Midpeninsula Regional Open Space District

Addendum to the Integrated Pest Management Program 2014 Environmental Impact Report

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Midpeninsula Regional Open Space District

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Acronyms

2025 IPMP or 10-year Program update	2025 Program
APE	Alkylphenol ethoxylate
BAAD	Bay Area Air District
BAAQMD	Bay Area Air Quality Management District
BEE	butoxyethyl ester
BMP	best management practices
BTI	Bacillus thuringiensis var. israelensis
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
DC	direct current
DDAC	Dodecyl Dimethyl Ammonium Chloride
DE	Diatomaceous earth
DEET	N,N-diethyl-meta-toluamide
DOT	Disodium octaborate tetrahydrate
EDRR	Early Detection and Rapid Response
EIR	Environmental Impact Report
GHG	greenhouse gas
GIS	geographic information systems
IPA	Isopropylamine
IPM	Integrated Pest Management
IPMP or Program	Integrated Pest Management Program
K	Potassium
MEA	Monoethanolamine
Midpen or District	Midpeninsula Regional Open Space District
NA	Not applicable
NMFS	National Marine Fisheries Service
OSMRP	Open Space Maintenance and Restoration Program
OSP or preserves	Open space preserves
oz	Ounce
QAC/QAL	California licensed Qualified Applicator
SCUBA	Self-contained underwater breathing apparatus
SOD	Sudden oak death
SPCA	Structural Pest Control Applicator
TIPA	Triisopropanolamine
Triclopyr BEE	Triclopyr-2-butoxyethyl ester
Triclopyr TEA	Triclopyr triethylamine
US EPA	U.S. Environmental Protection Agency

USFWS	U.S. Fish & Wildlife Service
WFRP	Wildland Fire Resiliency Program

1 Project Description

1.1 Introduction

1.1.1 Overview

Midpeninsula Regional Open Space District ("Midpen" or "District") proposes to update its Integrated Pest Management Program (IPMP) or "Program", which comprehensively directs management of pests on District properties. The original IPMP Guidance Manual was adopted by the Board of Directors in 2014, with the intention to revise and update the Program every 10 years. The updated 2025 Program (also referred to as the "2025 IPMP" and "10-year Program update") incorporates new pesticide formulations, acreage changes to Midpen lands, provides changes to and incorporates new treatment actions, includes minor changes to address the current regulatory and physical environmental conditions, and incorporates adaptive management recommendations and improvements from lessons learned over the last decade of implementation. The updated 2025 Program is in compliance with other existing Midpen plans and programs including the Service Plan for the San Mateo Coastal Annexation Area.

Midpen's Board of Directors certified an Environmental Impact Report (EIR) for the IPMP in 2014, referred to as the 2014 EIR henceforth. In January 2019, Midpen approved an addendum to the 2014 EIR, which included IPMP refinements. This 2025 addendum to the 2014 EIR is prepared in accordance with the California Environmental Quality Act (CEQA) to assess the environmental effects of the 2025 Program.

1.1.2 Integrated Pest Management

Integrated Pest Management (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 pests. IPM requires monitoring site conditions before, during, and after treatment to determine if objectives are being met and if the methods need to be revised or modified. IPM requires that non-chemical methods be considered in addition to chemical methods (i.e., pesticides).

1.1.3 Midpen's IPMP Guidance Manual

Midpen developed an IPMP Guidance Manual in 2014 that documents the methods for implementing the Program. The IPMP Guidance Manual identifies specific pest management actions including preventative and maintenance measures; damage assessment procedures; tolerance levels and thresholds for action; and treatment options. Tolerance levels and treatment actions for invasive species are based on the potential of the invasive species to degrade wildlife

habitat and other natural resource values to a degree where the long-term stability and resilience of its natural areas are compromised. The IPMP Guidance Manual directs management of invasive animals and vegetation on preserves, and rodents and insects in District-owned buildings.

Within the District, the situations that trigger the need for pest control fall into four distinct pest management categories: (1) buildings; (2) recreational facilities; (3) rangelands and agriculture properties; and (4) natural areas[1] as discussed in Section 1.3.1. The IPMP Guidance Manual serves to guide careful management of pests throughout the District's open space preserves (OSPs or preserves) while protecting natural resources and public health. Specific pest control strategies used by the District vary by management category and include a combination of treatment types and methods, specifically mechanical (e.g., mowing, pulling, discing, physical barriers), cultural (e.g., sanitation, prevention, mulching), and biological controls (e.g., hairy weevil, bacterial pathogens), and, as needed, chemical controls (i.e., pesticides). Whenever possible, the least harmful method(s) to control identified pests are used. For example, 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. If pesticides are deemed necessary to meet a pest control objective, products are applied according to label instructions and all necessary measures are taken to protect the environment, the health and safety of visitors, employees, neighbors, and the surrounding natural areas, including water and soil resources.

The IPMP is and must remain 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. The overall methods of the IPMP include correct identification of the pest and understanding of the 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 monitoring of pest populations and effectiveness of treatment methods.

1.1.4 Program Updates

Since adoption in 2014, Midpen has made several updates to the Program to address the evolving needs of the District. In 2015, a project ranking and submission system was introduced to evaluate and prioritize new pest control projects. Midpen also developed a pest control submission process utilizing a standardized form. In 2018, Midpen added three insect repellents for staff and volunteer protection. In 2019, Midpen released an addendum to the 2014 EIR, which introduced new pesticides, protections for two new species of special concern, updated treatment methods, and reallocated the amount of treated acreage among IPM categories, which is now being reallocated back to their original categories as part of the 10-year Program update.

[1] Previously, Fire Management was included in the IPMP until the District created a standalone program.

In 2020, Midpen added a disinfectant (Waxie 730 with the active ingredient of hydrogen peroxide) to the Program, and in 2023, Midpen adopted the Wildland Fire Resiliency Program (WFRP), which shifted fuel management responsibilities from the IPMP to the WFRP to better address wildfire risks and climate change impacts. These changes reflect the District's adaptive management approach, with the 10-year update aiming to align the IPMP with current environmental and regulatory conditions.

1.2 Program Information

1.2.1 District Mission

Midpen is a public agency formed by a voter initiative in 1972. Midpen's mission is to acquire and permanently protect a regional greenbelt of open space lands, preserve and restore wildlife habitat, watersheds, viewsheds, and fragile ecosystems, and provide opportunities for low-intensity recreation and environmental education. In 2004, the District was expanded to protect the San Mateo County Coast. Reflecting the interests of Coastside residents, Midpen's mission on the San Mateo County Coastside includes preserving the rural character and agricultural heritage of the Coastside and encouraging viable agricultural use of land resources. Midpen's mission outlines the critical functions of the agency, balancing the preservation of open space with active land restoration, low-intensity public recreation, and viable agricultural use. The IPMP supports Midpen's mission by allowing Midpen to control damage from pests, protect and restore the natural environment, and provide for human safety and enjoyment while visiting and working on District lands and facilities, which is discussed further in Section 1.4.

1.2.2 Program Area

Midpen has preserved a regional greenbelt system of over 72,000 acres of public land and manages 27 OSPs, a nature study area, and other land under management agreements, referred to as "Midpen lands" throughout this document. At the time of the 2014 IPMP, the Program covered approximately 61,186 acres of land, and currently the District manages approximately 72,099 acres. Table 1-1 includes the acres managed by the District included in each preserve, including those acquired since the publication of the 2014 EIR and 2019 addendum. As District managed lands have expanded since the 2014 IPMP, the 10-year update revises the projected scale of pesticide use under the IPMP to account for increased treatment demand and coverage requirements. Figure 1-1 depicts the Program location and changes to District managed lands since 2014. Since 2014, Midpen has acquired additional properties, classified as buildings, which include residences, carports, sheds, stalls, storage facilities, barns, workshops, and other various structure types. As of 2025, Midpen manages approximately 330 buildings, and approximately 518 miles of access roads and trails, which is addressed further in Section 1.5.4.

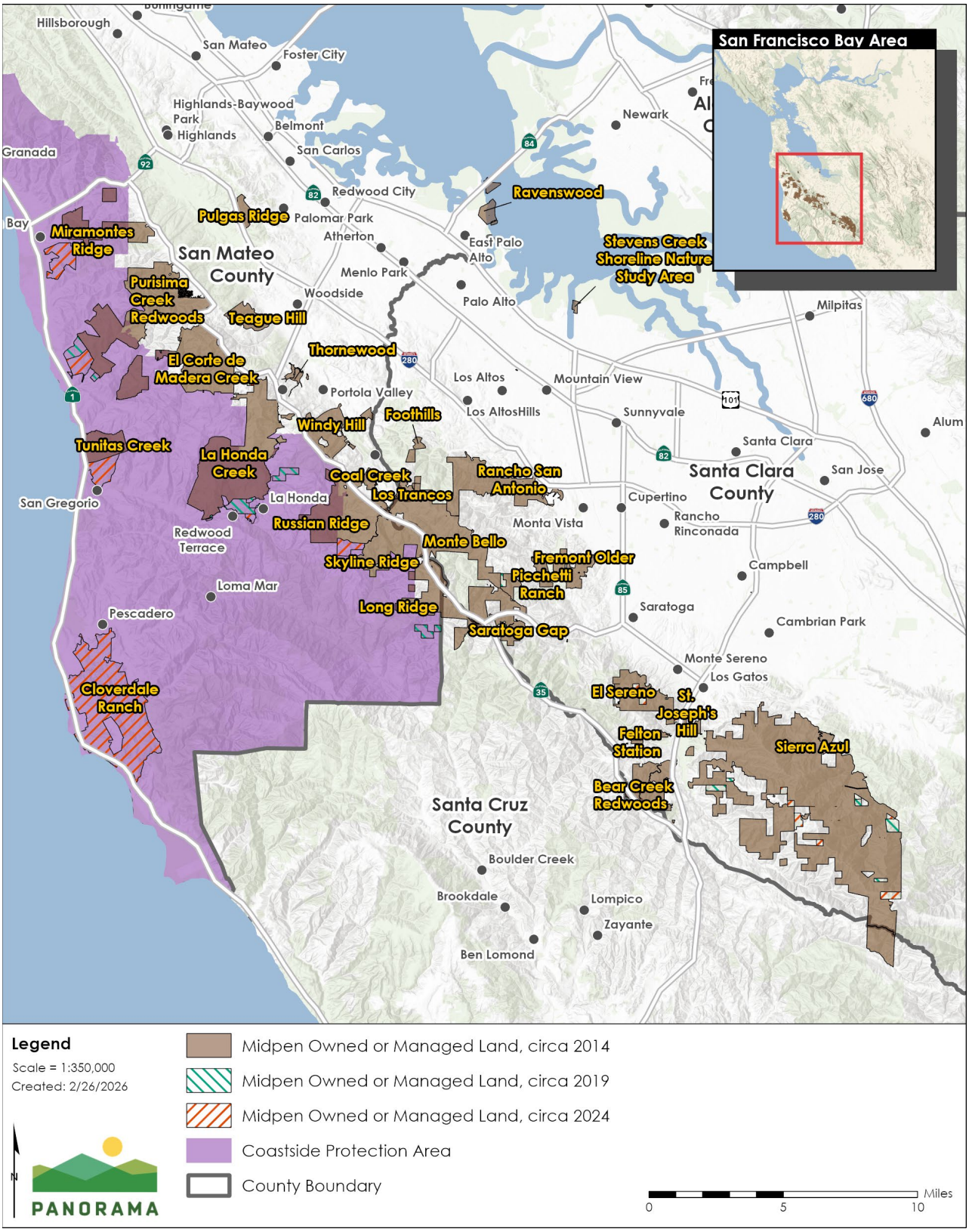
Table 1-1 District Managed Lands by Year of Program Update (Approximate Acres)

Preserve/Study Area	2014	2019	2025
Bear Creek Redwoods	1,386.9	1,386.9	1,386.9
Cloverdale Ranch	--	--	6,207.3
Coal Creek	494.7	494.7	494.7
El Corte de Madera Creek	2,776.9	2,778.6	2,778.6
El Sereno	1,421.9	1,434.3	1,653.1
Felton Station	44.4	44.4	44.4
Foothills	225.3	225.3	225.3
Fremont Older	735	735	735
La Honda Creek	5,678.2	6,220.2	6,369.4
Long Ridge	1,997.9	2,188.5	2,188.5
Los Trancos	272.4	272.4	272.4
Miramontes Ridge	1,620.7	1,620.7	2,265.4
Monte Bello	3,438.6	3,591.8	3,591.8
Picchetti Ranch	293.4	293.4	293.4
Pulgas Ridge	369.8	369.8	370.4
Purisima Creek Redwoods	4,622.9	4,943.1	5,339.6
Rancho San Antonio	3,887.7	3,943	3,944.6
Ravenswood	383	384.2	384.2
Russian Ridge	3,123.6	3,477.8	3,755.9
Saratoga Gap	1,643.7	1,648.9	1,648.9
Sierra Azul	18,631	19,085.2	19,449.8
Skyline Ridge	2,115.3	2,115.3	2,115.3
St Joseph's Hill	284.4	284.4	284.4
Steven's Creek Shoreline Nature Study Area	55.5	55.5	55.5
Teague Hill	620.5	620.5	621.6
Thornewood	172.5	172.5	172.5
Tunitas Creek	1,622.4	1,622.4	2,175
Windy Hill	1,400.1	1,400.1	1,400.1
Other Managed Lands (11 areas managed as part of an easement)	1,867.3	1,874.6	1,874.6
Total	**61,185.8**	**63,283.4**	**72,098.8**

Note:

Increases in acres since the 2014 EIR and 2019 Addendum are identified by underline and highlighted in gray.

Figure 1-1 Program Location and District Managed Lands



1.2.3 Nearby Communities and Development

Midpen's jurisdiction encompasses 19 cities (Atherton, Cupertino, East Palo Alto, Half Moon Bay, Los Altos, Los Altos Hills, Los Gatos, Menlo Park, Monte Sereno, Mountain View, Palo Alto, Pescadero, Portola Valley, Redwood City, San Carlos, San Gregario, Saratoga, Sunnyvale, and Woodside) and unincorporated areas in San Mateo, Santa Clara, and northern Santa Cruz counties with a combined population of approximately 700,000 residents. Although land uses within OSPs are predominantly natural open space and agriculture (primarily conservation grazing), many of the OSPs abut areas of low-density residential development.

1.3 Background and History of Integrated Pest Management on Midpen Lands

1.3.1 District IPMP Historical Context

The history of IPM in California began in the early to mid-20th century. Notably, one of the earliest occurrences of widespread IPM in the state occurred when integrated control measures were released for the spotted alfalfa aphid in the 1950s. IPM in California began in earnest after World War II. Treatments at the time resulted in the development of pest populations resistant to pesticides, the rapid resurgence of pest populations following treatment, and outbreaks of secondary pests, which required new and differing methods of IPM (Smith 1978). In 2004, the District performed a study that identified numerous species of invasive plants present on District lands. Specifically, 75 invasive plant species were observed.

In September 2014, the District developed its current Program. The District produced and released an IPMP Guidance Manual following the release of the 2014 EIR. The IPMP Guidance Manual included several proposed program policies and identified specific pest management actions including preventative and maintenance measures, damage assessment procedures, tolerance levels and thresholds for action, and treatment options. The proposed IPM policy statements presented in the 2014 IPMP Guidance Manual have since been adopted and are currently included in the District's Resource Management Policies, published in May of 2022.

Midpen released an Addendum to the 2014 EIR in January of 2019, which included proposed modifications to the previously approved 2014 Program, as described in Section 1.1.4. The following pesticides were added to the List of Approved Pesticides for the Program as part of the 2019 addendum: 1) Garlon® 4 Ultra [triclopyr-2-butoxyethyl ester (triclopyr BEE)] and 2) Capstone® [triclopyr triethylamine (TEA) salt and aminopyralid triisopropanolamine (TIPA) salt] for the control of broadleaf weeds and woody plants, and 3) PT® Wasp-Freeze® II (prallethrin) for the control of wasps and hornets. Additionally, the 2019 addendum included protections for two new species of special concern (California giant salamander [*Dicamptodon ensatus*] and the Santa Cruz black salamander [*Aneides niger*]).

Since publication of the 2014 EIR and 2019 addendum, Midpen adopted the WFRP (2023), which focuses on preventing, preparing for, and responding to wildfires, including addressing flammable vegetation near facilities, as a key part of the District's land stewardship. In response to increasingly intense fire seasons driven by dense forest regrowth, historical fire suppression, and climate change, the WFRP promotes environmentally sensitive vegetation management. The WFRP includes goals for reducing wildfire risks, enhancing fire response and safety, supporting healthy, fire-adapted ecosystems, incorporating Native American land management practices, and establishing an adaptive framework to adjust strategies based on evolving climate conditions, knowledge, and technology. The 2014 IPMP included a fuel management category, which addressed staff selection of options for required and ongoing maintenance of fuel management activities in relation to IPM; however, after approval of Midpen's WFRP, the dedicated fuel management category has been removed from the IPMP and incorporated into the WFRP.

1.3.2 Open Space Maintenance and Restoration Program

Midpen adheres to its Open Space Maintenance and Restoration Program (OSMRP), which was approved in 2021 and first implemented in 2022. The OSMRP streamlines the permitting process and allows for an integrated approach to (1) routine maintenance, (2) small-scale facility improvements, and (3) restoration and enhancement projects. The OSMRP's programmatic permits authorize IPM work in jurisdictional areas, as it is considered routine maintenance.

1.3.3 Annual Reports and District Pesticide Treatments from 2015 through 2024

The IPM Coordinator and the IPM Coordination Team prepare an Annual IPM Work Plan each year that describes planned pest control projects in the upcoming year. Working through department supervisors, staff provide the IPM Coordinator with a standardized spreadsheet or similar summary form describing upcoming pest control for the following basic types of activities:

- routine minor pest control actions;
- ongoing pest control projects; and
- new pest control projects.

