



Midpeninsula Regional
Open Space District

R-21-126
Meeting 21-28
September 22, 2021

AGENDA ITEM 4

AGENDA ITEM

Adoption of the Initial Study/Mitigated Negative Declaration for the Open Space Maintenance and Restoration Program

GENERAL MANAGER'S RECOMMENDATION *den*

Adopt a Resolution adopting the Initial Study/Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for the Open Space Maintenance and Restoration Program.

SUMMARY

The Midpeninsula Regional Open Space District (District) obtains as needed environmental permits for ongoing maintenance, operations, and construction activities that may affect protected waters and species. The District utilizes a mix of “programmatic” permits that cover many routine activities within District boundaries and “individual” permits that cover specific, non-routine projects. District staff have been working with regulatory staff from the US Army Corps of Engineers (Corps), US Fish and Wildlife Service (USFWS), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) to refine a programmatic permitting approach for all routine land management activities described as the District’s Open Space Maintenance and Restoration Program. The covered activities include road and trail maintenance, conservation grazing, habitat restoration, and vegetation management.

An Initial Study and Mitigated Negative Declaration (IS/MND) was prepared and publicly circulated for 30 days. The IS/MND concludes that the proposed project, with mitigations, would not result in significant impacts on the environment.

DISCUSSION

Background

Environmental permits largely fall within two categories: water and wildlife, which derive from the Clean Water Act and Endangered Species Act respectively, each having state and federal versions. Much of the District’s work that generates the need for environmental permitting is centered around water that intersects with District infrastructure, including trails, roads, bridges, and ponds. Additionally, many of the protected species on District preserves (e.g., California red-legged frog, San Francisco garter snake, western pond turtle) are associated with aquatic habitats and obtaining permits for potential impacts to these species becomes a component of the environmental permitting process. Therefore, most projects require species and water-related permits from both state and federal agencies. Since the passage of Measure AA in 2014, the

District has experienced a significant increase in the number of required permits given the growth of the maintenance and capital programs.

The Open Space Maintenance and Restoration Program was developed in response to the need to renew a programmatic permit with the RWQCB for the “Stream Maintenance Program”, which expired in 2018 and has been extended temporarily for three years. The Open Space Maintenance and Restoration Program largely describes existing District stewardship activities and practices, generally referred to as ‘routine maintenance’. The RWQCB’s shared authority with the Corps under the Clean Water Act requires a joint 401/404 water quality certification for District activities. The Corps permit process (“Regional General Permit”) entails federal consultation with USFWS, known as the Section 7 process under the Endangered Species Act, and consultation with the State Historic Preservation Officer (SHPO) under Section 106. While each of the State and Federal agencies have different statutes, laws, and administrative processes, combining them into one permit process and program provides for greater efficiencies for District and Resource Agency staff.

The potential environmental impacts of the project were analyzed in an Initial Study (IS) and Mitigated Negative Declaration (MND). Conclusions of the IS/MND, including mitigation measures, are discussed in the CEQA compliance section of this report.

BOARD AND COMMITTEE REVIEW

The Planning and Natural Resources Committee (PNR) received an overview presentation of the Open Space and Maintenance Program on January 26, 2021 ([R-21-12](#)). The PNR requested and received clarification regarding the types of small-scale facilities and improvements that would be covered by this programmatic permit, which include trails and ranching infrastructure (e.g., fencing and water lines). The PNR also received information regarding programmatic permitting related to historic resources and how the District’s historic resource database would provide staff with initial, starting information to begin researching what historic, prehistoric, and cultural resources may exist onsite and what further studies may be needed to protect these resources. Finally, the PNR also received information about how the programmatic permits can extend to partner-owned land on a limited and project-specific basis where the District would provide project oversight.

PUBLIC NOTICE

A Notice of Intent to adopt a Mitigated Negative Declaration (NOI) was submitted to the CEQAnet Web Portal at the Governor’s Office of Planning and Research on August 5, 2021. Because their offices were closed on Labor Day, the public review period started on August 9, 2021 and ended on September 7, 2021. On August 5, 2021, a Notice of Intent was submitted to the Santa Clara, San Mateo, and Santa Cruz Counties for posting as well as posted at every primary public Preserve entrance with a signboard. Email notifications were sent to interested parties and any individuals who have requested mailed notices. The NOI and IS/MND were available for public review at the District’s Administrative Office, Skyline Field Office, and Foothills Field Office, and on the District’s website. All applicable notice requirements of CEQA have been met.

Public notice of this Agenda Item was provided as required by the Brown Act.

CEQA COMPLIANCE

Project Description

The full project description is found in Attachment 1. In summary, the Open Space Maintenance and Restoration Program, which is described in the Program Manual, includes the various routine maintenance, small-scale facility improvements and new low intensity/small footprint facilities, and restoration and enhancement projects conducted by the District. Program activities include culvert and bridge maintenance; road and trail drainage feature maintenance; sediment and debris removal; streambank/pond berm stabilization; water supply structure maintenance; pond maintenance; vegetation management (i.e., mowing, brushing, pruning, aquatic herbicide application, conservation grazing, etc.); road and trail maintenance; roadway or trail slip-out/slide repairs; minor building repairs and utility improvements; recreational facility improvements, including new trails/roads and wildlife crossings; conservation grazing infrastructure improvements such as wildlife-friendly pasture fencing; aquatic habitat restoration; native vegetation plantings; invasive species removal; and road decommissioning. Each type of covered activity has an estimated annual frequency and a limit for that activity. Some activities occur every year at a larger scale (e.g., for road maintenance, the District replaces ~25 culverts a year), while others are less frequent and smaller scale (e.g., for recreational improvements, the District replaces ~2 trail bridges a year). The scale, frequency, and limits of these covered activities are described in Table 2-3, page 2-37 in Attachment 1. The Manual provides a comprehensive and consistent approach to conducting Program activities.

Initial Study/Mitigated Negative Declaration Preparation

In 2018, the District retained Horizon Environment and Water, LLC., to prepare an IS/MND for the project, pursuant to the CEQA requirements (CEQA, Public Resources Code sections 21000 et seq.) and guidelines (14 Cal. Code Regulations sections 15000 et seq.). The IS/MND, dated August 2021 (Attachment 1), includes mitigation measures for the Project that avoids or mitigates potentially significant adverse effects on the environment to less-than-significant levels.

An NOI (Attachment 2) was released by the District on August 5, 2021 notifying that the IS/MND would be circulated for a minimum of 30 days, beginning on August 5, 2021 and ending on September 5, 2021. The Office of Planning and Research comment period ended two days later, due to Labor Day, and no comments were received between September 5 and September 7.

CEQA Determination

The District concludes that the project, with mitigation measures, will not have a significant effect on the environment. All potentially significant impacts and mitigation measures are summarized in the NOI (Attachment 2). Mitigation measures reduce potential effects to Biological Resources, Geology, Soils and Seismicity, Hazards and Hazardous Materials, Noise, Public Services, Transportation, and Wildfire.

Comments Received

The District received one comment letter from Caltrans regarding concerns about potential impacts to the State's Right of Way from temporary access points and construction-related noise. The comment letter also noted the need for a Caltrans permit for the use of oversized vehicles and the potential need for a Transportation Management Plan. The comment did not raise any

significant new environmental impacts and did not result in any changes to the conclusions to the IS/MND. Implementation of Mitigation Measures TRANS-1 ensures emergency vehicle ingress/egress is provided through District preserves, including notification to Caltrans as needed, and NOI-1 ensures noise impacts to sensitive receptors and residences are minimized. Together, these measures adequately address the comments regarding potential impacts.

Mitigation Monitoring Program

In accordance with CEQA, the District prepared a Mitigation Monitoring Program (MMP) describing the project-specific mitigation measures and monitoring process (Attachment 3). The MMP ensures that all adopted measures intended to mitigate potentially significant environmental impacts will be implemented during construction and monitored during a designated post-construction period. The proposed project incorporates these mitigation measures.

FISCAL IMPACT

None.

NEXT STEPS

If the Board approves the General Manager's recommendations, staff will file a Notice of Determination with the San Mateo, Santa Clara, and Santa Cruz Counties. Permits from the California Department of Fish and Wildlife, Regional Water Quality Control Board, and the United States Army Corps of Engineers will then be obtained with the goal of implementation for the 2022 construction season.

Attachments

1. Initial Study/Mitigated Negative Declaration (the appendices are available on the District website at: <https://www.openspace.org/about-us/board-meetings>)
2. Notice of Intent to Adopt a Mitigated Negative Declaration
3. Resolution Adopting the Mitigated Negative Declaration, the Mitigation Monitoring Program, and the Findings in Connection with the Proposed Open Space and Maintenance Restoration Program
4. Public Comments Received

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**Midpeninsula Regional Open Space District
Open Space Maintenance and Restoration Program
Final Initial Study/Mitigated Negative Declaration**

Midpeninsula Regional Open Space District

**Midpeninsula Regional Open Space District
Open Space Maintenance and Restoration Program
Final Initial Study/Mitigated Negative Declaration**

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Horizon Water and Environment. 2021.
Midpeninsula Regional Open Space District
Open Space Maintenance and Restoration
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Negative Declaration. September. (18.041)
Oakland, CA.

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Acronyms and Abbreviations

$\mu\text{g}/\text{m}^3$ micrograms per cubic meter

A

AB Assembly Bill
ADA Americans with Disabilities Act
APLIC Avian Power Line Interaction Committee
ASA architectural and site approval
ATCM Airborne Toxic Control Measure

B

BAAQMD Bay Area Air Quality Management District
Basin Plan Water Quality Control Plan
BGEPA Bald and Golden Eagle Protection Act
BHS Biologically Highly Significant
BMP best management practice
BP before present

C

C/CAG City/County Association of Governments
CAL FIRE California Department of Forestry and Fire Protection
CalRecycle California Department of Resources Recycling and Recovery
Caltrans California Department of Transportation
CALVEG Classification and Assessment with Landsat of Visible Ecological Groupings
CARB California Air Resources Board
CBC California Building Code
CCC California Coastal Commission
CCH1 Consortium of California Herbaria
CDP Coastal Development Permit
CDFW California Department of Fish and Wildlife (since 2012)
CDOC California Department of Conservation
CEC California Energy Commission
CEQA California Environmental Quality Act
CESA California Endangered Species Act
CGS California Geological Survey
CHRIS California Historical Resources Information System
CMP Congestion Management Program
CNDDDB California Natural Diversity Database



CNEL	the energy average of the A-weighted sound levels during a 24-hour period, with 5 dB added to the A-weighted sound levels between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels between 10:00 p.m. and 7:00 a.m.
CNPS	California Native Plant Society
CO	carbon monoxide
Coastal Zone	NEED DEFINITION
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CRLF	California red-legged frog
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationship System
CY	cubic yards
D	
dB	decibels
dBA	A-weighted decibel
dbh	diameter at breast height
DPM	Diesel particulate matter
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
E	
EIA	U.S. Energy Information Administration
EIR	Environmental Impact Report
EMFAC	California Air Resources Control Board EMISSION FACTOR model
EO	Executive Order
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit
F	
F&G Code	California Fish and Game Code
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FESA	Federal Endangered Species Act
FHSZ	Very High and High fire hazard severity zone
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration



FYLF foothill yellow-legged frog

G

GAMA Groundwater Ambient Monitoring and Assessment

GGNPC Golden Gate National Parks Conservancy

GHG Greenhouse Gas

GIS Geographic Information System

GSA Groundwater Sustainability Agency

H

Habitat Plan Santa Clara Valley Habitat Plan

HCP habitat conservation plan

HDPE high-density polyethylene

I

I- Interstate

in/sec inches per second

IPM Integrated Pest Management

IPMP Integrated Pest Management Program

IS/MND Initial Study/Mitigated Negative Declaration

L

lb/day pounds/day

LCP Local Coastal Program

L_{dn} the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels during the period from 10:00 p.m. to 7:00 a.m. (reflecting the elevated sensitivity during typical sleeping hours)

L_{eq} equivalent steady-state sound level that, in a given period, would contain the same acoustical energy as a time-varying sound level during that same period

LF linear feet

L_{max} maximum sound level measured during a given measurement period

L_{min} minimum sound level measured during a given measurement period

LUST leaking underground storage tank

L_{xx} the sound level exceeded during x percent of a given measurement period (xx is the percent exceeded)

M

Manual Open Space Maintenance and Restoration Program Manual

MBARD Monterey Bay Air Resources District



MBTA	Migratory Bird Treaty Act
MidPen	Midpeninsula Regional Open Space District
MOU	Memorandum of Understanding
MT	metric tons
MTCO _{2e}	metric tons of carbon dioxide equivalent
N	
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCAB	North Central Coast Air Basin
NCCP	natural community conservation plan
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NOA	naturally occurring asbestos
NO _x	nitrogen oxides
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O	
OHWM	ordinary high water mark
OSHA	Occupational Safety and Health Administration
OSP	Open Space Preserve
P	
PCR	Public Resource Code
Peninsula	San Francisco Peninsula
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM _{2.5}	particulate matter of aerodynamic radius of 10 micrometers or less
PM ₁₀	particulate matter of aerodynamic radius of 10 micrometers or less
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
POST	Peninsula Open Space Trust
PPE	personal protective equipment
ppm	parts per million
PPV	peak particle velocity
Program	Open Space Maintenance and Restoration Program



R

RDM	residual dry matter
RH/DR	residential hillside/design review
ROG	Reactive Organic Gas
RPF	Registered Professional Forester
RPS	Renewables Portfolio Standard
RWQCB	California Regional Water Quality Control Board

S

SB	Senate Bill
SF	square feet
SFBAAB	San Francisco Bay Area Air Basin
SFDFW	San Francisco dusky-footed woodrat
SFGS	San Francisco garter snake
SO ₂	sulfur dioxide
SOD	sudden oak death
SO _x	sulfur oxide
SR-	State Route
SWRCB	State Water Resources Control Board

T

TAC	toxic air contaminant
TCR	tribal cultural resources
TEK	traditional ecological knowledge
TMDL	total maximum daily load
tpy	tons per year

U

U.S.	United States
U.S. 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank



V

Valley Water	Santa Clara Valley Water District
VdB	vibration velocity in decibels
VMP	Vegetation Management Plan
VOC	volatile organic compound
VMT	vehicle miles traveled
VTA	Valley Transit Authority

W

WPT	known western pond turtle
WUI	wildland urban interface



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Chapter 1

INTRODUCTION

Midpeninsula Regional Open Space District (Midpen) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the proposed Open Space Maintenance and Restoration Program (Program). This document was prepared pursuant to the requirements of the California Environmental Quality Act (CEQA) of 1970 (as amended) and the State CEQA Guidelines (14 California Code of Regulations 15000 et seq.).

1.1 Midpeninsula Regional Open Space District Open Space Maintenance and Restoration Program

Consistent with Midpen's mission to acquire and preserve open space land, protect and restore and the natural environment, and provide opportunities for ecologically sensitive recreation and education, Midpen protects over 64,000 acres of open space in the South Bay and San Francisco Peninsula. Most of these lands are located within 26 open space preserves (OSPs) that form a connected greenbelt in the greater Santa Cruz Mountains region for plants and animals to thrive while also providing low-impact recreational opportunities to the public. Midpen manages its land to ensure protection and proper care of natural resources and to provide ecologically sensitive public access.

Midpen developed the proposed Program to streamline the permitting process and provide an integrated approach to OSP maintenance, low-impact facility improvements, habitat enhancement, and environmental restoration. Administering these activities as a Program allows Midpen to apply a consistent set of methods, best management practices (BMPs), and impact avoidance approaches. A Draft Program Manual has been prepared that describes the ongoing, regular stewardship and maintenance activities within Midpen OSPs for the purpose of obtaining state and federal environmental permits.

1.2 Intent and Scope of this Document

This IS/MND has been prepared in accordance with CEQA, under which the proposed Program is evaluated at a project level (CEQA Guidelines Section 15378). The Midpen Board of Directors, as the Lead Agency under CEQA, will consider the proposed Program's potential environmental impacts when considering whether to approve the Project. This IS/MND is an informational document to be used in the planning and decision-making process for the proposed Program and does not recommend approval or denial of the proposed Program.



This IS/MND describes the proposed Program; its environmental setting, including existing conditions and regulatory setting, as necessary; and the potential environmental impacts of the proposed Program with regard to the following topics:

- *Aesthetics*
- *Agricultural/Forestry Resources*
- *Air Quality*
- *Biological Resources*
- *Cultural Resources*
- *Energy*
- *Geology, Soils, and Seismicity*
- *Greenhouse Gas Emissions*
- *Hazards and Hazardous Materials*
- *Hydrology and Water Quality*
- *Land Use and Planning*
- *Mineral Resources*
- *Noise*
- *Population and Housing*
- *Public Services*
- *Recreation*
- *Transportation*
- *Tribal Cultural Resources*
- *Utilities and Service Systems*
- *Wildfire*

The proposed Program incorporates BMPs to ensure there would be no significant adverse impacts on the environment. Over the long term, the Project would benefit overall watershed functions, riparian and aquatic resources, and species located in the Program Area.

1.1.1 Consistency with Other Midpen Programs

Many of the proposed Program vegetation management activities are components of other Midpen programs, namely the Integrated Pest Management Program (IPMP) (Midpen 2014) and the Wildland Fire Resiliency Program (Midpen 2021). These programs also include BMPs that specify the general work approach to avoid and/or minimize impacts to sensitive resources while conducting vegetation management activities that would apply to the proposed Program.

Midpen's IPMP was developed to direct management of invasive plants and animals on OSPs, flammable vegetation near facilities, and rodents and insects in Midpen's buildings. Program activities covered under the IPMP include annual brushing/mowing along roads and trails, parking lots, gats, and stiles, and recreational areas; trimming and removing aquatic vegetation in ponds and along dams; limbing or removing hazard and downed trees; applying pesticides; conducting fuel management activities in Wildland/Urban Interface areas and around facilities (e.g., managing disclines along roads, trails, and borders, limbing trees, maintaining shaded fuel breaks, clearing around buildings, emergency helicopter landing zones, and driveways); removing invasive plant and animal species; and grazing. Potential environmental impacts associated with IPMP activities were analyzed in the 2014 IPMP Environmental Impact Report (EIR) as Addended (Midpen 2014, 2019). BMPs and mitigation measures included in the IPMP EIR as Addended would apply to comparable vegetation management activities described for the proposed Program.

Midpen's Wildland Fire Resiliency Program was developed to expand Midpen's fuel management activities to promote healthy, resilient, fire-adapted ecosystems, reduce



wildland fire risk, and facilitate the response of fire agencies. Program activities covered under the Wildland Fire Resiliency Program include prescribed burns, disclines, shaded fuelbreaks, maintaining defensible space around facilities, removing flammable invasive species; limbing/removing trees and riparian vegetation; mowing and brushcutting; pesticide application; and grazing. Potential environmental impacts associated with Wildland Fire Resiliency Program activities are analyzed in the 2021 Wildland Fire Resiliency Program EIR (Panorama 2021). BMPs and mitigation measures included in Wildland Fire Resiliency Program EIR would apply to comparable vegetation and fuels management activities described for the proposed Program.

Where appropriate, this IS/MND incorporates by reference these other Midpen programs and environmental documents for coverage of related proposed Program activities.

1.3 Public Involvement Process

Public disclosure and dialogue are priorities under CEQA. CEQA Guidelines Section 15073 and Section 15105(b) require that the lead agency designate a period during the IS/MND process when the public and other agencies can provide comments on the potential impacts of the proposed Program. Accordingly, Midpen circulated this document for a 30-day public and agency review period beginning August 9, 2021 and ending September 7, 2021.

The Draft IS/MND was available for review at the following locations as well as on Midpen's website:

- Midpen's main Administration Office (330 Distel Circle, Los Altos)
- Foothills Field Office (222500 Cristo Rey Dr, Cupertino), and
- Skyline Field Office (21150 Skyline Ranch Road, La Honda).

Midpen considered all comments submitted in writing and received before 5:00 p.m. from the date identified for closure of the public comment period in the Notice of Intent. One public comment was received during the 30-day review period. The comment letter is included in **Appendix F**.

1.4 Organization of this Document

This IS/MND contains the following components:

Chapter 1, *Introduction*, provides a brief description of the intent and scope of this IS/MND, the public involvement process under CEQA, and the organization of and terminology used in this IS/MND.

Chapter 2, *Project Description*, describes the proposed Program, including its objectives and conservation outcomes; a description of the Program Area, Program



activities and facilities; Program implementation and oversight; programmatic avoidance and minimization measures; and related permits and approvals.

Chapter 3, *Environmental Checklist*, presents the environmental checklist used to assess the proposed Program's potential environmental effects, which is based on the model provided in Appendix G of the CEQA Guidelines. This chapter also includes a brief environmental setting description for each resource topic and identifies the proposed Program's anticipated environmental impacts, as well as any mitigation measures that would be required to reduce potentially significant impacts to a less-than-significant level.

Chapter 4, *References*, provides a bibliography of printed references, websites, and personal communications used in preparing this IS/MND.

The following appendices provide documentation in support of this IS/MND:

- Appendix A. *Program Best Management Practices*
- Appendix B. *Midpeninsula Regional Open Space District Open Space Maintenance and Restoration Program Manual*
- Appendix C. *Air Quality/ Greenhouse Gas Emissions Calculations*
- Appendix D. *Biology Appendix*
- Appendix E. *Noise Calculations*
- Appendix F. *Public Comments*

1.5 Impact Terminology

This IS/MND uses the following terminology to describe the environmental effects of the proposed Program:

- A finding of *no impact* is made when the analysis concludes that the proposed Program would not affect the particular environmental resource or issue.
- An impact is considered *less than significant* if the analysis concludes that no substantial adverse change in the environment would result and that no mitigation is needed.
- An impact is considered *less than significant with mitigation* if the analysis concludes that no substantial adverse change in the environment would result with the implementation of the mitigation measures described.
- An impact is considered *significant or potentially significant* if the analysis concludes that a substantial effect on the environment could result.
- Mitigation refers to specific measures or activities that would be adopted by the lead agency to avoid, minimize, rectify, reduce, eliminate, or compensate for an otherwise significant impact.
- A cumulative impact refers to one that can result when a change in the environment would result from the incremental impacts of a project along with other related past, present, or reasonably foreseeable future projects. Significant cumulative



impacts might result from impacts that are individually minor but collectively significant. The cumulative impact analysis in this IS/MND focuses on whether the proposed Program's incremental contribution to significant cumulative impacts caused by the project in combination with past, present, or probable future projects is cumulatively considerable.

- Because the term "significant" has a specific usage in evaluating the impacts under CEQA, it is used to describe only the significance of impacts and is not used in other contexts within this document. Synonyms such as "substantial" are used when not discussing the significance of an environmental impact.



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Chapter 2 PROJECT DESCRIPTION

2.1 Introduction

This document evaluates the potential environmental effects of the Midpeninsula Regional Open Space District's (Midpen's) Open Space Maintenance and Restoration Program (Program) to provide the public, relevant public agencies, and stakeholders with information about proposed Program implementation and its potential environmental effects. The proposed Program is summarized below. The draft proposed Program Open Space Maintenance and Restoration Program Manual (Manual) is provided in **Appendix B**.

