildings.

Other options were considered as potential alternatives and rejected from further evaluation, because they were not feasible. All alternatives are described below.

6.3.1 No-Project Alternative

Under the No-Project Alternative, when the District proposes to implement IPM activities, each proposal would be reviewed and evaluated on an individual basis to determine the appropriate course of action and level of environmental review. Under this alternative, the District would be limited in how it implements IPM activities because it would lack a systematic and consistent approach to eliminating pest species from its lands. IPM activities/treatment sites would be evaluated by the District as they occur on an annual basis and they would be subject to independent CEQA environmental review processes. In cases where preparation of

a CEQA document is required, there could be an overall delay in implementation of IPM activities in order to complete the process. Further, the District would likely be required to conduct multiple, repetitive environmental reviews on actions that are related and would require similar response. This would be a less efficient, likely more costly, and longer process compared to the project.

While the District has implemented and would continue to comply with existing regulatory requirements pertaining to the transportation, handling, and use of pesticides, under this alternative, adherence to a comprehensive and consistent set of best management practices (BMPs) and mitigation measures that are protective of the environment would not occur. Rather, staff may not consider prevention and would identify BMPs and mitigation measures on a case-by-case basis and some inconsistency in application of BMPs and mitigation measures could occur due to the lack of coordination of all pest management activities. Staff would not receive as much training and oversight, and may not have the knowledge to avoid activities that could adversely affect the environment, particularly in the implementation of routine maintenance practices for manual and mechanical treatments and for overseeing the activities of tenants. Without consistent presurveys, monitoring and reporting, patterns may not be recognized and therefore adjustments of activities to avoid environmental effects may not occur and the adjustment of treatment methods to become more efficient may not occur. Further, it is likely that the overall treatment and success in pest eradication would be slowed because of the need for individual evaluation (either by pest or by site).

ACHIEVEMENT OF BASIC OBJECTIVES

The No Project Alternative would not achieve many of the basic objectives of the IPMP. Evaluations of proposals would be variable, depending on the different perspectives of District personnel, so an objective and consistent evaluation tool would not be available. The District would not achieve a standardized pest management process and would not consistently implement pest management strategies across its lands. Further, this alternative would not result in one document resource that could be available to the public so that it could understand what pest management activities are being implemented on District lands, rather, the public would need to seek out multiple documents and piece together the various pest management activities that are occurring.

COMPARATIVE ENVIRONMENTAL IMPACTS OF THE NO PROJECT ALTERNATIVE

The No Project Alternative would require case-by-case evaluation of pest management proposals without the benefit of consistently applied BMPs and mitigation available from this EIR. Independent environmental review conducted by the District would necessarily comply with CEQA; however, the type of mitigation recommended in separately prepared environmental documents could vary and could be applied inconsistently depending on physical resource conditions and decisions made by District personnel. In some circumstances, significant impacts may occur and would be allowable, whereas, under the project all significant environmental impacts (i.e., biological, cultural, hazardous material, hydrology, erosion, and noise) would be reduced to less-than-significant levels through the application of standard BMPs and mitigation measures.

The approach to reducing potentially significant environmental impacts could vary from one IPM proposal to the next, because of potential variations in the application of BMPs and mitigation measures. For instance, rodenticides would be used in a coordinated and systematic manner and BMPs would be implemented that require that the least toxic rodenticide products be used. Under this alternative, rodenticides may not be applied in a consistent manner for buildings considered individually on a case-by-case basis, which could lead to significant impacts on special-status species. While mitigation similar to that recommended for the project could be implemented to reduce this impact to a less-than-significant level, the potential for this impact to occur would be greater under this alternative.

Under this alternative, lessees (tenants) may not coordinate with the District prior to application of pesticides surrounding their properties; therefore, there is greater potential for spills, contamination, and improper application of the chemicals that could result in significant impacts to sensitive species and habitats. Under

the project, all lessees, through lease agreements, would be required to coordinate with the District and apply District BMPs in the application of pesticides. Therefore, impacts under this alternative would be greater.

Overall, the No Project Alternative would not be environmentally superior to the project, because of potential variability in the application of BMPs and mitigation measures by District staff and lack of control in how lessees apply pesticides. Further, IPM activities under this alternative would be less effective because of the longer periods of time it would take to implement pest management activities as a result of individual environmental reviews, thereby leading to the potential spread of pest species and the need to implement a higher level of manual, mechanical, and chemical treatments. Greater acreages of lands may require treatment compared to the project and greater quantities of chemicals may ultimately be required compared to the project. In the end, greater land disturbance would occur, which could lead to greater biological, cultural, air quality, and hazardous material impacts compared to the project. Finally, this alternative would not meet many project objectives including lack of a consistent evaluation tool; lack of a standardized pest management process; and lack of one document that would be available to the public.