Using this staff information, the Annual IPM Work Plan is prepared by the IPM Coordinator, then reviewed and approved by the IPM Coordination Team. Information in the Annual IPM Work Plan is also used to inform the Annual IPM Report. The Annual IPM Work Plan includes the following basic information:

- summary (e.g., Excel spreadsheet) of routine minor and ongoing pest control projects;
- detailed descriptions of new pest control projects;
- projected amounts of pest control in the next year (acres, hours, acres treated per gallon, total gallons used); and
- any new approaches to be implemented as a result of the adaptive management review in the Annual IPM Report of the preceding year.

The District prepares and releases the Annual IPM Report, which presents the results of the preceding year's pest management activities and outcomes, including a pesticide use summary. Refer to Table 1-2 for a summary of Midpen pesticide use between 2015 and 2024. Notably, District use of glyphosate has reduced significantly since 2014 primarily due to glyphosate being added to the Proposition 65 List of Carcinogens or Reproductive Toxicants in 2017.

1.4 10-Year Program Update Purpose, Need, and Objectives

1.4.1 10-Year Program Update Purpose and Need

The primary purpose of Midpen's IPMP is to control pests through consistent implementation of IPM principles to protect and restore the natural environment and provide for human safety and enjoyment while visiting and working on Midpen lands. Controlling and preventing pests allows Midpen to better achieve its overall mission of preserving a regional greenbelt of open space lands in perpetuity, protecting and restoring the natural environment, and providing opportunities for ecologically sensitive public enjoyment and education. The purpose of this 10-year Program update is to bring the IPMP up to date with the current regulatory and physical environmental conditions and incorporate adaptive management recommendations and improvements into the Program, including accounting for any lessons learned during the past 10 years of Program implementation, as discussed in Section 1.1.4.

1.4.2 Objectives of the 10-Year Program Update

The primary objective of the 10-year Program update is to bring the IPMP up to date to continue to support Midpen's mission, which is discussed in Section 1.2.1 above. Specific objectives of the proposed 2025 IPMP match those outlined in the 2014 Guidance Manual. Additional objectives specific to the 2025 IPMP include the following:

- Continue to standardize pest management and IPM procedures on District lands;
- Incorporate appropriate revisions to the IPM strategies and priorities consistent with the four pest management categories identified in the IPMP Guidance Manual[2];
- Incorporate revisions and additional strategies, such as the inclusion of new methods of termite control, into the Program's pest management categories, to prevent the introduction of new pest species into District preserves; and
- Reduce the use of glyphosate, where feasible, using other approved and proposed pesticides.

[2] After implementation of Midpen's WFRP, the dedicated fuel management category is no longer needed as part of the Midpen IPMP (since it is included in the WFRP) and as result it is not proposed under the 10-year Program update.

Table 1-2 Midpen Annual Pesticide Use Summary

Pesticide Category	Pesticide		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Fungicide	Potassium salts or phosphorus acid	Amount Used (oz):	5,062.4	5,011.2	4,841.9	None	6,608	None	None	None	None	Pending
		Acres Treated:	22.6	22.6	22.6	N/A	N/A	N/A	N/A	N/A	N/A	Pending
Herbicide	Aminopyralid	Amount Used (oz):	61.5	9.07	17.8	21.4	None	3.2	27.6	33.4	362.5	Pending
		Acres Treated:	15.4	26.4	147.3	25.3	N/A	2.1	1.6	6.8	2.8	Pending
	Clethodim	Amount Used (oz):	None	None	None	None	None	None	None	None	9	Pending
		Acres Treated:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	Pending
	Clopyralid	Amount Used (oz):	None	3.08	12.5	None	14	None	None	None	None	Pending
		Acres Treated:	N/A	1.9	5.3	N/A	10.8	N/A	N/A	N/A	N/A	Pending
	Glyphosate	Amount Used (oz):	2,975	3,677.1	2,181.6	785.0	87.5	162.8	458	621.8	529.5	Pending
		Acres Treated:	225.5	N/A	172.9	8.7	84.3	7.4	19.2	22.7	35.2	Pending
	Imazapyr	Amount Used (oz):	None	243.3	None	None	59.5	0.3	None	0.25	None	Pending

Pesticide Category	Pesticide		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
		Acres Treated:	N/A	15.1	N/A	N/A	44.7	15.2	N/A	1.4	N/A	Pending
	Triclopyr and aminopyralid	Amount Used (oz):	--	--	--	--	94	None	None	None	16	Pending
		Acres Treated:	--	--	--	--	1.05	N/A	N/A	N/A	0.3	Pending
	Triclopyr	Amount Used (oz):	--	--	--	--	2	3	17.7	17.7	3	Pending
		Acres Treated:	--	--	--	--	trace	1.7	9.1	9.1	0.06	Pending
Virucide	Didecyl dimethyl ammonium chloride	Amount Used (oz):	--	--	--	--	--	55.5	7	N/A	N/A	Pending
		Acres Treated:	--	--	--	--	--	N/A	N/A	N/A	N/A	N/A
	Hydrogen peroxide	Amount Used (oz):	--	--	--	--	--	None	None	None	None	Pending
		Acres Treated:	--	--	--	--	--	N/A	N/A	N/A	N/A	N/A
Insecticide	Pyrethrin	Amount Used (oz):	420	420	72	--	--	--	--	--	--	--
		Acres Treated:	N/A	N/A	N/A	--	--	--	--	--	--	--
	Prallethrin	Amount Used (oz):	--	--	--	72	113.5	122.5	84.5	141	None	Pending

Pesticide Category	Pesticide		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
		Acres Treated:	--	--	--	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rodenticide	Cholecalciferol	Amount Used (oz):	None	None	None	None	None	None	None	None	None	Pending
		Acres Treated:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

"NA" means 'not applicable' and indicates that either the treatment action was likely spot treatment and did not occur on open lands or the pesticide was not used for a given year.

'--' indicates a given pesticide was not included in Midpen's annual reporting for a given year

1.5 Description of the 10-Year Program Update

1.5.1 Overview of 10-Year Program Update Components

Under the IPMP, situations that trigger the need for pest control within District lands fall into the four distinct management categories: (1) buildings; (2) recreational facilities; (3) rangelands and agriculture properties; and (4) natural areas. The specifics of each category are largely unchanged since the 2014 IPMP. The four categories are then further broken down by identifying specific approaches to pest management including: preventative and maintenance actions; damage assessment procedures; tolerance levels and thresholds for action; and treatment options. The Guidance Manual 10-year update will identify and detail specific pest management actions for each management category that are accomplished through implementation of specific treatment types and methods. Table 1-5 and Table 1-9 include an overview of these treatment types and methods, which mirror the 2014 IPMP, and detail which information is changing under the 10-year Program update. Additionally, a description of the typical treatment actions and methods, including specifics regarding treatment action options for each management category, are provided in the subsections that follow, to provide clarity to the method of application detailed in Table 1-4.

This section provides detail on what Program changes are proposed as part of the 10-year update, including acreage changes to District lands, changes to treatment actions and methods, additional treatment actions, inclusion of the maximum annual allowable pesticide application for each pesticide, and overall changes to allowable pesticides included under the Program, including new herbicides, pesticides for structural pests, disinfectants, and repellents.

1.5.2 Program Area Update

At the time of publication of the 2014 Guidance Manual, the Program covered approximately 61,186 acres of land. In 2019, the Program was amended and District lands had expanded to approximately 63,283 acres. As of 2025, Midpen lands cover approximately 72,099 acres, which is a net gain of approximately 10,913 acres between implementation of the original 2014 Program and the 10-year Program update. The 10-year Program update addresses integrated pest management across all current and future acres of Midpen owned and managed lands. As Midpen continues to expand its District properties[3], the amount of integrated pest management work conducted under the Program is also expected to increase. For the purposes of the CEQA analysis, an up to 20 percent increase in Program area is assessed above the 2025 acreage baseline to account for foreseeable expansion of District-owned and managed lands and associated IPM activities. Midpen lands depicted on Figure 1-1 represent the conditions at the time of preparation of this document and are subject to change as District properties expand.

[3] This includes land, buildings, structures, and managed assets, such as field offices and residences.

1.5.3 Treatment Actions and Methods

Overview

The four primary treatment types first identified in the 2014 IPMP are included in the 10-year Program update; manual and mechanical (e.g., physical barriers, pulling, mowing), cultural (e.g., sanitation, prevention, education), biological controls (e.g., hairy weevil, bacterial pathogens), and, as needed, chemical controls (i.e., pesticides).

Biological and cultural treatment types, including habitat modifications, have also been included within the manual treatment control category. However, while biological and cultural treatment controls are physical activities (e.g., hairy weevil release, picking up trash, installing educational signs, and installing fly traps), these activities have limited physical environmental disturbances compared to the more active pulling, digging, and mowing activities described below. These activities are considered for the purposes of CEQA to be included under the manual control category, as detailed in Table 1-4.

Manual and Mechanical Control Treatments

Manual control treatments consist of pulling and digging, and mechanical control treatments include motorized mowing and cutting, which is generally unchanged since the 2014 Program. 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. These methods are often used as a follow-up treatment in areas where larger pest populations have been sprayed with herbicide. The following is a summary of types of manual and mechanical control treatments used by the District as part of the IPMP, which were included in the 2014 Program and 2019 addendum.

- *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 1 and 6 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 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

Definitions

The definitions outlined in the 2014 Guidance Manual for pesticides, insecticides, rodenticides, herbicides, fungicides, and surfactants or adjuvants remain consistent with the Program and will not change under the 2025 Program update. The following definitions for disinfectants and repellents are proposed for incorporation into the Program as part of the 2025 update:

- *Disinfectants*, such as quaternary Ammonium solutions, are used to decontaminate all equipment, including but not limited to, wading, dive, and sampling equipment (e.g., water quality probes, nets, seines, buckets, substrate samples, etc.); fishing gear; boots; and watercraft. Disinfectants are considered pesticides because they are intended to kill pests, specifically microorganisms including pathogens (US EPA 2020).
- *Repellents* are not substances used to eliminate pests, rather, they are designed to dissuade pests. Repellents are considered pesticides as the definition of a pesticide includes any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. For example, in the case of the skin-applied repellents, the product makes people less attractive to the pest (US EPA 2024).

Personnel and Qualifications

Midpen staff and contractors adhere to 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 (US EPA), the California Department of Pesticide Regulation, and local jurisdictions. Pesticides are applied in all areas by or under the supervision of a California licensed Qualified Applicator (QAC/QAL) who will be licensed in categories relevant to the type of pest control work, except application in and around buildings, which have different requirements. The QAC/QAL are responsible for pesticide use records, work hours, and compliance with the Annual IPM Work Plan. They review pesticide labels and any Individual Pest Management Plans that are typically required when Midpen acquires new

properties or discovers new pests of high priority that were not included in the Annual IPM Work Plan. Staff prepare Individual Pest Management Plans after determining if a certain treatment action can be accomplished by existing staff and budgets and overall are technically feasible. Qualified applicators may include District field staff, contractors, and farmer/rancher tenants. Non-QAC or QAL certified District staff can apply pesticides, but only under direct supervision of the QAC or QAL and after completing the District's annual pesticide safety training. District staff coordinate with the County Agricultural Commissioners, and ensure that all required licenses and permits are obtained prior to pesticide application. Additionally, as required by regulations of the California Department of Pesticide Regulation (California Code of Regulations, Title 3, Division 6), the District or its contractors will 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.

Household and structural pesticides are applied under the supervision of a California licensed Branch I, II, or III Structural Pest Control Applicator (SPCA). SPCAs will be responsible for pesticide use records, work hours, and compliance with written recommendations in the approved Annual Work Plan, Individual Pest Management Plans, and compliance with pesticide labeling instructions. SPCAs may include a combination of District field staff and contractors. No unlicensed staff, contractors, volunteers, or tenants will perform structural or household pest control except for the limited use of District-approved ant/roach bait stations.

Structural pesticide applications made on District property by an outside vendor are by a registered structural pest control company in accordance with the state of California's Structural Pest Control Act dated April 2025 (Structural Pest Control Board 2025). Structural pesticide applications made by District staff will be carried out by trained applicators under the supervision of the IPM Coordinator or designated field supervisors. All applications on District property are made in compliance with the Annual Work Plan, Individual Pest Management Plans, and pesticide labeling instructions. All applications shall adhere to label directions for application rates and methods, storage, transportation, mixing, and container disposal. No untrained staff, volunteers, or tenants will make structural pesticide applications.

Pesticide Active Ingredients and Formulations

A list of pesticides was originally selected in 2014 as part of the original Program and was modified in 2019 to include additional pesticides; this list of pesticides was selected to support the IPM approach for the District. Additional pesticides are proposed as part of the 10-year Program update and are identified in Table 1-3 and Table 1-4. Each 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 newly proposed pesticide selected to support the District's IPM approach under the 10-year Program update, refer to Appendix B1, Pesticide Technical Background Information, of the 2025 IPMP Guidance Manual.

Grouped by pesticide category (e.g., herbicides, fungicide, rodenticide, insecticide), Table 1-3 provides the District's full pesticide list and includes active ingredient, product formulations, mode of action, and pesticide purpose, including those included under the 2014 Program and 2019 addendum, and new pesticides that are proposed for inclusion under the 2025 Program. 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 newly proposed pesticides 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).

This list encompasses mostly products already in use by the District, as well as three new herbicide control products, additional structural pest products, and the suite of repellants and disinfectants. Products on this list were reviewed by the District's Pest Control Advisor for human and environmental safety and efficacy on the District's target pest species.

Please refer to Table 1-4 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 10-year Program update:

- *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 program 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 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.

- *Basal bark*: Using this treatment method, an oil mixture containing herbicide would be applied to the lower 12 to 15 inches of brush and tree trunks (including the entire stem, root collar area, and exposed roots) via low-pressure backpack sprayer. This method would be used to selectively control woody plants with basal stems less than six inches in diameter.
- *Frill/injection*: A drill or sharp tool such as a hatchet would be used to create holes or cut through the exterior bark of a tree and into the sapwood. Each penetration point into the sapwood is then filled with the label-recommended amount of concentrated herbicide solution using an injection system, squirt bottle, or brush. This application method is often used for the control of trees that cannot be managed via basal bark application.
- *Wick application*: A wick or rope would be saturated in herbicide and attached to a reservoir containing a concentrated herbicide solution. The wick or rope is used to wipe herbicide directly onto target plants, typically weeds that are taller than surrounding non-target plants. Wick applicators may range in size from hand-held to truck-mounted.
- *Tenting*: One additional method of chemical application is proposed under the 10-year Program update and is specific to structural pest management and is relevant to the IPM in the buildings management category. Tenting involves sealing the entire structure with a material that can serve as a secure enclosure and fumigating with sulfuryl fluoride (Vikane). Tear gas (chloropicrin) is incorporated into the fumigant gas to serve as a warning agent for humans and animals, since Vikane gas has no warning properties (e.g., odors, eye irritation).

1.5.4 Management Categories and Treatment Actions

Overview

For each pest management action under the 10-year Program update, 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), which is consistent with the 2014 Program. Insecticides and rodenticides may also be used after non-chemical methods (e.g., trapping, manual removal), if the insects or rodents cause a human health and safety risk (e.g., occur in high traffic areas).

Table 1-3 Pesticides and Maximum Annual Application

Pesticide Category	Active Ingredient	Product Formulations (Manufacturer)	Mode of Action	Purpose	Maximum Allowable Application [a,c]
Herbicides	Glyphosate isopropylamine (IPA)	Roundup Custom (Monsanto)	Amino acid synthesis inhibitor	Nonselective post-emergent broad-spectrum weed control	5.6 gal
	Glyphosate potassium (K)	Roundup ProMax (Monsanto)	Amino acid synthesis inhibitor	Nonselective post-emergent broad-spectrum weed control	145.3 gal
	Aminopyralid TIPA	Milestone (Dow AgroSciences)	Auxin growth hormone mimic	Nonselective post-emergent broad-spectrum weed control	4.7 gal [b]
	Clopyralid monoethanolamine (MEA)	Transline (Dow AgroSciences)	Auxin growth hormone mimic	Selective broadleaf weed control	4.1 gal
	Imazapyr IPA	Polaris (Nufarm), Stalker (BASF)	Amino acid synthesis inhibitor	Nonselective pre and post-emergent broad-spectrum weed control	0.9 gal
	Clethodim	Envoy Plus (Valent)	Fatty acid synthesis inhibitor	Selective post-emergent grass weed control	4.8 gal
	Triclopyr BEE	Garlon 4 Ultra (Dow AgroSciences)	Auxin growth hormone mimic	Selective post-emergent woody plant broadleaf weed, and tree control	26.2 gal
	Triclopyr TEA	Capstone (DOW AgroSciences)	Auxin growth hormone mimic	Selective post-emergent woody plant broadleaf weed, and tree control	--[b]
	Triclopyr	Choline salt aquatic formulation (Vastlan)	Auxin growth hormone mimic	Selective systemic woody and herbaceous broadleaf plant control	24.6 gal

Pesticide Category	Active Ingredient	Product Formulations (Manufacturer)	Mode of Action	Purpose	Maximum Allowable Application [a,c]
	Imazamox	Aquatic formulation (ClearCast)	Inhibits acetohydroxyacid synthase, also known as acetolactate synthase	Annual and perennial broadleaf weeds and grasses, woody species, and riparian and emergent aquatic weed species control	2.5 gal
	Glufosinate	Lifelife/Cheetah Pro	inhibits glutamine synthetase	Nonselective post-emergent broad-spectrum weed control	6.4 gal
Fungicide	Phosphite K (Salts, mono-/di-)	Agri-Fos (AgBio)	Fungal oxidative phosphorylation inhibitor	Prevents forest pathogens	45 gal concentrate
Rodenticide	Cholecalciferol	Cholecalciferol baits	Calcification of soft tissues	Rodent pest control (e.g., rats, mice)	50 oz over approximately 330 buildings
Insecticides	Prallethrin	PT Wasp-Freeze II (BASF)	Voltage-gated sodium channel interference	Wasp and hornet control	420 oz (24 cans)
	Indoxacarb	Advion Gel Baits (DuPont)	Sodium channel blocker	Structural pest control (e.g., ants, cockroaches)	58 fl oz over 43 applications over approximately 330 buildings
	S-Hydroprene	Gentrol Point Source (Wellmark International)	Juvenile growth hormone mimic	Pest control (e.g., cockroaches, beetles, moths)	15 fl oz over 8 applications over approximately 330 buildings
	Fipronil	Maxforce Bait Stations (Bayer)	Gamma-aminobutyric acid (GABA)-gated chloride channel blocker	Ant control	16 fl oz over 7 applications over approximately 330 buildings