The proposed Program activities described herein are currently conducted by Midpen. Thus, the proposed Program would not expand Midpen's existing activities but would rather repackage what Midpen already does in order to streamline the associated regulatory permitting processes. Many of the proposed Program activities are components of other Midpen Programs and described in other Midpen documents, including but not limited to, the Integrated Pest Management Program (IPMP) (Midpen 2014) and the Wildland Fire Resiliency Program (Midpen 2021c). Where appropriate, this Initial Study/Mitigated Negative Declaration (IS/MND) incorporates by reference these other Midpen programs and environmental documents for coverage of related proposed Program activities.

2.2 Program Objectives

The objectives of the Program include:

- Streamlining the regulatory permitting process by obtaining comprehensive long-term permits that improve work planning and implementation, and reduce delays.
- Utilizing existing and planned Midpen restoration and enhancement efforts in a strategic manner to ensure that the overall Program has a net benefit to regulated habitats and special-status species.
- Protecting and enhancing the natural environment and improving low-intensity public access throughout Midpen Open Space Preserves (OSPs).
- Avoiding and minimizing potential impacts to the natural environment when conducting activities by assessing habitat, species, and resource conditions.



- Identifying and prioritizing maintenance and facilities needs by weighing potential impacts vs. permitting requirements and timelines.

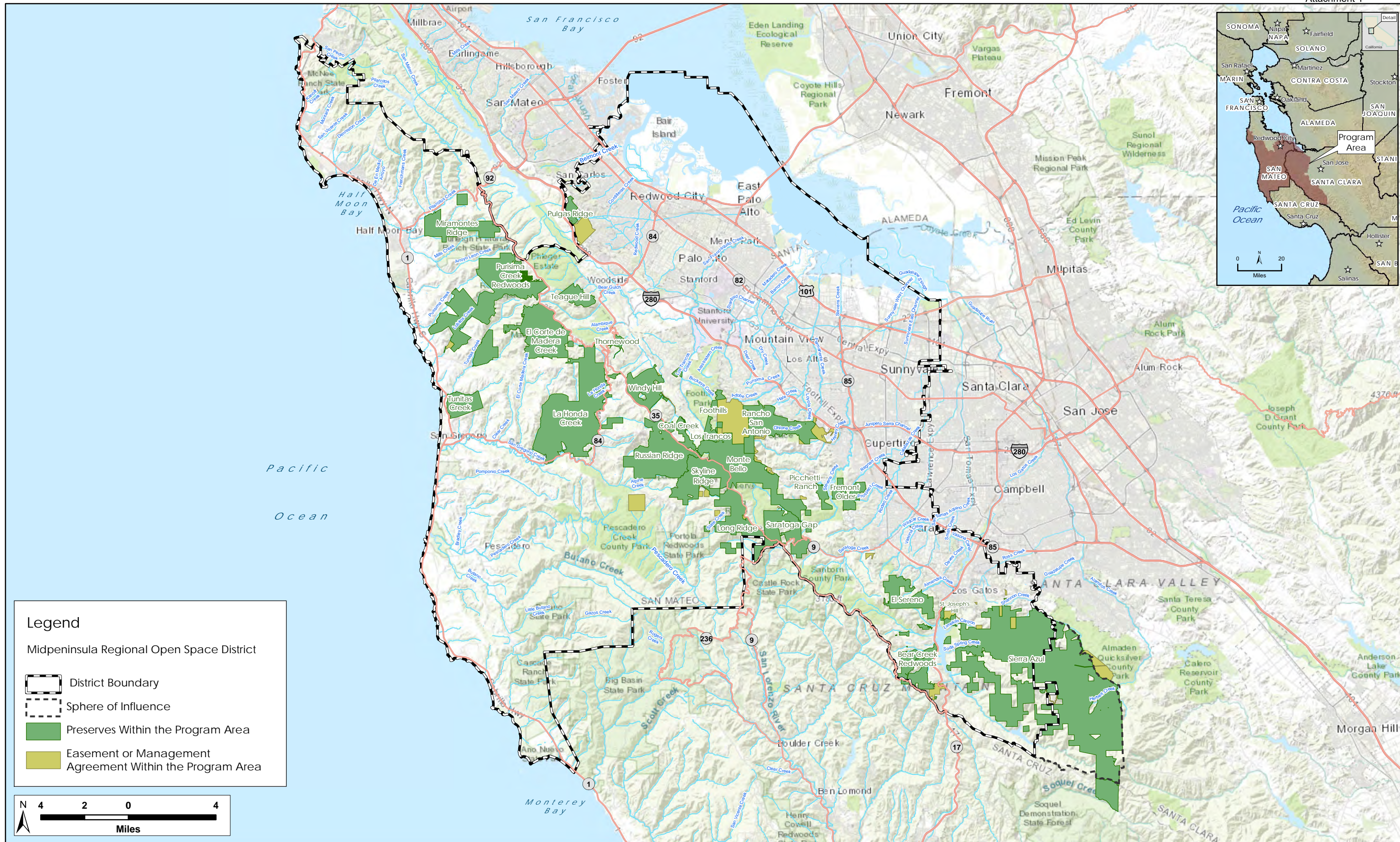
2.3 Conservation Outcomes

Conservation outcomes of the Program, which were derived and modified from Midpen's Resource Management Policies, Integrated Pest Management (IPM) Guidance Manual, and Wildland Fire Resiliency Program, include:

- Reduce soil disturbances, erosion, and water quality impacts associated with maintenance activities through careful planning combined with implementation of Best Management Practices (BMPs) that provide erosion control and protect water quality.
- Promote growth of native vegetation and protect and restore special-status species and sensitive habitats, and rehabilitate areas disturbed prior to Midpen ownership.
- Acquire and provide public access to lands while also protecting and restoring natural resources.
- Remove and manage invasive species while protecting natural resources and public health.
- Reduce fire fuels that contribute to the risk of catastrophic wildfire and restore ecosystems by removing invasive plant species and/or dead and excessive accumulated vegetation due to past fire suppression.

2.4 Program Area

The Program area includes Midpen's Sphere of Influence, consisting of approximately 236,233 acres in northern Santa Clara and southern San Mateo counties, and a small portion of Santa Cruz County. Within the Program area, Midpen protects over 64,000 acres of open space in the South Bay and San Francisco Peninsula (refer to **Figure 2-1**). Most of these lands are located in 26 OSPs in the Santa Cruz Mountains (refer to **Table 2-1**) within either the Skyline region or Foothill region (refer to **Figure 2-2**).



Legend

- Midpeninsula Regional Open Space District
- District Boundary
- Sphere of Influence
- Preserves Within the Program Area
- Easement or Management Agreement Within the Program Area

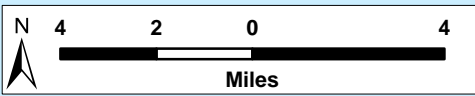
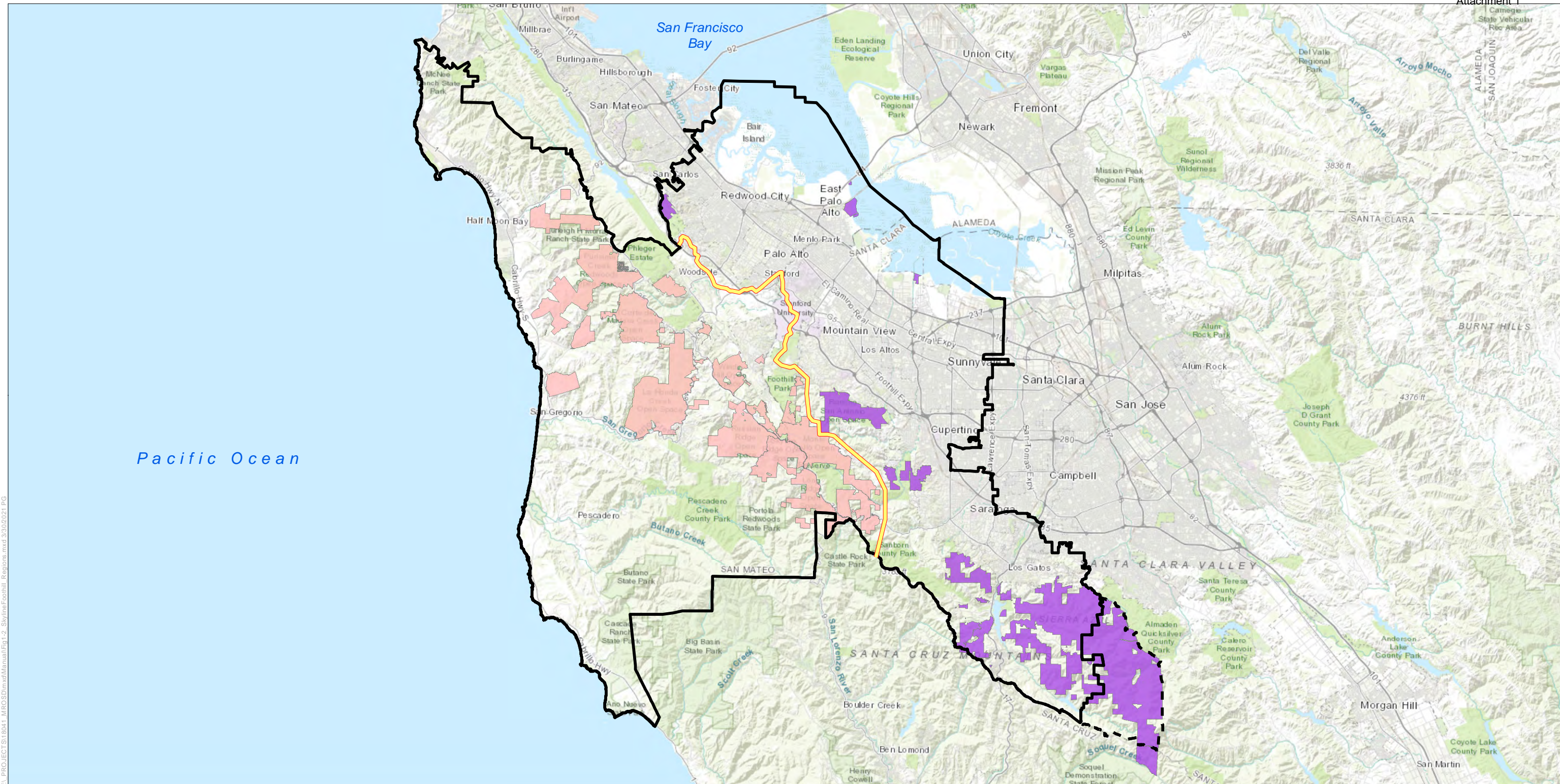
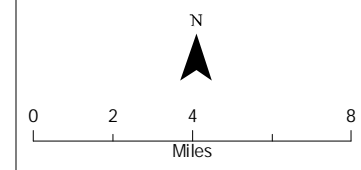


Figure 2-1: Program Area
Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
May 2021

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
-  MROSD Boundary
-  Sphere of Influence
-  Foothill and Skyline Region Boundary
-  Foothills Field Office
-  Skyline Field Office

Figure 2-2
Skyline and Foothill Regions
in the Program Area





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Table 2-1. Existing Midpen OSPs

OSP	Size (Acres)	Miles of Existing Trail	Grazing	Foothill or Skyline Region	County/Community
Bear Creek Redwoods	1,437	7.2	No	Foothill	Los Gatos
Coal Creek	508	3.7	No	Skyline	Palo Alto Foothills
El Corte de Madera Creek	2,906	34.8	No	Skyline	Redwood City
El Sereno	1,430	6.5	No	Foothill	Los Gatos/ Monte Sereno
Foothills	212	0.2	No	Skyline	Palo Alto/ Los Altos
Fremont Older	739	12.1	No	Foothill	Cupertino
La Honda Creek	6,144	10.6	Yes	Skyline	Redwood City
Long Ridge	2,226	14.1	No	Skyline	La Honda
Los Trancos	274	6	No	Skyline	Los Altos
Miramontes Ridge	1,716	--	No	Skyline	Half Moon Bay
Monte Bello	3,537	18	No	Skyline	Palo Alto/ Los Altos
Picchetti Ranch	308	3.1	No	Foothill	Cupertino
Pulgas Ridge	366	6.2	No	Foothill	San Carlos
Purisima Creek Redwoods	4,798	28.9	Yes	Skyline	Half Moon Bay
Rancho San Antonio	3,988	25.2	No	Foothill	Los Altos Hills
Russian Ridge	3,491	13.1	Yes	Skyline	Redwood City
Saratoga Gap	1,613	1.4	No	Skyline	Santa Clara County
Sierra Azul	18,939	25.8	No	Foothill	San Jose
Skyline Ridge	2,143	12.4	Yes	Skyline	La Honda
St. Joseph's Hill	270	4.2	No	Foothill	Los Gatos
Teague Hill	626	.2	No	Skyline	Woodside
Thornewood	167	1.6	No	Skyline	Woodside
Tunitas Creek	1,660	--	Yes	Skyline	San Mateo County
Windy Hill	1,414	13.6	No	Skyline	Portola Valley

Note: Midpen owns properties along the Bayside within the Ravenswood and Stevens Creek OSPs; however, these OSPs are not included in this Program and thus, are not shown in this table.



The Program area contains over approximately 900 culverts (including ditch relief and stream crossings), 150 trail bridges (including fords, puncheons, and boardwalks), 25 vehicle bridges, approximately 230 miles of streams (excluding many unmapped seasonal drainages and tributaries), 100 waterbodies (mostly ponds), 115 miles of single-track maintained unpaved trails, and 230 miles of maintained roads (including paved, unpaved seasonal, and unpaved all-season).

Midpen acquires several hundred acres across multiple properties each year within their Sphere of Influence and sometimes thousands of contiguous acres at once from private landowners. Newly acquired properties often come with a number of environmental issues such as permitted and unpermitted structures in sensitive environmental areas, unpermitted ponds or water diversions, invasive species, poorly designed/maintained roads, or generally degraded infrastructure and/or degraded habitat. Midpen undertakes comprehensive planning processes for these properties; however, urgent items such as road repairs, invasive species, or other critical natural resources issue must be addressed rapidly to protect natural resources. Midpen also oversees and facilitates work on neighboring lands or partner properties within their Sphere of Influence such as lands of the Peninsula Open Space Trust (POST), State Parks, the San Mateo Resource Conservation District, San Francisco Public Utilities Commission, or the rights-of-way of local, County, and State roads.

2.5 Program Activities

The vast majority of Midpen’s proposed Program activities would benefit listed species and their habitats, consistent with Midpen’s mission statement of 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. **Table 2-2** summarizes activities that would be covered by the Program, which generally includes: (1) routine maintenance activities; (2) small-scale facility improvements and new low-intensity/small footprint facilities; and (3) restoration and enhancement projects. Facility improvements and new low intensity/small facility projects would be included in the Program when they are necessary to maintain OSP facilities and amenities in good condition while simultaneously reducing the threat of, or correct degradation of, natural environments, particularly where sensitive species would benefit.

Table 2-2. Summary of Program Activities by Facility or Feature

Facility or Feature	Typical Examples of Activity Type
<i>Routine Maintenance Activities</i>	
Ponds/lakes	Berm repair/maintenance
	Outlet, inlet, and pipe repair
	Trash and woody debris removal
	Vegetation removal
	Sediment removal (may include some recontouring)
	Invasive plant treatment
	Wildlife structure installation (basking platforms/logs)



Facility or Feature	Typical Examples of Activity Type
	Livestock exclusion fencing and gate repair Trash rack clearing
Water supply structures	Spring box and/or water tank maintenance or replacement Water line replacement, extensions, or realignments Instream diversion intake clearing Vegetation removal
Roads	Grading and shaping (may include rocking) Culvert repair and replacement Removal of asbestos from culverts and other structures Sediment and debris removal at inboard ditches and stream crossings (including culvert inlets, outlets, and rocked fords) Fords and swales repair and replacement (including new culverts in place of fords) Bank stabilization Repair of gabion rock or riprap Road brushing/mowing Vegetation management Minor relocation of road segments (unpaved) to correct resource concerns (e.g., erosion, rutting) Installation of new roadside and trailside ditch relief culverts at non-stream crossings Repair and replacement of driveways
Bridges	Replace decking and handrails Minor structural repairs Repair and fortify bridge abutments Sediment and debris removal Addition of surface material to puncheons Vegetation management/removal Bridge removal or replacement (e.g., increasing span to outside ordinary high water mark [OHWM]) Removal of lead paint Repainting bridges
Roadside/trailside ditches	Replace culverts and ditches Install new rolling dips and fords Replace and repair fords Sediment and debris removal Vegetation management



Facility or Feature	Typical Examples of Activity Type
	Cleaning ditches
Trails	Grading and shaping Culvert repair and replacement Repair and replace fords and swales (including with new culverts) Bank stabilization Repair of gabion rock, riprap, or retaining walls Boardwalk repair Trail brushing/mowing Vegetation management Minor relocation/reroute Sediment and debris removal at channel/trail crossings Maintenance of rolling dips Fence, gate, and signage repair
Creeks	Vegetation management Sediment and debris removal Downed tree management and large woody material removal Bank stabilization Trash rack clearing
Other Midpen Parks and Open Space features (picnic or rest areas, natural areas, rangeland, staging areas, parking lots, tenant structures, field offices, etc.)	Invasive species removal (e.g., manual, mechanical, chemical, and biological) in natural lands Fire fuel management (e.g., manual, mechanical, grazing, and chemical) for disc lines and fuel breaks Maintenance/clearing of defensive space buffers around buildings, staging areas, roads, trails, water supply infrastructure, and use areas Mechanical and chemical treatment of vegetation at helicopter landing zones
<i>New Facilities and Improvements</i>	
Bridges	Bridge relocation or new installation to reduce resource/water quality impacts
Interpretive facilities and signage	Installation of new low-intensity, small-footprint interpretative facilities and signage at existing OSPs
Ranching infrastructure	Improve existing ranching infrastructure, including fences, corrals, stock water
Utilities	Maintenance of septic, telephone, telecommunications, and other utilities etc.
Trails	Reroute existing unpaved trails, provide new trail connections and public access, and single-track trail resurfacing for Americans with Disabilities Act (ADA) compliance
Wildlife crossings	Construct wildlife crossings some of which may also provide public access



Facility or Feature	Typical Examples of Activity Type
Existing buildings and structures	Repair existing structures to provide habitat for wildlife species
Water infrastructure	Replace or remove degraded water infrastructure facilities
Restoration and Enhancement Activities	
Removal of in-stream infrastructure (i.e., impoundments) and collapsed structures (i.e., bridges or culverts) or upsizing of culverts	Creation of aquatic habitat and/or improvement of fisheries habitat, flows, sediment transport
Native vegetation plantings and seeding	Habitat enhancement
Traditional ecological knowledge practices (indigenous stewardship)	Plant gathering, seed collection, and plantings
Wildlife friendly spring box/troughs	Habitat enhancement to prevent wildlife entrapment
Pond and stream restoration	Improve ponds and streams to restore aquatic habitat
Treatment of invasive species	Habitat enhancement
Exclusion fencing	Habitat enhancement to exclude cattle and protect species
Prescribed burns	Habitat enhancement, fuels management, and cultural fire
Conservation grazing	Fuels and species/grassland management
Road decommissioning	Restored hydrology and watershed processes
Water well decommissioning	Entrapment hazard removal and water quality protection
Structural demolitions in riparian or other sensitive areas	Habitat enhancement

2.5.1 Culvert and Bridge Maintenance

Culvert Repair and Replacement

Midpen maintains over 900 culverts, including ditch relief and stream crossings, which commonly require routine repair or replacement due to improper installation prior to Midpen land acquisition, material deterioration (e.g., bottom of a corrugated metal pipe culvert is beginning to rust), damaged headwalls and energy dissipaters, or eroding outfalls. More than 50% of culverts on Midpen lands are between 15 feet and 35 feet long, with an average culvert length of 30 feet.



A typical culvert replacement would involve replacing existing pipe with corrugated metal pipe, high-density polyethylene (HDPE), or other pipe material, such as concrete, sized for adequate capacity (i.e., 100-year flow or entire channel width, where feasible). Culvert replacement would entail trenching, installing shoring when necessary, removing the existing culvert, installing armored culvert outlet aprons prior to laying down the new pipe, replacing the culvert, backfilling the trench, and compacting the soil or fill material. Typically, work would occur within the same footprint as the original culvert. Culverts that are greater than 30 inches in diameter would include armored culvert inlets and outlets to dissipate water velocity. Culvert replacements would be installed at or below stream grade. The slope and gradient of replacement culverts would be aligned with the receiving water course to maintain stream course continuity and to avoid washout or erosion. Culverts in fish-bearing streams would be designed to provide sufficient depth and velocity of water for passage of native fish and other native aquatic species during high and low flow conditions.

Repair of improperly installed or deteriorated culverts would include repairing eroded outfalls and rock armoring, replacing broken energy dissipators, adding rock slope protection, improving compaction to prevent piping, and clearing clogged culverts. In some instances, culverts may be replaced with rolling dips or rock fords to correct drainage conditions, improve sediment control, or limit disturbance. Adding rock material to reinforce or re-armor culverts at or below the streambed would be conducted by hand in remote areas or by using a bobcat or tractor in areas accessible by road or trail.

Surface disturbance would be limited to 150 linear feet of channel or 3,000 square feet for each culvert repair/replacement project. For culvert replacement projects, total earthwork would not exceed 100 cubic yards per culvert, not including the energy dissipator. For culvert repair projects, up to 10 cubic yards of perched fill may be removed. Depending on where the culvert replacement takes place, equipment would generally be operated from the roadway, roadway shoulders, or trail. However, for large culvert repair, replacement, or relocation projects, it may be necessary to operate equipment within the channel. Culvert repair and replacement activities would occur during the summer season between April 15 and October 31 when water levels are low or absent. Dewatering may be required depending on site conditions and water levels.

For the purposes of the proposed Program environmental analysis, it is assumed that Midpen would conduct up to a maximum of 50 culvert repair and replacement projects in a given year; however, on average 25 culvert replacements would occur annually.

Bridge Maintenance and Replacement

Midpen maintains over 150 trail bridges, including fords, puncheons, and boardwalks, and over 25 vehicular bridges throughout its OSPs. Vehicular and trail bridge maintenance activities would involve repairing or replacing guard or hand railings and decking on bridges, sealing joints, patching cracks on the bridge exterior, removing and re-applying paint, conducting general surface and deck treatments, adding surface material to low puncheons, clearing debris beneath the bridge abutments, and adding rock material to repair bridge abutments.



Bridge maintenance activities would be conducted on the bridge itself with electric power tools or heavy equipment, such as excavators and backhoes, placed outside of the channel, on dry stream banks and adjoining upland areas to minimize stream disturbance and turbidity. Nets, tarping or other suitable material would be installed on the underside of the bridge to catch any falling debris. Typically, bridge maintenance work would occur between April 15 and October 31; however, work could occur between November 1 to April 14, depending on conditions. If bridge works occurs within salmonid habitat, work would occur between June 15 and October 31. If the lower portion of the bridge requires maintenance, work may occur during periods of dry or low flow or dewatering would be required. If dewatering is required, water would either be temporarily diverted or the work area would be isolated.