6.3.2 Enhanced Early Detection and Rapid Response Alternative

EARLY DETECTION-RAPID RESPONSE ALTERNATIVE

Under the EDRR Alternative, the IPMP would place emphasis on preventing new pest populations from becoming established on District lands through increased surveys for pests. If new pest populations have become established, the District would implement rapid response measures to control pests before they spread. EDRR programs are known to increase the likelihood that pest invasions would be addressed successfully while the population size and extent are not beyond that which can be contained and eradicated on both practical and economic scales. The IPM Guidance Manual currently includes EDRR strategies to respond to pests, however, a comprehensive EDRR program cannot be undertaken with current staffing levels (see Appendix B, Section 11.5.1). Under this alternative, the District would dedicate additional resources (i.e., increased staff and budget) towards implementation of EDRR strategies that include:

- identifying potential threats in time to allow control or mitigation measures to be taken;
- detecting new invasive species in time to allow efficient and safe eradication or control decisions to be made;
- taking additional preventive actions such as providing facilities to clean vehicles and tools to stop the spread of seeds of invasive plants;
- responding to invasions effectively to prevent the spread and permanent establishment of invasive species;
- providing adequate and timely information to decision-makers, the public, and to partner agencies concerned about the status of invasive species within an area; and
- adaptively implementing detection and early response strategies over time.

The purpose of more frequent pest surveys is to determine if and when a new pest population is being established. Increased pest surveying may allow District personnel and/or contractors to more rapidly identify and prevent pest infestations prior to establishment, thereby decreasing the amount of pest management treatments necessary on District lands over time.

ACHIEVEMENT OF BASIC OBJECTIVES

This alternative would meet all of the objectives of the project. This alternative would standardize pest management actions throughout the District, would consistently implement IPM activities for the five pest management categories, would result in monitoring and reporting of the District's activities, would communicate to the public how pest management activities would be implemented, would implement actions to prevent introduction of new pest species; and it would reduce the use of pesticides in buildings and on rangelands and natural lands.

COMPARATIVE ENVIRONMENTAL IMPACTS OF THE EARLY DETECTION-RAPID RESPONSE ALTERNATIVE

This alternative would result in the implementation of the same IPM activities for buildings, recreational facilities, fuel management areas, rangelands, agricultural properties, and natural lands, although more projects at an earlier stage would be undertaken. However, the EDRR alternative would dedicate addition resources (i.e., staff and budget) toward EDRR strategies to prevent the start and spread of pest species at new sites. These strategies would include greater frequency of surveys of District lands and survey of greater areas of District lands, and more frequent responses to incipient outbreaks of pests. Physical environmental changes that might result from the EDRR Alternative compared to the project is that overtime the preserves would have less invasive species and buildings would have less insect and rodent pests. Therefore, this alternative would result in the same types of environmental impacts including to significant impacts to cultural and biological resources. However, mitigation recommended for the project would reduce the impacts of this alternative to less-than-significant levels. Ultimately, this alternative would lead to reductions in pest population on District lands to a greater degree and on a potentially faster schedule than would occur with the project.

Overall, this alternative would meet all project objectives, would result in the same environmental impacts as the project, and would lead to greater reductions in pest populations on a potentially faster schedule than would occur with the project. This alternative would be environmentally superior to the project.

6.3.3 Pesticide Avoidance in Buildings Alternative

DESCRIPTION OF THE PESTICIDE AVOIDANCE IN BUILDINGS ALTERNATIVE

Under this alternative, no pesticides would be used in any District buildings. Instead, only manual and mechanical IPM activities (i.e., traps, barriers, retrofits) would be implemented to exclude or remove pests from District buildings. IPM activities in recreational facilities, fuel management areas, rangelands, agricultural properties, and natural lands would be the same as those described for the project and would consist of a variety of manual, mechanical, and chemical treatment activities.

ACHIEVEMENT OF BASIC OBJECTIVES

This alternative would meet all of the objectives of the project. This alternative would standardize pest management actions throughout the District, would consistently implement IPM activities for the five pest management categories, would result in monitoring and reporting of the District's activities, would communicate to the public how pest management activities would be implemented, would implement actions to prevent introduction of new pest species; and it would reduce the use of pesticides in buildings.