Pesticide Category	Active Ingredient	Product Formulations (Manufacturer)	Mode of Action	Purpose	Maximum Allowable Application [a,c]
	Fipronil	Termidor SC; Termidor HE	GABA-gated chloride channel blocker	Termite control	15 gallons over 1-5 residences
	Sodium tetraborate decahydrate (borax)	Prescription Treatment Baits (BASF), Terro Ant Killer II (Terro)	Water balance disruptor	Ant control	11 fl oz over 17 applications over approximately 330 buildings
	Diatomaceous earth	Diatomaceous earth	Water balance disruptor	Structural pest control (e.g., ants, cockroaches)	Approximately 330 buildings
	Chlorantraniliprole	Altriset	Disrupts normal muscle contraction	Termite control	8.5 gal over 1-5 residences
	Dinotefuran	Alpine Foam	Causes paralysis and mortality of insects	Termite control	14 oz over 1-5 residences
	Sulfuryl fluoride/ chloropicrin	Vikane	Interferes with the metabolism of stored fats and carbohydrates	Termite and wood beetle control	240 oz over 1-5 residences (sulfuryl fluoride) 10 fluid oz over 1-5 residences (chloropicrin)
	d-Limonene	XT-2000 Insecticide	Odorous repellent	Termite and wood beetle control	2 gal over 1-5 residences
	Disodium Octaborate Tetrahydrate	Bora-Care, Tim-Bor	Disrupts the enzyme and digestive systems of insects	Termite, wood beetle, fungus, and dry rot control	5 gal over 1-5 residences

Pesticide Category	Active Ingredient	Product Formulations (Manufacturer)	Mode of Action	Purpose	Maximum Allowable Application [a,c]
	Insecticidal Soap	Various	Disrupts the permeability and structure of insects' cell membranes, killing them through contact.	Ant control	Approximately 330 buildings
	Boric Acid	Various	Disrupts insect nervous system and causes dehydration:	Cockroach control	Approximately 330 buildings
	Bacillus thuringiensis var. israelensis	Various	The proteins are toxic to insect larvae when eaten	Mosquito control	250 discs
Surfactants/Adjuvants	Canola Oil, Ethyl and Methyl Esters	Competitor (Wilbur-Ellis)	Decrease surface tension, increase herbicide uptake, enhance wetting and spreading	Increase delivery and efficacy of pesticides to targets	NDA
	Lecithin	Liberate (Loveland Products, Inc.)	Enhances uptake of herbicides and pesticides	Increase delivery and efficacy of pesticides to targets	NDA
	Alcohol ethoxylates	Liberate (Loveland Products, Inc.)	Enhances uptake of herbicides and pesticides	Increase delivery and efficacy of pesticides to targets	NDA
	Alkylphenol ethoxylate (APE)	Pentra-Bark (Quest)	Enhances uptake of Agri-Fos	Increase delivery of Agri-Fos to trees	NDA

Pesticide Category	Active Ingredient	Product Formulations (Manufacturer)	Mode of Action	Purpose	Maximum Allowable Application [a,c]
Disinfectants	Sodium dichloroisocyanurate dihydrate	Granular Chlorine Bleach (Leslies Chlor Brite, EZ Chlor)	Minimize or eradicate presence of microorganisms	Disinfecting agent	5 kg
	Sodium chloride	Liquid Bleach (Clorox)	Minimize or eradicate presence of microorganisms	Disinfecting agent	16 gal
	Ethanol or Isopropyl Alcohol	Rubbing Alcohol	Minimize or eradicate presence of microorganisms	Disinfecting agent	100 gal
	Dodecyl dimethyl ammonium chloride	Quaternary ammonium compounds (Quat 128 or Physan 20)	Minimize or eradicate presence of microorganisms	Disinfecting agent	5 gal
	Hydrogen peroxide	Various	Minimize or eradicate presence of microorganisms	Disinfecting agent	4 gal (concentrate)
	Sodium hypochlorite	Various	Minimize or eradicate presence of microorganisms	Disinfecting agent	16 gal
Repellents	N,N-diethyl-meta-toluamide (DEET)	Various	Impairs insect's ability to detect target(s)	Repels insects (mosquitoes, ticks, and gnats)	200 cans (6 oz)
	Picaridin	Various	Makes insects less likely to bite	Repels insects (insects, ticks and chiggers)	200 cans oz (5 oz)

Notes:

[a] Refer to Table 1-4 for allowable application rates per acre for each IPM management category. The maximum allowable application data is newly represented in this 2025 Program as a column, however this table largely mirrors the information presented in the 2014 EIR and 2019 addendum. As the District continues to expand District managed lands, the overall scale of pesticide use under the IPMP must also increase as part of the 10-year update to meet the growing treatment and coverage needs to account for foreseeable expansion of District-owned and managed lands and associated IPM activities. Therefore, acreage estimates are excluded and only application values (e.g., ounces, gallons) are presented. Application would occur in accordance with the 2025 Program and IPMP best management practices (BMP).

[b] This maximum allowable application rate is dependent on spot treatment needs and Triclopyr TEA/Aminopyralid TIPA use (which has an estimated maximum annual application of 42.8 gals spread across management categories), as they are indicated to be interchangeable for spot treatments. Refer to rangelands and agricultural properties chemical treatment needs in Table 1-4.

[c] All applications are done under a written Pest Control Recommendation by a state licensed Pest Control Advisor according to product label instructions and may include methods not listed here

NDA: No Data Available

fl= Fluid

oz= Ounce

gal= Gallon

Sources: (NPIC 2009; NPIC 2008; Tu et al. 2001; Massachusetts Department of Agriculture 2014; Minnesota Department of Agriculture n.d.; GardenSafe, n.d.; Native Pest Management, n.d.; Gervais et al. 2022)

The District's management categories and associated treatment types and methods are provided in Table 1-4. Changes in the maximum allowable application of each pesticide are included in Table 1-3. As discussed in Section 1.3, the IPM for fuel management category is now addressed through the implementation of Midpen's WFRP, therefore the 10-year Program update does not include the dedicated fuel management category. Table 1-4 includes each IPM management category and the respective manual, manual and mechanical, mechanical, and chemical treatment actions, including method of application, purpose, and annual application estimates. New or revised portions of the 2025 Program, such as the addition of new pesticides, changes to pesticide quantities, and new or revised methods of application included as part of the 10-year update are included in gray highlighted underline or ~~strikeout~~ in Table 1-4.

The subsections that follow provide simplified information of what was included in the 2014 Program for each management category and is also part of the 2025 Program as well as a summary of what aspects are new or changed.

IPM in Buildings

District properties include approximately 330 buildings and structures, an increase from 103 buildings as of the 2014 Program, which encompasses administrative offices in cities, five field offices (increased from three as of the 2014 Program), 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, termites, 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 all buildings, structures, and vehicles and it may be conducted by District staff, contractors or by residential, commercial or agricultural/rangeland tenants at some level almost every year. Structural pests include common insects, plants and animals that routinely occupy the open interiors and immediate exteriors of buildings. Structural pests were generally included under the 2014 Program, however as part of the 10-year Program update, proposed changes included additional treatment actions for structural pests that live within the soil and wood components of structures, such as termites, wood boring beetles, and wood decaying fungi.

Table 1-5 summarizes treatment actions for insect and wildlife pests covered under the IPMP in buildings management category (new or revised information as part of the 10-year Program update is shown in gray highlighted underline and ~~strikeout~~).

Table 1-4 District Management Categories and Treatment Actions

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work [e]
Buildings	Manual	Sanitation	--	Structural pests, feral ~~stray~~ wildlife, pets	Approximately 330 ~~103~~ buildings	--	--
		Habitat modification	--	Structural pests, feral ~~stray~~ wildlife, pets	Approximately 330 ~~103~~ buildings	--	--
		Physical barriers	--	Structural pests, feral ~~stray~~ wildlife, pets	Approximately 330 ~~103~~ buildings	--	--
		Traps	Sticky, electric, snap, box, ~~glue boards,~~ water, lures	Structural pests, feral ~~stray~~ wildlife, pets	Approximately 330 ~~103~~ buildings	--	--
		Building retrofits	--	Structural pests, feral ~~stray~~ wildlife, pets	--	Spring/ summer/ fall	--
		Prevention	--	Structural pests, feral ~~stray~~ wildlife, pets	--	--	--
	Chemicals	Insecticidal soap	Spray	Structural pests	Approximately 330 ~~103~~ buildings	Spring/ summer/ fall	--
		Diatomaceous earth	Crack & crevice	Structural pests	Approximately 330 ~~103~~ buildings	Spring/ summer/ fall	--
		Boric acid	Crack & crevice	Structural pests	Approximately 330 ~~103~~ buildings	Spring/ summer/ fall	--

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work [e]
		S-Hydroprene	Impregnated disc	Structural pests	15 fl oz over 8 applications over ~~103~~ approximately 330 buildings	Spring/ summer/ fall	--
		Indoxacarb (0.1%)	Crack & crevice	Structural pests	7 fl oz over 20 applications over ~~103~~ approximately 330 buildings	Spring/ summer/ fall	--
		Indoxacarb (0.5%)	Crack & crevice	Structural pests	51 fl oz over 23 applications over ~~103~~ approximately 330 buildings	Spring/ summer/ fall	--
		Sodium tetraborate decahydrate	Bait station	Structural pests	11 fl oz over 17 applications over ~~103~~ approximately 330 buildings	Spring/ summer/ fall	--
		Fipronil	Bait station	Structural pests	16 fl oz over 7 applications over ~~103~~ approximately 330 buildings	Spring/ summer/ fall	--
		Fipronil	Spot treatment	Termites	5 gallons over 1-5 residences	--	1x per year
		Cholecalciferol	Bait station	Vertebrate pests	50 oz over ~~103~~ approximately 330 buildings	Spring/ summer/ fall	--
		Prallethrin	Spray	Stinging insects	70 oz (4 cans of spray)	Spring/ summer/ fall	--

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work[e]
		Chlorantraniliprole	Perimeter	Structural pests, termites	8.5 gallons over 1-5 residences	--	1x per year
		Dinotefuran	Perimeter	Structural pests, termites	14 ounces over 1-5 residences	--	1x per year
		Sulfuryl fluoride/ chloropicrin	Tenting	Structural pests, termites	240 ounces over 1-5 residences (sulfuryl fluoride) 10 fluid oz over 1-5 residences (chloropicrin)	--	1x per year
		d-Limonene	Spot treatment, prevention	Structural pests, termite	2 gallons over 1-5 residences	--	1x per year
		Disodium Octaborate Tetrahydrate	Spot treatment, prevention	Structural pests, fungus & dry rot, termite	5 gallons over 1-5 residences	--	1x per year
Recreational Facilities	Manual	Sanitation	--	Stinging insects	--	Spring/ summer/ fall	--
		Habitat modification	--	Stinging insects, mosquitoes, feral ~~stray~~ wildlife, pets	--	Spring/ summer/ fall	--
		Traps	Water/lure	Stinging insects, mosquitoes, feral ~~stray~~ wildlife, pets	--	Spring/ summer/ fall	--
		Nest removal	--	Stinging insects	--	Summer	--

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work [e]
	Manual and Mechanical	Digging & mowing	Hand shovels, brushcutters (manual method in creeks with salmonids)	Ponds, bridges, culverts	<2 acres ~~1 acre~~	--	1x per year
	Mechanical	Mowing	Tractors	Roads & road-width trails, facilities	696 acres ~~580 acres~~	May through August	1.5x per year
			Brushcutters	Single track trails	102 acres ~~85 acres~~	May through August	1.5x per year
		Clearing and grubbing	Loppers, hand saws, bladed tools	Vegetation management along trails	153 miles; ~186 acres	--	---
		Cutting	Chainsaws	Hazard & downed tree removal	50 to 150 trees	--	--
			Chippers	Hazard & downed tree removal	50 to 150 trees	--	--
	Manual: Biological	Bacterial pathogens	*Bacillus thuringiensis* var. *israelensis*	Mosquitoes	250 discs	May through September	1 disc per 30 days
	Chemical	Prallethrin	Spray	Stinging insects	350 oz (20 cans of spray)	Spring/ summer/ fall	--

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work[e]
		Glyphosate IPA	Cut-stump, spot spray, wick, frill/injection	Dam faces, parking lots, gates & stiles, facilities	3.4 gal ~~over 40 acres~~	Spring/ summer/ fall	1x per year
		Glyphosate K	Cut-stump, spot spray, wick, frill/injection	Roads, trails, parking lots, gates & stiles, facilities	1.1 gal ~~over 54.6 acres~~	Spring/ summer/ fall	1x per year
		Clopyralid MEA	Spot spray, cut-stump, frill/injection	Parking lots, gates & stiles, facilities	0.4 ~~0.3~~ gal ~~over 22.9 acres~~	May through August	1x per year
		Imazapyr IPA	Cut-stump, spot spray, frill/injection	Roads, trails, parking lots, gates & stiles, facilities	0.5 gal ~~over 54.6 acre~~	Spring/ summer/ fall	--
		Triclopyr	Spot spray, basal bark	Invasive plant control in aquatic and riparian weeds.	0.6 gal	Spring/ summer/ fall	1x per year
~~Fuel Management~~	~~Manual and Mechanical~~	~~Mowing & cutting~~	~~Tractors, brushcutters, pole pruner, chainsaws, chippers, masticators, jawz implement~~	~~Defensible space, fuel break, emergency helicopter landing zones~~	~~140 acres~~	~~--~~	~~1x per year~~

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work [e]
		~~Discing & cutting~~	~~Tractor-pulled instrument, pole pruner~~	~~Disc lines~~	~~75 acres~~	~~April through May~~	~~1x per year~~
	~~Chemical~~	~~Glyphosate K~~	~~Cut-stump, spot spray, wick, frill/injection~~	~~Defensible space, disc lines, fuel break~~	~~3.6 gal over 14 acres~~	~~April through June~~	~~1x per year~~
		~~Triclopyr BEE~~	~~Spot spray, cut-stump, basal bark~~	~~Defensible space, disc lines, fuel break~~	~~3.6 gal over 14 acres~~	~~Summer/fall~~	~~1x per year~~
Rangelands and Agricultural Properties	Manual	Weeding, weedmats, crop rotation, mulching	Hand tools	Agricultural weeds	432 acres ~~360 acres~~	Spring/ summer	1x per year
		Sanitation, physical barriers, traps	Snap, box traps	Vertebrate pests	432 acres ~~360 acres~~	--	--
	Mechanical	Mowing, ~~discing,~~ cutting, flaming	Tractors, brushcutters, brushrakes, flame equipment	Rangeland weeds, agricultural weeds, brush control	432 acres ~~725 acres~~	Spring/ summer/fall	1x per year
	Chemical	Aminopyralid TIPA	Spot spray, cut-stump, basal bark, wick, frill/injection	Rangeland weeds, invasive plant control	2.4 ~~2.1~~ gal ~~over 174 acres~~	--	1x per year

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work[e]
		Clopyralid MEA	Spot spray, cut-stump, frill/injection	Rangeland weeds, invasive plant control	1.8 ~~1.6~~ gal ~~over 174 acres~~	Spring/ summer	1x per year
		Glyphosate IPA	Spot spray, cut-stump, wick, frill/injection	Rangeland weeds, brush control, agricultural weeds, invasive plant control	1.1 ~~1~~ gal ~~over 100 acres~~	Spring/ summer	1x per year
		Glyphosate K	Spot spray, cut-stump, wick, frill/injection	Rangeland weeds, brush control, agricultural weeds, invasive plant control	66.7 ~~57.6~~ gal ~~over 154 acres~~	Spring/ summer	1x per year
		Triclopyr BEE	Spot spray, cut-stump, basal bark	Rangeland weeds, brush control, agricultural weeds, invasive plant control	3.4 ~~6.6~~ gal ~~over 154 acres~~	Spring/ summer/ fall	1x per year
		Triclopyr TEA/ Aminopyralid TIPA	Spot spray, cut-stump, frill/injection	Rangeland weeds, invasive plant control	22.8 ~~20~~ gal ~~over 154 acres~~	--	1x per year
		Clethodim	Spot spray	Invasive plant control	2.8 gal	Winter/ spring/ summer	1x per year

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work[e]
		Triclopyr	Spot spray, basal bark	Invasive plant control in aquatic and riparian weeds.	4 gal	Spring/ summer /fall	1x per year
		Imazamox	Spot spray aquatic/riparian	Invasive plant control. Riparian and terrestrial weed control.	0.5 gal	Spring/ summer/ fall	1x per year
		Glufosinate	Spot spray	Invasive plant control. Early season annual plant control.	3.2 gal	Spring	2x per year
Natural Lands	Manual	Digging, hoeing, hand pulling	Weed wrenches, Rootslayers, hand saws, clippers, pole pruner	Invasive plant control	300 acres ~~250 acres~~	--	1x per year
		Sanitation	--	Invasive plant control	--	--	--
		Prevention	--	Invasive plant control	--	--	--
		Habitat modification	--	Invasive plant control	--	--	--
		Traps	--	Invasive animal control	--	--	--
	Manual: Biological	Biocontrol insects	Hairy weevils	Invasive plant control	960 acres ~~800 acres~~	--	1x per year