Bridges may also be replaced if they are no longer passable by vehicles, are damaged or worn out, cannot withstand sufficient weight loads to accommodate emergency response vehicles, or are necessary for drainage correction purposes. Bridge replacements that involve the same size and location of the new bridge may occur under the proposed Program with limited in-channel work. Bridge replacements that involve a different location or size of bridge may also occur only if the replaced bridge reduces impacts to the surrounding habitat. The original bridge site would be restored to improve or match surrounding habitat conditions.

For the purposes of the proposed Program environmental analysis, it is assumed that Midpen would conduct a maximum of 10 bridge maintenance and replacement projects in a given year; however, on average a total of five bridge projects would occur annually.

2.5.2 Road and Trail Drainage Feature Maintenance

Road and trail ditches, ditch relief culverts, fords and swales, rolling dips, and other drainage features collect runoff from the adjacent road and trail surfaces and control and direct stream flow. Maintenance of these drainage features is necessary to reduce flooding by providing flow carrying capacity; prevent erosion and scouring of the drainage feature, channel/stream, and adjacent roadway/trail and slopes; and reduce the delivery of pollutants, including sediment to streams. These facilities are inspected year-round and are cleaned when capacity is reduced by 10% to 30%.

For purposes of the proposed Program, it is assumed that Midpen would conduct a maximum of 56 road and trail drainage clearing and installation (average of 17 per year), including ford/swale maintenance, and a maximum of 200 annual pre-rainstorm preparation (i.e., clearing sediment and debris from road and trail drainage features with hand shovels) (average of 100 per year).

Unpaved and Paved Road and Trail Ditches

Unpaved roadside and trailside ditches are cleaned as-needed from spring to fall (April through November), as long as the ditches are dry. Rainy season ditch clearing may occur (November to April) but would usually be limited to hand tools unless there is a large debris blockage that must be cleared. Unpaved ditches would be cleaned to a depth that matches the existing grade to maintain a continuous slope for runoff to flow to the nearest outlet. Ditch maintenance would typically involve vegetation removal and sediment and debris removal.



Ditches would be cleaned with hand tools or mechanical equipment such as dozers, excavators, backhoes, skid steers, box scrapers, and graders depending on the scale of work.

Paved ditches would be cleaned on an as-needed basis to preserve drainage capacity. Methods to remove debris, trash, or sediment include manual cleaning with hand tools or mechanical cleaning by use of dozer, grader, excavator, backhoe, skid-steer, box scraper, or similar equipment, depending on the scale and location of work.

Ditch Relief Culverts

Ditch relief culverts are buried beneath the road or trail surface at the low point or dip and provide drainage of roadside and trailside ditches. Maintenance of ditch relief culverts would include removal of sediment and debris as well as installation of new ditch relief culverts, as needed to improve drainage. These culverts would be inspected and cleaned as needed, typically with hand tools. Ditches could also be cleared with vacuum equipment or high pressure/volume water flow to flush out the ditch. Debris would then be cleared by hand at the end of the pipe. Ditch relief culverts would be cleared when they are 30% blocked; however, it would vary depending on the condition.

Armored Fords and Swales

Ford crossings are typically located at trail and stream crossings and are designed for the road/trail to dip through the watercourse. Maintenance of fords and swales would involve replacing rock at the dip and apron and occasionally removing sediment and woody debris. Midpen also would install new fords and swales in locations where gulying or erosion has resulted from the stream draining across the road/trail. Midpen may also replace culverts with rock fords in cases where culverts frequently clog. Fords and swales would be cleaned as-needed with hand tools for small work or mechanical equipment, such as a dozer, excavator, backhoe, skid-steer, or skip loader.

Rolling Dips

Rolling dips (i.e., grade dips) are designed to be self-cleaning and to convey sediment off of the side of the road/trail surface. Maintenance of rolling dips would involve clearing sediment and debris and removing vegetation, as needed. Midpen also would install new rolling dips as necessary to provide drainage improvements to existing roads and trails. Rolling dips on roads would be excavated with an excavator, bulldozer with rippers, or a grader. Rolling dips on trails would be excavated with a mini excavator, skid steer, or hand tools. Rolling dips would be cleared as-needed and would be typically built to reduce maintenance to every 10-years or more.

2.5.3 Sediment and Debris Removal

Deposited or accumulated sediment and debris can reduce a channel's capacity to safely convey streamflow as well as a pond's capacity to hold water. Accumulated sediment or debris can also block culverts, bridges, ditches, and other drainage features, and direct flows into streambanks causing erosion, which could negatively impact water quality and the facility (i.e., road, trail, or bridge). In addition, sediment and debris accumulation could also flood and damage property or structures, thus threatening public safety. Sediment and debris



removal primarily would occur in ponds and culverts, ditches, rolling dips and other drainage features at road/trail crossings and rarely would occur in channels, beneath bridges, and at trash racks and other minor facilities. Removing excess sediment and debris would improve water quality, decrease the risk of flooding and erosion, eliminate unpleasant odors, and improve aesthetic conditions. Sediment and debris removal activities typically would occur during the dry season, between April 15 and October 15; however, removal activities could be extended if conditions allow.

Sediment Removal

Although Midpen rarely removes sediment from channels, it may be necessary when sediment volume has reduced channel capacity or when localized sediment obstruction has the potential to divert flows, thereby resulting in erosion or flooding damage. Sediment removal in channels typically would occur at small, localized areas that experience sediment deposition or blockages. It is anticipated that Midpen would work on up to one in-channel sediment removal project per year. The total work limits would not exceed 100 linear feet per site. Sediment would be removed with mechanized equipment in creeks that do not support habitat for salmonids and with hand tools in creeks that do support salmonid habitat. No equipment would be operated in standing or flowing water within the channel. Work would generally occur under dry conditions; however, if maintenance is necessary where water is in the channel, the water would either be temporarily diverted or the work area would be isolated.

Midpen also would remove sediment from ponds where accumulated sediment has decreased the depth of the pond, thereby reducing the water volume capacity and increasing the growth of aquatic vegetation such as cattails (*Typha* spp.). In order to restore the pond and return it to its previous depth and water capacity, sediment removal would be required. Sediment removal from ponds would occur as soon as the ponds are dry (if prior to August 15), or if pond draining is required, work would occur between August 15 and November 1. Draining of ponds would occur prior to the beginning of California red-legged frog (CRLF) breeding season. Heavy equipment such as dozers, loaders, excavators, rollers, and compactors would be used for sediment and vegetation removal and recontouring. In some areas, hand tools and hand laborers would be utilized. Portable pumps, with ¼ inch mesh screens on the intakes, may be used for pond draining. Sediment removal from ponds would be limited to approximately 600 cubic yards per pond and total annual pond work would be limited to approximately one acre (or two or three ponds).

Midpen is also responsible for clearing sediment from culvert inlets and outlets, ditches, rocked fords, rolling dips, and beneath bridges at road, trail, and stream crossings. The work is necessary when the drainage feature is blocked with sediment or debris and conveyance capacity is reduced by 10% to 30%, or sediment or debris deposits are actively causing scour erosion of streambanks supporting bridges or other public facilities like roads and trails. Midpen would remove sediment from blocked culverts approximately 3 to 8 times a year prior to the winter season and during and after storm events. Removing sediment may require digging sediment out by hand. Mechanized equipment, such as push loaders and excavators, may be used for larger drainage features or where hand removal is infeasible. Prior to the onset of the winter season and during/after storms, Midpen staff would walk the OSPs and remove any sediment that has filled drainage features with hand tools.



Removed sediment would be reused on Midpen lands either adjacent to the site, within the same watershed, or within the same OSP. Sediment would be spread on stable, upland areas outside of channel corridor, or over unpaved roads. However, in the rare occurrence that soil is contaminated, it would be hauled offsite and disposed of at an appropriate landfill facility. Typically, this work would be conducted with hand shovels, backhoes, mini excavators, dozers, and/or graders.

Debris Removal

Debris removal would involve removing non-sedimentary materials (e.g., shopping carts, trash, tires, other substances) that are deposited into channels, lakes, or ponds as a result of high flows or through human activity. Prior occupants on Midpen lands used tires and other debris to stabilize streambanks and berms. Midpen routinely removes debris that impairs hydraulic conditions and reduces conveyance capacity in channels, lakes, ponds, ditches, or other drainage features. Debris removal would occur on an as-needed basis, and would be conducted using hand tools, including come-along cable pullers. Vehicle mounted winches may also be used to remove collected or heavy materials from channels or other heavy equipment, including excavators to remove debris such as tires. Debris would be disposed at an appropriate site or landfill.

2.5.4 Streambank Stabilization

Streambank stabilization involves the repair and stabilization of eroded or eroding streambanks to minimize water quality and erosion impacts. Bank stabilization activities would include replacement or repair of damaged or failed sections of perched fill, rock riprap, geogrid embankment, timber pile walls, wooden or log cribwall bank revetments, and retaining walls. Bank stabilization activities would take place on an as-needed basis, based on the risk of flooding, erosion, or bank failure. In an average hydrologic year (based on average seasonal precipitation), Midpen may work on up to two streambank stabilization projects; the total annual work distance would not exceed 100 feet per site. Following a wet hydrologic year or period, Midpen may work on up to four streambank stabilization projects; the total work distance would not exceed 100 feet per site. If a streambank stabilization project is larger than 100 linear feet, the project would be conducted outside of the Program.

Prior to initiating bank stabilization repair work, Midpen would first evaluate the type of bank failure that occurred (sheered slope, undercut bank, rotational slump, culvert failure, etc.). Second, Midpen would evaluate site-specific conditions, including location, hydraulic conditions (i.e., bank height, bank slope, water surface elevations, etc.), bank materials (i.e., soil type, strength, saturation conditions, etc.), and geomorphic conditions (i.e., instream features, confluence, channel bends, etc.). Midpen would then assess the upstream and downstream channel to determine overall stability of the channel and if elements that can improve habitat complexity, such as root wad revetments and brush layering, can be incorporated into the bank stabilization design. Lastly, and based on the site-specific conditions, Midpen would develop an individualized bank stabilization design that minimizes long-term environmental impacts. Midpen would prioritize the use of earthen and biotechnical bank stabilization treatment solutions that minimize adverse environmental effects and help restore and increase complexity of habitat at stabilization sites. Examples of biotechnical bank stabilization solutions include broadcast and hydro-seeding; riparian



vegetation planting; armoring slopes with rocks or sandbags staked with live willows or interplanted with riparian species; willow staking; live willow pole drains; vegetated crib walls; or log or rootwads. If biotechnical bank stabilization solutions are determined to be unsuitable or have previously failed at a site, hardscape engineered solutions (e.g., riprap) may be used and keyed into the bank to provide stability.

Bank stabilization work would be conducted with either hand and power tools (i.e., toter or mule) or with larger mechanized equipment such as excavators or dump trucks. Generally, these are small-scale projects and work can be conducted from the top of bank. However, for larger projects, work within the channel may be required. If water is present within the channel, dewatering would be required to gain access. This work would typically occur between April 15 and October 31; however, it may be extended if certain conditions are met (e.g., no rainfall is forecasted for 7-days).

2.5.5 Water Supply Structure Maintenance

Water supply infrastructure primarily consists of spring boxes, wells, water tanks, waterlines, and livestock troughs. Maintenance of these facilities would be necessary to maintain water supply storage and availability; provide accessible water for livestock and wildlife; and supply clean water to residences. Primary maintenance activities would involve replacing, extending, or realigning water lines; repairing failed or dilapidated spring boxes or wells; cleaning out clogged spring boxes and pipes to improve spring system; installing new spring boxes or troughs; removing minor amounts of vegetation to ensure water supply structures are functioning properly, and creating defensible space around water infrastructure per the Board of Forestry Fire Safe Regulations (2021)¹. These structures would be inspected year-round on a regular basis and would generally be maintained annually by hand, as needed. Rebuilding water supply structures would be done less frequently, typically once every 5-10 years. If extensive digging is required, such as for installation of new water line or spring box, small mechanical equipment may be used (i.e., bobcat or small backhoe). When servicing wells, larger mechanical equipment may be required. If mechanical equipment is required, activities would typically occur between April and November. For purposes of this proposed Program, Midpen anticipates working on a maximum of four water supply structure maintenance projects per year. On average, a total of two water supply structure maintenance projects would occur annually.

2.5.6 Ponds

Ponds are important wetland features that serve as educational and aesthetic resources for OSP visitors, habitat for rare, threatened, and endangered species, water sources for livestock, as well as fire suppression benefits. Maintenance work would include vegetation and sediment removal to maintain optimum water levels; shoring and filling in gaps or low spots on earthen berms; rocking berm tops in heavy use areas, and clearing outlets, inlets, pipes, and spillways for proper depth of ponds.

¹ As of July 2021, the Board of Forestry Fire Safe Regulations have not yet been approved.



Heavy equipment such as dozers, loaders, excavators, rollers, and compactors would be used for repairing failing pond berms, improving inlets/ outlets, recontouring, and removing invasive vegetation. Excavators, chainsaws, brush cutters, mowers, and articulating arm mowers may be used for clearing and grubbing of vegetation to maintain a pond to the Division of Dam safety requirements, such as removing woody vegetation from a berm or aquatic vegetation from clogging a spillway. If pond draining is needed for berm stabilization or clearing work, portable pumps with ¼ inch mesh screens on the intakes, may be used. In some areas, hand tools and hand laborers would be utilized. Pond berm stabilization work would be limited to a maximum length of 200 feet per pond berm. In addition, the amount of material (i.e., fill) would be limited to 300 cubic yards per pond berm. Midpen anticipates working on up to three ponds per year.

Maintenance activities in ponds would occur as soon as the ponds are dry (if prior to August 15), or if pond draining is required and CRLF are present, work would occur between August 15 and November 1, prior to the beginning of CRLF breeding season.

2.5.7 Minor Maintenance Activities

Other minor maintenance activities conducted by Midpen would include repair of fences, gates and signage and trash rack clearing. Fences and gates would be repaired as needed to protect the public and Midpen's property. Trail signs would be periodically kept clean from graffiti and repaired or replaced as needed. Graffiti removal would involve painting by hand or mechanical sprayers on trail signs or bridges or other structures. Additional structures that require minor repair would include scientific instrumentation (i.e., gages, sensors, etc.) and wildlife habitat structures (i.e., turtle platforms, exclusion screens, and spring box features). These structures would be maintained with hand tools annually and are generally small in scale.

Midpen may also clear trash racks with the use of hand tools to remove the debris, which would be disposed of locally in a stable location away from the stream. The amount of debris removed annually would vary depending on the type of water year.

For purposes of this proposed Program, it is assumed that Midpen would work on a maximum of 6 minor maintenance projects per year (average of three per year).

2.5.8 Vegetation Management

Vegetation management activities are currently conducted consistent with Midpen's IPM Guidance Manual and Wildland Fire Resiliency Program's Vegetation Management Plan (VMP).² The primary vegetation management activities that would be conducted under the proposed Program would be similar to those in the IPM and Wildland Fire Resiliency

² Impacts associated with vegetation management activities are analyzed in the IPM Environmental Impact Report (EIR) (September 2014) and the Wildland Fire Resiliency Program EIR (April 2021).



Program, but would be initiated as part of routine maintenance, habitat enhancement, or during new construction for small-scale facilities improvements.

Vegetation management activities in the proposed Program would include brushing, fuel management, pruning, tree removal, downed tree management, pesticide application, conservation grazing, invasive plant removal, and traditional ecological knowledge practices (indigenous stewardship) (i.e., small-scale plant gathering, seedling collection, and plantings). Midpen undertakes these types of vegetation management activities routinely and relatively consistently from year to year. For some activities, the work locations may change yearly; however, the type of work would remain consistent. For other activities, the work locations are the same year after year and would be conducted as part of the existing condition to maintain the status quo and would not result in any new effects (e.g., maintenance of established shaded fuel breaks on existing Midpen lands). Some facilities require annual vegetation management while others do not. This largely depends on the type of vegetation in, or adjacent to, the channel, road, trail, or other facility and other environmental factors including the degree of solar input, soil, and moisture conditions.

Brushing and Mowing

Annual brushing (i.e., mowing and pruning of vegetation along roads and trails) would be conducted along approximately 600 miles of roads and trails; around parking lots, gates and stiles; the Black Mountain campsite; and other recreational areas to maintain an open corridor for vehicular, horse, bicycle, and pedestrian use, maintain access to facilities, control vegetation, and to reduce fire and public safety risk.

Road and trail brushing would be conducted with brushcutters (i.e., weedwhips), hedgers, chainsaws, pole saws, chippers, and tractor-operated mowers (mowing decks either pulled by a tractor or attached to the tractor as part of an articulated arm) to maintain grass and shrubs in short stature. Road and trail brushing would be conducted on annual or periodic basis and would be conducted at specific times of the year to abate the risk before it becomes a problem. Most trails would be mowed or brushcut on an annual basis. However, some trails may need to be brushed up to four times a year if it is a heavily used trail and if it is a high rainfall year. All roads would be mowed or brushcut one to four times per year depending on the rainfall/vegetation growth in a given year. On an annual basis, a strip of land around parking lots, gates and stiles would be brushcut or mowed. In addition, islands in the middle of parking lots, detention basins within parking lots, or parking lots with narrow grassy edges would be mowed.

Timed mowing would also be used to control the reproductive spread and reduce populations of annual invasive plants. These activities would typically occur between April and November, with the specific timing determined by the phenology of the target species. Timed mowing usually would occur when a certain percentage of the population reaches a phenological threshold (i.e., 5 percent of the population is flowering). Vegetation would be mowed to a height of 4 to 6 inches, and may require multiple treatments in a given year. All mowing activities would be conducted in compliance with Midpen's IPM best management practices (BMPs).



This brushing work would be re-occurring and conducted in the same place year after year along roads and trails; new areas would not be disturbed as part of the activity except when new properties are acquired, old roads are opened, or incidentally part of a larger project. Midpen also brushes patches of Coyote-brush that are impacting native grasslands or reducing forage for conservation grazing. For the purpose of this activity, old roads are those that have not been brushed/mowed within a five-year period and are more than 50% covered in vegetation.

Tree and Shrub Pruning

Pruning trees and shrubs would be routine activities performed as a component of facilities maintenance and fuel management projects to provide emergency, maintenance, and recreational access to Midpen facilities; improve visibility to inspect Midpen facilities; provide adequate sight distance for safety and aesthetic reasons protect infrastructure; and to meet local fire codes. Vegetation would be pruned within 3 feet of a trail and up to 12 feet for roads. Height clearance would depend on the use of the trail or road (e.g., trails with equestrian use have a 12-foot height clearance). No more than 20% of an individual riparian tree canopy would be pruned.

Pruning would be conducted with hand tools or mechanized equipment. Once work is completed, plant material that is free of exotic or invasive plant propagules would be chipped and re-used elsewhere on Midpen lands for other uses. However, in areas that are known to host Sudden Oak Death (SOD) or other plant pathogens, all chipped material would be left on-site.

Tree Removal

Native and non-native trees would be removed if the tree is creating a public safety risk along or near Midpen high-occupancy facilities (e.g., picnic areas, parking lots, buildings) or trails, is limiting stream capacity, or is a threat to streams, ponds or bed and banks of streams, natural areas, or water quality. Trees would be assessed by a licensed arborist to determine if they are a public safety risk where staff cannot make a determination. If a hazardous tree can be mitigated by pruning alone, the tree would not need to be removed.

Identifying and removing hazardous trees would be conducted on a continual basis. When assessing hazardous trees, Midpen staff take into consideration human residence time (i.e., the duration of exposure that the public or staff have around the potential risk). Hazardous trees would be removed when they are within 1 ½ times of their height to a high use facility. An estimated 50 to 200 trees would be limbed or removed every year along roads and trails and near facilities with chainsaws, pole saws and chippers to reduce the risk of tree failure in a high human residence time.

Trees in riparian areas that are limiting stream capacity, are threatening ponds or bed and banks of streams, natural areas, or water quality, or are preventing necessary vehicle access along roads may also be removed. No trees or vegetation greater than 6 inches diameter at breast height (dbh) would be removed from within the stream. Trees within the riparian area would be removed with trimmers and chainsaws; no heavy equipment would be operated from the streambank. Mulch, limbs, and leafy materials would be left in place for site



restoration and erosion control and larger sections would be stockpiled off site and reused for future Midpen projects.

Downed Tree Management

Midpen would remove downed trees in high visitor use areas if the downed tree presents a safety risk, is blocking a road, trail or other infrastructure, or if the fallen tree negatively affects hydrologic processes. Because downed trees play an important role in the ecosystem, they would be left in place if a fallen tree does not present a safety risk. If it is unlikely that the downed tree would increase any risks and there is adequate flood flow capacity, Midpen would seek opportunities to maintain the downed tree as a habitat feature. However, if it is likely that the downed tree would increase any risks or threatens infrastructure, the tree would be trimmed and repositioned with hand tools immediately. Equipment, such as a winch and cable, to remove the tree would be operated from the top of bank. Downed tree management activities would occur during the winter months, typically following a large storm event. Midpen anticipates working on up to two locations in a year on average; however, a hydrologically wet year may result in additional sites.

Aquatic Vegetation Removal

Cattails (*Typha* spp.) and other aquatic plant species are commonly found in ponds where sediment deposition has occurred. Midpen would remove tall cattails and other wetland vegetation in small select areas to maintain public viewing areas, public trails and maintenance access, prevent sedimentation, improve habitat for special-status species, and for pond monitoring purposes. In addition, the California Division of Dam Safety requires all woody debris to be removed and tall herbaceous vegetation to be cut on both faces of certain pond dams to improve visibility to see possible areas of failure. Vegetation on the water side of the dam would be trimmed with mowers and brush cutters. Vegetation on the dry side of the dam would be trimmed with mowers and approved pesticides. Woody vegetation would be trimmed in pond spillways to prevent the blockage of water.

Fuel Management

Fuel management is the practice of removing or modifying vegetation to reduce the risk of wildfire ignitions, rates of wildfire spread, and fire intensity. Fuel management activities are required when vegetation becomes overabundant or decadent; or close to facilities, structures, and communities that people inhabit and use. Midpen typically conducts fuel management activities within the Wildland Urban Interface (WUI) in accordance with the VMP of the Wildland Fire Resiliency Program and Conservation Grazing Program. Fuel management activities are described in more detail below.

Prescribed Burns

Prescribed burns help restore native upland habitats and control invasive exotic vegetation. Prescribed burns would generally be conducted every three to ten years to maintain a high diversity of plants. All burnings would be conducted according to California Department of Forestry and Fire Protection (CAL FIRE) regulations and burn protocols. Prescribed burns would be monitored to ensure burn prescriptions, including timing and frequency, are adhered to. Prescribed burns would adhere to the conditions outlined in the Wildland Fire



Resiliency Program, which identifies total allowable burn acreage by vegetation type. Prescribed burn timing would be determined based on permit conditions from the relevant agencies, the constraints of each site, climatic conditions, and species requirements.