COMPARATIVE ENVIRONMENTAL IMPACTS OF THE PESTICIDE AVOIDANCE IN BUILDINGS ALTERNATIVE

This alternative would result in the same types of manual and mechanical treatments as the project. However, this alternative would result in the complete avoidance of chemical treatment options for buildings on District lands. Only manual and mechanical treatments could be implemented. In these situations, the District would either need to abandon pest eradication in these buildings (leading to their deterioration or demolition) and potential use of the buildings, or it would need to alter the structural integrity of the building through manual and mechanical controls. In cases where a building may be historically significant, both of these options could lead to a significant impact to historic resources. While mitigation recommended for the project would reduce this impact to a less-than-significant level, because chemical options are not available, the frequency at which these impacts would occur would be greater under this alternative because the District would have no options to avoid alteration of the potentially historic structure. Further, in some cases where occupied buildings require pest control, manual and mechanical options may not be sufficient to control the pest population and, as a result, a potential health and safety impact could occur if the pest population cannot be controlled. This would be a new potentially significant impact that would not occur under the project. Overall, this alternative would not be environmentally superior to the project.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project Alternative would not be environmentally superior to the project with respect to: biological resources, cultural resources, air quality resources, and hazardous material resources. All other resource areas would be similar to impacts of the project. This alternative would obtain some of the project objectives, but would not attain several important objectives associated with lack of a consistent evaluation tool; lack of a standardized pest management process; and lack of one document that would be available to the public.

The Pesticide Avoidance In Buildings Alternative would not be environmentally superior to the project with respect to historic resources and hazards. All other resource areas would be similar to impacts of the project. This alternative would obtain all of the project objectives,

The EDRR Alternative would be environmentally superior to the project. It would obtain all of the project objectives, would result in environmental impacts similar to the project, and would lead to greater reductions in pest populations on a potentially faster schedule than would occur with the project. The EDRR Alternative is the overall environmentally superior alternative.

6.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED EVALUATION

State CEQA Guidelines Section 15126.6 (c) provides that an EIR "should identify any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process and briefly explain the reason underlying the lead agency's determination." The following alternative was considered, but eliminated from detailed evaluation, because it would not be feasible from the District's perspective.

6.5.1 Non-Chemical Alternative

The District currently utilizes pesticides when chemical methods are necessary to meet a pest control objective. Under this alternative, the District would not use any pesticides to control pest populations in buildings, recreational areas, fuel management areas, rangelands, agricultural properties, or natural lands. Instead the District would only be permitted to implement manual and mechanical IPM activities to control pest populations. This alternative would constrain the District's response to pest populations and would likely prevent the District from successfully eradicating pests from a number of sites within District lands. As a

result, pest populations in these areas would continue to expand, thus creating perhaps even greater demands to respond to pest populations. Further, use of chemical allows for a safe, cost-effective, and quick response to reducing pest populations. Under this alternative, the rate at which pest populations are reduced would likely be substantially slowed because only manual and mechanical treatment options could be applied.

This alternative would require substantially greater manpower and mechanical equipment (i.e., chainsaws, Jawz, chippers, mowers,) to implement successfully and, therefore, impacts related to noise, air emissions, and GHG emissions from staff, contractor, and volunteer commute trips would be greater compared to the project. Further, it may be financially infeasible for the District to dedicate funding to provide the higher numbers of staff and contractors required to implement this alternative. In addition, only manual and mechanical treatment options would be allowed in buildings that may be historically significant. In these situations, the District would either need to abandon pest eradication in these buildings (leading to their deterioration or demolition) and potential use of the buildings, or it would need to alter the structural integrity of the building. Both of these options could lead to a significant impact to historic resources. While mitigation recommended for the project would reduce this impact to a less-than-significant level, because chemical options are not available, the frequency at which these impacts would occur would be greater under this alternative because the District would have no options to avoid alteration of the potentially historic structure in the case of a public health and safety concern.

While standardized manual and mechanical pest management actions that could easily be communicated with the public would be implemented and the District would eliminate the use of pesticides (consistent with project objectives), this alternative would substantially limit the District's ability to prevent the introduction of pest species on District lands because of the slower response rates of manual and mechanical IPM activities. Thus, the District would not be as effective at reducing pest populations compared to the project and this could conflict with its mission and adopted resource management policies. Overall, this alternative would result in greater environmental impacts and it may be financially infeasible to implement. For these reasons, it was eliminated from further evaluation.

OFF-SITE ALTERNATIVE

The IPMP would be implemented throughout all District lands. The District has no regulatory or funding authority over lands not within its boundaries or sphere of influence. Therefore, it would be infeasible to identify off-site lands where the IPMP could be implemented. This alternative was eliminated from further evaluation.

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Chapter 5, Cumulative

None

Chapter 6, Alternatives

None

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