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work[e]
	Mechanical	Cutting/ Digging/ Pulling	Pole pruner, chainsaws, chippers, masticators, jawz implement	Sudden oak death, invasive plant control	24 acres ~~20 acres~~	--	1x per year
		Flaming	--	Invasive plant control	≤3 acres ~~2 acres~~	Winter/ spring	--
		Mowing	Tractors, mowers, brushcutters	Invasive plant control	120 acres ~~100 acres~~	Spring/ summer	4x per year
	Chemical	Glyphosate IPA	Spot spray, cut-stump, wick, frill/injection	Invasive plant control	1.1 ~~1~~ gal ~~over 100 acres~~	Spring/ summer	1x per year
		Glyphosate K	Spot spray, cut-stump, wick, frill/injection	Invasive plant control, sudden oak death	81.5 ~~71.5~~ gal ~~over 955 acres~~	Spring/ summer	1x per year
		Clethodim	Spot spray	Invasive plant control	2 ~~1.8~~ gal ~~over 243 acres~~	Spring/ summer	1x per year
		Aminopyralid TIPA	Spot spray, cut-stump, basal bark, wick, frill/injection	Invasive plant control	2.3 ~~2~~ gal ~~over 174 acres~~	--	1x per year
		Clopyralid MEA	Spot spray, cut-stump, frill/injection	Invasive plant control	1.9 ~~1.7~~ gal ~~over 164 acres~~	Spring/ summer	1x per year

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work [e]
		Imazapyr IPA	Spot spray, cut-stump, frill/injection	Invasive plant control, sudden oak death	0.40 ~~0.35~~ gal ~~over 8 acres~~	Spring/ summer	1x per year
		Phosphite K (Salts, mono-/di-)	Spray, inject	Pathogen	45 gallons concentrate ~~over 30 acres~~	April/ May or October/ November	1x per year
		Triclopyr BEE	Spot spray, cut-stump, basal bark	Invasive plant control	22.8 ~~20~~ gal ~~over 1,000 acres~~	Spring/ summer/ fall	1x per year
		Triclopyr TEA/ Aminopyralid TIPA	Spot spray, cut-stump, frill/injection	Invasive plant control	20 ~~17.5~~ gal ~~over 164 acres~~	--	1x per year
		Triclopyr	Spot spray, basal bark	Invasive plant control	20 gal	Spring/ summer/ fall	1x per year
		Imazamox	Spot spray aquatic/ riparian	Invasive plant control	2 gal	Spring/ summer/ fall	1x per year
		Glufosinate	Spot spray	Invasive plant control, early season annual plant control	3.2 gal	Spring	2x per year
General [f]	Surfactants/Adjuvants	Canola Oil, Ethyl and Methyl Esters	Spot spray	Increase delivery and efficacy of pesticides to targets	--	--	--

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work [e]
		Lecithin	Spot spray	Increase delivery and efficacy of pesticides to targets	--	--	--
		Alcohol ethoxylates	Spot spray	Increase delivery and efficacy of pesticides to targets	--	--	--
		Alkylphenol ethoxylate (APE)	Spot spray	Increase delivery of Agri-Fos to trees	--	--	--
	Chemical (Disinfectant)	Sodium dichloroisocyan-urate dihydrate	Spot spray/water additive	Disinfect equipment, water bodies and surfaces	5 kg	--	--
		Sodium chloride	Spot spray	Disinfect equipment	16 gal	--	--
		Ethanol or isopropyl alcohol	Spot spray	Disinfect equipment	100 gal	--	--
		Dodecyl dimethyl ammonium chloride	Spot spray	Disinfect equipment	5 gal	--	--
	Chemical (Repellents)	N,N-diethyl-meta-toluamide (DEET)	Spot spray	Impairs insect's ability to detect target(s)	200 cans (6 ounces)	--	--

IPM Management Categories	Treatment Type	Treatment Method	Method of Application [b]	Purpose	Annual Application [c]	Timing of work [d]	Frequency of Work [e]
		Picaridin	Spot spray	Makes insects less likely to bite	200 cans (5 ounces)	--	--

Notes:

[a] This table is a combination of information presented in the 2014 EIR and 2019 Addendum. New or changed information proposed as part of the 2025 IPMP 10-year update are shown in underline or strikeout and highlighted in gray. For the purposes of this addendum, the acres of manual and mechanical treatment are assumed to increase approximately 20 percent in accordance with the Program area increase to account for foreseeable expansion of District-owned and managed lands and associated IPM activities.

[b] All applications are done under a written Pest Control Recommendation by a state licensed Pest Control Advisor according to product label instructions and may include methods not listed here.

[c] Herbicide quantities are expressed as volume of concentrate, i.e. volume of undiluted product. As the District continues to expand District managed lands, the overall scale of pesticide use under the IPMP must also increase as part of the 10-year update to meet the growing treatment and coverage needs, therefore acreage estimates are excluded and only application values (e.g., ounces, gallons) are presented. Application would occur in accordance with the 2025 Program and IPMP BMPs.

[d] No value indicates treatment method may be applied anytime during the year.

[e] No value indicates treatment method may be applied multiple times throughout the year as needed.

[f] The general category is included to indicate that disinfectants and chemical repellents are used under all management categories. Refer to Section 1.5.5 for a description of how disinfectants and repellents will be utilized under the 2025 Program. Additionally, information regarding disinfectants and repellents as incorporated into the specific management categories is included throughout Section 1.5.4.

fl= Fluid

oz= Ounce

gal= Gallon

Sources: (Yun Cang, n.d.; Midpen 2018)

Table 1-5 Building Management Category and Treatment Actions

Pest Category	Treatment Action
Structural Pests (overall)	Prevention (cultural and manual control treatments): • Check for proper ventilation of crawl spaces; add vapor barriers in crawl spaces. • Ensure appropriate slopes and drainage next to structures.

Pest Category	Treatment Action
	• 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. • 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 wasps, native bees, and ladybugs. • 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 0.25 inch below doors. • 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-inch-diameter downward-facing cones or 18-inch-diameter discs, or a 12-inch 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 to 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.

Pest Category	Treatment Action
	• Use yellow (sodium) bulbs to reduce insect attraction in exterior 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. • In the event that repeated attempts of removal of non-native rodents are not successful in a human occupied structure, lethal removal may be required as a control method.
Stinging Insects (Nests)	Chemical control: • Use of **Pyrethrin Aerosol Sprays.** Pyrethrin-type aerosol sprays containing prallethrin, and phenothrin are only recommended 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.[a]
Structural Pests (Subterranean termites, drywood termites, wood beetle, fungus/dry rot)	Physical control (manual control treatments): • Treat the full perimeter of the home and any additional entry points by, and not limited to, trenching and/or rodding soil adjacent to the foundation, drilling through concrete/veneer surfaces abutting the foundation, trenching around pier blocks and plumbing pipes in the subarea. • Remove or destroy accessible subterranean termite tubes/tunnels. • Seal drill holes and back fill trenches, if applicable. • Prior to tenting (discussed above), the District will remove all plants, as feasible, and rake back all rock and debris along the foundation (8-10 inches) to create a proper seal for chemical work. Contractor would follow tenting instructions and requirements. • Patch all injection holes, cover, or remove accessible termite evidence.
Structural Pests (Subterranean termites, drywood termites, wood beetle, fungus/dry rot)	Chemical control: • Spot Treatment (subterranean termites): Treat the affected area with Termidor SC (fipronil). Drill into concrete if/as needed. Fill holes with concrete sealer. Treat all probable access points as needed. Remove accessible termite tubes. • Spot Treatment (drywood termite, ground and wood beetle): Exterminate the drywood termites by drilling small holes into the infested wood member and injecting XT-2000 Insecticide (Active Ingredient: d-Limonene) and/or Tim-bor (Active ingredient: Disodium Octaborate Tetrahydrate) and/or Termidor SC (Active ingredient: fipronil) and/or Bora-Care (Active ingredient: Disodium Octaborate Tetrahydrate) into the termite channels. • Full perimeter (subterranean termite): Treat the infested area with Termidor HE (active ingredient: fipronil) and/or Altriset (active ingredient: Chlorantraniliprole) and/or Alpine Foam (active ingredient: Dinotefuran) for the control of subterranean termites.

Pest Category	Treatment Action
	• Tenting (drywood termite and wood beetle): The entire structure will be sealed and fumigate with Sulfuryl Fluoride (Vikane). Tear gas (Chloropicrin) would be used as a warning agent. • Prevention (drywood termite and wood beetle): Apply Tim-bor (Active ingredient: Disodium Octaborate Tetrahydrate) and/or Bora-Care (Active ingredient: Disodium Octaborate Tetrahydrate) to accessible exposed wood members of the attic. • Fungus/dry rot: After wire brushing or scraping the infected area, treat the infected area with Tim-Bor (Active ingredient: Disodium Octaborate Tetrahydrate) and/or Bora-Care (Active ingredient: Disodium Octaborate Tetrahydrate).
Ant	Physical control (manual control treatments): • 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.
Ant	Chemical control: • Insecticidal soap spray: 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: 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. • 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. • Diatomaceous earth (DE): 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	Physical control (manual control treatments):

Pest Category	Treatment Action
	• 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.
Cockroaches	Chemical control: • Boric acid dusts: 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. • 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. • Fipronil insecticidal baits: see description above in relation to ant chemical control. • Indoxacarb insecticidal baits: 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.
Flies	Physical control (manual control treatments): • 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. • No chemical methods are approved for control of flies.
House and Deer Mice	Physical control (manual control treatments): • 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.

Pest Category	Treatment Action
	• ~~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.
House and Deer Mice	Chemical control: Chemical control of mice are not 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	Physical control (manual control treatments): • Complete an inspection to identify the rodent species, find rodent entry points (holes 0.25 inch or larger), and identify other conditions conducive to rodent infestation. Note: If woodrats 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).~~
Roof, Norway, and woodrats	Chemical control: • The only rodenticide that is approved for structural rodent control on District lands under the IPM is cholecalciferol. This rodenticide is only 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 are only used inside buildings and in bait formulations enclosed in anchored and tamper-proof stations. Tenants are not allowed to use rodenticides; only trained District staff or licensed contractors are allowed to use rodenticides in District managed buildings. The District's IPM Coordinator determines 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) are allowed for use on District lands under the IPMP.
Skunks, opossums, raccoons, and bats	Physical control (manual control treatments): • 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

Pest Category	Treatment Action
	be released unharmed. Current California Department of Fish and Wildlife (CDFW) trapping regulations require that trapped animals are either released immediately or euthanized, live animals may not be relocated without a permit from CDFW. • Place 0.5-inch or smaller welded wire mesh over chimney tops (check with your fire department for local regulations on spark arresters) and install a tighter-fitting screen. Bats can enter through open doors or windows or exterior openings over ¼" in diameter. 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). Install one-way openings to allow bats to leave the structure after sealing is complete. Smoke pens may be permitted in structures with a verified absence of bats. Bat exclusion requires CDFW approval. Avoid bat exclusion work during the winter torpor period (November 15 through February 15) and summer maternity roosting season (April 15 through August 31).
Skunks, opossums, raccoons, and bats	Chemical control: Chemical control of skunks, opossums, raccoons, and bats are not considered except under very severe human health and safety considerations. In the unlikely event that chemical control of skunks, opossums, raccoons, and bats is deemed necessary, refer to the Chemical Control section for rats, above.
Feral pets	Physical control (manual control treatments): 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.

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 518 miles of access roads and trails, an increase compared to the 479 miles as of the 2014 Program, as well as associated infrastructure (i.e., bridges, culverts, drainage ditches, boardwalks, parking lots, gates, stiles, restrooms, fencing, signage and sign boards), picnic areas, one campground, off-leash dog area, 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., leave no trace policy, 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 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. 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.

Table 1-6 summarizes treatment actions for plants, insect, and wildlife pests covered under the IPM in recreational facilities management category (new or revised information as part of the 10-year Program update is shown in gray highlighted underline and ~~strikeout~~).

Table 1-6 Recreational Facilities Management Category and Treatment Actions

Pest Category	Treatment Action
Mosquitoes	Chemical control: • 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 mosquitoes for human health and safety. • Repellents (active ingredient: DEET or picaridin) can be applied to the skin or clothing, to dissuade insect pests, including mosquitoes, from attacking District staff or workers. Use of repellents will be limited and infrequent.
Mosquitoes	Biological control (manual control treatments): • *Bacillus thuringiensis var. israelensis* (BTI), in the form of small discs, are placed in watering troughs throughout the preserves to control mosquitoes. BTI is a specific type of bacteria that prevent mosquito larvae from developing.
Mosquitoes	Physical control (manual control treatments): • 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.
Stinging Insects	Chemical control: • 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.
Stinging Insects	Physical control (manual control treatments): • 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	Physical control (manual control treatments): • Train staff to protect themselves from tick exposure and posting of educational signs to help inform visitors of tick prevention and detection strategies. • Chemical control of ticks is not approved; however, repellents (active ingredient: DEET or picaridin) can be applied to the skin or clothing, to dissuade ticks from attacking District staff or workers. Use of repellents will be limited and infrequent.
Rattlesnakes	Physical control (manual control treatments):

Pest Category	Treatment Action
	• 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 rattlesnakes that occur near people. Rattlesnakes are the only venomous snakes that can cause significant harm to humans that occur in the District preserves. 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. • Chemical control of rattlesnakes is not approved.
Vegetation	Chemical control: • 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). • Chemical control active ingredient options include the approved glyphosate, approved imazapyr, and the proposed triclopyr, and glufosinate. Refer to Table 1-4.
Vegetation	Physical control (manual control treatments): • Road and trail brushing: Mechanical mowing is used to prevent nuisance vegetation from impeding roads and trails. Vegetation along approximately ~~479~~ 518 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. • Parking lots, gates, and stiles: On an annual basis, a strip of land around ~~13~~ approximately 50 parking lots and ~~213~~ between 200-300 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 and bioretention basins 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. • 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 boardwalks: At some ponds and boardwalks, 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.

Pest Category	Treatment Action
	• 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. • Hazard and downed trees: Removal of downed trees, as appropriate. An estimated 50 to 150 standing 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. These trees may be alive or dead. Stumps of live trees may be treated with herbicide to prevent re-growth.

IPM for Rangelands and Agricultural Properties

Consistent with the 2014 Program, 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 an Agricultural Management Plan, which includes Rangeland Management Plans, that are 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. The 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. Future plans would be required to be consistent with the IPMP.

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. No changes are proposed to the Rangelands and Agricultural Properties category as part of the 10-year Program update, however properties managed under the Districts Conservation Grazing Program have changed since implementation of the 2014 Program, as outlined in Table 1-7. The District first established its 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.

Table 1-7 District Properties Currently Managed Under the District's Conservation Grazing Program

Property[b]	Preserve	Years First Grazed Under District Management	Acres as of 2014	Acres as of 2025
Apple Orchard Grazing Unit	La Honda	2013	N/A	298
Big Dipper-Mindego Grazing Unit	Russian Ridge OSP/Skyline Ridge OSP	2007-2015	Big Dipper: 955 Mindego Hill: 1,047	2,027
Bluebrush Canyon[c]	Purisima Creek Redwoods OSP	2009	302	273
Lobitos Grazing Unit (now includes the Elkus Ranch Uplands)	Purisima Creek Redwoods OSP	2009-2010	Lobitos: 389 Elkus Ranch Uplands: 450	1,210
October Farm Grazing Unit	Purisima Creek Redwoods OSP	2012	270	280
Gordon Ridge Grazing Unit	Tunitas Creek OSP	2020	NA	545
Toto Ranch Grazing Unit[d]	Tunitas Creek OSP	2012	952	903
Tunitas Creek Grazing Unit	Tunitas Creek OSP	2008	707	703
Harrington Grazing Unit (formerly known as Driscoll Ranch)	La Honda Creek OSP	2006	3,700	3,595
Lone Madrone Grazing Unit (formerly known as McDonald Ranch)	La Honda Creek OSP	2014	2,060	1,076
Butano Farms Grazing Unit	Cloverdale Ranch OSP	2023[a]	NA	783
Cloverdale Ranch Grazing Unit	Cloverdale Ranch OSP	2023-2024	NA	3,375
Johnston Ranch Grazing Unit	Miramontes Ridge OSP	2021[a]	NA	412

Property[b]	Preserve	Years First Grazed Under District Management	Acres as of 2014	Acres as of 2025
Total			**10,832**	**15,480**

Notes:

[a] Indicates this was the first year the District managed grazing, prior to full ownership.

[b] All properties, except Big Dipper-Mindego Grazing Unit, are within the Service Plan for the San Mateo Coastal Annexation Area.

[c] The area of grazing decreased due to a reevaluation of grazeable areas.

[d] The area of grazing decreased due to removal of the agricultural lease area from the overall grazeable area.

NA – Not applicable.

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 Agricultural 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. Table 1-8 summarizes treatment actions for forest pathogens, invasive species, wildlife, and insects covered under the IPMP in rangelands and agricultural properties management category (new or revised information as part of the 10-year Program update is shown in gray highlighted underline and ~~strikeout~~).

IPM for Natural Lands

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. Table 1-9 summarizes treatment actions for forest pathogen, plant, insect, and wildlife pests covered under the IPMP in natural lands management category (new or revised information as part of the 10-year Program update is shown in gray highlighted underline and ~~strikeout~~).

Table 1-8 Rangelands and Agricultural Properties Management Category and Treatment Actions

Pest Category	Treatment Action
Forest Pathogens	Chemical control: • Disinfectants outlined in Table 1-4 would be utilized to kill or inactivate pathogens (e.g., *Phytophthora*), before plant infection may occur through the decontamination of tools, equipment, vehicles, and footwear in accordance with the latest Guidelines for Minimizing *Phytophthora* Contamination at Midpeninsula Regional Open Space District Preserves.
Aquatic invasive species and pathogens	Chemical control: • Disinfectants outlined in Table 1-4 would be utilized to prevent the spread of invasive aquatic species, such as small invasive aquatic snails (e.g., New Zealand mudsnail), and pathogens to sensitive aquatic species, particularly amphibians (e.g., chytridiomycosis disease). • Disinfectants are used to decontaminate equipment, boots, and clothing before and after entering a waterbody, as appropriate. The CDFW aquatic invasive species decontamination protocol provides details on the procedures and best practices.
Rangelands and Agricultural Lands	Chemical control: • 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. Refer to Table 1-4 for a list of applicable pesticides. • 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.
Rangelands	Physical control (manual control treatments): • 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.
Agricultural Lands	Physical control (manual control treatments): • Cultural weed control. Cultural weed control includes crop rotations, water and nutrient management, late-season planting, and cover/smothering crops (Smith et al. 2000; Gunsolus et al. 2010). Cultural methods are the first line of defense in weed management on cropland.