Disclines

Midpen annually maintains approximately 30 miles of disclines on its land as required by local fire agencies. Additional miles of disclines will likely be added under the Wildland Fire Resiliency Program as Midpen acquires new lands. A discline is cut with an agricultural cultivator attachment on a tractor. However, discing requires annual maintenance to be effective and to manage invasive weeds. Brush encroaching into disc lines along roads, trails, and borders would be removed with chainsaws, boom flails, and mowing or masticator equipment. Occasional pruning of overhanging branches with a chainsaw or pole pruner would also be undertaken along disclines where needed to allow passage of maintenance equipment. Discing generally would take place adjacent to major roads/highways, grasslands along WUI, around buildings, and where required by a local fire agency. Midpen typically maintains disclines between April 1 and July 1.

Shaded Fuelbreaks

Shaded fuelbreaks are a forest management approach that involves selective thinning and removal of the more flammable understory vegetation and leaving the majority of larger, more fire tolerant tree species in place. Typically, fuelbreaks are maintained along roads. Maintenance of fuelbreaks along roads would include annual mowing of vegetation 10 to 30 feet from the edge of the road, clearance of brush and all dead vegetation, and removal of ladder fuels in forested areas. Shaded fuelbreaks would also be maintained along road-width trails, staging areas, and helicopter landing zones. Shaded fuelbreaks would be maintained as-needed, typically every 3 to 5 years. This work would be conducted with both manual and mechanical tools, including tractors, brushcutters, chainsaws, chippers, masticators.

Maintaining Defensible Space around Buildings, Emergency Helicopter Landing Zones, Driveways, and Water Supply Infrastructure

Midpen or its tenants are responsible for maintaining defensible space around structures and along property boundaries. Flammable vegetation is generally cleared annually within 100 feet to 300-feet of Midpen-owned structures/buildings, within 30 feet of a property boundary (where directed by a fire agency regulation), and 100 feet of water supply infrastructure. However, the amounts of clearance for defensible space can vary depending on the Fire District jurisdiction that a parcel is located within. Defensible space clearing would be conducted consistent with Midpen's Defensible Space Clearing Guidelines (Midpen 2011), Wildfire Management Policy (Midpen 2012), Wildland Fire Resiliency Program (2021), Board of Forestry Fire Safe Regulations (2021)³, and local or state defensible space requirements. This work would consist of manual and mechanical clearing of flammable vegetation by mowing, brushcutting, chainsaw work, pole pruning, chipping, masticator and spraying,

³ As of July 2021, the Board of Forestry Fire Safe Regulations have not yet been approved.



dependent upon the site conditions. Work would generally be conducted between April and August.

Emergency helicopter zones would be maintained annually or bi-annually by mowing with a tractor or brushcutter. Heavier vegetation/brush encroaching within the landing zone would be mechanically removed with a chainsaw or JAWZ equipment.

Invasive Plant Removal

Pesticide Application

Consistent with Midpen's IPM Guidance Manual, the proposed Program would use an integrated approach of chemical, manual and mechanical methods to manage vegetation along trails, roads, and wildlands. Pesticides would be used in conjunction with manual and mechanical treatment methods to control invasive species, reduce fire risk, and to limit the spread of plant pathogens (e.g., SOD). Midpen aims to reduce per-acre pesticide use at individual sites in natural areas over time. Midpen would use the most selective pesticide application method that can achieve the desired results for any given project. Pesticide application techniques would include foliar/spot spray, cut-stump, basal bark application, wick/wipe application, and frill/injection.

All pesticide applications conducted by Midpen would occur in accordance with federal, state, local regulations, labeled specifications, and any court injunctions in place. Pesticide application would only be conducted when the weather is dry and when wind speeds do not exceed 7 miles per hour. Pesticides would not be used in or within 15 feet of any fish-bearing stream, lake, pond, or other water bodies known to support special status aquatic species. For other water bodies, pesticide use would be limited to control non-native plant species where excess vegetation is determined to be the cause of sediment deposition and/or debris accumulations that result in flooding or damage to facilities. Only approved pesticides may be used on Midpen lands for vegetation management, including but not limited to, Glyphosate isopropylamine and potassium salts, Aminopyralid triisopropanolamine salt, Imazapyr isopropylamine, Clopyralid monoethanolamine salt, Clethodim, and Triclopyr triethylamine salt. All pesticides would be applied in accordance with Court-ordered injunctions concerning special-status species.

Pesticide application in riparian areas would be limited to one to five sites per year and would be conducted in accordance with the IPMP BMPs. Only pesticides and adjuvants labeled for aquatic use would be allowed. Pesticide application adjacent to high risk fire areas would be necessary where perennial vegetation is not responding to manual or mechanical treatments. Flammable vegetation may be spot sprayed annually within 30 feet of a structure, in combination with mowing. Trees or large shrubs would be treated by cut-stump method to permanently remove them from this high risk zone.

Conservation Grazing

Conservation grazing is conducted on Midpen coastal rangeland and agricultural farms and fields to control growth of herbaceous weeds, brush, and non-native plants; enhance the diversity of native plants and animals; help sustain the local agricultural economy; foster the region's rural heritage; and manage fire fuel (i.e., flammable vegetation). Currently,



approximately 11,000 acres are grazed and managed by multiple ranching tenants. Typically, lands would be grazed with cattle; however, in some instances, other animals such as goats or sheep may be more appropriate.

All conservation grazing activities would be conducted in accordance with the goals, policies, and implementation measures included in Midpen's Grazing Management Policy (Midpen 2021a). Certified rangeland managers would prepare site-specific grazing management plans that incorporate BMPs for OSPs where grazing would be utilized based on the unique features of each site and determine the appropriate class of livestock and stocking rates. Before conservation grazing activities commence, a biologist would evaluate the area to be grazed to identify sensitive resources. In order to contain livestock grazing, wildlife-friendly fencing would be installed that allows for wildlife movement. Once fencing has been installed, cattle or other livestock would be put on parcels for a set amount of time and monitored to ensure appropriate amounts of residual dry matter (RDM) remain on the ground in order to accommodate new plant growth, prevent soil erosion, and maximize species richness. Conservation grazing would be conducted either seasonally, typically in late spring or early summer when vegetation is palatable to the grazing animals, or year-round. Fence repair and installation and surveys and monitoring may occur year-round.

Traditional Ecological Knowledge Practices (Indigenous Plant Stewardship)

Traditional ecological knowledge (TEK) practices are led by locally indigenous communities on the lands Midpen stewards. These include identification of culturally significant plants; assessing the phenology, growth, and abundance of plants that can support gathering or seed/fruit collection; harvesting and gathering native plant species; and the cultivation, tending, or planting of native species. None of the species are listed or protected by the California Native Plant Society, the State, or Federal agencies. The small-scale hand collection and manipulation of native plants is currently a limited activity in upland settings. Riparian and wetland gathering follows the same principals but has not occurred to date. TEK practices also include invasive plant removal (covered under the IPMP).

2.5.9 Road and Trail Maintenance

Paved Road Surface Maintenance Activities

Primary road maintenance activities would include repairing small potholes, repairing roadway base, repaving, sealing cracks, resurfacing, and oil and screen. These activities would be conducted to ensure a safe roadway surface for motorists and to prevent further roadway deterioration or failure. Most patching and resurfacing activities would occur between April and October. Potholes would be repaired shortly after they occur to prevent accidents and other traffic-related safety risk.

Paved road surface maintenance activities may require removing asphalt using either manual or mechanical methods. For small areas, asphalt would be removed manually by sawcutting, jack hammering, or by using sledgehammers, shovels, wheelbarrows, or by mechanized equipment, such as a front-end loader or bobcat. For larger areas, asphalt would be ground down or pulverized and is either loaded directly into a dump truck or left in place and re-compacted as the base. Pavement striping and markings would also be replaced where



removed or damaged; this work would be completed during the dry season. Re-paving efforts for small areas may be conducted by hand, spreading and compacting a hot mix with wheelbarrows, shovels and tampers. For larger areas, a paver box with a hopper and a 10-wheel dump truck that holds the hot mix would be used to repave the site.

On occasion, Midpen would clear paved roads to remove soil, organic material, and dust and debris to keep sediment from entering waterways and to provide a safe roadway for motorists. Paved road clearing typically would occur in the winter in response to debris and material being deposited onto the road but may occur year-round to maintain public safety.

For purposes of this proposed Program environmental analysis, it is anticipated that Midpen would work on a maximum of four minor and 10 major paved road surface maintenance projects per year (annual averages would be two and five, respectively).

Unpaved Road Surface Maintenance Activities

In general, unpaved roads, particularly in steeper areas are susceptible to rapid erosion if not maintained properly. In many cases, unpaved roads on Midpen lands have inadequate or damaged drainage structures that need to be replaced. Depending on roadway conditions, unpaved road surface maintenance activities would include re-grading the road to its existing grade or original cut, installing additional drainage structures (i.e., culverts, inside ditches, rolling dips), repairing/cleaning rolling dips and roadside ditches, filling ruts, relocating road surface materials that have moved due to erosion, and removing debris from landslides. In addition, minor relocations of roads (i.e., within 400 feet upstream or downstream of original location) would be conducted as long as it improves drainage, removes roads from environmentally sensitive areas, or increases stability.

Heavy equipment utilized for road repairs would include dozers, loaders, excavators, rollers, dump trucks, cables and winches, etc. Earthwork adjacent to a creek crossing or having the potential to direct drainage into a creek that provides habitat for salmonids would be limited to June 15 to October 31. Earthwork within and around creeks that do not provide habitat for salmonids would be limited to April 15 to October 31. Earthwork on all other roads would occur year-round during dry periods, scheduled around blooming periods for special-status plant species, and according to local grading ordinances. Midpen prepares Road and Trail Inventories and Maintenance Plans for its OSPs that identify sites in need of work. Each year, work would be conducted based on road assessment and project prioritization. Work would be performed during the dry season by Midpen staff or contractors. Roads that are solely used in support of ranching and agricultural activities may be maintained by the conservation grazing tenants.

For purposes of this proposed Program, it is anticipated that Midpen would work on a maximum of 30 unpaved road surface maintenance projects per year (average of 15 annually).

Trail Maintenance and Repair

Midpen is responsible for maintaining numerous trails including single-track trails, roads, and easy access- ADA trails throughout its lands and other agency lands to ensure public



safety for recreationists. Trail surfaces commonly wear down in areas where a particular trail is heavily used making trail surface repair or re-grading work necessary. Trail surface repair would involve adding the proper soil type to the problem area and re-compacting the soil. Re-grading a trail may be necessary to address problematic sections of a trail and would involve grading the trail back to the original cut and filling in ruts as needed. Earthen materials moved by erosion or landslides and washed into drainage ditches may require returning the earthen materials to the restructured trail. In some instances, due to severe erosion or the presence of landslides, short segments of a trail may require re-routing. Trails may be relocated within 400 feet upstream or downstream of the original location as long as the new trail improves drainage, removes a path from environmentally sensitive area, increases trail stability, or increases long-term operation and maintenance sustainability of the trail. Other trail maintenance work would include repairing and installing new signage, removing graffiti, and repairing other trail structures.

Trail maintenance adjacent to a creek crossing or having the potential to direct drainage into a creek that provides habitat for salmonids would be limited to June 15 to October 31. Trail work within and around creeks that do not provide habitat for salmonids would be limited to April 15 to October 31. Earthwork on all other trails would occur year-round during dry periods. As mentioned above, trails in need of repair would be identified in each Preserves Road and Trail Inventories and Maintenance Plan. Typically, hand tools such as shovels, McLeod tools, and pick-mattocks would be used by Midpen staff or volunteers for trail maintenance activities. Mechanical equipment would include power carriers, mini-excavators, and Sweco separators.

For purposes of this proposed Program environmental analysis, it is anticipated that Midpen would work on a maximum of 15 trail maintenance projects per year (average of 10 annually).

Roadway or Trail Slip-outs and Slide Repairs

Roadway or trail slide repairs would be performed on an as-needed basis to prevent additional failure of supporting soils or structures, and to reduce the potential risk of falling debris. Slip-out/slide repairs are common in areas where soils underlying roadways or trails are unstable and erosive. The cause for slope failure depends on site-specific conditions such as soil type, historic road construction methods on uncompacted fill, topography, hydrologic and drainage conditions that contribute to slope instability, and a prior history of mass movement along the hillslope. To address slip-outs and slides, Midpen would evaluate the cause of the instability and first aim to use earthen and biotechnical solutions to minimize adverse environmental effects. However, depending on the severity of the road slip-out/slide, construction of retaining wall systems or placement of riprap may sometimes be necessary. If the road surface is still intact underneath a slide, Midpen would clear the slides and place the soil on nearby road surfaces with appropriate drainage structures. The site would be stabilized with large rock or compacted and sloped soil to fill in the road prism. Occasionally in areas with large scale landslides, the entire slide moves. In cases where no reroutes are available to avoid the slide, Midpen would grade through the slide to reconnect the ends of trail and install drainage features to pass water across the trail.



Equipment used for slip-out/slide repair activities may include excavators, bulldozers, front-end loaders, and dump trucks. Material removed from slides would be deposited nearby, graded, and appropriate drainage features would be installed. Erosion control measures, such as strawing or local vegetation, would then be installed on top of the graded soil to prevent erosion.

For purposes of this proposed Program environmental analysis, it is anticipated that Midpen would work on a maximum of 10 roadway/trail slip-outs and slide repair projects in an average year and 20 roadway/trail slip-outs and slide repairs in a wet year (average of 5 annually).

2.5.10 New Small Scale Facilities Improvements

Existing Building and Structure Repairs and Utility Improvements

Existing building and structure improvements and repairs would include stabilizing historic residences (e.g., Thornewood Estate house and Hawthorns house), barns, stables and other structures in working ranches/farms; removing dilapidated structures; designing and constructing structures for sensitive species (e.g., turtle basking platforms, bird boxes, bat boxes); remodeling field staff offices and accessory structures, and tenant and workforce housing within the existing footprint; replacing and potentially relocating restrooms to more suitable areas; and conducting driveway improvements. Typically, this work would occur in uplands but may occur along the edges of riparian areas. It is anticipated that five building and structure improvement projects would be conducted each year. Midpen is also responsible for maintaining septic, water supply, telephone, telecommunications, and other utilities within the proposed Program area. Utility work would be confined to areas surrounding existing residences, offices, restrooms, maintenance yards, and existing utility lines, typically located in areas that are already disturbed. Midpen anticipates working on two to four utility projects per year.

Recreational Facility Improvements

Recreational facility improvements would include new trails/road and reroutes, new trail and vehicle bridges, bridge replacements and bridge relocations, new interpretative facilities and signage, and wildlife crossings. A description of these activities is summarized below.

New Trails, Roads, and Reroutes

To facilitate improved access to Midpen's lands, new trail connections (including at grade road crossings) and loop routes or re-routes of existing trails/roads may be constructed. New trails would be constructed in whole or in part by re-use and conversion of an existing abandoned road. Re-routes of existing trails/roads would only be conducted if the new route would reduce habitat degradation associated with existing access; provide necessary access for other OSP habitat management or enhancement activities supporting sensitive species (e.g., pond maintenance); or if the original facility was sited improperly (e.g., located on unstable soils). This work may include installing puncheons and armored fords at small and ephemeral crossings or swales, ditch relief culverts, trail bridges and other features



associated with new or rerouted trails. Midpen anticipates constructing one to four new trails and roads and/or reroutes per year with an average of 1 per year.

New Bridges, Replacements, and Relocations

Midpen seeks to replace degraded bridges, culverts or ford crossings with improved crossings that have a smaller footprint in the creek and are less impacting to the natural landscape. Midpen's preferred approach is to replace crossings in-kind at a higher elevation along the stream; however, sometimes relocation of the bridge crossing upstream or downstream of the original site is the only feasible means of correcting the issue.

New trail bridges would involve the installation of concrete abutments 4-feet below grade located outside of the 100-year floodplain; installation of steel or glulam spanning beams; and installation of wood decking and railings (or fiberglass in more remote settings). Midpen anticipates working on two to four new trail bridges per year.

Vehicle bridge replacements may be necessary when a bridge was sited improperly and has been redirecting flows, and thus increasing erosion and the risk of flooding. A typical vehicle bridge replacement project would consist of installation of erosion control measures (wattles, silt fencing, straw bales, gravel bags, and falsework or debris nets beneath the bridge); removal of the existing bridge with a crane or excavator; installation of a temporary culvert stream crossing where necessary; installation of dewatering bypass if necessary; excavation of abutments or drilling of piers; pouring concrete for the abutments; craning/hoisting in steel beams or steel prefabricated bridge; installation of railings; and pouring of a concrete deck. Midpen anticipates working on one to two new vehicles bridges per year to replace outdated crossings.

New Interpretative Facilities and Signage

New interpretative facilities and signage would be installed at existing OSPs typically at parking lots, trail heads, or near natural aesthetic features such as rock formations, ponds, overlooks, old-growth trees, etc. and would be located in already disturbed areas outside of sensitive habitats. Midpen anticipates working on two to four interpretative facilities and signage projects per year.

Wildlife Crossings

Safe wildlife passages would be provided underneath or over existing roads and highways. These wildlife crossings, when feasible, may also be used by the public to access trails and other areas of the OSPs, thus improving public access. Wildlife crossings would generally consist of pipes or tunnels that do not convey flow but accommodate the size of wildlife intended to use the structure. The lengths depend on the roadway and the surrounding habitat. Target species range from wide-ranging animals like mountain lions to small newts. Midpen anticipates working on one to two wildlife passage projects per year, but may conduct up to eight wildlife passage projects per year.



Conservation Grazing Infrastructure Improvements

Historic grazing operations prior to Midpen's ownership often did not design grazing improvements with the protection of species and habitats in mind. Thus, current grazing operations often require new small-scale construction to achieve conservation grazing objectives. New small-scale improvements would include installation of new fencing and gates around riparian areas and stock ponds/wetlands to keep livestock out of these sensitive areas and relocation of water lines/water troughs that extend from water sources/storage to a location that allows for the better distribution of cattle to achieve desirable habitat objectives for soil health and erosion. Most of this work would be limited to existing or previously disturbed grazing lands and would be similar in nature to the maintenance of fences, roads, and water supply facilities.

Typical water infrastructure projects would include rebuilding historic spring boxes or repairing a water system that is in disrepair. Most water improvements would be associated with springs and include a spring box, water lines, and/or storage tanks. Wildlife-friendly measures include providing wildlife escape ramps in legacy infrastructure and excluding wildlife from primary water storage to prevent entrapment during repair or upgrade of these facilities. In addition, during repair and upgrade, an overflow and/or bypass water supply accessible to wildlife would be provided to prevent the risk of entrapment. This approach ensures ongoing water supply for wildlife while excluding them from the developed water supply system. Midpen would work on up to four to six water infrastructure projects per year.

Direct consumption of pond water by cattle (and associated grazing in the wetland plants) is the most common form of water use on conservation grazing lands. To utilize the pond water appropriately, a pump or siphon would be installed to relocate water to trough, water tank, and water line for distribution further away. Pump intakes would be screened with a ¼ inch steel mesh to avoid entrainment of aquatic invertebrates. Pumps would either be temporarily set in the pond or set floating in the interior away from emergent vegetation. Where a spring is passively diverted into a holding tank, pumps within the tank are used to pressurize water to distribute it to more distant pastures. Midpen would work on up to two pond diversion/pump projects per year.

2.5.11 Restoration and Enhancement Projects

The purpose of restoration and enhancement projects are to improve and/or create habitat for plant and animal species and to restore ecosystem function within Midpen OSPs. These projects may be utilized to offset impacts associated with other Program activities. A description of Midpen's restoration and enhancement activities, including aquatic habitat restoration, native vegetation plantings, invasive species removal, road decommissioning, and other restoration activities, are described below.

Aquatic Habitat Restoration

Midpen would conduct aquatic habitat restoration activities within ponds, wetlands, seeps, and springs as well as along and adjacent to creeks and rivers within the Program area.



Pond and Wetland Restoration

Midpen would enhance pond and wetland habitat through reinforcing or repairing failing earthen berms; improving inlet or outlet features; removing sediment from aquatic features whose hydroperiod no longer supports suitable conditions for sensitive species; recontouring ponds to increase aquatic habitat; removing excessive aquatic vegetation and invasive species; installing wildlife habitat structures and escape features; placing large woody materials to restore and enhance aquatic habitat; and enlarging aquatic features to optimize geometry to support vegetative benches and open water areas for use by sensitive species, including CRLF.

Ponds or wetland features that are detrimental to sensitive species may be modified or decommissioned and restored to a native condition (i.e., riparian channel, swale, or upland habitat), which returns water to the surrounding ecosystem and often benefits downstream species and/or habitat. Midpen's preferred approach is to modify an existing pond/wetland feature prior to decommissioning. In addition to modifying existing habitat, Midpen may create new features by restoring previously filled in wetlands or constructing off-channel pools to expand aquatic habitat for sensitive species.

Heavy equipment such as dozers, loaders, excavators, rollers, compactors etc. as well as some hand work would be used for aquatic habitat restoration, enhancement and creation. These activities would occur once seasonal ponds or wetlands are dry (if prior to August 15) or if draining of features is required and CRLF are present, work would occur between August 15 and November 1, prior to the beginning of CRLF breeding season.

Creek and River Restoration

Restoration activities within creeks and rivers may include removal of in-stream infrastructure and barriers to fish passage; removal of old crossings, including culverts on no longer used roads or collapsed crossing structure; installation of habitat features, such as large woody material; removal of in-channel debris/trash (i.e., tires, trash, other non-sedimentary materials); riparian vegetation treatment and planting in accordance with Midpen's IPMP, and gravel augmentation.

Removal of in-stream infrastructure, including diversion impoundments and collapsed structures, such as bridges and culverts that may block fish passage, would create and improve aquatic habitat and improve connectivity for fish and other species, including steelhead. Midpen also routinely removes debris/trash that may impair hydraulic conditions and reduce flow conveyance capacity. In-channel work would be limited to the dry season or during low flows. Removal of humanmade materials or refuse would be done by hand wherever possible. Cables, winches, and heavy equipment used to pull out large material would be staged above the top of bank. Where these materials are within the bank, streambank slopes would be stabilized to erosion with bioengineering techniques (i.e., willow stakes, slash packing, etc.), weed-free straw, or jute-netting.

Large woody materials (i.e., downed trees) can provide habitat, and geomorphic or other channel stability benefits. However, fallen large woody materials may also have the potential to increase flooding or erosion threats by significantly obstructing flows or deflecting flows



towards banks or other facilities. Midpen seeks to maintain the materials in place as a habitat feature if they do not pose a threat to the environment or infrastructure. Midpen may trim or limb branches or re-orient the large woody material in the channel. Cables, winches, and heavy equipment would be used to pull or tie large woody material into place. In some areas, hand tools and hand laborers would be utilized. Midpen may also install new large woody materials in the channel in accordance with techniques developed by California Department of Fish and Wildlife, National Oceanic Atmospheric Administration, and the Salmon Restoration Federation.