Pest Category	Treatment Action
	• 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. • Manual weed treatment. Specific manual weed treatment methods allowed under the Lobitos Agricultural Management plan are mowing, pulling, flaming, mowing, mulching, weedmats, and hoeing.

Table 1-9 Natural Lands Management Category and Treatment Actions

Pest Category	Treatment Action
Forest pathogens ~~Sudden Oak Death (SOD)~~	Physical control (manual control treatments): • Sudden oak death (SOD; *Phytophthora ramorum*) 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. • Treatments would be used to remediate *Phytophthora* that is found in soils.
Forest pathogens	Chemical control: • Disinfectants outlined in Table 1-4 would be utilized to kill or inactivate pathogens (e.g., *Phytophthora*), before plant infection may occur through the decontamination of tools, equipment, vehicles, and footwear in accordance with the latest Guidelines for Minimizing *Phytophthora* Contamination at Midpeninsula Regional Open Space District Preserves.
Aquatic invasive animals and pathogens	Chemical control: • Disinfectants outlined in Table 1-4 would be utilized to prevent the spread of invasive aquatic animals, such as small invasive aquatic snails (e.g., New Zealand mud snail), and pathogens to sensitive aquatic species, particularly amphibians (e.g., chytridiomycosis disease). • Disinfectants are used to decontaminate equipment, boots, and clothing before and after entering a waterbody, as appropriate. The CDFW aquatic invasive species decontamination protocol provides details on the procedures and best practices.
Bullfrogs, non-native fish, and turtle	Physical control (manual control treatments): • 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)

Pest Category	Treatment Action
	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. • 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. 12 volt direct current (DC) electroshockers would be mounted on small boats or backpacks, and then the electroshock current would be applied to the surface of the wetland. • 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). • ~~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.~~
Feral pigs	Physical control (manual control treatments): • 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).
Feral pets	Physical control (manual control treatments): • 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.
Skunks, opossums, and raccoons	Physical control (manual control treatments): • 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 CDFW trapping regulations require that trapped animals are either released immediately or euthanized, live animals may not be relocated without a permit from CDFW.
Skunks, opossums, and raccoons	Chemical control:

Pest Category	Treatment Action
	• Chemical control of skunks, opossums, raccoons, and bats are not considered except under very severe human health and safety considerations. In the unlikely event that chemical control of skunks, opossums, and raccoons is deemed necessary, refer to the Chemical Control section for rats, above.
Argentine ants	Physical control (manual control treatments): • Refer to the ant provisions under the Buildings section.
Invasive plants	Physical control (manual control treatments): • Biological control: Release of approximately 20,000 hairy weevils (*Eustenopus villosus*) on approximately 800 acres per year at select preserves. This form of biocontrol is intended to control seed production of yellow starthistle. • 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 off-site 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 4- to 6-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

Pest Category	Treatment Action
	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 District (BAAD; formerly the Bay Area Air Quality Management District or 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 BAAD ~~BAAQMD~~, and all conditions of Hazard Reduction Fires per BAAD ~~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.
Invasive plants	Chemical controls: • 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. Refer to Table 1-4 for a list of applicable pesticides.
Aquatic invasive plants	Physical control (manual control treatments): • 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 Self-contained underwater breathing apparatus (SCUBA) divers equipped with mesh bags to collect plant fragments as they work. • Harvest: The District may use 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.

Pest Category	Treatment Action
	• 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.
Aquatic invasive plants	Chemical controls: • Among the herbicides included in the IPM program are some that are formulated for use in and near aquatic habitats (Roundup CustomTM 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. Pesticides used include glyphosate and imazapyr, refer to Table 1-4 for a list of applicable pesticides.

1.5.5 Disinfectants and Repellents

Disinfectants and repellents are being proposed for inclusion under the 10-year Program update, which were not included under the 2014 Program or 2019 addendum. Disinfectant and repellent use is part of Midpen's standard practices and these methods have been used throughout the life of the Program, such as for disinfecting equipment and tools, however standardized processes and specifics are now proposed as part of the 10-year Program update to formalize their inclusion. Midpen staff will follow relevant disinfectant use guidelines for any activity that contacts soil, water or plants on a known *Phytophthora*-contaminated site, on a formerly planted site, on a site with rare plants, or when preparing or planting a new restoration site to prevent contamination via equipment or footwear. Repellents would be applied to the skin, or otherwise placed in a specific location, to dissuade pests, namely insects. Use of repellents would be limited and infrequent. Use of repellents and disinfectants generally apply to all Midpen management categories, however Table 1-8 and Table 1-9 outline specific uses related to disinfectants under the 10-year Program update. The specific proposed disinfectants and repellents are included in Table 1-3 and Table 1-4.

1.5.6 Site Access

Access via vehicles, including all-terrain vehicles and utility task vehicles in addition to standard vehicles, and equipment to conduct Program activities would typically be entirely from existing roads and trails. Access to work sites, in some cases, would not be directly from maintained trails and roads and would be achieved by using foot trails or former trails that have grown over and can be cleared. No new access roads or changes to site access are proposed as part of the 10-year Program update.

1.5.7 Program Implementation

An IPM Implementation Plan was developed in 2014 to accompany the 2014 Guidance Manual. The purpose of the Implementation Plan was to systematically develop larger tasks (i.e., prevention and monitoring) and integrate them into the Annual IPM Work Plan, the goals of which were achieved throughout the 10-year life of the 2014 IPMP.

As part of the 2025 IPMP 10-year update, the District proposes to revise its pesticide prioritization system for IPM on rangeland, agricultural lands, and natural lands in relation to weed control. The prioritization framework includes a structured yet adaptable approach to managing invasive pest species and focuses efforts based on ecological benefit. Midpen's approach would utilize geographic information systems (GIS) to integrate ecological value, species risk, and management feasibility into management activities. Midpen regularly reviews any new data, emerging threats, and on-the-ground lessons are incorporated into the prioritization approach. Midpen would continue to implement the Early Detection and Rapid Response (EDRR) Program as part of the 2025 IPMP. The goal of EDRR is to detect new populations of invasive plants while populations are still small, and eradication is achievable. The key components of the EDRR program are prioritizing areas to be surveyed, performing

surveys to identify new populations and inventory existing populations, and rapid response treatments to any significant discoveries.

1.5.8 Program Best Management Practices

The District originally developed BMPs as part of the 2014 Program, which were updated in 2019. These BMPs consisted of management actions that the District incorporated into IPM proposals and projects for the purpose of protecting human health and preventing environmental effects, per the 2014 IPMP EIR. The 2014 BMPs were developed in conformance with District policies, based on the District's existing BMPs, and addressing relevant regulations. Some of the 2014 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. The list of BMPs included under the 10-year Program update are similar to those included in the 2014 IPMP and 2019 addendum, however changes to the existing BMPs and additional BMPs are proposed for inclusion under the 10-year Program update. Additions and revisions to the BMPs were made for consistency and clarity, and to address changes to the regulatory environment. The District would implement the following BMPs as an element of individual IPMP projects District-wide, as required and relevant. New or revised District BMPs incorporated into the 2025 IPMP are presented in Appendix C. The applicable OSMRP BMPs would be implemented when and where appropriate, in accordance with the programmatic permits. Midpen also implements the WFRP, as previously discussed. Vegetation is managed primarily manually, mechanically, with prescribed herbivory (using goats, sheep, or other livestock to reduce fuels in a specific area), and to a limited extent, herbicides. Invasive species are prioritized over removal of native species. Midpen employs a series of BMPs for each management activity.

1.5.9 Adaptive Use Management Strategy

The IPMP includes 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, 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 EDRR Program, was an important outcome of the ongoing adaptive use management strategy included in the 2014 IPMP.

The results of the evaluation are 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, and consider these changes for the upcoming Annual IPM Work Plan (discussed in Section 1.3.3). The adaptive use management strategy would remain as a generally unchanged and important component of the IPMP.

1.6 CEQA Guidance

Several aspects of the IPMP have been refined from what was analyzed in the certified 2014 EIR and 2019 addendum, as described above. Pursuant to Section 15164 of the CEQA guidelines, an addendum to an adopted EIR shall be prepared if only minor technical changes or additions are necessary and none of the conditions described in Sections 15162 and 15163 of the CEQA Guidelines have occurred that call for preparation of a subsequent or supplemental EIR. As described in Section 15162(a), a subsequent or supplemental EIR would be required if substantial changes occur to the project or substantial changes to the circumstances under which the project is undertaken occur that would involve either (a) a new significant environmental effect or (b) a substantial increase in the severity of a previously identified significant effect.

This 2025 addendum describes the changes and additions to the 2014 IPMP that are encompassed in the 2025 Program and includes consideration of the revisions to Appendix G under CEQA that have occurred since 2014. This addendum finds that the revisions to the 2014 EIR would not result in new significant impacts nor would they substantially increase the severity of previously identified significant impacts (CEQA Guidelines Section 15162), concluding that an addendum is the appropriate approach to document the changes since certification of the Final EIR. No new information of substantial importance has been identified, and none of the conditions described in Sections 15162 and 15163 of the CEQA Guidelines that call for preparation of a subsequent CEQA document are present. The mitigation measures adopted as part of the 2014 EIR and updates to mitigation measures as part of the 2025 Program are presented in Appendix A. These updated mitigation measures will not result in new significant impacts or more severe significant impacts than those impacts analyzed in the EIR. Based upon the above and pursuant to CEQA Guidelines Section 15162, there is no need for a supplemental or subsequent EIR. Section 15164(c) of the CEQA Guidelines states that "[a]n addendum need not be circulated for public review but can be included in or attached to the Final EIR or adopted negative declaration." Because the impact determinations in the certified 2014 EIR have not changed, additional circulation and review of public comments are not required.

2 Summary of 10-Year Program Update

Table 2-1 presents a comparison of changes between the approved IPMP, incorporating the 2019 refinements, which was originally analyzed under the certified 2014 EIR and 2019 Addendum, and the 2025 Program. The 2025 Program is incorporated here by reference.

Table 2-1 Comparison of 2025 Program Updates to the Approved 2014/2019 IPMP

Topic	Subtopic	Approved 2014/2019 IPMP	Proposed 2025 Program Updates
Program Area		• District managed lands cover approximately 61,185 acres.	District managed lands increased to cover approximately 72,099 acres. For the purposes of the analysis, the Program Area assessed, is assumed to represent an estimated 20 percent increase in acreage.
Pesticide Types	Chemical	The Approved Pesticide list includes: • Eight (8) herbicides, one (1) fungicide, one (1) rodenticide, ten (10) insecticides, and four (4) surfactants/adjuvants.	Expanded Approved Pesticide list to include: • Three (3) new herbicides including Triclopyr, Imazamox, and Glufosinate and five (5) new insecticides including Chlorantraniliprole, Dinotefuran, Sulfuryl fluoride/ chloropicrin, d-Limonene, and Disodium Octaborate Tetrahydrate. • Six (6) disinfectants including Sodium dichloroisocyanurate dihydrate, Sodium chloride, ethanol or isopropyl alcohol, Dodecyl dimethyl ammonium chloride, Hydrogen peroxide, and Sodium hypochlorite. • Two (2) repellents including DEET and Picaridin.
Pest Control Methods and Treatment Actions	Manual	Sticky and glue traps for rodents were included as an application method under the IPM management category Buildings.	Sticky and glue traps for rodents are removed as an approved method of application.

Topic	Subtopic	Approved 2014/2019 IPMP	Proposed 2025 Program Updates
	Mechanical	Discing was included as an application method under the IPM management categories of Fuel Management and Rangeland and Agricultural Properties.	Discing is removed as an application method under the IPM management category of Rangeland and Agricultural Properties. Discing is included in the WFRP, which replaced the IPM Fuel Management category.
	Chemical	Disinfectants have been used by Midpen since the implementation of the IPMP in accordance with the IPMP BMPs and Midpen pathogen protocols but were not formally included.	Disinfectant and repellant pest control methods are included in relevant management categories.
	Chemical	--	• Pest control actions associated with the new pesticides are included in relevant management categories. • Tenting is proposed as a chemical application method for Sulfuryl fluoride/chloropicrin and described in the treatment actions.
Annual Application		• Annual application quantities were set by the average of District managed lands and total properties, as well as pesticide use labels.	• Annual application quantities are adjusted and generally increased across all pesticide types based on the increase in District managed lands and properties, updates to pesticide use, and Midpen processes. • For the purposes of the CEQA analysis, annual treatment acres for manual and mechanical methods are assumed to increase 20 percent, commensurate with the increase in land acreage and to account for foreseeable expansion of District-owned and managed lands and associated IPM activities.

Topic	Subtopic	Approved 2014/2019 IPMP	Proposed 2025 Program Updates
Management Categories	IPM in Buildings	District properties included 103 buildings. Seven (7) pest categories included.	District properties increased to approximately 330 buildings. New pest categories: • Stinging Insects (Nests) • Structural Pests (Subterranean termites, drywood termites, wood beetle, fungus/dry rot) • Feral Pets
	IPM in Recreational Facilities	• Social Wasps included as a pest category. • Recreational facilities and associated infrastructure within District preserves included approximately 479 miles of access roads and trails. • The number of parking lots and gates and stiles within District preserves was 13 parking lots and 213 gates and stiles.	• Revision of the pest category Social Wasps to Stinging Insects. • Recreational facilities and associated infrastructure within District preserves are expanded to include approximately 518 miles of access roads and trails. • Updates to number of parking lots, gates, and stiles to approximately 50 parking lots and between 200-300 gates and stiles.
	IPM in Fuel Management	Fuel management category included in IPM management categories.	Removal of the fuel management category as it is covered now under the WFRP.
	IPM in Rangelands and Agricultural Properties	Properties managed under the Districts Conservation Grazing Program were approximately 10,832 acres. Three (3) pest categories included. Discing was included as an approved tool under the physical control (manual control treatment) category, mow/cut.	Properties managed under the Districts Conservation Grazing Program has increased to approximately 15,480 acres. Pest categories are expanded to include: • Forest pathogens • Aquatic invasive animals and pathogens Discing is removed as an approved tool under the physical control (manual control treatment) "Mow/Cut" category and is instead covered under the WFRP.

Topic	Subtopic	Approved 2014/2019 IPMP	Proposed 2025 Program Updates
	IPM in Natural Lands	Seven (7) pest categories included.	Pest categories are expanded to include: • Aquatic invasive animals and pathogens • Skunks, opossums, and raccoons The SOD pest category is revised to Forest Pathogens. Exclusionary fencing for bullfrogs is removed as a pest control action due to inadvertent impacts to native species.
IPMP Best Management Practices (BMP)		IPMP BMPs were incorporated into IPM proposals and projects for the purpose of protecting human health and preventing environmental effects. The IPMP BMPs included: • Specific training and qualification requirements. • Special-status species, habitat, and environmental protection requirements. • Inspections, site monitoring, and surveys requirements. • Requirements for site access controls and restrictions and notifications. • Sanitation and prevention of contamination requirements. • Erosion and site stabilization measures.	See Appendix C for the IPMP list of BMPs and detailed 2025 Program updates. Updates to the IPMP BMPs include: • General revisions to clarify existing language; better reflect District processes, regulatory requirements, US EPA findings; and improve consistency with the District's Open Space Maintenance and Restoration Program (OSMRP). • Training and qualification requirements revised (2025 BMPs #4, 5, 13, 16, 20). • Special-status species, habitat, and environmental protections requirements revised (2025 BMPs #6, 14, 15, and 17). • Inspections, site monitoring, and surveys requirements updated (2025 BMPs #11, 22, and 24). • Requirements for access controls, site restrictions, and notifications revised (2025 BMPs #8, 9, and 13). • Sanitation and prevention of contamination requirements updated to specify forest pathogens (2025 BMP #21). • Updated erosion and site stabilization measures to specify use of approved, biodegradable erosion control measures and non-filament-based geotextiles (2025 BMP #23).

3 Evaluation of 2025 Program Update

3.1 Overview

This addendum is intended to provide CEQA compliance for the proposed modifications and changed circumstances related to the project evaluated in the certified 2014 EIR and 2019 addendum. This addendum is organized by environmental issue area and is intended to consider all environmental topic areas that could be affected by the modifications to the 2014 IPMP reflected in the 2025 Program and/or any changes in circumstances, since the 2014 EIR and 2019 addendum, such as changes to Appendix G of the CEQA guidelines, and determine whether such modifications/changes would result in new or significant impacts.

The purpose of this discussion below is to evaluate the environmental issue areas in terms of any changed condition (i.e., changed circumstances, project changes, or new information of substantial importance) that may result in a different environmental impact significance conclusion from the certified 2014 EIR and 2019 addendum. Each resource issue area is addressed below.

Since publication of the 2014 EIR and 2019 addendum, Midpen certified the WFRP EIR and adopted the WFRP in 2023, which focuses on preventing, preparing for, and responding to wildfires, including addressing flammable vegetation near facilities, as a key part of the District's land stewardship. The 2014 IPMP included a fuel management category, which addressed staff selection of options for required and ongoing maintenance of fuel management activities in relation to IPM; however, after approval of Midpen's WFRP, the dedicated fuel management category has been removed from the IPMP and incorporated into the WFRP, which was analyzed in the WFRP EIR. This change included in the 2025 Program is not analyzed further.

3.2 Aesthetics

The 2014 EIR and 2019 addendum analyses identified less than significant impacts associated with impacts on scenic vistas, changes in visual character, and damage to scenic resources within a state scenic highway corridor from the implementation of the IPMP (Midpeninsula Regional Open Space District 2014; 2019).

The 2014 EIR identified no impacts associated with nighttime lighting. The 2025 Program does not include nighttime work and would not create any new impacts associated with nighttime lighting.

Tenting to control structural pests is proposed under the 2025 Program and would take place at infested buildings or structures. Tenting would require the structures to be completely sealed with material, which would be highly visible to the public, if present in the vicinity; however, tenting would occur in a minimal number of locations (a maximum of five residences a year) and would be temporary, similar to previously analyzed visual impacts.

Application of new pesticide types proposed under the 2025 Program would be of a similar general type as other IPM methods analyzed in the 2014 EIR and 2019 addendum. The scale of pesticide application would be proportionally increased due to the expansion of land managed by Midpen and would follow pesticide labels for proper application and IPMP BMPs. Similar visual impacts could occur as previously analyzed, including temporary changes to the visual character from areas with increased invasive species mortality. The increased scale of pesticide application would cover more acreage, but the application rates in any one location would be similar to those that were previously assessed, as the rates were in accordance with the pest control recommendation prepared by the Pest Control Advisor. This process outlined in the 2025 Program is the same as in the previously approved IPMP. The changes in the 2025 Program would not create changes that detract from scenic vistas or substantially alter the landscape but could increase the accessibility and views of scenic vistas through the expansion of public lands and trails open to the public. Additionally, the use of pesticides to control vegetation could benefit visual resources in some areas by eliminating invasive vegetation that encroaches on recreational facilities and detracts from natural landscapes. IPMP BMPs would continue to be implemented, such as to minimize the potential for treatments to cause erosion on slopes that could detract from scenic vistas (2025 BMP #23).

Based on the above discussion, the types of visual impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.3 Agriculture and Forestry Resources

The 2014 EIR and 2019 addendum analyses concluded less than significant impacts on agriculture and forestry resources from implementation of the IPMP (Midpeninsula Regional Open Space District 2014; 2019).

Similar to the actions analyzed in the 2014 EIR and 2019 addendum, the pest management actions that would result from implementation of the 2025 Program 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 in compliance with the Service Plan and with implementation of the 2025 Program. Additionally, the modifications to the IPMP reflected in the 2025 Program would not result in the loss of forest land or convert forestry land to non-forestry use.

Additional changes to the 2025 Program include the use of disinfectants. Disinfectants would be used to sanitize equipment and clothing in between uses. The added use of disinfectants has the potential to minimize the transmission of pathogens that impact trees on forest lands by decreasing the possible spread through tools used during Midpen activities.

Based on the above discussion, the types of agricultural and forestry impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.4 Air Quality and Greenhouse Gas Emissions

The 2014 EIR and 2019 addendum analyses concluded less than significant impacts on air quality and greenhouse gas (GHG) emissions from the implementation of the IPMP (Midpeninsula Regional Open Space District 2014; 2019). Similar to the approved IPMP, no new construction activities are proposed in the 2025 Program and therefore, would not result in any short-term construction-related emissions of criteria air pollutants and precursors of GHGs.

The 2025 Program would increase the use of manual and mechanical IPM methods in recreational facilities management areas from 479 miles of access roads and trails to approximately 518 miles. Additionally, there would be an increase in the acres of land managed by Midpen under the 2025 Program, which would proportionally increase the use of manual and mechanical equipment across the Program area.

No new manual or mechanical equipment types are proposed under any management category; therefore, the power tools described in the 2014 EIR and 2019 addendum (e.g., mowers, brushcutters, chainsaws) and larger equipment (i.e. tractors, masticators, chippers) would be the same under the 2025 Program. The 2014 EIR and 2019 addendum found that the use of these types of equipment would not result in significant impacts on air quality. While the potential treatment areas are assumed to increase by approximately 20 percent or 300 acres, this would total less than 1,600 acres of total mechanical equipment treatment area. Midpen has conducted quantitative emission calculations for use of similar mechanical equipment and associated worker vehicle trips for up to 1,737 acres of new treatment areas and determined that the emissions were substantially below emission thresholds (Midpeninsula Regional Open Space District 2022). Accordingly, the small increase in mechanical treatment area would not result in new significant impacts on air quality.

The 2025 Program represents a minor increase in overall emissions in relation to Midpen's increased Program area under the 2025 Program. The 2025 Program would require increased use of small power tools in recreational areas and additional worker trips to provide IPM services to all Midpen lands. No new or more severe impacts to air quality and GHGs are anticipated under the 2025 Program from the increase in Program area as the required increase in use of small power tools and worker trips would be a minor increase. The 2025 Program would not involve any new stationary sources that could generate air pollutant emissions.

One new chemical application method, tenting, is proposed for use with the chemical sulfuryl fluoride/chloropicrin and is not anticipated to have adverse impacts on air quality, as tenting would be temporary, occurring a maximum of 5 times in a year, would be contained to buildings or structures to reduce the potential for environmental transport, and would be similar to previously analyzed air quality impacts. No new or more severe impacts to air quality are anticipated under the 2025 Program from tenting.

The 2014 IPMP included a fuel management category, which included manual and mechanical activities as part of ongoing maintenance of fuel management. Since publication of the 2014 EIR and 2019 addendum, Midpen has adopted the WFRP and accompanying WFRP EIR, which focuses on preventing, preparing for, and responding to wildfires, including addressing flammable vegetation near facilities, as a key part of the District's land stewardship (Midpeninsula Regional Open Space District 2022). Accordingly, the fuel management category of the IPMP is proposed for removal, since these activities are incorporated in the WFRP. This would involve a reduction in analyzed emissions and emissions sources in the 2014 EIR associated with the fuel management category treatment.

The 2025 Program would not result in new impacts to air quality or GHG emissions because there are no construction activities proposed and treatment activities are the same as those being performed under the approved IPMP and would not lead to a meaningful increase in the extent or intensity of emission-generating activities as the activities would be scaled to the increase in the Program area. The use of tenting for application of the proposed pesticide, sulfuryl fluoride/chloropicrin, would be contained to buildings or structures to reduce the potential for environmental transport.

Based on the above discussion, the types of air quality and GHG emissions impacts associated with the modifications included in the 2025 Program are similar to previously analyzed impacts of the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.5 Biological Resources

3.5.1 Changes to Special-Status Plant Listings

Since the 2014 EIR and 2019 addendum, the list of special-status species relevant to the Program area has been updated to include additional species and remove species, as well as to account for changes to species listings (see Appendix B).

Fifteen additional special-status plant species were identified and included in the 2025 Program (see Appendix B). 2025 BMP #11 mandates that special-status plant species would be surveyed before implementation of any IPM treatment and avoided if found. The 2025 Program would not adversely affect special-status plant species since surveys and avoidance of special-status plant species would occur for each area treated under the IPMP. The incorporation of weed control 2025 BMPs #21 through 22 would ensure that treatment activities would not result in

weed propagation and dispersal and that no indirect impact to special-status plant species would occur. Similar to the previously analyzed impacts to special-status plant species, no significant impacts are anticipated with implementation of IPMP BMPs.

3.5.2 Changes to Special-Status Animal Listings

One additional special-status amphibian species, four additional bird species, two additional invertebrate species, one additional fish species, and one additional mammal species were identified for this assessment of the 2025 Program (see Appendix B).

The 2014 EIR and 2019 addendum identified potentially significant impacts to special-status wildlife species as a result of the IPMP (Midpeninsula Regional Open Space District 2014; 2019). 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. These impacts on special-status amphibians, reptiles, fish, invertebrates, and bats would be reduced to less than significant with the implementation of Mitigation Measures 4.2-1a through 4.2-1d. Mitigation Measures 4.2-1a through 4.2-1d require additional protection for special-status species including pre-treatment surveys and consultation with U.S. Fish & Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and CDFW, as appropriate. These mitigation measures are intended to apply to all species that were listed and/or of special concern at the time of the 2014 EIR. The language in Mitigation Measures 4.2-1a through 4.2-1c has been updated to more broadly address all potential special-status amphibians, reptiles, fish, and invertebrates, which accounts for the changes to the special-status species to date and possible future changes (Appendix A). These changes are minor and do not constitute significant new information.

Manual, mechanical, and chemical treatments may directly or indirectly affect species that breed or live in aquatic habitats, including, the newly listed red-bellied newt (*Taricha rivularis*) and the longfin smelt (*Spirinchus thaleichthys*). The loss of freshwater habitat would impact both species (NatureServe Explorer, n.d.; California Department of Fish and Wildlife 2018). The 2014 EIR and 2019 addendum analyzed potentially significant impacts on special-status amphibians and fish and identified mitigation measures to reduce the impact.

Implementation of 2025 BMP #23 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 (i.e., vegetation removal). Direct impacts due to mechanical treatments in upland areas are not anticipated as vegetation removal would occur in a limited area. 2025 BMP #11 requires pre-surveys of brush removal work 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. Additionally, 2025 BMP #11 would require the District to conduct site surveys for aquatic features before implementation of IPM activities and would require the District to not conduct the work within 15 feet of aquatic habitats. 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, the natural habitat would be enhanced by the removal of pest species. 2025 BMP #20 would prevent pesticide contamination in habitats. Mitigation Measures 4.2-1a and 4.2-1b would further minimize impacts to the red-bellied newt and the longfin smelt. Similar to the conclusions of the 2014 EIR and 2019 addendum for previously analyzed special-status amphibians and fish, implementation of IPMP BMPs and Mitigation Measures 4.2-1a and 4.2-1b would result in no significant impacts on the red-bellied newt and the longfin smelt.

Manual, mechanical, and chemical treatments may directly or indirectly affect newly listed special-status bird species including the California Ridgway's rail (*Rallus obsoletus obsoletus*), American goshawk (*Accipiter atricapillus*), bank swallow (*Riparia riparia*), and yellow rail (*Coturnicops noveboracensis*) that potentially live, breed, or feed in the treatment areas. Implementation of IPMP BMPs (#12 and 20) would avoid impacts to special-status bird species. 2025 BMP #12 would require sites to be surveyed by a District-approved qualified biologist or biological monitor within 15 days prior to treatment to assess nesting activity and 2025 BMP #20 would prevent pesticide contamination to habitats. Similar to the conclusions of the 2014 EIR and 2019 addendum, implementation of IPMP BMPs would result in no significant impacts on the California Ridgway's rail, American goshawk, bank swallow, and yellow rail.

The 2014 EIR and 2019 addendum found that manual, mechanical, and chemical treatments for recreational facilities, in rangelands and agricultural properties, and in natural lands could result in the loss of host plants, and the direct mortality of larva and individuals and would result in a potentially significant impact to identified special-status invertebrates, which mitigation would reduce to less than significant. Similar to impacts on special-status invertebrates identified in the previous analysis, the monarch butterfly (*Danaus plexippus Plexippus*) and Crotch's bumble bee (*Bombus crotchii*) could be directly impacted by the IPMP.

2025 BMP #11 would require the District to conduct site surveys prior to implementation of IPM activities. It is anticipated that individual butterflies and bees would move out of the treatment area during treatment, and treatment would not result in loss of habitat. Rather, the natural habitat would be enhanced by the removal of pest species. 2025 BMP #20 would prevent pesticide contamination before, during, and after use of pesticides to avoid impacts to special-status species. Mitigation Measure 4.2-1c would be implemented to avoid impacts to special-status invertebrates from pyrethrin spray. This mitigation measure requires all District staff and contractors using pyrethrin spray to be trained in the identification of problem wasps and special-status invertebrates to ensure that proper species are being targeted and if special-status invertebrates are observed, pyrethrin treatment will not be used in these areas. As previously analyzed for other special-status butterfly species, in accordance with Mitigation Measure 4.2-1c, surveys for milkweed, the host plant for the monarch, would occur and occupied plants would not be treated. Additionally, the OSMRP includes a mitigation measure for Program activities that could impact overwintering monarch habitat (MM BIO-1), to avoid loss of occupied overwintering sites. Similar to the conclusions of the 2014 EIR and 2019 addendum, implementation of IPMP BMPs, Mitigation Measure 4.2-1c, and OSMRP mitigation measures

(MM BIO-1) would result in no significant impacts on the monarch butterfly or Crotch's bumble bee.

Special-status mammals similar to the newly listed species, the mountain lion (*Puma concolor*), were not identified or analyzed in detail in the 2014 EIR and 2019 addendum. It is anticipated that mountain lions would move out of the treatment area during treatment, and treatment would not result in loss of habitat. Rather, the natural habitat would be enhanced by the removal of pest species. 2025 BMP #20 would prevent pesticide contamination before, during, and after use of pesticides to avoid impacts to mountain lions. Field and contractor crews would receive training on how to respond in the event that a sensitive species is encountered, such as an active mountain lion den (2025 BMP #10). Implementation of IPMP BMPs (#10, 11, and 20) would avoid impacts to the mountain lion.

The 2014 EIR and 2019 addendum found that with implementation of mitigation measures and IPMP BMPs, there would be no significant impacts on special-status species. IPM methods included in the 2025 Program are similar to the methods in the approved IPMP, which were previously analyzed. Impacts on newly listed special-status species would remain less than significant with mitigation.

3.5.3 Changes to Manual and Mechanical Treatment Methods

Special-Status Species

The 2014 EIR analysis concluded potentially significant impacts to special-status species related to manual and mechanical treatment methods and use of pesticides from the implementation of the IPMP; however, impacts would be reduced to less than significant with the implementation of Mitigation Measures 4.2-1a through 4.2-1e (Midpeninsula Regional Open Space District 2014). The 2019 addendum analysis concluded that the changes to the IPMP would not result in new or more severe impacts on special-status species or other biological resources with continued implementation of mitigation measures (Midpeninsula Regional Open Space District 2019).

No new manual or mechanical treatments were included in the 2025 Program that would cause potentially significant impacts. Manual treatment options were revised to remove the use of sticky or glue traps for rodents in the 2025 Program, which would minimally reduce the potential for small special-status species, such as rodents and lizards, to be inadvertently harmed. Discing is proposed for removal as a mechanical treatment method in the 2025 Program, which would reduce the potential for habitat disruption.

The scale of manual and mechanical treatments would be proportionally increased due to the expansion of land managed by Midpen and would follow the 2025 BMP #11, which requires pre-treatment surveys and buffers for sensitive species, and 2025 BMP #12, which requires buffers for nesting birds. Similar impacts to special-status species would be avoided through the implementation of IPMP BMPs and mitigation measures as previously analyzed. The increased scale of manual and mechanical treatments would cover more acreage, but the application rates

in any one location would be similar to those that were previously assessed in the 2014 EIR and 2019 addendum.

One new chemical application method, tenting, is proposed and is not anticipated to have adverse impacts on biological resources, as tenting would occur a maximum of 5 times in a year and would be temporary at any building or structure. Proper fumigation safety protocols would be followed as stated on the pesticide label (2025 BMP #4) to avoid impacts. Impacts on special-status species from the changes to manual and mechanical treatment methods under the 2025 Program would be similar to previously analyzed biological impacts in the 2014 EIR and 2019 addendum.

Wetlands

The 2014 EIR analysis concluded potentially significant impacts to federally protected wetlands related to hydrological alterations to ponds, wetland type, and acreage, and discharge of pollutants (sediment and herbicides) to wetlands (Midpeninsula Regional Open Space District 2014). Impacts would be reduced to less than significant with the implementation of Mitigation Measure 4.2-3. 2025 BMP #11, which requires pre-treatment surveys to identify wetlands and riparian habitat prior to District activities, would continue to be implemented. The 2019 addendum analysis concluded no new or more severe impacts on wetlands with continued implementation of mitigation measures (Midpeninsula Regional Open Space District 2019). The 2025 Program would not result in impacts that would alter the conclusions of the 2014 EIR and 2019 addendum as mitigation measures would continue to be implemented (Mitigation Measure 4.2-3). Impacts on wetlands from the changes to manual and mechanical treatment methods under the 2025 Program would be similar to previously analyzed biological impacts in the 2014 EIR and 2019 addendum.

Sensitive Habitats and Migration Corridors

The 2014 EIR analysis concluded less than significant impacts to riparian habitats or sensitive natural communities and movement of resident or migratory fish and wildlife; and no conflict with local policies or ordinances or habitat management plans (Midpeninsula Regional Open Space District 2014). The 2019 addendum analysis concluded no new or more severe impacts (Midpeninsula Regional Open Space District 2019). The changes to manual and mechanical treatment types included in the 2025 Program would not result in new significant impacts on sensitive habitats that were not previously analyzed. Impacts would remain less than significant.

3.5.4 Changes to Chemical Treatment Types

The 2014 EIR found that with implementation of IPMP BMPs and mitigation measures, including pre-treatment surveys and buffers for sensitive species and nesting birds, there would be no significant impacts to biological species (Midpeninsula Regional Open Space District 2014). The 2014 EIR anticipated the need for future expansion and the 2019 addendum included additional District-managed lands in its analysis. The 2019 addendum concluded that no new or substantially different impacts from the use of the new pesticides and application methods would occur (Midpeninsula Regional Open Space District 2019).

With the increase in land managed by the District in the 2025 Program, the use of previously approved pesticides and the overall pesticide application area would be scaled up to effectively address pest management. The scale of pesticide application would be proportionally increased and would follow pesticide labels for proper application (2025 BMP #4). Application of new pesticide types proposed under the 2025 Program would be of a similar general type as other IPM methods analyzed in the 2014 EIR and 2019 addendum. Similar impacts from chemical treatments could occur as previously analyzed, including loss of host plants, direct mortality to individuals of different species, but would be mitigated through the implementation of mitigation measures (Mitigation Measures 4.2-1a through 4.2-1e) and IPMP BMPs. The increased scale of pesticide application would cover more acreage, but the application rates in any one location would be similar to those that were previously assessed as the rates were in accordance with the pest control recommendation prepared by the Pest Control Advisor. This process outlined in the 2025 Program is the same as the approved IPMP. Impacts from the increased use of previously approved pesticides under the 2025 Program would be similar to previously analyzed biological impacts in the 2014 EIR and 2019 addendum.

The 2025 Program proposes the use of three new herbicides, five new insecticides, five disinfectants, and two repellents, and one additional chemical application method: tenting. Table 3-1 summarizes the potential biological hazards of the pesticides proposed as part of the 2025 Program. The proposed pesticides in the 2025 Program and changed circumstances since the 2014 EIR and 2019 addendum were evaluated in a Toxicological Assessment of Pesticides and in a regulatory and literature review of previously approved pesticides (Stantec Consulting Services 2025b; 2025a).

Table 3-1 identifies the proposed pesticides and the specific precautions and measures needed for safe application.