Gravel augmentation provides direct benefits for improving fish spawning and rearing habitat by enhancing sedimentary materials within the channel bed. Midpen may use watershed specific gravels collected through sediment removal activities behind in-stream structures (i.e., dams) as the source for gravel augmentation projects. Midpen would collect, sort, separate, and reuse clean and appropriately sized gravel. When designing a gravel augmentation project, several factors would be considered, including: the existing channel conditions; the grain size distribution of the sediment to be added; the volume of gravel to deposit; the frequency of gravel addition that would be required in light of sediment transport; how the added gravel would interact with to the existing flow regime and/or channel geometry; and the extent of augmentation effects within the channel reach. In the future, Midpen may assess opportunities to augment gravel in salmonid streams. Restoration activities adjacent to creeks and rivers may include floodplain reconnection, including the lowering of artificial berms, streamside decommissioning of roads, and other measures to restore the lateral connectivity of streams.

Some creeks within Midpen lands experience severe sedimentation due to upstream stream conditions. Midpen would proactively prevent failure and reduction of episodic release of road fill through enhancing native riparian habitats. Native riparian habitat enhancement projects would reduce in-stream sedimentation over time, improving water quality for the benefit of fish and other wildlife that rely on the creek for survival, resulting in a net environmental benefit across the region.

Work within and around creeks and streams that provide habitat for salmonids would be limited to June 15 to October 31. Work within and around creeks that do not provide habitat for salmonids and do not discharge directly into such drainages would be limited to April 15 to October 31.

Native Vegetation Plantings

The objective of native vegetation plantings is to enhance the complexity and diversity of upland and wetland habitats and restore areas disturbed during Program activities. Native vegetation plantings would also enhance habitat for birds, amphibians, and other wildlife using upland, wetland, and riparian areas. Native vegetation plantings would involve planting and seeding locally collected native species; installing temporary irrigation, as necessary; controlling weeds and invasive plants through manual, mechanical, or biological methods such as herbicide application, prescribed fire or use of grazing animals; installing herbivory protection structures. Erosion control BMPs such as straw wattles, coir rolls, certified weed-free straw, and erosion mats would be implemented to minimize impacts to streambanks and to prevent erosion and soil loss.



Invasive Species Removal

All invasive species removal would be conducted under Midpen's IPMP, which emphasizes an ecological approach to managing pests (plant and animal). Midpen actively treats 105 plant species on their lands using various methods including manual, mechanical, chemical (e.g., herbicide and fungicide), and biological control (e.g., bio-control agent). Manual removal may include the use of hand picks, planting knives, weed wrenches and other hand tools. Mechanical removal methods may include the use of brushcutters, hedgers, chainsaws, chippers, and mowers. Chemical methods involve the use of herbicides, including Roundup Custom (Glyphosate), Roundup ProMax (Glyphosate), Milestone (Aminopyralid), Transline (Clopyralid), Polaris (Imazapyr), Stalker (Imazapyr), Envoy Plus (Clethodim), Capstone, and Garlon 4 Ultra. Biological methods may include using other organisms to control pests. Flaming of seedlings, burn piles, and prescribed fires may also be used. Depending on the target species, surveys, treatments, and monitoring may occur year-round. Midpen anticipates working on up to 100 invasive plant removal projects per year.

Invasive animals are generally found in humanmade stock ponds and reservoirs but may occur in natural sag ponds. Midpen would employ several methods to control invasive animal species, including through temporary seasonal draining of ponds to control bullfrogs and/or non-native fish; shooting or trapping to eradicate bullfrogs and feral pigs, and trapping non-native turtles. Because it is challenging to completely eradicate a species, Midpen typically controls pest numbers, removes individuals that have the greatest impact on critical resources, or excludes a pest species from a defined sensitive area. Programs to control invasive plant and animal species often require a long-term commitment. Midpen anticipates working on up to three invasive animal species removal projects per year.

Road Decommissioning

Road decommissioning is used to reduce chronic sediment delivery, restore watershed hydrology, and reduce impacts to aquatic, riparian, and terrestrial ecosystems of roads crossings. Remnant ranch, logging, and other former roads are located through Midpen lands that are no longer necessary for access. Midpen has decommissioned and restored approximately 7 miles of old roads. The typical process would involve pulling fill from the outboard edge of a road with an excavator and placing the material on the original cut face of the road. Decommissioning would start from the end and work backwards towards the access road. The general goal is to provide a suitable substrate for natural revegetation to stabilize slopes in the longer term and to keep a drainage pattern that is similar to the inferred natural contour. Decommissioning of roads from within jurisdictional drainage features would require more specific engineering designs based on site conditions and stream morphology. The typical approach would be to remove any remnant, artificial crossing part (e.g., rusted culvert, bridge, crib wall, etc.) and to lay back the slopes at stable 2:1 repose. Less-active forms of decommissioning may occur as out-of-use roads become naturally revegetated. Midpen Natural Resources staff evaluate these former roads for decommissioning based on the level of disturbance necessary to achieve a beneficial effect on watershed conditions. Decommissioning is usually best combined with Midpen's project activities that require large heavy equipment.



Other Restoration Activities

Other restoration activities include well decommissioning, preservation of habitats, and partnerships with local watershed organizations, described in more detail below.

Midpen often acquires rural residential or grazing properties with abandoned/inactive water wells that are required to be decommissioned by State law to protect surface water and groundwater quality. Well decommissioning would involve pulling the pump, removing the well head, and filling the well with concrete or grout to seal it to a certain depth. Water wells are also often entrapment hazards for wildlife, particularly creatures attracted to water sources (e.g., CRLF). Midpen has approximately 50 abandoned/inactive wells that require decommissioning. Once Midpen decommissions these existing water wells, Midpen anticipates Other restoration activities would include installing wildlife friendly spring boxes, troughs, and fences and other structures associated with conservation grazing.

Some environmental settings (e.g., hardwood forests) typically have an overabundance of woody vegetation that can pose a fire risk to the ecosystem and/or require replacement plantings when affected. To avoid planting additional vegetation in overgrown and abundant forests, Midpen would protect other offsite habitats that could benefit from protection. Midpen acquires approximately 500 to 1,000 acres of land each year (i.e., 65,000 acres in 48 years) and thus would offset all permanent removal of vegetation from riparian areas (the largest cost category to Midpen) through acquisition and permanent protection of new riparian habitats.

Midpen regularly partners with like-minded organizations to facilitate restoration and stewardship. The San Mateo Resource Conservation District is a frequent collaborator on fisheries, agricultural best practices, and invasive plant control. POST is a primary partner for the acquisition and preservation of habitats. Where cross-property cooperation and stewardship is required, Midpen engages with these partners for the benefit of the ecosystem. Midpen is also a member of the Santa Cruz Mountain Stewardship Network, which is a blend of public and private organizations representing the largest land managing entities in the region.

2.5.12 Activities Not Covered

The proposed Program does not include large, complex projects, such as new paved parking areas, new ponds, new offices, or other projects that significantly increase visitor capacity to Midpen OSPs. These types of activities would be outside of the scope of the Program and thus, would be permitted separately (to the extent that permits are needed for those activities).

In addition, emergency maintenance actions or unplanned repair work are not included in the Program. A situation is considered an “emergency” if it is a sudden, unexpected occurrence involving a clear and imminent danger that demands immediate action to prevent or mitigate loss of or damage to life, health, property, or essential public services (Public Resource Code Section (PRC) 21060.3). Although emergency situations will not be covered by the permits authorizing the activities of the proposed Program, Midpen would make every effort to follow the guidance provided in the Manual when implementing activities under emergency conditions.



2.6 Implementation and Oversight

2.6.1 Annual Maintenance and Facilities Improvements Work Cycle

Activities in the proposed Program would be conducted in response to winter storms, facilities inspections, scheduled re-occurring maintenance (e.g., trail brushing), and annual work plan development. Road-related activities would be prioritized by the condition of the facility, the volume of chronic and episodic sediment to be mitigated, or an operational problem. In some cases, an otherwise lower priority activity next to a high-priority may be undertaken to save costs and increase work efficiency.

Facilities improvements largely originate from the Conservation Grazing Program and from the public access programs' within Midpen. The priority and development of facilities improvement projects would be based on site-specific plans. Grazing facility activities would address an operational need for the grazing operations, but also would serve to improve an ecological goal (e.g., replacing a spring box, water line, and trough to facilitate even grazing). New trails would be developed as part of a site-specific plan and would be constructed with the least impacting methods, would be located to avoid sensitive resources, and would be designed to minimize disturbance to riparian areas at stream crossings.

Restoration projects, including wetland and species-specific recovery projects (e.g., for CRLF or San Francisco garter snake [SFGS]), would be undertaken as part of the current Recovery Permit and would be completed in consultation with the grazing staff to ensure that the modifications meet the operational needs of grazing. Approximately 100 ponds are located throughout Midpen lands. Thus, Midpen routinely conducts annual pond maintenance and pond improvement projects to maintain the ecological function and support recovery work. A subset of ponds is inspected annually from January through September as part of Midpen's CRLF population studies. The priority of a pond project would be dependent upon either the physical condition or ecological data.

2.6.2 Annual Program Work Plan Notification

At the beginning of each year, Midpen would prepare an annual notification report summarizing proposed activities for that upcoming year. The notification report would describe the locations, natural resource conditions, and other key resource issues as well as summarize anticipated impacts on wetlands and waters of the United States (U.S.) and state, riparian resources, and federally and state listed species. The annual notification report would also describe avoidance and minimization measures, BMPs, and proposed mitigation that would be implemented.

To evaluate resource sensitivity at work sites, Midpen would undertake the following process: (1) identify the type of activity and confirm the specific location; (2) conduct a desktop audit to evaluate whether suitable habitat for special-status species is present and determine if a site visit is necessary; and (3) classify the activity at the site in one of the four tiers defined below. The tiered approach is intended to help both Midpen and regulatory agency staff identify resource and site sensitivity and thereby prioritize impact avoidance and minimization measures and/or BMPs and mitigation needs.



- **Tier 1 (No Effect)** – There is no potential for a special-status species to be present in the area at any time. Tier 1 is appropriate if the biologist determines that Program activities would occur in creek reaches inaccessible to special-status fish or, for terrestrial special-status species other than birds, in areas where no suitable breeding habitat is present and there is no connectivity between the site and known or potential breeding habitat (so that non-breeding individuals can also be presumed to be absent). Because foraging or roosting birds could easily fly away before being impacted by Program activities, the implementation of Program activities in non-breeding habitat for special-status bird species would also be considered a Tier 1 because such activities would not result in impacts on individuals that rise to the level of “take”.
- **Tier 2** – A special-status species could occur at a site, but take will not occur. Tier 2 is applicable if the biologist determines that one or more special-status species are known to occur or could possibly occur on-site either because (1) suitable breeding habitat is present, or (2) for terrestrial species and fish, suitable non-breeding habitat is present and there is connectivity between the work site and suitable breeding habitat.
 - **Tier 2A (Not Likely to Adversely Affect)** – The activity will not result in take of special-status species based on the location and timing of work; although a special-status species could occur at the location at times, none would be present when the work will occur.
 - **Tier 2B (Not Likely to Adversely Affect individuals, but may be considered Likely to Adversely Affect if permanent habitat impacts occur)** – This activity will not result in take of special-status species with implementation of BMPs (such as pre-activity surveys, exclusion of individuals from the site, and/or implementation of non-disturbance buffers around active nests of special-status birds). Some Tier 2B activities may result in a permanent loss of habitat.
- **Tier 3 (Likely to Adversely Affect)** – The activity may result in take of special-status species, even with implementation of BMPs. Tier 3 is applicable if the biologist determines that (1) special-status species are known to occur or may occur on site either because suitable breeding habitat is present or suitable non-breeding habitat with connectivity between the site and suitable breeding habitat is present; (2) special-status species may be present at the time of day/season in which the Program activity occurs; and (3) special-status species cannot be effectively excluded from the work area, pre-activity surveys cannot definitively determine the absence of the species, and/or “take” in the form of permanent loss of habitat cannot be avoided.

These tiering categories would help guide Midpen in determining which avoidance and minimization measures are necessary to minimize potential take of species. Continuity in oversight and attention will enable the Program to run effectively. A designated staff person from Midpen would serve as the Midpen Project Manager. The Midpen Project Manager’s primary responsibility would be to supervise and guide Program activities, including implementation of mitigation necessary.



In general, proposed Program activities would take place on an annual cycle, depending on whether they are located away from wetlands and waters of the U.S. and state, riparian resources, and/or federally or state listed species; or activities occur near such resources. Activities occurring away from sensitive resources (Tier 1) may occur year-round, although a majority of these types of activities would take place in the spring and summer season. Activities occurring in areas where special-status species are known to occur or could possibly occur (Tiers 2A, 2B, and 3) would generally be limited to occur between May 15 and October 31.

2.6.3 Maintenance Crew, Work Durations, and Equipment

The size of a work crew implementing proposed Program activities varies between 3 and 6 personnel. For routine maintenance activities, the crew size would be approximately 3 personnel. For vegetation management activities, the crew size would be approximately 7 personnel. Vegetation management activities would be temporary at any given location as crews are expected to cover a large area in a workday. For small facility improvements, the typical crew size would be approximately 2 personnel. For restoration related work, the crew size would be around 4 personnel.

Most proposed maintenance activities and some scale facility improvements would be completed within a couple days but some larger-scale maintenance activities, facility improvement projects (e.g., culvert repair/replacements, road or trail slip-out/slide repairs, sediment removal in ponds, new trails/bridges), and restoration/enhancement projects may be more involved and require up to 3 weeks.

Program activities would generally be conducted during daytime hours (between 7:00 a.m. and 5:00 p.m. depending on the time of year) on weekdays. Weekend operations would occur infrequently, except for volunteer-based events for invasive plant removal by hand.

The specific pieces of equipment used for the proposed Program activities would vary depending on the facility and type of activity required. A summary of typical equipment used by project activity is included below.

- For culvert repair and replacement activities, typical equipment includes compactors, dump trucks, and loaders. For culvert replacement activities that involve trenching or excavation, an excavator may be used. Culvert repair activities occurring at or below the streambed would be conducted by hand in remote areas or by using a bobcat or tractor in areas accessible road or trail.
- Bridge maintenance activities occurring on the bridge itself would be conducted with electric power tools or heavy equipment (i.e., excavators and backhoes) operated outside of the channel. Bridge replacement activities would be conducted with excavators or cranes.
- Typical equipment used for maintenance of road and trail drainage features would include hand shovels, backhoes, mini excavators, dozers, and/or graders. Paved and unpaved ditches would be cleaned with hand tools or mechanical equipment such as dozers, excavators, backhoes, skid steers, box scrapers, and graders depending on the



scale of work and manual cleaned with hand tools. Ditches could also be cleared with vacuum equipment or high pressure/volume water flow to flush out the ditch. Debris would then be cleared by hand at the end of the pipe. Fords and swales would be cleaned as-needed with hand tools for small work or mechanical equipment, such as a dozer, excavator, backhoe, skid-steer, or skip loader. Rolling dips on roads would be excavated with an excavator, bulldozer with rippers, or a grader. Rolling dips on trails would be excavated with a mini excavator, skid steer, or hand tools.

- Sediment and debris would be removed with mechanized equipment in creeks that do not support habitat for salmonids and with hand tools in creeks that do support salmonids. For sediment and vegetation removal and recontouring activities in ponds, heavy equipment such as dozers, loaders, excavators, rollers, and compactors would be used. In some areas, hand tools and hand laborers would be utilized. Portable pumps, with ¼ inch mesh screens on the intakes, may be used for pond draining. Removing sediment in culverts, crossings, and other smaller drainage features may require digging sediment out by hand. Mechanized equipment, such as push loaders and excavators, may be used for larger drainage features or where hand removal is infeasible. Debris removal would be conducted by using hand tools, including come-along cable pullers. Vehicle mounted winches may also be used to remove collected or heavy materials from channels or other heavy equipment, including excavators to remove debris such as tires.
- Bank stabilization work would be conducted with either hand and power tools (i.e., toter or mule) or with larger mechanized equipment such as excavators or dump trucks.
- Water supply structure maintenance activities would generally be conducted by hand, as needed (e.g., cleaning out clogged spring boxes and pipes typically occurs every year). If extensive digging is required, such as for installation of new water line or spring box, small mechanical equipment may be used (i.e., bobcat or small backhoe). When servicing wells, larger mechanical equipment may be required.
- Heavy equipment such as dozers, loaders, excavators, rollers, and compactors would be used for repairing failing pond berms, improving inlets/ outlets, recontouring, and removing invasive vegetation. Excavators, chainsaws, brush cutters, mowers, and articulating arm mowers may be used for clearing and grubbing of vegetation to maintain a pond to the Division of Dam safety requirements. If pond draining is needed for berm stabilization or clearing work, portable pumps with ¼ inch mesh screens on the intakes, may be used. In some areas, hand tools and hand laborers would be utilized.
- Minor maintenance activities would be conducted with hand tools annually and would be small in scale.
- Road and trail brushing activities would be conducted with brushcutters (i.e., weedwhips), hedgers, chainsaws, pole saws, chippers, and tractor-operated mowers. Single-track trails would be mowed with handheld brushcutters, while road-width trails would be mowed with tractor-mounted mowing equipment.



- Pruning trees and shrubs would be conducted with either hand tools or mechanized equipment (e.g., chainsaws).
- Trees within the riparian area would be removed with trimmers and chainsaws; no heavy equipment would be operated from the streambank. For large trees, a licensed tree climber would use necessary equipment to climb and cut the tree into manageable sections and lower those sections to disturbed areas on the ground to prevent damage to nearby trees, vegetation or root zones. Stumps may be removed with a stump grinder; however, roots would be left in place to stabilize the slope.
- Downed trees would be trimmed and repositioned with hand tools. If removal is necessary, equipment, such as a winch and cable, would be used and operated from the top of bank.
- Aquatic vegetation on the water side of the dam would be trimmed with mowers and brush cutters. Vegetation on the dry side of the dam would be trimmed with mowers and approved pesticides.
- Fuel management activities would involve a range of construction equipment and depend on the activity type. In general, fuel management activities would use low impact tools such as hand cutters and pruners where feasible. Equipment utilized for fuel management activities would include tractors, brushcutters, chainsaws, pole pruners, boom flails, chippers and mowing or masticator equipment.
- Pesticide application would be conducted with backpack sprayers, vehicle sprayers, or other applicators.
- Paved road surface maintenance activities would be conducted by hand tools or by using sledgehammers, shovels and wheelbarrows. Depending on the size of the area and quantity of material to be removed, material may be removed with a front-end loader, bobcat, or for larger areas, asphalt would be ground down and loaded directly into a 10-wheel dump truck or left in place. Re-paving efforts for small areas may be conducted by hand, utilizing wheelbarrows, shovels and tampers. For larger areas, a paver box with a hopper and a 10-wheel dump truck that holds the hot mix would be used to repave the site.
- Heavy equipment utilized for unpaved road repairs would include dozers, loaders, excavators, rollers, dump trucks, cables and winches.
- Trail maintenance and repair activities would be conducted by hand tools such as shovels, McLeod tools, and pick-mattocks. Mechanical equipment would include power carriers, mini-excavators, and Sweco separators.
- Equipment used for roadway or trail slip-out/slide repair activities may include excavators, bulldozers, front-end loaders, and dump trucks.



- Small scale facility improvements would involve a range of construction equipment and depend on the activity type. Larger equipment would include excavators, bobcats, cranes, dozers, and compactors.
- Aquatic habitat restoration, enhancement, and creation activities would be conducted with hand tools as well as heavy equipment such as dozers, loaders, excavators, rollers, and compactors. Removal of humanmade materials or refuse would be done by hand wherever possible. Cables, winches, and heavy equipment may be used to pull out large material including large woody material; however, equipment would be staged above the top of bank. Invasive plant removal activities would be conducted with hand picks, planting knives, and weed wrenches or with mechanical equipment including brushcutters, hedgers, chainsaws, chippers, and mowers.

2.6.4 Annual Reporting and Agency Notification

During March through April of each year, Midpen would notify the relevant regulatory agencies that have jurisdictional authority over or oversight of the year's planned projects that are occurring in wetlands and waters of the U.S./state, riparian resources, near federally and state listed species, or other facilities that involve Tiers 2A, 2B, and 3 project activities. The relevant regulatory agencies would be provided with information describing proposed Program activities, locations, natural resource conditions, and any other key resource issues. The notification package would describe which Program activities would result in temporary and permanent impacts on wetlands or waters of the U.S./state, riparian resources, and state or federally listed species. It would also describe in detail Midpen's proposal for providing compensatory mitigation for those impacts as described in more detail in Section 2.7.3 below. If requested, Midpen would host a tour of the identified Program sites. Following regulatory review and coordination, Tier 1 projects outside of sensitive habitat for federally and state listed species, riparian resources, wetlands, and waters of the U.S./state would be implemented between March and completed by December, and summary reporting would occur in winter. Tier 2A, 2B, and 3 projects occurring within sensitive habitat, riparian resources, wetlands, or waters of the U.S. and state would be implemented between May 15 and October 31, but consistent with applicable resource-specific BMPs, with summary reporting occurring in the late fall to winter.

2.7 Programmatic Avoidance and Minimization Measures

2.7.1 Activity Triggers

Maintenance activities would only be conducted when determined to be necessary or in conjunction with other nearby essential work to provide cost saving efficiencies or to minimize equipment entries into an area. The triggers described below would be used by Midpen staff during annual inspections and site evaluations to identify which sites have exceeded the thresholds identified by the triggers. Midpen would then prioritize maintenance activities according to the degree in which the identified site exceeds the maintenance triggers. Sites that exceed the triggers in a greater or more intense manner would be identified as higher priorities.



Maintenance Triggers for Culverts, Channels, Bridges, and Other Facilities

- Repair or replacement of existing culverts would be conducted when an existing culvert has been crushed or otherwise damaged and cannot operate properly; is at risk of future failure or deterioration (e.g., bottom of a corrugated metal pipe culvert is beginning to rust); is clogged with debris, sediment and/or vegetation; is notably undersized and cannot provide adequate conveyance capacity; or has been dislodged, moved, or positioned in such a way that the culvert cannot function properly.
- Bridge maintenance activities would be necessary when the bridge structure and/or abutments are deteriorating and protective paint coating has chipped off or cracks on the exterior have noticeably worsened. Erosion protection improvements at the base of a bridge would be necessary when scour damage begins to undermine the structural stability of bridge wingwalls and/or abutments. Maintenance along bridge decks would be necessary when damage or cracks on the surface have magnified to the degree that the damaged bridge could represent a public safety risk. Debris clearing would be necessary when the capacity beneath the bridge has been reduced by 30% or more due to debris build-up.
- Road and trail drainage feature maintenance would be necessary when debris, sediment, or woody debris have reduced the conveyance capacity by 10% to 30%, or if rock or other materials that are part of the ford/swale have washed away. This work would be necessary to prevent the washout and flooding of roads and trails, and to prevent excess sediment loading and erosion.
- Streambank stabilization work would be necessary when bank failure has occurred and must be repaired to re-establish the banks of a creek, protect the channel's flood conveyance capacity, and prevent additional sediment input to the channel. This work also would be necessary when bank erosion or failure poses a threat to existing infrastructure (e.g., utilities, roads, trails). This work would be necessary if persistent bank erosion is occurring, leading to excess sediment loading and/or damage to riparian vegetation.
- Pond and lake berm stabilization would be necessary when berm erosion or sinking poses a threat to existing infrastructure (e.g., ponds, lakes, roads). This work also would be necessary to prevent excess sediment loading and erosion into the pond or lake.
- Water supply facilities and structures maintenance would be necessary when overhanging shrubs and trees pose a safety risk to these structures, prevent proper intake, or impede access for maintenance. Defensible space around water supply facilities is also required per the Board of Forestry Fire Safe Regulations (2021). In addition, mowing would be necessary when overgrown weeds and grasses are encroaching on the structures.
- Sediment removal from creeks, bridges, and ponds would be necessary when sediment or debris has reduced channel or pond capacity to the extent that the likelihood of overbank is significantly increased and flooding could damage property or substantially threaten public safety. This work also would be necessary when



sediment or debris deposits are evidently causing scour erosion of streambanks supporting bridges or other public facilities like roads and trails. Sediment removal within ponds would occur when needed to maintain habitat for CRLF or storage capacity for cattle.