Table 3-1 2025 Program Proposed New Pesticides – Biological Hazards

Proposed Pesticide	Description
Herbicides	
Triclopyr (Choline Salt)	Triclopyr BEE and triclopyr TEA were previously evaluated and approved for Midpen use. The 2025 Program proposed the use of triclopyr (choline salt) and is included in the toxicological assessment. Triclopyr is highly toxic to terrestrial and aquatic plants; however, it is an herbicide and is designed to kill invasive plant species. Toxicity to other ecological receptors is generally low.
Imazamox	Imazamox is highly toxic to terrestrial and aquatic plants at low concentration, consistent with its intended use as an herbicide under the 2025 Program. Toxicity to other ecological receptors was classified as practically non-toxic.

Proposed Pesticide	Description
Glufosinate	Glufosinate is highly toxic to terrestrial and semi-aquatic plants, consistent with its intended use as an herbicide. It was classified as practically non-toxic to other ecological receptors.
Insecticides	
Chlorantraniliprole	Chlorantraniliprole poses low risk to plants but may affect bee larvae. Chlorantraniliprole is considered highly toxic to freshwater invertebrates.
Dinotefuran	Dinotefuran has the potential to be highly toxic to bees and moderately toxic to aquatic invertebrates, while other receptors exhibit low sensitivity.
Sulfuryl fluoride/chloropicrin	Sulfuryl fluoride/chloropicrin (Vikane) exposure to other receptors is expected to be minimal due to the application method of tenting. Due to its high vapor pressure and long atmospheric half-life, sulfuryl fluoride primarily remains in the air compartment and is capable of long-range atmospheric transport.
d-Limonene	d-Limonene is practically nontoxic to bees, birds, amphibians, reptiles, mammals, fish, and aquatic invertebrates, and is classified as slightly toxic to freshwater fish and invertebrates.
Disodium octaborate tetrahydrate (DOT)	DOT is not expected to impact terrestrial and aquatic plants or bees. DOT is practically nontoxic to amphibians, reptiles, birds, mammals, and fish.
Disinfectants	
Hydrogen peroxide[a]	Hydrogen peroxide is slightly toxic to aquatic organisms, including aquatic invertebrates and fish, but poses minimal risk to terrestrial species, including birds and mammals. Ecological exposure is expected to be limited under normal use conditions, which application under the 2025 Program and IPMP BMPs prescribe.
Sodium dichloroisocyanurate dihydrate	Sodium dichloroisocyanurate dihydrate is highly toxic to aquatic organisms, including aquatic plants, but poses minimal risk to terrestrial species, including birds and mammals.
Sodium hypochlorite	Sodium hypochlorite is highly toxic to freshwater fish and invertebrates and marine organisms, but poses minimal risk to terrestrial species. The EPA stated that risks to aquatic species were mitigated by adequate precautionary labeling and permit requirements, which implementation under the 2025 Program and IPMP BMPs prescribe. Additionally, based on the expected use, sodium hypochlorite is not anticipated to create a significant risk to ecological receptors.

Proposed Pesticide	Description
Isopropyl alcohol or ethanol	Isopropyl alcohol and ethanol pose minimal risk to ecological receptors based on the intended use of the products, as the 2025 Program and IPMP BMPs prescribe.
Dodecyl Dimethyl Ammonium Chloride (DDAC)	DDAC is highly toxic to aquatic organisms, including aquatic plants, but poses minimal risk to terrestrial species. Based on application of the product, it is not expected to impact aquatic organisms.
Repellents	
N,N-diethyl-meta-toluamide (DEET)	DEET poses minimal risk to non-target organisms, and no significant effects have been reported under typical use conditions.
Picaridin	Picaridin is practically nontoxic to ecological receptors and no adverse effects are anticipated under labeled use conditions, as the 2025 Program and IPMP BMPs prescribe.

Note:

[a] Hydrogen peroxide was not evaluated in the Toxicological Assessment of Pesticides.

Sources: (Stantec Consulting Services 2025b; U.S. Department of Agriculture 2015)

The Toxicological Assessment of Pesticides assessed the (1) human health endpoints (acute/short-term toxicity, subchronic/chronic toxicity, carcinogenicity and genotoxicity, developmental and reproductive toxicity, endocrine disruption, sensitization and irritation, neurotoxicity, and immunotoxicity); (2) ecological toxicity (across plants, bees, amphibians, reptiles, birds, mammals, and aquatic organisms); and (3) environmental fate for each of the 15 new active ingredients proposed for inclusion in the 2025 Program.

This evaluation included findings from US EPA reviews and registration documents. Additional authoritative sources were consulted as needed, including the California Department of Pesticide Regulation, University of California IPM resources, EXTOXNET, European Chemicals Agency dossiers, US EPA ECOTOX Knowledgebase, and peer-reviewed scientific literature (Stantec Consulting Services 2025b). Available data was synthesized to conduct qualitative risk assessments for each active ingredient.

For ecological risk, toxicity thresholds were compiled for plants, pollinators, amphibians, reptiles, birds, mammals, and aquatic organisms. US EPA categories of toxicity were applied where available, and risks were described qualitatively (e.g., "practically nontoxic to fish" or "highly toxic to aquatic plants"). Environmental fate assessments considered physicochemical properties, mobility, persistence, degradation pathways, and potential for bioaccumulation. The District's IPMP BMPs would continue to ensure that all pesticides are used in a manner that is protective of biological resources. Specifically, 2025 BMPs #14 through 16 directly address protections for special-status species including the California red-legged frog, San Francisco dusky-footed woodrat, and Santa Cruz kangaroo rat when applying pesticides (see Appendix

C). The protections afforded in these BMPs include pesticide application requirements, such as consistency with applicable permit requirements and the creation of buffers to ensure species protection, and pesticide application restrictions, such as avoidance of San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat nests. Additionally, the newly proposed pesticides under the 2025 Program would adhere to Mitigation Measures 4.2-1a through 4.2-1e and 4.2-3, which afford protections to special-status amphibian, reptile, fish, invertebrates, and bat species, alongside protections for the San Francisco dusky-footed woodrat and Santa Cruz kangaroo rat and wetlands. Therefore, pesticide application of the newly proposed pesticides under the 2025 Program, in accordance with the 2025 Program and IPMP BMPs, would not cause new or substantially increased significant impacts.

For the regulatory and literature review, available data including Midpen pesticide use reports, US EPA reports, and peer-reviewed literature relevant to the previously approved pesticides were reviewed to determine whether there were any changes to the general toxicological findings of effects on humans, wildlife, and plants that were used as the basis for the environmental assessments conducted in 2014 and 2019 (Stantec Consulting Services 2025a).

Based on the materials reviewed, it was determined that the general toxicological findings in the 2014 EIR and 2019 addendum remain accurate for the previously approved pesticides (Stantec Consulting Services 2025a). Among the pesticides reviewed, glyphosate safety remains a topic of scientific debate. A new assessment from the US EPA on glyphosate is anticipated in 2026. The literature review determined that Midpen's continued use of glyphosate is not anticipated to pose risks, but it would be important to continue educational engagement with Midpen personnel applying glyphosate to ensure that it is used per label and with appropriate personal protective equipment (Stantec Consulting Services 2025a). As part of the previously analyzed IPMP, BMPs and Mitigation Measures 4.2-1a through 4.2-1e were developed and implemented to avoid and minimize potential impacts from the implementation of the IPMP. The 2025 Program would continue the implementation of IPMP BMPs and mitigation measures, which would reduce impacts to biological resources, as previously analyzed. 2025 BMP #2 would continue to be implemented to reduce the use of glyphosate and applicators would continue to follow all pesticide label requirements as required by 2025 BMP #4 (see Appendix C). Therefore, pesticide application of the previously approved pesticides under the 2025 Program would not cause new or substantially increased significant impacts.

Based on the above discussion, the types of biological impacts associated with the modifications included in the 2025 Program are similar to previously analyzed impacts of the IPMP as assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant with mitigation.

3.6 Cultural and Tribal Cultural Resources

The 2014 EIR and 2019 addendum concluded impacts to be less than significant or less than significant with mitigation incorporated with the implementation of the IPMP (Midpeninsula

Regional Open Space District 2014; 2019). 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 pesticide application techniques have remained the same as those examined in the 2014 EIR and the 2019 addendum, with the exception of tenting. As with other application techniques, tenting itself does not include any ground disturbing activities. Preparation for tenting would involve removing vegetation, as feasible, and raking debris from the base of structures that are being treated to ensure a complete seal. Areas surrounding structures are already disturbed, so there would be no new impacts caused by preparation for or tenting to cultural resources and would be similar to previously analyzed impacts in the 2014 EIR and 2019 addendum.

In the 2025 Program, District managed lands and properties have increased. The increase in area and properties designated for manual and mechanical IPM treatments are in the buildings and natural lands IPM management categories and would include the same types of activities previously analyzed in the 2014 EIR and the 2019 addendum. Digging and pulling activities in the natural lands IPM management categories were added to the mechanical treatment type but were previously analyzed under the manual treatment type, therefore impacts would be identical to those analyzed in the 2014 EIR and 2019 addendum. Under the 2025 Program, eradicating structural pests may require drilling through surfaces and foundations and trenching and the removal and replacement of areas affected by dry-rot may be necessary to prevent reoccurrence and spread, all of which have the potential to unearth cultural resources; however, mitigation measures would continue to be utilized to further reduce impacts on cultural resources under the 2025 Program. Specifically, Mitigation Measure 4.3-1 requires built environment surveys prior to implementation of building retrofits or barriers that are visible on the exterior and not consistent with the vernacular nature of rural buildings and historic-age (50 years) structures will be surveyed by an architectural historian who meets the Secretary of the Interior's Standards. Implementation of mitigation would reduce potential impacts to less than significant as previously assessed.

The IPMP BMPs would continue to be implemented as part of the 2025 Program. 2025 BMP #13 would require District staff to provide instruction to protect and report any cultural artifacts that might be uncovered and if highly sensitive sites are known within or near the treatment site (e.g., burials or significant midden sites, which have a high potential for burials), the nature of the site would not be disclosed to volunteers or contractors, except that it is sensitive and must be avoided (or treated only with appropriate methods) (see Appendix C).

Based on the above discussion, the types of cultural impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.7 Energy

The 2014 EIR and 2019 addendum were not previously required to analyze energy resources. Energy use is anticipated to incrementally increase from 2014 and 2019 as a result of the increase in District managed properties and lands; however, the continued implementation of the IPMP would minimize risks to structures, recreational facilities, rangelands and agricultural properties, and natural lands. Energy use would be considered beneficial, necessary, and not wasteful. The incremental increase would not create an additional demand for energy in California or substantially affect energy supply. The 2025 Program would not result in an impact on energy related to a state or local plan because no state or local plans for renewable or energy efficiency apply to the IPMP. Therefore, there would be no new significant impacts to energy. Impacts would remain less than significant.

3.8 Geology and Soils

The 2014 EIR and 2019 addendum analyses concluded less than significant impacts on geology and soils since the IPMP did not include any ground disturbing work on steep hillsides, or the construction of new structures, or other grading activities that would be subject to seismic hazards, unstable geologic conditions, or expansive soils. The IPMP also includes 2025 BMP #25 which addresses erosion control 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. The 2025 Program would not result in ground disturbing work on steep hillsides, construction of new structures, or other grading activities.

Based on the above discussion, the types of geology and soils impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.9 Hazards and Hazardous Materials

The 2014 EIR and 2019 addendum analyses concluded less than significant impacts related to exposure (to mixer/loader/applicator, or general public) to existing hazardous materials use, storage, and disposal during manual, mechanical, and pesticide application control methods. Impacts from the use of pesticides relating to biological resources are included in Section 3.5 and impacts relating to hydrology and water quality are described in Section 3.10.

No new manual or mechanical treatment methods are proposed for inclusion in the 2025 Program that would cause potentially significant impacts. One chemical application method, tenting, is proposed and is not anticipated to have adverse impacts, as tenting would occur a maximum of five times in a year and would be short-term, similar to previously analyzed visual impacts. Additionally, proper fumigation safety protocols would be followed as stated on the pesticide label (2025 BMP #4) to avoid impacts. No new or more severe impacts from exposure

to hazards and hazardous materials are anticipated under the 2025 Program from manual, mechanical, or chemical treatment methods.

With the increase in land managed by the District in the 2025 Program, the use of previously approved pesticides and the overall pesticide application area would be scaled up to effectively address pest management. The scale of pesticide application would be proportionally increased and would follow pesticide labels for proper application (2025 BMP #4). Application of new pesticide types proposed under the 2025 Program would be of a similar general type as other IPM methods analyzed in the 2014 EIR and 2019 addendum. Similar impacts from chemical treatments could occur as previously analyzed, including spills and accidents involving hazardous materials and unwanted adverse impacts to non-target species (e.g., humans) but would be avoided through the implementation of IPMP BMPs. The increased scale of pesticide application would cover more acreage, but the application rates in any one location would be similar to those that were previously assessed as the rates were in accordance with the pest control recommendation prepared by the Pest Control Advisor. This process outlined in the 2025 Program is the same as the approved IPMP. This increased use of previously approved pesticides would not cause new or substantially different impacts from those identified in the 2014 EIR and 2019 addendum.

The 2025 Program proposes the use of three new herbicides, five new insecticides, five disinfectants, and two repellents. The proposed pesticides in the 2025 Program and changed circumstances since the 2014 EIR and 2019 addendum were evaluated in a Toxicological Assessment of Pesticides and in a regulatory and literature review of previously approved pesticides (Stantec Consulting Services 2025b; 2025a). Table 3-2 summarizes the potential human hazards associated with the new pesticides proposed as part of the 2025 Program.

For human health, risk potential was derived from the chemical doses/concentrations causing acute and short-term toxicity, subchronic and chronic toxicity, carcinogenicity and genotoxicity, developmental and reproductive toxicity, endocrine disruption, and/or sensitization in animal studies. The IPMP BMPs would continue to ensure that all pesticides are used in a manner that would not cause unsafe exposure to hazards and hazardous materials. 2025 BMPs #4 through 10 directly address protections for use of pesticides that would reduce exposure and protect human health including following pesticide label recommendations, pesticide certification and supervision, pesticide storage and use, use of herbicide dyes, public notification of pesticide application, closures, and crew training (see Appendix C).

Based on the above discussion, the types of hazards and hazardous material impacts associated with the modifications included in the 2025 Program, in accordance with the 2025 Program and IPMP BMPs, would not cause new or substantially increased significant impacts than those analyzed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

Table 3-2 2025 Addendum Proposed New Pesticides – Human Hazards

Proposed Pesticide	Description
Herbicides	
Triclopyr (Choline Salt)	Triclopyr BEE and triclopyr TEA were previously evaluated and approved for Midpen use. The 2025 Program proposed the use of triclopyr (choline salt) and is included in the toxicological assessment. Triclopyr (choline salt) exhibits low acute and chronic toxicity to humans, with no evidence of carcinogenicity, genotoxicity, or endocrine disruption, and developmental or reproductive effects. Eye irritation and skin sensitization were identified as the primary human hazards.
Imazamox	Imazamox demonstrates very low acute toxicity to humans and no evidence of carcinogenicity, genotoxicity, endocrine disruption, or developmental and reproductive toxicity. It is not a skin sensitizer and poses minimal irritation risk.
Glufosinate	Glufosinate shows low acute toxicity to humans and no evidence of carcinogenicity or genotoxicity. No developmental neurotoxicity has been observed in humans though developmental neurotoxicity has been observed at high dose in studies with young animals.
Insecticides	
Chlorantraniliprole	Chlorantraniliprole exhibits very low acute and chronic toxicity to humans, with no evidence of carcinogenicity, genotoxicity, endocrine disruption, or neurotoxicity, and is not a skin sensitizer.
Dinotefuran	Dinotefuran has low acute toxicity to humans and no evidence of carcinogenicity, genotoxicity, or endocrine disruption, and is not a skin sensitizer. Neurotoxicity occurs only at high doses.
Sulfuryl fluoride/chloropicrin	Sulfuryl fluoride/chloropicrin (Vikane) presents high inhalation toxicity to humans and may cause neurotoxic effects at high concentrations, though no evidence of carcinogenicity or endocrine disruption has been observed. Sulfuryl fluoride is not a skin sensitizer, and chloropicrin is a possible skin sensitizer.
d-Limonene	d-Limonene exhibits low acute toxicity to humans and no evidence of carcinogenicity, genotoxicity, developmental and reproductive toxicity, endocrine disruption, and neurotoxicity, but is classified as a skin irritant and sensitizer.
Disodium octaborate tetrahydrate (DOT)	DOT shows low acute toxicity to humans, with eye irritation as the primary hazard, and chronic effects only at high doses. It is not a skin sensitizer and under the anticipated exposure scenarios, has no evidence of carcinogenicity, genotoxicity, developmental and reproductive toxicity, endocrine disruption, and neurotoxicity.

Proposed Pesticide	Description
Disinfectants	
Hydrogen peroxide[a]	Hydrogen peroxide shows low acute toxicity to humans but can cause skin irritation, stinging in the eyes, and temporary bleaching of skin. It shows no evidence of developmental and reproductive toxicity and there was inadequate evidence of carcinogenicity.
Sodium dichloroisocyanurate dihydrate	Sodium dichloroisocyanurate dihydrate has low acute toxicity to humans but can cause eye irritation and inhalation hazards. It shows no evidence of carcinogenicity and developmental and reproductive toxicity. There was no available information regarding endocrine disruption, neurotoxicity, or immunotoxicity.
Sodium hypochlorite	Sodium hypochlorite exhibits very low acute toxicity to humans but is corrosive to eyes and skin. It shows no evidence of carcinogenicity, developmental and reproductive toxicity, endocrine disruption. No information was available regarding neurotoxicity.
Isopropyl alcohol or ethanol	Isopropyl alcohol and ethanol have low acute toxicity to humans. Evidence of carcinogenicity, developmental and reproductive toxicity, endocrine disruption, and neurotoxicity were not found or are not expected based on the registered use of isopropyl alcohol and ethanol. They may cause mild irritation but are not skin sensitizers.
Dodecyl Dimethyl Ammonium Chloride (DDAC)	DDAC exhibits moderate acute toxicity to humans and causes eye irritation but shows no evidence of carcinogenicity, developmental and reproductive toxicity, endocrine disruption, and neurotoxicity.
Repellents	
N,N-diethyl-meta-toluamide (DEET)	DEET exhibits low acute and chronic toxicity to humans, with no evidence of carcinogenicity, genotoxicity, endocrine disruption, or developmental and reproductive toxicity at labeled use rates. It is not considered a skin sensitizer, though mild eye irritation may occur.
Picaridin	Picaridin has low acute and chronic toxicity to humans, with no evidence of carcinogenicity, genotoxicity, endocrine disruption, or developmental and reproductive toxicity at labeled use rates. It is not a skin sensitizer and poses minimal irritation risk.

Note:

[a] Hydrogen peroxide was not evaluated in the Toxicological Assessment of Pesticides.

Sources: (Stantec Consulting Services 2025b; U.S. Department of Agriculture 2015)

3.10 Hydrology and Water Quality

The 2014 EIR analysis concluded potentially significant impacts on water quality standards or waste discharge requirements related to chemical treatments from the implementation of the IPMP (Midpeninsula Regional Open Space District 2014). These impacts would be reduced to a less than significant impact with the implementation of Mitigation Measure 4.2-3 which requires the District to obtain a National Pollutant Discharge Elimination System (NPDES) permit and comply with design and operational IPMP BMPs required under the permit. The 2014 EIR concluded less than significant impacts on flooding of on- or off-site areas (Midpeninsula Regional Open Space District 2014). The 2019 addendum analysis concluded no new or more severe impacts on hydrology and water quality (Midpeninsula Regional Open Space District 2019).

No new manual or mechanical treatments were included in the 2025 Program that would cause potentially significant impacts. While the 2025 Program has expanded the annual treatment area, no new mechanical vegetation management, earthmoving, or recontouring activity is proposed. Continued implementation of 2025 BMP #28, which requires placement of ground cover, or seeding of native perennial grasses and pasture grasses to occur after herbicide use or manual or mechanical treatment, and appropriate timing of herbicide use treatment not to coincide with the rainy season, would ensure ongoing avoidance of potentially significant erosion or siltation impacts (see Appendix C). No new or more severe impacts to hydrology and water quality are anticipated under the 2025 Program from changes in the manual or mechanical treatment methods.

One new chemical application method, tenting, is proposed for use with the chemical sulfuryl fluoride/chloropicrin and is not anticipated to have adverse impacts on water quality, as tenting would be temporary, occurring a maximum of 5 times in a year, and would be contained to buildings or structures to reduce the potential for environmental transport. Additionally, proper fumigation safety protocols would be followed as stated on the pesticide label (2025 BMP #4) to avoid impacts.

Sulfuryl fluoride/chloropicrin has low mobility in soil, reducing the potential for groundwater contamination, although surface water contamination via runoff remains a possibility (Stantec Consulting Services 2025b). 2025 BMP #19, which minimizes pesticide and sediment runoff, would continue to be implemented to avoid impacts on surface and groundwater from the application of pesticides. No new or more severe impacts to hydrology and water quality are anticipated under the 2025 Program from tenting.

The 2025 Program proposes the use of three new herbicides, five new insecticides, and the addition of five disinfectants and two repellents. The proposed new pesticides in the 2025 Program and changed circumstances since the 2014 EIR and 2019 addendum were evaluated in a Toxicological Assessment of Pesticides and in a regulatory and literature review of previously approved pesticides (Stantec Consulting Services 2025b; 2025a). 2025 BMP #19 would continue

to be implemented to avoid impacts on surface and groundwater from the application of pesticides.

None of the proposed pesticide uses would result in the alteration of drainage patterns or stream courses. While the 2025 Program has expanded the annual treatment area, no new mechanical vegetation management, earthmoving, or recontouring activity is proposed. Continued implementation of 2025 BMP #28, which requires placement of ground cover, or seeding of native perennial grasses and pasture grasses to occur after herbicide use or manual or mechanical treatment, and appropriate timing of herbicide use treatment not to coincide with the rainy season, would limit erosion or siltation (see Appendix C).

The 2025 Program would not result in an increase in runoff that would result in flooding. As analyzed in the 2014 EIR, the use of herbicides on rare occasions in wetlands (dry season) and along stream banks has the potential to result in discharge to Waters of the United States. Continued implementation of 2025 BMPs #19, 20, and 32 would avoid impacts to hydrology and water quality. 2025 BMPs #19, 20, and 32 mandate that no IPM activities occur within 15 feet of aquatic resources and if IPM activities must occur within 15 feet of aquatic resources, only pesticides and adjuvants approved for aquatic use can be used (see Appendix C).

Based on the above discussion, the types of hydrology and water quality impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.11 Land Use and Planning

As described in the 2014 EIR and 2019 addendum, 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. The 2014 EIR and 2019 addendum concluded less than significant impacts from implementation of the IPMP (Midpeninsula Regional Open Space District 2014; 2019).

There are no approved habitat conservation plans or natural community conservation plans that apply to District lands, nor have any plans been adopted since 2014 that would apply to the 2025 Program. Implementation of the 2025 Program would not involve any new development that would physically divide a community. Additionally, actions covered under the 2025 Program would not change the overall natural landscape of the Program area; therefore, no impacts would occur.

Based on the above discussion, the types of land use and planning impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.12 Mineral Resources

As discussed in the 2014 EIR and 2019 addendum, there are no known mineral resource recovery sites on District lands (Midpeninsula Regional Open Space District 2014; 2019). The additional lands and properties included in the 2025 Program do not have any known mineral resource recovery sites. The 2025 Program is not anticipated to alter the availability of any economic mineral resources.

There are no impacts associated with the 2025 Program, consistent with the IPMP as assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.13 Noise

The 2014 EIR and 2019 addendum analyses concluded less than significant noise impacts from implementation of the IPMP (Midpeninsula Regional Open Space District 2014; 2019). The 2014 EIR found that any noise impacts resulting from the IPMP would be avoided by the implementation of 2025 BMP #17, which requires that any noise generating equipment would need to abide by local noise ordinances if activities would be audible to any receptors. Additionally, 2025 BMP #12 would prevent disturbance of nesting birds by requiring nesting bird surveys prior to treatment, establishment of nest buffers during nesting bird season, and nest monitoring by a District biologist during and after treatment activities if the activity has potential to adversely affect the nest (see Appendix C).

Generally, District properties are in rural parts of their respective counties and are not in close proximity to sensitive receptors. Noise-sensitive receptors on or adjacent to District preserves would include recreational visitors and occupied residences, although the latter are scattered in low-density development patterns, primarily along State Route 35.

The 2025 Program does not introduce any additional sources, noise, or increase the possibility of any impacts to sensitive receptors. Noise-generating equipment that may be used under the proposed pesticide application modifications (trucks, ATVs, pumps, etc.) would be similar or identical to those already used in the IPMP and would not generate increased noise in comparison to the approved IPMP.

Based on the above discussion, the types of noise impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.14 Population and Housing

The 2014 EIR and 2019 addendum analyses concluded no impacts from the implementation of the IPMP on population and housing (Midpeninsula Regional Open Space District 2014; 2019).

No construction activities or addition of residences are part of the 2025 Program. The 2025 Program does not induce population growth because it does not involve any alteration of existing land uses or the introduction of new land uses associated with population increases (e.g., housing, employment centers). Additionally, the 2025 Program does not involve new infrastructure or services that would draw new residents to the area. Any increase in workers associated with implementation of the 2025 Program is assumed to be sourced from existing and projected population in the region. The 2025 Program would not necessitate the construction of replacement housing. Population and housing would not be directly or indirectly induced.

Based on the above discussion, the types of population and housing impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.15 Public Services and Utilities

The 2014 EIR and 2019 addendum concluded that the implementation of the IPMP would result in no significant impacts to public services (Midpeninsula Regional Open Space District 2014; 2019). The previous analyses concluded that actions under the IPMP would not result in an increase in District employees or the number of visitors at District preserves. Further, the analyses determined that the IPMP would not result in the construction of additional housing, commercial, or industrial development, nor would the IPMP 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 IPMP, nor would the IPMP result in increased demand for public services.

There would be no impacts to utilities from the implementation of the 2025 Program and no change in the level of solid waste generated at a District preserve is anticipated. The 2025 Program would not affect permitted capacity of local or regional solid waste disposal services serving the District lands. Additionally, District facilities are not typically served by municipal storm drain facilities, so there would be no increased demand for storm water facilities.

The 2025 Program would similarly not result in any increases in District employees or visitors on District lands, nor would it result in the construction of housing, commercial, or industrial development. Due to the increase in the Program area, additional workers and an increased use of pesticides would likely be required to treat the Program area. This increase would not create a new substantial impact on public services and utilities.

In addition, there would be no increased levels of solid waste or other utility services. Solid waste would continue to be properly disposed of at designated facilities. No significant increase in utility services is anticipated and would be similar to those previously analyzed in the 2014 EIR and 2019 addendum.

Based on the above discussion, the types of public service and utilities impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.16 Recreation

The 2014 EIR and 2019 addendum concluded that the implementation of the IPMP would result in no significant impacts to recreation (Midpeninsula Regional Open Space District 2014; 2019). Recreation was not included as a resource topic in the 2014 EIR but was discussed under Land Use and Planning.

Recreation is one of the predominant land uses on District preserves and the IPMP is designed to include a long-term, science-based decision-making system that uses a specific methodology to manage damage from pests. The IPMP was developed in accordance with the missions of the District including acquiring and preserving a regional greenbelt of open space land in perpetuity, protecting and restoring the natural environment, and providing opportunities for ecologically sensitive public enjoyment and education.

The 2025 Program accounts for the expansion of District lands to include additional recreation opportunities. The changes included in the 2025 Program are similarly designed to manage pests and invasive species, consistent with the District's goals of enhancing and persevering recreational opportunities on lands managed by the District.

Based on the above discussion, the types of recreation impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.17 Traffic and Transportation

The 2014 EIR and 2019 addendum concluded that the implementation of the IPMP would result in no significant impacts to traffic and transportation as the IPMP describes pest management activities (Midpeninsula Regional Open Space District 2014; 2019). The 2014 EIR found that IPMP activities were consistent with existing levels of operation and maintenance activities and would not substantially increase throughout the duration of the Program and therefore would not result in any significant increases to traffic from the implementation of the IPMP.

Since the 2014 EIR, the CEQA Guidelines pertaining to traffic and transportation were revised to no longer require an assessment of automobile delay and transitioned to an analysis of vehicle miles traveled associated with a project (CEQA Guidelines § 15064.3). The 2025 Program includes an increase in the Program area, which may result in an increase in workers, both staff and contractors, traveling to treatment areas. This increase would be minor and would not result in a significant increase to vehicle miles traveled by workers compared to the current IPMP, as analyzed in the 2014 EIR.

The 2025 Program would not create changes in air traffic patterns, result in population increases that could adversely affect area traffic, or 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 2025 Program and there are no policies or plans within the District preserves that pertain to public transit, bicycle, or pedestrian facilities. All of the vehicle types that would be used as part of the 2025 Program are already in use on District facilities and were previously analyzed in the 2014 EIR.

Based on the above discussion, the types of traffic and transportation impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.18 Wildfire

At the time of the 2014 EIR and 2019 addendum, there was not a separate wildfire analysis, but potential effects associated with wildfire hazards were analyzed as part of the hazards, hazardous materials, and public health analyses. The 2014 EIR analysis concluded that impacts from the implementation of the IPMP related to wildland fire hazards would be less than significant (Midpeninsula Regional Open Space District 2014).

All regulatory requirements for local and state fire codes would be followed to reduce the potential for wildfires. 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 the majority of land in the District).

Manual, mechanical, and chemical treatment methods associated with the IPMP would result in activities that would require the transportation, use, and storage of pesticides and the transportation and use of mechanical equipment. Heat or sparks from mechanical equipment during treatment activities have the potential to ignite dry vegetation and cause a fire. Midpen implements strict procedures for operation of equipment and 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 work sites in accordance with the Midpen Safety Manual requirements (Midpeninsula Regional Open Space District 2014).

Flammable materials, including pesticides, have the potential to increase fire ignition hazards when in use during chemical treatment activities; however, the IPMP would result in an overall reduction in fuel loads through the removal of pest species from District lands using manual, mechanical, and chemical treatment methods and the implementation of IPMP BMPs further would avoid impacts.

Based on the above discussion, the types of wildfire impacts associated with the modifications included in the 2025 Program are consistent with the IPMP as previously assessed in the 2014 EIR and 2019 addendum. Impacts would remain less than significant.

3.19 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 IPMP varies depending upon the resource being considered. 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 this addendum, the analysis conducted for this document determined that the impacts associated with the changes to the IPMP included in the 2025 Program would not result in significant impacts on several resources, as previously analyzed in the 2014 EIR and 2019 addendum, and therefore, those effects would not need detailed cumulative discussion. Effects on resource areas found not to be significant, for which the 2025 Program would make no contribution or a less than considerable contribution to significant cumulative impacts are agriculture and forestry, air quality and GHGs, geology and soils, land use, mineral resources, noise, population and housing, public services and utilities, and traffic and transportation. This addendum examines the potential for the 2025 Program 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 of the 2014 EIR concluded that with the implementation of IPMP BMPs, and implementation of biological and cultural resource mitigation measures, the IPMP would not make a considerable contribution to any identified significant cumulative impact (Midpeninsula Regional Open Space District 2014). The modifications included in the 2025 Program have the potential to result in significant impacts on biological resources including newly listed special-status species as well as public health, particularly from inclusion of new pesticides, expansion of the Program area, potential increase in treatments, and the inclusion of tenting as a chemical application. As assessed in previous sections, effects from the changes associated with the 2025 Program compared to the previously assessed IPMP, would be similar or the same to the impacts previously identified. The cumulative analysis conclusions in the 2014 EIR and 2019 addendum would remain unchanged by modifications included in the 2025 Program and assessed in this addendum as no new or substantially greater significant impacts were identified.

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 and 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 2025 Program would not result in a substantial contribution to any significant cumulative impacts and would have less than significant cumulative impacts with mitigation, which is unchanged from the conclusions of the 2014 EIR and 2019 addendum.

3.20 Other CEQA Topics

3.20.1 Changes in Land Use that Commit Future Generations

The 2025 Program would not result in a change to the zoning or land use designations. The 2025 Program would not commit future generations to significant changes in land use. All impacts are consistent with those analyzed in the 2014 EIR and 2019 addendum.

3.20.2 Consumption of Non-Renewable Resources

Non-renewable resources include mineral resources, groundwater, and fossil fuels. Similar to the adopted IPMP, the 2025 Program would not involve any activities that would permanently impede mineral recovery and would not require the use of substantial groundwater from the District area.

The 2025 Program would require the use of fossil fuels for management activities, including the use of mechanical tools and equipment. The use of fossil fuels would be needed for vehicles and equipment during these activities and to reach project sites. The 2025 Program would use fossil fuels intermittently throughout the year but would not require continuous use. In addition, the use of fossil fuels would be considered beneficial, necessary, and not wasteful as discussed in Section 3.7, Energy.

3.20.3 Irreversible Damage from Environmental Accidents

Action proposed under the 2025 Program would involve use of equipment and vehicles, which could result in an accidental spill of hazardous materials such as diesel and gasoline, similar to the adopted IPMP. The 2025 Program would not change the types of management activities that were allowed under the adopted IPMP and would continue to adhere to Mitigation Measure 4.5-1 which addresses exposing the public or environment to hazardous materials. Additionally, IPMP BMPs would be in place to further minimize the potential for unwanted adverse impacts to non-target species; therefore, the 2025 Program would not result in irreversible damage from environmental accidents.

3.20.4 Growth-Inducing Impacts

Similar to the adopted IPMP and as analyzed under the 2014 EIR, the 2025 Program does not involve the construction of housing and would not directly contribute to population growth in the area. In addition, the 2025 Program does not involve the expansion of infrastructure, such as

roadways or sewer lines and does not involve the construction of a new facility that would indirectly induce population growth. Therefore, the 2025 Program would not result in new or substantially more severe significant impacts related to growth-inducing impacts than those analyzed in the 2014 EIR and 2019 addendum.

4 Determination

The 2025 Program proposes the use of three new herbicides, five new insecticides, six disinfectants, two repellents, and tenting as a new chemical application method. The 2025 Program also includes the increase in District managed land and properties. A detailed comparison of changes between the IPMP analyzed in the 2014 EIR and 2019 addendum and the 2025 Program are included in Table 2-1. The 2025 Program also 1) provides a revised list of IPMP BMPs that clarify existing language; 2) better reflects District processes, regulatory requirements, and EPA findings; and 3) improves consistency with the District's OSMRP (refer to Appendix C for the revised IPMP BMPs). These revisions are not a result of newly identified adverse impacts.

No new or substantially more severe significant impacts would occur as a result of the 2025 Program and none of the conclusions in the 2014 EIR and 2019 addendum would be altered. No new or substantial changes would occur with respect to the circumstances under which the 2025 Program would be undertaken.

The mitigation measures and determination of significance for impacts included in the certified 2014 EIR and 2019 addendum would continue to be valid. The additions also would not affect any of the mitigation measures, including their feasibility or implementation, although language in the Mitigation Measures 4.2-1a through 4.2-1c has been revised to broadly address special-status amphibian, reptile, fish, and invertebrate species. These revisions are not a result of newly identified adverse impacts and do not substantially affect the current IPMP or modifications included in the 2025 Program.

As mentioned above, none of the conditions listed in section 15162 of the CEQA Guidelines exist for the 2025 Program described herein. Therefore, pursuant to section 15164 of the CEQA Guidelines, the differences between the approved IPMP described in the 2014 EIR and the 2025 Program as currently proposed and described in this addendum are minor and this addendum provides sufficient environmental documentation. No subsequent or supplemental MND or EIR is needed to address the IPMP updates and changes included in the 2025 Program.

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