- Sediment removal/clearing culverts, crossings, and other drainage features would be necessary when culvert inlets and outlets, are blocked with debris or sediment so that the conveyance capacity is reduced by at least 10% to 30%. Culverts that are more than 1/3 blocked may be cleaned at any time, even when the channel is wet.
- Management of downed or standing dead trees may be appropriate if it has been determined that the downed or standing dead tree has potential to increase erosion, flooding, bank failure, or negative impacts to public infrastructure (e.g., bridges or culverts). If erosion and/or flooding risks are likely to occur, Midpen would consider removing or reusing the tree elsewhere. If such risks are unlikely, Midpen would explore options for preserving and/or repositioning the tree along the channel.

Maintenance Triggers for Roads and Trails

- Paved road surface maintenance activities (e.g., pothole repairs) would occur shortly after the road failure occurs to prevent accidents, vehicle damage and other traffic safety risks. Minor road repairs that entail patching cracks and resurfacing would be prioritized based on severity of traffic safety risks and would typically be conducted outside of the rainy season (between April and October).
- Unpaved road surface maintenance activities would be necessary when a road surface has deteriorated or failed due to erosion or stormwater flows, is contributing sediment and subsequent adverse water quality and/or hydrology impacts, or led to erosion down slope.
- Trail maintenance and repair would be necessary when trail tread has worn down and ruts are evident, thus requiring addition of the proper type of soil or surface material and/or re-compaction. The need for trail tread repair work would be determined during periodic inventories. Repair of trail signs and other structures would be conducted to address damaged.
- Roadway/trail slip-out/slide repair work would be necessary when slope failures have occurred on the cut slope side of a roadway or trail; a slip-out repair would be necessary when slope failure has occurred on the fill side. This work would be necessary when the roadway/trail slip-out/slide poses a threat to existing roads or other facilities like utilities, or public safety. This work would be necessary when the roadway/trail slip-out/slide has contributed sediment to a nearby drainage, channel, or other waterbodies.
- Vegetation and fuel management along roads (e.g., mowing, trimming and pruning) would be necessary to maintain appropriate line of sight clearance (usually 6 feet at an intersection), to maintain a 14-foot height clearance for vehicles or equestrians, and to maintain a 7-foot height clearance for pedestrians. Longer line of sight clearance is appropriate for mountain biking intersections. This work would be



necessary when overhanging limbs or trees pose a public safety risk. This work may also include removal of ladder fuels to reduce the impacts of wildland fires or for the removal of invasive species for ecological reasons. Midpen staff inspect trails and roads on a 3-5-year rotation. Midpen aims to brush approximately 66% of all roads and trails each year as certain fast-growing vegetation communities require annual management to maintain the access width.

- Vegetation and fuel management and maintenance of fire breaks along roads, trails, and other open space features (i.e., picnic or rest areas, natural areas, rangeland, staging areas, parking lots, structures) would typically be necessary when shrubs or trees are overhanging or encroaching on the trail or picnic or rest area. Mowing would be needed when overgrown weeds and other grasses encroach the trail or recreational facility. Tree removal would be necessary if a particular tree has a higher likelihood of failure along or near facilities and the situation cannot be fixed by limbing or pruning. Once established, the fuel breaks would be maintained once every five to ten years.

2.7.2 Work Limits and Best Management Practices

The focus of Midpen's Program activities is to protect, maintain, and enhance the natural environment within its Preserves and managed lands. In effort to minimize impacts resulting from Program activities, Midpen developed self-imposing site, annual, and 5-year Program work limits included in **Table 2-3**. **Table 2-3** also provides an estimate of the typical jurisdictional disturbance per project and quantifies the number of jurisdictional projects per year per activity type.

Table 2-3. Program Activity Work Limits Per Activity Type

Type of Activity	Limits per site	Average Number of sites per year	Maximum Number of Sites Per Year	Annual limits	5-Year Program limits	Estimated Typical Jurisdictional Disturbance Per Project	Estimated Typical Jurisdictional Sites Per Year
<i>Culvert, Bridge, Channel, Pond and Other Maintenance</i>							
Culvert repair/replacement	150 LF, 3,000 SF	25	50	20,000 SF	60,000 SF	360 SF	25
	100 CY culvert replacement			5,000 CY	25,000 CY	50 CY	
	10 CY culvert repair			7,500 LF	15,000 LF	90 LF	
Bridge repair/maintenance (railing, decking, minor abutment or armoring)	100 LF; work area is limited to 25 LF upstream/downstream of site	5	10	400 LF	2,500 LF	50 LF; 1,500 SF	5
	5 CY (grading primarily on approach)			20 CY	100 CY	2 CY	
Road and trail ditch clearing and installation	30 CY of sediment and debris removal for every 300 LF; 500 LF	15	50	9,000 LF	45,000 LF	150 LF; 5 CY; 600 SF	5
Fords/ swales replacement, repair, and maintenance	200 LF	2	6	2,000 LF; 5,000 SF	10,000 LF	100 LF; 600 SF	2
	20 CY			120 CY	600 CY	10 CY	
Annual pre-rainstorm preparation and clearing (i.e., hand shovel clearing of fords, rolling dips, ditches, culverts, etc.)	5 CY	100	200	100 CY	500 CY	1 CY	50
Sediment removal from channels (e.g., from landslides, road failures, or slip-outs)	160 LF	10	20	1,000 LF for all sediment removal sites	1,000 LF	40 LF	10
	4,000 SF			Dewatering limit of 1,000 LF for all sites.	20,000 SF	200 SF	
	10 CY			100 CY	1,000 CY	4 CY	
Sediment removal from culverts, crossings, and other drainage features	150 LF Dewatering limit 300 LF	3 sites in an average hydrologic year (based on average seasonal precipitation)	8	23,000 LF; 12,000 SF	15,000 LF; 48,000 SF	100 LF	3
	10 CY	8 sites in a wet hydrologic year		200 CY	1,000 CY	8 CY	

Type of Activity	Limits per site	Average Number of sites per year	Maximum Number of Sites Per Year	Annual limits	5-Year Program limits	Estimated Typical Jurisdictional Disturbance Per Project	Estimated Typical Jurisdictional Sites Per Year
Streambank Stabilization	100 LF; 1,000 SF	2 projects in an average hydrologic year	4	200 LF	1,000 LF	60 LF; 600 SF	2
		4 projects in wet hydrologic year		400 LF	2,000 LF		
Water supply structure maintenance (instream)	Vegetation removal is limited to 30 to 100 ft buffer; 4 CY removed per site	2	4	500 SF	2,500 SF	100 SF	2
Minor maintenance activities (i.e., repair of fences, gates, signage, and trash rack clearing)	200 SF	3	6	1,000 SF	5,000 SF	80 SF	1
	4 CY			20 CY	100 CY	1 CY	
Vegetation Management Activities							
Riparian or pond adjacent tree removal (inclusive of all Program activities)	Trees between 6 inch dbh and 24inch dbh. No trees greater than 24 inch dbh would be removed (unless for public safety reasons).	12 trees	36 trees	30 trees	150 trees	750 SF (assumes 30-inch diameter canopy)	12
Tree trimming/pruning (inclusive of all Program activities)	No more than 25% of individual tree canopy would be trimmed/pruned	300 trees	750 trees	750 trees	3,750 trees	500 SF	75
Non-native vegetation removal	4 acres of treatment per site Typical site involves 15% cover over 8 acres	300 acres	450 acres	450 acres	2,250 acres	2,000 SF	35
Vegetation management along roads/trails	Typically, 10 feet on either side of a road or 3 feet along a trail. Steeper side slopes in chaparral and hardwood forest may call for a 10-foot buffer along a road.	230 miles of road/trail	350 miles of road and trail; 665 acres	774 acres	3,870 acres	720 SF (assumed 60-foot along riparian areas with 12-foot treatment area)	50
Fuels management along roads and trails	Typically 100-foot shaded fuel break and 100-foot lighter fuels treatment beyond in each area every 5 years.	8 sites	12 sites, approximately 1 mile per project	80 acres 12 miles of roads	400 acres 60 miles of roads	*See ecosystem resiliency; all Fuels treatments in jurisdictional areas will follow Resiliency treatments.	2 to 4

Type of Activity	Limits per site	Average Number of sites per year	Maximum Number of Sites Per Year	Annual limits	5-Year Program limits	Estimated Typical Jurisdictional Disturbance Per Project	Estimated Typical Jurisdictional Sites Per Year
Vegetation management around open space facilities (i.e., for defensible space)	100-foot buffer around each building, 15,000 SF	100 sites, 35 acres ⁴	150 buildings	50 acres	250 acres	50 SF	10
Ecosystem Resiliency Fuel Treatments	TBD	10	20	500 acres	2,500 acres	720 SF	2 to 4 fuel sites and 2 to 4 ecosystem resiliency sites
Road and Trail Maintenance							
Paved road surface maintenance (major work)	10,000 LF	2	4	20,000 LF	60,000 LF	500 LF (adjacent to ditches)	1
Minor paved road repair (potholes, tack oil, small subgrade failures)	300 SF 200 LF	5	10	3,000 SF 2,000 LF	15,000 SF 10,000 LF	10 LF (adjacent to ditches)	1
Unpaved road surface maintenance (major sites more than 1,000 LF)	20,000 LF 100 CY	15	30	75,000 LF	375,000 LF	150 LF	12
Trail maintenance repair (major sites more than 1,000 LF)	20,000 LF 100 CY	10	15	25,000 LF	125,000 LF	600 LF	8
Road relocation	500 LF	1	2	1,000 LF	5,000 LF	60 LF	1
	10,000 SF			20,000 SF	100,000 SF	850 SF	
	1,500 CY			2,500 CY	12,500 CY	-	
Trail reroutes	500 LF	0	2	1,000 LF	5,000 LF	80 LF	0
	3,000 SF			4,000 SF	20,000 SF	1,500 SF	
	200 CY			200 CY	1,000 CY	40 CY	
Roadway/trail slip-outs and slide repairs	250 LF	5	10 (or 20 sites in a wet hydrologic year)	2,500 LF	12,500 LF	100 LF	3
	4,000 SF			40,000 SF	200,000 SF	2,000 SF	
	100 CY			1,000 CY	5,000 CY	20 CY	

⁴ These numbers may increase as Midpen acquires new lands and constructs new trails and other facilities.

Type of Activity	Limits per site	Average Number of sites per year	Maximum Number of Sites Per Year	Annual limits	5-Year Program limits	Estimated Typical Jurisdictional Disturbance Per Project	Estimated Typical Jurisdictional Sites Per Year
<i>New Small-Scale Facilities Improvements</i>							
<i>New trails and roads construction</i>							
Trail bridge replacements	100 LF	2	4	200 LF	10,000 LF	50 LF	2
	2,000 SF			4,000 SF	20,000 SF	500 SF	
	20 CY			40 CY	200 CY	15 CY	
New trail and trail bridges	100 LF	2	4	400 LF	2,000 LF	100 LF	2
	2,000 SF			8,000 SF	40,000 SF	1,500 SF	
	50 CY			200 CY	1,000 CY	25 CY	
New trail (uplands)	5,800 LF	2	4	10,000 LF	50,000 LF	100 LF	2
	45,000 SF			90,000 SF	450,000 SF	1,500 SF	
	800 CY			16,000 CY	80,000 CY	25 CY	
Vehicle bridge replacement	200 LF	1	2	200 LF	1,000 LF	3,000 SF	1
	4,000 SF			4,000 SF	20,000 SF		
	200 CY			200 CY	1,000 CY		
<i>New Conservation Grazing Infrastructure</i>							
Water lines	6,000 LF	2	4	18,000 LF	90,000 LF	20 SF	1
	60,000 SF			180,000 SF	900,000 SF		
	330 CY			1,000 CY	5,000 CY		
Spring box	200 LF	2	4	400 LF	2,000 LF	30 SF	2
	100 SF			200 SF	1,000 SF		
	10 CY			20 CY	1000 CY		
Tanks, troughs	200 LF	2	4	8,000 LF		10 SF	1
	300 SF			1,200 SF			
	10 CY			40 CY			
Pond diversion	200 LF	0	2	200 LF		50 SF	0
	100 SF			100 SF			
	10 CY			10 CY			

Type of Activity	Limits per site	Average Number of sites per year	Maximum Number of Sites Per Year	Annual limits	5-Year Program limits	Estimated Typical Jurisdictional Disturbance Per Project	Estimated Typical Jurisdictional Sites Per Year
Building Repairs, Utilities, and Other Misc.							
Electrical, plumbing, or other utility lines	1,000 LF	2	2	1,000 LF	5,000 LF	100 SF	0
	6,000 SF			6,000 SF	30,000 SF		
	55 CY			55 CY	275 CY		
Septic line repair	1,000 LF	2	2	2,000 LF,	10,000 LF	400 SF	0
	6,000 SF			6,000 SF	30,000 SF		
	10 CY			10 CY	50 CY		
New Interpretive Facilities/ Signage	50 LF	2	2	100 LF	500 LF	50 SF	1
	100 SF			200 SF	1,000 SF		
	5 CY			10 CY	50 CY		
Existing building and structure repairs	200 LF	5	10	1,000LF	5,000 LF	50 SF	0
	100 SF			500 SF	25,000 SF		
	10 CY			50 CY	250 CY		
Safe wildlife passages	200 LF	1 large and 2 small	1 large and 8 small	400 LF	20,000 LF	200 LF	1
	1,200 SF			2,500 SF	12,500 SF	1,200 SF	
	100 CY			200 CY	1,000 CY	100 CY	
Restoration and Enhancement Projects							
Pond reconstruction	20,000 SF	1	2	20,000 SF	100,000 SF	12,000 SF	1
	1,200 CY			1,200 CY	6,000 CY		
Pond Inlet/Outlet pipe or spillway overflow modification ⁵	300LF	1	1	300 LF	1,500 LF	300 LF	1
	2,000 SF			2,000 SF	10,000 SF	2000 SF	
	200 CY			200 CY	1,000 CY	-	
Sediment removal from ponds	600 CY	2	4	1,800 CY 1 acre	9,000 CY 5 acres	900CY, 0.40acres.	2
Pond vegetation removal	2,500 SF	4	6	10,000 SF	50,000 SF	1,000 SF	4

⁵ Note that many of these activities are typically aboveground maintenance. Midpen conducts these activities for maintenance or for restoration purposes. These activities may be duplicative to other pond activities listed above and below.

Type of Activity	Limits per site	Average Number of sites per year	Maximum Number of Sites Per Year	Annual limits	5-Year Program limits	Estimated Typical Jurisdictional Disturbance Per Project	Estimated Typical Jurisdictional Sites Per Year
	150 CY			600 CY	3,000 CY		
Pond berm stabilization	200 LF/berm	1	3	600 LF	3,000 LF	200LF/400CY	1
Structure demolitions/ removal in riparian areas	400 CY/berm	4	8	1,200 CY	6,000 CY	1,500 SF	4
In channel debris removal (i.e., removal of tires)	100 LF	2	6	400 LF	2,000 LF	100 SF	2
	3,000 SF			12,000 SF	60,000 SF		
	150 CY			600 CY	3,000 CY		
Road decommissioning	10,000 LF	1	4	20,000 LF	100,000 LF	2,000 SF	1
	160,000 SF			300,000 SF	1,500,000		
	10,000 CY			20,000 CY	100,000 CY		
Stream crossing removal and restoration of natural channel	150 LF	4	12	1,000 LF	5,000 LF	2,000 SF	4
	4,000 SF			24,000 SF	120,000 SF		
	300 CY			1,800 CY	9,000 CY		
Traditional ecological knowledge practices (indigenous stewardship)	24,000 SF	6	12	300,000 SF	1,500,000 SF	100 SF	0

Note: LF = linear feet; SF = square feet; CY = cubic yards; dbh = diameter at breast height



Midpen would implement general avoidance and minimization practices (or referred to as BMPs) as well as measures focused on biological resources and habitat protection, cultural resources protection, erosion control, sediment and water quality control, and dewatering. These BMPs reflect current recommended practices and are incorporated into the Program. These BMPs are included as **Appendix A** as well as in the Manual (**Appendix B**).

2.8 Permits and Approvals

The California Environmental Quality Act (CEQA) documentation for the proposed Program will be used by various regulatory agencies issuing permits, as well as other approvals and consultations for the proposed Program. Specifically, information about the proposed Program and the environmental analysis will be used by several agencies as part of their decision-making process regarding regulations applicable to the proposed Program. **Table 2-4** provides a list of these agencies and the applicable permits, approvals, and consultations that are expected to be required for the proposed Program.

Table 2-4. Proposed Program Regulatory Permits, Approvals, and Consultations

Agency	Permit / Approval / Consultation
<i>Federal Agencies</i>	
U.S. Army Corps of Engineers	Section 404 of the Clean Water Act (CWA) – Regional General Permit
	National Historic Preservation Act Section 106 compliance
U.S. Fish and Wildlife Service	Federal Endangered Species Act – issuance and authorization under 10(a)(1)(A) Recovery Permit or Section 7 incidental take provision of a Biological Opinion
	Migratory Bird Treaty Act compliance
	Bald and Golden Eagle Protection Act compliance
<i>State Agencies</i>	
California Department of Fish and Wildlife	Section 1600 <i>et seq.</i> of the California Fish and Game Code – Routine Maintenance Agreement
	California Endangered Species Act (CESA) 2081(a) Memorandum of Understanding
	Native Plant Protection Act compliance
San Francisco Bay Regional Water Quality Control Board (Region 2) and Central Coast Regional Water Quality Control Board (Region 3)	Section 401 of the Clean Water Act (CWA) – water quality certification
	Porter-Cologne Water Quality Control Act – waste discharge requirements
	Section 303(d) of the Clean Water Act – compliance with applicable total maximum daily load (TMDL) requirements or 303(d) listed waters



Agency	Permit / Approval / Consultation
<i>Regional and Local Agencies</i>	
Bay Area Air Quality Management District	Burn permits for pile burning activities.
County of San Mateo	Coastal Development Permit for any activities that occur within the Coastal Zone
	Tree removal permit for removal of any protected trees or heritage trees as defined in the County's Significant and Heritage Tree Protection regulations.
County of Santa Clara	Tree removal permit for removal of protected trees.
Santa Cruz County	Tree removal permit for removal of significant trees.

Chapter 3

ENVIRONMENTAL CHECKLIST

- | | |
|--|--|
| 1. Project Title | Midpeninsula Regional Open Space District
Open Space Maintenance and Restoration Program |
| 2. Lead Agency Name and Address | Midpeninsula Regional Open Space District
330 Distel Circle, Los Altos CA 94022 |
| 3. Contact Person, Phone Number and Email | Aaron Hébert, Senior Resource Management Specialist
Midpeninsula Regional Open Space District
Email: ahebert@openspace.org
Phone: (650) 625 - 6561 |
| 4. Project Location and APN | Various |
| 5. Property Owner(s) | Varied |
| 6. General Plan Designation | Multiple |
| 7. Zoning | Multiple |
| 8. Description of Project | See Chapter 2, <i>Project Description</i> . |
| 9. Surrounding Land Uses and Setting | Varied |
| 10. Other Public Agencies whose Approval or Input May Be Needed | See Table 2-4 in Chapter 2, <i>Project Description</i> . |



Determination

On the basis of this initial evaluation:

- I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the Proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

Brian Malone

Digitally signed by Brian Malone
DN: cn=Brian Malone, o=Midpeninsula
Regional Open Space District, ou,
email=bmalone@openspace.org, c=US
Date: 2021.07.28 21:45:58 -0700

7/28/2021

Signature

Date

Name: Brian Malone, Assistant General Manager



3.1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.1.1 Environmental Setting

Midpeninsula Regional Open Space District (Midpen) lands are located on the San Francisco Peninsula (Peninsula), primarily within the Santa Cruz Mountains. The Santa Cruz Mountains separate the flat bay lands and Santa Clara Valley on the east side of the peninsula from the coastal areas on the west side of the peninsula. The Santa Cruz Mountains are characterized by steep, narrow canyons, water courses, and rolling hills where seasonal streams flow from the upper watershed areas of the mountains through steep-sided forested canyons to the bay lands and to the coast.

Visual Character

Midpen lands are located in the upper portions of the Santa Cruz Mountains and consist of a variety of natural landscapes including ridge-top grasslands, forested canyons, chaparral-covered hillsides, and riparian vegetation along natural creeks. The natural landscapes provide a scenic backdrop to the urbanized areas of the Peninsula. Some lands include rural/agricultural structures such as barns and residences associated with conservation grazing operations. Other Midpen facilities such as trails, trailheads, restrooms, parking



areas, fencing, nature center, offices, and residences are designed to blend into the natural surroundings and are typically located within or adjacent to previously disturbed areas.

Midpen lands offer scenic vistas from ridges and mountain tops featuring forested areas, grasslands, oak woodlands, and the Pacific Ocean and San Francisco Bay. Scenic vistas are found throughout Midpen lands along trails and roads where openings at higher elevations provide views of these natural areas. The overall scenic quality of Midpen lands is high because of the highly varied topography, vegetation patterns, water bodies, and uniqueness adjacent to an urban/suburban setting.

Scenic Highways

Several eligible and officially designated scenic highways identified by the State Scenic Highway Program implemented by California Department of Transportation (Caltrans) are in and adjacent to Midpen lands. Highways designated as Eligible that are bisecting or adjacent to Midpen lands include State Route (SR-) 9, SR-17, SR-35, SR-92, SR-152, and SR-236 as well as portions of Interstate (I-) 280. Officially designated State Scenic Highways bisecting or adjacent to Midpen lands include SR-1, SR-9, SR-35, and I-280 (Caltrans 2021). Cities or counties may also identify scenic corridors, roadways, or trails, which are defined as lands that are visible from a highway that provide scenic and natural features. San Mateo County identifies state scenic corridors along SR-1 (Cabrillo Highway corridor), along SR-280 (Junipero Serra corridor), and along Skyline Boulevard (Skyline Boulevard corridor). San Mateo County also identifies designated scenic corridors along SR-92, SR-84, and several additional County roads (San Mateo County Planning and Building Division 1986). Santa Clara County identifies Bear Creek Road, which provides access to Bear Creek Redwoods Open Space Preserve (OSP) as a scenic roadway (Santa Clara County 1994).

Viewer Groups

Viewer groups include the general public recreating on trails or at recreation facilities in Midpen OSPs, residences within Preserves, tenants who are leasing land from Midpen, Midpen employees, and motorists traveling on roadways adjacent to Midpen lands. Viewer sensitivity would mostly be high because the public accessing and recreating on Midpen lands are more likely to value the natural environment, appreciate the visual experience, and be more sensitive to changes in views or incompatible elements. Groups who view Midpen lands from a distance or for short duration (i.e., motorists and adjoining neighbors) would experience a more moderate viewer sensitivity as they would be more focused on the overall surroundings.

3.1.2 Discussion

a. Would the project have a substantial adverse effect on a scenic vista?

As described above, Midpen lands provide scenic viewing opportunities for the public. Scenic vistas of natural areas, the Pacific Ocean, and the San Francisco Bay are found throughout Midpen lands along trails and roads generally located at high elevations along ridgelines and in open areas.



Some Open Space Maintenance and Restoration Program (Program) activities would occur within channels or ponds, situated at lower elevations (e.g., berm repair, bridge maintenance/replacement, sediment and debris removal, etc.). Due to their location and often the presence of surrounding vegetation, it is unlikely that those activities would have a pronounced effect on scenic vistas. However, some Program activities would occur along trails, roads or in other areas located at higher elevations where such activities would be visible from scenic viewpoints (e.g., roadside/trailside ditch maintenance, trail rerouting, roadway grading, etc.). Vegetation management activities associated with the Program also would influence the visual appearance of Midpen lands; the analysis of impacts associated with vegetation and fuel management activities to scenic vistas is covered in Midpen's Wildland Fire Resiliency Program Environmental Impact Report (EIR) (Panorama 2021).

Depending on the visual sensitivity of an individual Project area, which would vary from moderate to high, temporary visual impacts to scenic vistas could occur but would not be considered significant as Program activities would involve minimal use of heavy equipment in any one area for a short period of time (a few hours to a few days) and would be limited to daytime hours on weekdays with infrequent weekend construction. Similarly, Program activities would not reduce the quality of views within Midpen lands or from nearby adjacent lands because the work would be performed in limited areas of Midpen lands at any given time. Visual changes related to the presence of equipment and workers is generally considered low because viewers perceive it as temporary and can quickly and easily move to uninterrupted areas of Midpen lands. As detailed in Chapter 2, Program activities would be performed to protect and enhance the natural environment and improve public access. Program activities would not result in the construction of any structures or facilities that would block views of surrounding scenic vistas.

Midpen would implement the following Best Management Practices (BMPs), incorporated as part of the Program, to reduce temporary visual impacts on scenic vistas. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-2 Minimize the Area of Disturbance and Site Maintenance
- BMP GEN-7 Waste Management
- BMP GEN-16 Site Stabilization
- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-24 Vegetation Management with Prescribed Burns
- BMP BIO-24 Riparian Restoration
- BMP EC-5 Revegetation of Disturbed Areas

Implementation of the BMPs listed above would minimize temporary visual impacts on scenic vistas associated with maintenance by minimizing the area of disturbance, disposing waste and storing materials and equipment properly, minimizing the disturbance of



vegetation, and restoring disturbed and riparian areas as quickly as possible following Program activities. Due to the sensitive manner in which Program activities would be performed, the temporary nature of these activities, and implementation of BMPs that would further minimize adverse effects, the impact on scenic vistas would be **less than significant** and no mitigation is required.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?

Scenic roadways and San Mateo County designated scenic corridors are located in and adjacent to many Midpen lands. Program activities may occur in areas adjacent to designated scenic roadways (e.g., construction of a wildlife crossing at Bear Creek Redwoods OSP adjacent to Bear Creek Road, culvert/repair replacement, trail maintenance, and other facility repairs/improvements). Although the presence of construction equipment in these locations could temporarily disrupt scenic views, such disruption would be temporary. The use of heavy equipment would be minimal and work activities would generally be completed within a few days up to three weeks. In addition, Midpen's Program activities are intended to restore and enhance the natural environment. Although tree removal may be conducted under the Program, tree removal would only occur under circumstances where the tree has or is in danger of falling, is causing damage, or is posing a safety or flood hazard. The analysis of visual impacts associated with other vegetation and fuel management activities is covered in Midpen's Wildland Fire Resiliency Program EIR (Panorama 2021). On the other hand, restoration activities (e.g., invasive plant removal, native riparian plantings, road decommissioning, etc.) conducted under the Program would enhance the natural habitat and scenic resources.

Midpen would implement the following BMPs, incorporated as part of the Program, to reduce temporary visual impacts on scenic resources visible from scenic corridors. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-2 Minimize the Area of Disturbance and Site Maintenance
- BMP GEN-7 Waste Management
- BMP GEN-16 Site Stabilization
- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-24 Vegetation Management with Prescribed Burns
- BMP BIO-24 Riparian Restoration
- BMP EC-5 Revegetation of Disturbed Areas

Implementation of the BMPs listed above would minimize temporary visual impacts on scenic resources associated with maintenance by minimizing the area of disturbance,



disposing waste and storing materials and equipment properly, minimizing the disturbance of vegetation, and restoring disturbed and riparian areas as quickly as possible following Program activities. Because Program activities would be short-term, visual disruptions along scenic corridors would be temporary, and implementation of BMPs would further minimize adverse effects, there would be no substantial or long-term degradation of scenic resources as viewed by various viewer groups. This impact would be less than significant and no mitigation is required.

c. In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

As described above, the Program area is located in a non-urbanized area consisting of natural landscapes and open space. The Program area ranges from ridge-top grasslands, forested canyons, chaparral-covered hillsides, and redwood forests, among other natural landscapes. The visual character and quality of Program sites varies from site to site, but would generally be moderate to high. For example, some culvert repair/replacement along access roads and trails would be situated in redwood forests, along creeks, or near agricultural lands. Temporary degradation of the visual character of work sites could adversely affect public viewer groups such as recreationists and grazing tenants. However, the overall long-term effect of the Program would be to maintain the existing visual quality and in many instances would improve the visual quality, such as through Program activities that stabilize failed pond berms, remove tires, repair dilapidated culverts, and plant native vegetation in riparian areas.

During Program activities, temporary visual impacts would occur from the presence of personnel and equipment, staging, vegetation removal, earthwork, and on-site stockpiling of materials. Specifically, the following effects would occur from the various work activities.

Streambank and Pond Berm Stabilization and Sediment Removal. Pond berms and channel banks would be temporarily exposed and de-vegetated during berm/bank stabilization and sediment removal activities. Work sites would be revegetated and re-contoured to restore aquatic habitat and natural conditions; however, it would take a few years before the aesthetic character of the site would be fully re-established. This temporary visual change would be offset by the immediate aesthetic benefits of blockage removal and stabilization of eroding banks/berms that would allow the waterways and ponds to function more naturally.

Vegetation Management. Vegetation management activities such as brushing and mowing, pruning, tree removal, and fuel management activities would alter densely vegetated areas to partially vegetated or bare until the area becomes re-established. Herbicide application could alter the visual character of a site where targeted vegetation has been treated. In addition, tree removal could alter the visual quality of certain locations. However, as described above, tree removal would only occur under circumstances where the tree has fallen or is in danger of falling (as determined by a



qualified individual), is causing damage, or poses a safety or flood hazard. The analysis of impacts to visual character or quality of public views associated with vegetation and fuel management activities is covered in Midpen’s Wildland Fire Resiliency Program EIR (Panorama 2021). Overall, temporary changes in visual density and composition would result; however, the removal of invasive species, addition of native plantings, and other restoration type activities (described below) would restore the Program area to a more natural state. Therefore, revegetation efforts would further offset temporary visual impacts associated with vegetation management activities.

Other Maintenance Activities. Other maintenance activities including culvert repair/replacement, drainage feature maintenance, bridge maintenance, and road and trail maintenance would occur at multiple locations, but would generally occur infrequently at any one site. During maintenance work, visual character may be temporarily degraded due to the presence of construction materials, equipment, and vehicles. However, construction activities at any given site would not last more than a few weeks. Implementation of the below-listed BMPs would reduce temporary effects on the visual character of maintenance sites. Depending on the maintenance site, visual conditions could be improved as a result of proposed maintenance activities. For example, in-stream debris removal would improve the cleanliness at the maintenance site and within the waterway. Further, conducting trail surface repair activities would improve access for the public and the aesthetic quality of the route.

Small Scale Facility Improvements. Some small-scale facility improvement projects such as installation of new trails, roads, re-routes, and new bridges would change the visual character of the area. However, all small-scale facility improvements conducted under the Program would either reduce the threat to, or correct degradation of, the natural environment, thus improving the aesthetic quality of Midpen lands. Other facility improvements such as conservation grazing infrastructure and water infrastructure improvements would not be substantially notable to public viewers and would blend in with the existing infrastructure and facilities on site.

Restoration Activities. Much of Midpen’s work revolves around enhancing and restoring the natural environment by improving and/or creating habitat for plant and wildlife species and restoring ecosystem functions. Restoration activities conducted under the Program, including aquatic habitat restoration, native vegetation plantings, invasive species removal, road decommissioning, and conservation grazing improvements would enhance the natural habitat and protect species, thus resulting in a beneficial effect to the aesthetic quality and character of Midpen lands.

Midpen would implement the following BMPs, incorporated as part of the Program, to reduce temporary impacts to visual character and quality of public views during Program activities. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-2 Minimize the Area of Disturbance and Site Maintenance
- BMP GEN-7 Waste Management
- BMP GEN-16 Site Stabilization



- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-24 Vegetation Management with Prescribed Burns
- BMP BIO-24 Riparian Restoration
- BMP EC-5 Revegetation of Disturbed Areas

Implementation of the BMPs listed above would minimize temporary impacts to visual character and quality associated with maintenance by minimizing the area of disturbance, disposing waste and storing materials and equipment properly, minimizing the disturbance of vegetation, and restoring disturbed and riparian areas as quickly as possible following Program activities. Because Program activities would be short-term, visual disruptions to public views would be temporary, implementation of BMPs would further minimize adverse effects, there would be no substantial degradation of the visual character and quality of the Program area. This impact would be **less than significant** and no mitigation is required.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Under the existing condition, lighting within Midpen lands is extremely limited, with a minimal amount of exterior lighting at residences and offices for safety. Because Program activities would be conducted during daylight hours only, no nighttime lighting would be needed. Although the Program includes installation of new facilities and small facility improvements (e.g., bridge relocation, installation of interpretive facilities/signage, construction of wildlife crossings, etc.) none of these facility improvements would result in new reflective surfaces or installation of lighting. Thus, **no impacts** would result from the Program.



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3.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to nonagricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Res. Code section 12220(g)), timberland (as defined by Pub. Res. Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to nonagricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.2.1 Environmental Setting

Midpen manages approximately 6,500 acres of grazing within five OSPs along the coast, including La Honda Creek, Russian Ridge, Purisima Creek, Skyline Ridge, and Tunitas Creek OSPs under the current Conservation Grazing Program. Midpen also leases suitable agricultural lands (currently over 8,500 acres) to tenants with expertise in managing livestock for grazing purposes.

Approximately 7,700 acres of OSP land is in Williamson Act contracts (Panorama 2021). The majority of Midpen lands are designated as “other land” or “grazing land” by Important Farmland maps published by the California Department of Conservation (CDOC), Farmland Mapping and Monitoring Program (CDOC 2016). “Other land” may consist of vacant, non-agricultural land; brush, timber, wetland, and riparian areas not suitable for livestock grazing; and confined livestock facilities. “Grazing land” is considered land where existing vegetation is used for grazing livestock.



Forested lands are defined as land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. Midpen lands encompass approximately 30,000 acres of forest and woodland habitat, including around 11,500 acres of coniferous forest consisting of redwood and Douglas fir and around 18,500 acres of other hardwood forest and woodlands. However, none of Midpen lands are zoned as timberland as defined by Public Resources Code Section 4526 or timberland zoned as timberland production as defined by Government Code Section 51104(g).

3.2.2 Discussion

a, b, e. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract? Would the project involve other changes in the existing environment, which due to their location or nature, could result in conversion of farmland, to non-agricultural use?

Farmlands (primarily grazing lands) may be located in proximity to Program activities occurring within Midpen OSPs. Grazing lands that are currently managed and leased by Midpen would not be adversely affected by implementation of the Program. In contrary, conservation grazing operations would be enhanced through small-scale infrastructure improvements (e.g., rebuilding spring boxes, repairing water systems, installing fencing around riparian areas/stock ponds, etc.). Wildland fire practices benefiting grazing lands (e.g., prescribed burns) are discussed in more detail in Midpen's Wildland Fire Resiliency Program EIR (Panorama 2021). None of the proposed Program activities would convert or cause changes that would result in the conversion of designated farmland to non-agricultural uses nor conflict with an existing Williamson Act contract. **No impacts** to farmland or agricultural uses would occur with implementation of the Program.

c, d. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) or conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? Would the project involve or result in the loss of forest land or conversion of forest land to non-forest use?

Implementation of the Program would involve routine and selective pruning and removal of trees if the tree is creating a public safety risk, limiting stream capacity, or threatening natural areas or water quality. Pruning trees may also be necessary to provide emergency, maintenance, and recreational access to Midpen facilities; improve visibility to inspect Midpen facilities; provide adequate sight distance for safety and aesthetic reasons protect



infrastructure; and to meet local fire codes. The intent of Midpen's work is to preserve and protect its forests and woodlands to enhance natural ecosystems and not to permanently convert forest land to non-forest uses. Implementation of the Program would not result in a loss of forest land nor would it convert forestry land to non-forestry use. **No impacts** to forest land would occur with implementation of the Program.



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3.3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The Clean Air Act is implemented by the United States (U.S.) Environmental Protection Agency (USEPA) and sets ambient air limits, the National Ambient Air Quality Standards (NAAQS), for six criteria pollutants: particulate matter, carbon monoxide, nitrogen oxides (NOx), ground-level ozone and lead. Of these criteria pollutants, particulate matter and ground-level ozone pose the greatest threat to human health. The California Air Resources Board (CARB) sets standards for criteria pollutants that are more stringent than NAAQS, and includes the following additional contaminants: visibility reducing particles, sulfates, and vinyl chloride.

The Program area is largely located within the San Francisco Bay Area Air Basin (SFBAAB), which is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). A small portion of the Program area is located in the North Central Coast Air Basin (NCCAB), which is under the jurisdiction of the Monterey Bay Air Resources District (MBARD). BAAQMD and MBARD manage air quality within their jurisdictions for attainment and permitting purposes. **Table 3.3-1** shows the current SFBAAB and NCCAB attainment statuses for the state and federal ambient air quality standards.



The BAAQMD and MBARD have also developed thresholds of significance for criteria air pollutants (BAAQMD 2017a, MBUAPCD 2008). **Table 3.3-2** provides the BAAQMD's and MBARD's recommended significance criteria for analysis of air quality impacts, including cumulative impacts. The term "sensitive receptor" is used to refer to facilities or land uses that include members of the population particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses. Examples of sensitive receptors within the Project area include schools, hospitals, community centers, childcare facilities, and residential areas.

The Santa Clara County General Plan, San Mateo County General Plan, and the Santa Cruz County General Plan each include policies to reduce air pollution by achieving and maintaining air quality which meets or exceeds state and federal standards.



Table 3.3-1. SFBAAB and NCCAB Attainment Status of the State and Federal Ambient Air Quality Standards

Contaminant	Averaging Time	Concentration	SFBAAB Attainment Status (San Mateo and Santa Clara Counties)		NCCAB Attainment Status (Santa Cruz County)	
			State Standards Attainment Status ¹	Federal Standards Attainment Status ²	State Standards Attainment Status ¹	Federal Standards Attainment Status ²
Ozone	1-hour	0.09 ppm	N	<i>See footnote 3</i>	T	<i>See footnote 3</i>
	8-hour	0.070 ppm	N	N	T	A
Carbon Monoxide	1-hour	20 ppm	A		A	
		35 ppm		A		U/A
	8-hour	9.0 ppm	A	A ⁴	A	U/A
Nitrogen Dioxide	1-hour	0.18 ppm	A		A	
		0.100 ppm ⁶		U		U/A
	Annual arithmetic mean	0.030 ppm	A		A	
		0.053 ppm		A		U
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	A		A	
		0.075 ppm		A		U
	24-hour	0.04 ppm	A		A	
		0.14 ppm		A		U
Annual arithmetic mean	0.030 ppm		A		U	
Particulate Matter (PM10)	24-hour	50 µg/m ³	N		N	
		150 µg/m ³		U		U
	Annual arithmetic mean	20 µg/m ³	N		N	
Fine Particulate Matter (PM2.5)	24-hour	35 µg/m ³		N (Moderate) ⁷		U/A
	Annual arithmetic mean	12 µg/m ³	N	U/A	A	U/A
Sulfates	24-hour	25 µg/m ³	A		A	
Lead ⁸	30-day average	1.5 µg/m ³	A		A	
Hydrogen Sulfide	1-hour	0.03 ppm	U		U	
Vinyl Chloride ⁸ (chloroethene)	24-hour	0.010 ppm	U		U	
Visibility Reducing Particles	8 hour (10:00 to 18:00 PST)	<i>See footnote 5</i>	U		U	

A – Attainment U – Unclassified ppm – parts per million PST – pacific standard time
 N – Non-attainment T – Nonattainment-Transitional µg/m³ – micrograms per cubic meter



Notes:

1. California standards for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - particulate matter of aerodynamic radius of 10 micrometers or less (PM10), and visibility-reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i.e., all standards except for lead and the PM10 annual standard), then some measurements may be excluded. In particular, measurements that are excluded include those that the California Air Resources Board (CARB) determines would occur less than once per year on average.
2. National standards shown are the “primary standards” designed to protect public health. National air quality standards are set by U.S. Environmental Protection Agency (USEPA) at levels determined to be protective of public health with an adequate margin of safety. National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once per year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentrations is 0.075 ppm (75 parts per billion) or less. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 $\mu\text{g}/\text{m}^3$. The 24-hour particulate matter of aerodynamic radius of 10 micrometers or less (PM2.5) standard is attained when the 3-year average of 98th percentiles is less than 35 $\mu\text{g}/\text{m}^3$. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM10 is met if the 3-year average falls below the standard at every site. The annual PM2.5 standard is met by spatially averaging annual averages across officially designated clusters of sites and then determining if the 3-year average of these annual averages falls below the standard.
3. The national 1-hour ozone standard was revoked by USEPA on June 15, 2005. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 ppm to 0.070 ppm. An area meets the standard if the fourth-highest maximum daily 8-hour ozone concentration per year, averaged over three years, is equal to or less than 0.070 ppm. This table provides the attainment statuses for the 2015 standard of 0.070 ppm.
4. In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.
5. Statewide Visibility-Reducing Particle Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.
6. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average of nitrogen dioxide at each monitoring station within an area must not exceed 0.100 ppm (effective January 22, 2010).
7. On January 9, 2013, USEPA issued a final rule to determine that the Bay Area attains the 24-hour PM2.5 national standard.
8. CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure below which there are no adverse health effects determined.

Source: CARB 2019, USEPA 2020, BAAQMD 2017b



Table 3.3-2. BAAQMD and MBARD CEQA Thresholds of Significance for Criteria Air Pollutants

Criteria Air Pollutants and Precursors (Regional)	BAAQMD			MBARD Operational Thresholds
	Operational Thresholds		Construction Thresholds	
	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy)	Average Daily Emissions (lb/day)	Daily Emissions (lb/day)
Reactive Organic Gases (ROG)	54	10	54	137 ^a
Nitrogen oxides (NOx)	54	10	54	137 ^b
Particulate Matter (PM10)	82	15	82 (exhaust)	82
Fine Particulate Matter (PM2.5)	54	10	54 (exhaust)	None
PM10/PM2.5 (fugitive dust)	None		BMPs	None
Local Carbon Monoxide (CO)	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)		None	550
Sulfur oxide (SOx), as SO ₂	None		None	150
Odors	Five confirmed complaints per year averaged over 3 years		None	None

tpy – tons per year; lb/day – pounds per day; ppm – parts per million; CEQA – California Environmental Quality Act

^a. Threshold for VOC (Volatile Organic Compounds)

^b. As NO₂

Source: BAAQMD 2017a, Monterey Bay Unified Air Pollution Control District (MBUAPCD) 2008

3.3.2 Environmental Setting

Study Area

For the purposes of the air quality analysis, the study area consists of the locations where physical actions associated with the proposed Program would take place. Program activities would occur at Midpen preserves located in the Counties of San Mateo, Santa Clara, and Santa Cruz (described in Section 2.4). This area is largely located within the SFBAAB and under BAAQMD jurisdiction. A small portion of the study area, approximately 3% of the total Program area, is located in the NCCAB under MBARD jurisdiction. The study area for air quality impacts is evaluated at both local and regional scales. Air quality at the local scale involves evaluating the potential for local emissions “hot spots” to result in and adjacent to anticipated Program activity sites from Program-related emissions of pollutants of local concern, including carbon monoxide, particulate matter, and toxic air contaminants. Air quality at the regional scale involves evaluating air pollutants of regional concern such as ozone, ozone precursors, and particulate matter.



San Francisco Bay Area Air Basin

CARB has divided California into regional air basins according to topographic air drainage features. The SFBAAB, managed by the BAAQMD, comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties, as well as portions of Solano and Yolo Counties. Air quality is determined by natural factors such as climate, topography, and meteorology, in addition to the presence of air pollution sources and ambient conditions.

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, all of which distort normal wind flow patterns. The Coast Ranges split, resulting in a western coast gap, the Golden Gate, and an eastern coast gap, Carquinez Strait; these allow air to flow in and out of the SFBAAB and the Central Valley (BAAQMD 2017a).

BAAQMD divides the SFBAAB into subregions with distinct climate and topographic features. The proposed Program area is located primarily in the Peninsula Subregion of the SFBAAB, with some preserves occurring also in the Santa Clara Valley Subregion.

Peninsula Subregion

The Peninsula subregion extends from northwest of San Jose to the Golden Gate. The Santa Cruz Mountains run up the center of the peninsula, with elevations exceeding 2,000 feet at the southern end, decreasing to 500 feet in South San Francisco. Coastal towns experience a high incidence of cool, foggy weather in the summer. Cities in the southeastern Peninsula experience warmer temperatures and fewer foggy days because the marine layer is blocked by the ridgeline to the west. The blocking effect of the Santa Cruz Mountains results in variations in summertime maximum temperatures in different parts of the Peninsula. For example, in coastal areas the mean maximum summer temperatures are in the mid-60's, while in Redwood City the mean maximum summer temperatures are in the low-80's. Mean minimum temperatures during the winter months are in the high-30's to low-40's on the eastern side of the Peninsula and in the low 40's on the coast.

On the eastern side of the mountains, winds are generally from the west, although wind patterns in this area are often influenced greatly by local topographic features. Air pollution potential is highest along the southeastern portion of the Peninsula. This is the area most protected from the high winds and fog of the marine layer. Pollutant transport from upwind sites is common. In the southeastern portion of the Peninsula, air pollutant emissions are relatively high due to motor vehicle traffic as well as stationary sources. At the northern end of the Peninsula, pollutant emissions are high, especially from motor vehicle congestion. Localized pollutants, such as carbon monoxide, can build up in "urban canyons." Winds are generally fast enough to carry the pollutants away before they accumulate (BAAQMD 2017a).

Santa Clara Valley

The Santa Clara Valley is bounded by the Bay to the north and by mountains to the east, south and west. Temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild. At the northern end of the valley, mean maximum temperatures are in the low-80's during the summer and the high-50's during the winter, and mean



minimum temperatures range from the high-50's in the summer to the low-40's in the winter. Further inland, where the moderating effect of the Bay is not as strong, temperature extremes are greater. For example, in San Martin, located 27 miles south of the San Jose Airport, temperatures can be more than 10 degrees warmer on summer afternoons and more than 10 degrees cooler on winter nights. Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer, the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds. Wind speeds are greatest in the spring and summer and weakest in the fall and winter. Nighttime and early morning hours frequently have calm winds in all seasons, while summer afternoons and evenings are quite breezy. Strong winds are rare, associated mostly with the occasional winter storm.

The air pollution potential of the Santa Clara Valley is high. High summer temperatures, stable air and mountains surrounding the valley combine to promote ozone formation. In addition to the many local sources of pollution, ozone precursors from San Francisco, San Mateo and Alameda Counties are carried by prevailing winds to the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low level inversions, ozone can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing northwest winds in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of carbon monoxide and particulate matter. This movement of the air up and down the valley increases the impact of the pollutants significantly. Pollution sources are plentiful and complex in this subregion.

The Santa Clara Valley has a high concentration of industry at the northern end, in the Silicon Valley. Some of these industries are sources of air toxics as well as criteria air pollutants. In addition, Santa Clara Valley's large population and many work-site destinations generate the highest mobile source emissions of any subregion in the SFBAAB.

North Central Coast Air Basin

The NCCAB consists of Santa Cruz, San Benito, and Monterey Counties. It covers an area of 5,159 square miles along the coast, and has a population of over 750,000 (CARB 2011). The Santa Cruz Mountains dominate the northwest portion of NCCAB, and the Diablo Range marks the northeastern boundary. The Santa Clara Valley extends into the northeastern tip of the basin. Further south, the Santa Clara Valley becomes the San Benito Valley, which runs northwest-southeast, with the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to south of King City. In the summer, a high-pressure system over the Pacific Ocean is dominant and causes persistent west and northwest winds over the entire California coast. The onshore wind brings fog and relatively cool air into the coastal valleys. The northwest-southeast orientation of the mountain ridges tends to restrict and channel the summer onshore air. In the fall, the surface winds become weak. The airflow is occasionally reversed in a weak offshore movement and the relatively stationary air mass is held in place. During the winter,



the Pacific high-pressure system moves south and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours.

3.3.3 Discussion

a., b. Would the project conflict with or obstruct implementation of the applicable air quality plan, OR result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Use of vehicles and equipment, such as chainsaws, woodchippers, and excavators, for Program activities would generate emissions of criteria air pollutants. Fuel combustion involved with vehicle and equipment use would release particulate matter (PM) and other contaminants associated with motor vehicle operation, including carbon monoxide and ozone precursors (reactive organic gases [ROG] and NO_x).

Estimated average daily and maximum annual emissions of criteria air pollutants were modeled using CalEEMod 2016.3.2 and are presented in **Tables 3.3-3** and **3.3-4**. Emissions estimates present a conservative Program scenario based on a potential heavy year for each maintenance activity (i.e., anticipated maximum annual activities as presented in **Table 2-3** of the *Project Description*); therefore, actual daily and annual emissions would often be lower.

Emissions resulting from vegetation management and fuel management activities (e.g., controlled burns, conservation grazing, and herbicide application) were not included in the Program emissions modeling or analysis below. The analysis of impacts associated with vegetation and fuel management activities is covered in Midpen's Wildland Fire Resiliency Program EIR (Panorama 2021) and Integrated Pest Management Program (IPMP) EIR as Addended (Midpen, 2014; Midpen, 2019).¹ Further, emissions provided in **Table 3.3-3** represent the initial year of Program implementation. Over the duration of the Program, fleet vehicle turnover would gradually result in lower emissions of criteria air pollutants due to stricter emissions requirements for newer engines and adherence to Midpen's Climate Action Plan.² For additional information on how emissions were estimated refer to **Appendix C**.

¹ While the emissions resulting from vegetation and fuel management activities are covered in Midpen's Wildland Fire Resiliency Program EIR and IPMP EIR as Addended, the emissions from vehicle and equipment trips to Program sites for the purpose of completing vegetation or fuel management activities have been included in the CalEEMod model for the proposed Program.

² Midpen has adopted a Climate Action Plan to identify goals and strategies to reduce GHG emissions generated by Midpen activities. The Climate Action Plan calls for a 20 percent reduction from the 2016 baseline in 2022 and ultimately an 80 percent reduction by 2050. Strategies are identified to reduce GHG emissions associated with four different sectors, one of which is "vehicle fleet, equipment, and business travel," which would apply to the vehicles and equipment used during implementation of the Program.



Table 3.3-3. Daily Emissions Estimates (pounds per day)

Source	ROG	NOx	PM10	PM2.5	CO	SOx as SO ₂
Vehicles/Equipment	2.23	19.69	9.23	5.08	21.23	0.05
Chainsaws/Brushcutters/Chippers	25.54	0.62	0.15	0.15	63.08	0.00
Total	27.77	20.31	9.38	5.23	84.31	0.05
BAAQMD Threshold ^a	54	54	82 ^b	54 ^b	-	-
MBARD Threshold	137	137	82	-	550	150
	No	No	No	No	No	No

Note: See **Table 3.3-2** for BAAQMD and MBARD CEQA Thresholds of Significance for criteria air pollutants.

a. BAAQMD’s threshold is for average daily emissions while MBARD’s threshold is for maximum daily emissions.

b. BAAQMD’s operational thresholds for particulate matter (PM) apply only to exhaust emissions.

c. MBARD’s threshold is for volatile organic compound (VOCs).

Source: Data compiled by Horizon in 2021 (refer to **Appendix C**).

Table 3.3-4. Maximum Annual Emissions Estimates (tons per year)

Source	ROG	NOx	PM10 (Exhaust)	PM2.5 (Exhaust)
Vehicles/Equipment	0.29	2.56	1.2	0.66
Chainsaws/Brushcutters/Chippers	3.32	0.08	0.02	0.02
Total	3.61	2.64	1.22	0.68
BAAQMD Threshold ^a	10	10	15	10

Note: See **Table 3.3-2** for BAAQMD CEQA Thresholds of Significance for criteria air pollutants.

a. MBARD does not have annual emissions thresholds.

Source: Data compiled by Horizon in 2021 (refer to **Appendix C**).

Tables 3.3-3 and **3.3.4** show that even under a conservative maximum scenario, Program activities would generate emissions substantially below both daily and annual BAAQMD significance thresholds for all criteria air pollutants. Emissions would also be below MBARD’s significance thresholds, though only a small portion of the Program’s activities would take place in MBARD’s jurisdiction. As part of their Climate Action Plan, Midpen is increasing the use of electric and alternative fuel vehicles and equipment, increasing vehicle fuel economy, and increasing the use of electric transportation options, which will further decrease emissions of criteria air pollutants over time.

Midpen also would implement the following BMPs, incorporated as part of the Program, to reduce emissions of criteria pollutants to the greatest extent feasible and ensure the Program meets BAAQMD’s fugitive dust requirements. Descriptions of each BMP are provided in Chapter 2, Project Description.



- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-15 Dust Management Controls
- BMP GEN-16 Site Stabilization

Implementation of the BMPs listed above would minimize the potential for fugitive dust by minimizing ground disturbance and the amount of earthwork, stabilizing active work sites along with construction entrances and exits to prevent track out, implementing BAQQMD basic dust control measures, and covering or restoring bare soil surfaces as quickly as possible. Due to the temporary nature of the Program activities and with the implementation of the above listed BMPs, the proposed Program would not conflict with or obstruct implementation of the applicable air quality plan, or result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard. This impact would be **less than significant**. No mitigation is required.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are those segments of the population most susceptible to poor air quality: children, the elderly, and individuals with pre-existing serious health problems affected by air quality (e.g., asthma) (CARB 2005). Examples of locations that contain sensitive receptors are residences, schools and school yards, parks and playgrounds, daycare centers, nursing homes, and medical facilities. Residences include houses, apartments, and senior living complexes. Medical facilities can include hospitals, convalescent homes, and health clinics. Playgrounds include play areas associated with parks or community centers.

Program activities would occur in Midpen preserves; mostly along creeks, roads, trails, and culverts not in close proximity to sensitive receptors, except for activities conducted in some locations in Pulgas Ridge and Rancho San Antonio OSPs. Given the scale of the proposed Program covering thousands of acres over multiple OSPs, unknown locations of future preserves, and the anticipated limited duration of Program activities at any given site, individual sensitive receptors have not been identified. However, it is assumed that receptors in the vicinity of Program activities could include any of the receptor types mentioned previously, in particular single-family residences in rural, suburban, and urban settings.

Operation of maintenance vehicles and equipment would generate diesel particulate matter (DPM), which CARB has identified as a toxic air contaminant (TAC). In the Program area, some small areas in and around the Mt. Umunhum Trail in the Sierra Azul Preserve contain ultramafic rock outcrops that may contain naturally occurring asbestos (NOA) (Jennings et al. 1977). NOA was identified as a TAC in 1986 by CARB.



Sensitive receptors could be exposed to DPM and/or NOA during Program activity implementation; however, most of the Program-related work would take place in fairly remote locations inside large preserves, decreasing the likelihood and potential magnitude of sensitive receptor exposure. As discussed above, the Program would not generate emissions of criteria air pollutants in excess of BAAQMD significance thresholds, and any work near individual sensitive receptors would be both infrequent and temporary. Therefore, potential impacts from DPM would be less than significant.

Midpen also would comply with CARB's Asbestos ATCM (Airborne Toxic Control Measure) for Construction, Grading, Quarrying, and Surface Mining Operations, which specifies construction and grading practices to be implemented when working in or adjacent to areas supporting NOA, including submittal of an Asbestos Dust Mitigation Plan for BAAQMD approval when disturbance exceeds one acre. ATCM measures include keeping vehicle speeds at or below 15 mph or less, applying water for dust control prior to and during ground disturbance, keeping storage piles wet or covered, and preventing track-out.

Midpen also would implement the following BMPs, incorporated as part of the Program, to further decrease the risk of NOA exposure for sensitive receptors to the greatest extent feasible. Descriptions of each BMP are provided in Chapter 2, Project Description.

- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-15 Dust Management Controls
- BMP GEN-16 Site Stabilization

Implementation of the BMPs listed above would minimize the potential for fugitive dust in NOA areas by minimizing ground disturbance and the amount of earthwork, stabilizing active work sites along with construction entrances and exits to prevent track out, implementing BAAQMD basic dust control measures, and covering or restoring bare soil surfaces as quickly as possible. Due to the temporary nature of the Program activities, Program emissions of criteria air pollutants being below significance thresholds based on a modeled conservative implementation scenario, and with the implementation of the above listed BMPs, the proposed Program would not expose sensitive receptors to substantial pollutant concentrations. This impact would be **less than significant**. No mitigation is required.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Sediment removal and diesel used for maintenance equipment have potential to generate localized objectionable odors. Excavated sediment from ponds or stream channels may contain high levels of organic material or reduced sulfur, which upon excavation and/or decomposition, could generate odors. On average Midpen expects to conduct up to 28 sediment and debris removal projects and three (3) pond maintenance projects annually.



The BAAQMD indicates that odor impacts could result from siting a new odor source near existing sensitive receptors. As the proposed Program's sediment removal and pond maintenance activities would be small and infrequent, the number of people exposed to odor from any sediment removal event would be small and the duration of exposure would be temporary and short. Therefore, the proposed Program is not considered to have the potential to generate substantial annoyances from odors to sensitive receptors. This impact would be **less than significant**. No mitigation is required.



3.4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or .S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marsh, vernal pool, and coastal wetland, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with the provisions of an adopted habitat conservation plan (HCP); natural community conservation plan (NCCP); or other approved local, regional, or state HCP?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



3.4.2 Setting

Definitions

Special-Status Plant Species

For the purposes of this analysis, special-status plant species include the following:

- Listed under the Federal Endangered Species Act (FESA) as threatened, endangered, proposed threatened, proposed endangered, or a candidate species
- Listed under the California Endangered Species Act (CESA) as threatened, endangered, rare, or a candidate species
- Listed by the California Native Plant Society (CNPS) as California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3, or 4
- Considered sensitive or locally rare by qualified botanists, and/or tracked and given special consideration by Midpen. Examples include (but are not limited to) Nature Serve ranked species and International Union for Conservation of Nature listed species.

The CNPS, a non-governmental conservation organization, has developed CRPRs for plant species of concern in California in the CNPS Inventory of Rare and Endangered Plants. The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status plants or their habitat. California



Department of Fish and Wildlife's (CDFW's) California Natural Community List (CDFW 2020a) is based on the best available information, and indicates which natural communities are considered sensitive at the current stage of the California vegetation classification effort. Natural communities with ranks of S1, S2, and S3 are considered sensitive natural communities and therefore addressed under California Environmental Quality Act (CEQA). A *Manual of California Vegetation* (Sawyer et al. 2009) defines the currently recognized method of vegetation classification and mapping in California, which is accepted by CNPS and CDFW, and is utilized to determine the rarity and endangerment of these vegetation types that can result in sensitive natural community designation.

Midpen has also identified vegetation types within their lands as Biologically Highly Significant (BHS), which are considered sensitive natural communities herein. Natural communities designated as BHS within Midpen lands are globally rare, or restricted just to the San Francisco Bay Area or the Santa Cruz Mountains. Other communities, such as wetlands, riparian communities, and grasslands, though once more widespread, have been made rare because of widespread habitat conversion for urban and agricultural uses. Some communities designated as BHS by Midpen are ruderal or dominated by non-native or invasive species and have received a BHS designation due to the presence of sensitive native resources (botanical, wildlife, edaphic [from soils], occur in wetlands, or otherwise) within those communities. The sources of BHS designations are from Midpen's Conservation Atlas (Midpen 2014) and their vegetation classification Geographic Information System (GIS) dataset (Midpen 2018).

The Program area contains vegetation communities, wetlands, and other landscape features (e.g., rock outcrops) that are: (1) classified as sensitive natural communities in California; (2) considered "biologically highly significant" by Midpen; or (3) both. Most of the riparian vegetation communities, wetlands, and other aquatic features in the Program area are protected under the federal Clean Water Act, the state's Porter-Cologne Water Quality Control Act (Porter-Cologne Act), the California Coastal Act, Section 1602 of California Fish and Game Code, or a combination of these regulations. These vegetation communities, wetlands, and landscape features are generally referred to as "sensitive communities" or "sensitive natural communities" in this section.

Special-Status Wildlife Species

For the purposes of this analysis, special-status wildlife species include the following:

- Animal species listed by the U.S. Fish and Wildlife Service (USFWS) or CDFW as Threatened or Endangered; proposed for listing as Threatened or Endangered; or as a candidate for listing as Threatened or Endangered.
- Animal species considered as "Endangered, Rare or Threatened" as defined by Section 15380 of the CEQA Guidelines. Section 15380(b) states that a species of animal or plant is "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors. A species is "rare" when either "(A) although not presently threatened with extinction, the species is



existing in such small numbers throughout all or a significant portion of its range that it may become Endangered if its environment worsens; or (B) the species is likely to become Endangered within the foreseeable future throughout all or a portion of its range and may be considered 'Threatened' as that term is used in the ESA [Endangered Species Act]."

- Animal species designated as "Species of Special Concern" or "Fully Protected" by the CDFW. Although these species have no legal status under CESA, CDFW recommends their protection as their populations are generally declining and they could be listed as Threatened or Endangered (under CESA) in the future. "Fully Protected" species generally may not be taken or possessed at any time.
- Birds designated by the USFWS as "Birds of Conservation Concern." Although these species have no legal status under FESA, USFWS recommends their protection as their populations are generally declining, and they could be listed as Threatened or Endangered (under FESA) in the future.

In addition, Midpen maintains its own lists of sensitive plant and animal species, which include a number of species that do not necessarily meet the "special-status" definitions above. These additional species include, but are not limited to, species classified or listed under designations such as USFWS Birds of Management Concern or CDFW Watchlist species. These additional sensitive species also include species such as the Santa Cruz kangaroo rat, which is very scarce and local and is being considered by CDFW for addition to its list of mammal species of special concern. Midpen takes those species into consideration during planning and implementation of Program activities and may analyze impacts to these additional species under CEQA even if not strictly required or done by common practice. Therefore, Midpen may consider impacts of Program activities to selected sensitive plants and animals in addition to those listed in **Tables 3.4-3** and **3.4-4**.

Critical Habitat

Critical habitat is a term defined and used in FESA. It is a specific geographic area(s) that contains features essential for the conservation of a species listed by the USFWS as Threatened or Endangered and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. An area is designated as "critical habitat" after USFWS publishes a proposed federal regulation in the Federal Register and then they receive and consider public comments on the proposal. The final boundaries of the critical habitat area are also published in the Federal Register. Federal agencies are required to consult on actions they carry out, fund, or authorize to ensure that their actions will not destroy or adversely modify critical habitat. A critical habitat designation generally has no effect on situations or projects that do not involve a federal agency (USFWS 2020).



Existing Environment

Regional Ecological Setting

Overview

Midpen lands encompass portions of three counties: San Mateo, Santa Clara, and Santa Cruz counties. These lands, comprised of separate OSPs, are primarily managed to preserve a regional greenbelt of open space land. Midpen lands protect a variety of habitats rich in both numbers and variety of plants and animals. OSPs support tidal salt marshes in the east along the San Francisco Bay shoreline, home to the endangered Ridgway's rail (*Rallus obsoletus*) and salt marsh harvest mouse (*Reithrodontomys raviventris*) as well as used by thousands of migratory birds. The heart of Midpen lands is at higher elevations in the Santa Cruz Mountains. These lands are covered in a diverse mix of oak woodland, grassland, chaparral, coastal scrub, and both evergreen and coniferous forests that form an impressive scenic backdrop for the densely populated San Francisco Bay Area and Central California Coast. Creeks and streams that run through Midpen lands provide refuge area for endangered coho salmon (*Oncorhynchus kisutch*) and threatened steelhead trout (*Oncorhynchus mykiss irideus*). The waterways also provide important habitat and movement corridors for upland wildlife, and have been identified as part of the Conservation Lands Network's Bay Area Critical Linkages (Penrod et al. 2013), connecting wildlife habitat in the Santa Cruz Mountains east to the Diablo Range and south to the Gabilan Mountains.

Ecological subregions (ecoregions) provide a relevant context for biological resources. Midpen lands are located within the Santa Cruz Mountains and Leeward Hills subsections of the Central California Coast Section (Griffith et al. 2016). Two OSPs are in the Bay Flats ecoregion. Each of these subsection ecoregions are further described below (Griffith et al. 2016).

Santa Cruz Mountains

The Santa Cruz Mountains subsection is located between the Pacific Ocean and San Andreas Fault. The majority of Midpen lands are located within this subsection, with the exception of Sierra Azul OSP, Ravenswood OSP, and Steven's Creek Shoreline Nature Area (Griffith et al. 2016). The climate is temperate to hot in this subsection, but generally very mild, due to prevalent marine effects. Mean annual precipitation is about 20 to 60 inches, practically all of which is precipitated via rain although some snow can occur at higher elevations. Summer fog is common. Water runoff is rapid and streams on the northeast side of the mountains are usually dry during summer, while those on the seaward side are generally perennial. Natural lakes, or sag ponds, occur in the San Andreas fault zone.

The mountains in this subsection are northwest trending with rounded edges, steep sides, and narrow canyons. The crest of this range is near the northeast edge of the range, parallel to the San Andreas Fault on the northeast side of the mountains. Many of the streams present flow in a southwest direction. There are some dissected marine terraces along the coast, and narrow floodplains and terraces have some recent alluvium. The elevation range for this subsection is from sea-level to approximately 2,000 feet, with a high point of 3,231 feet on Castle Rock Ridge.



Leeward Hills

The Leeward Hills subsection is located on the interior, or northeast, side of the Santa Cruz Mountains between the San Andreas fault and the alluvial plain in the Santa Clara Valley at the south end of San Francisco Bay. Of all Midpen lands, only Sierra Azul OSP lies within this subsection. The Leeward Hill subsection is much drier than the seaward side of the mountains. The climate is hot and sub-humid, with moderate marine influence. Mean annual precipitation is about 15 to 30 inches, precipitated primarily as rain, except for some snow on at higher elevations. Runoff is rapid and the streams are generally dry during the summer. There are no natural lakes, but numerous reservoirs.

The mountains in this subsection are northwest trending with rounded edges, steep sides, and narrow canyons. The crest of this range is near the northeast edge of the range, parallel to the San Andreas Fault on the northeast side of the mountains. Most of the streams on the leeward side that drain toward the northeast are relatively short. The San Andreas fault is near the southwest edge of the subsection, but generally lies in the adjacent Santa Cruz Mountains subsection to the west. Elevations range from about 200 feet up to 3,790 feet on Loma Prieta Peak.

Bay Flats

The Bay Flats ecoregion includes the near-water flats around San Pablo Bay in the north and those at the southern end of San Francisco Bay. Elevations are sea level to about 10 feet on Quaternary bay fill of silt and clay. High tides inundate most of the area. Soil temperature regimes are isomesic and soil moisture regimes are aquatic. Common vegetation includes pickleweed and saltgrass. The southern part of the ecoregion is somewhat warmer and drier than the northern part and has less summer fog. The southern part receives 14 to 16 inches of annual precipitation, whereas the northern part receives 20 to 28 inches. Several salt evaporation ponds are found in the southern Bay Flats, where saltwater is impounded within levees in the former tidelands. As the water evaporates, microorganisms of several kinds change the color of the water. Restoration efforts are underway to return some salt ponds to a mix of tidal marsh, mudflat, and other wetland habitats. Ravenswood OSP and Steven's Creek Shoreline Nature Area are within Bay Flats.

Biological Setting of Midpen Lands

Overview

Midpen lands generally flank the crest of the Santa Cruz Mountains from the cities of Half Moon Bay and San Carlos in the north to Loma Prieta Peak in the south and range from nearly sea level to 3,790 feet. From Miramontes Ridge OSP to the southern end of Castle Rock Ridge, near Bear Creek Redwoods OSP, the Santa Cruz Mountains crest runs parallel, and west, of the San Andreas Rift Zone. Only Sierra Azul OSP is included in the southern Santa Cruz Mountains. Many other notable peaks within the Santa Cruz Mountains fall within Midpen lands in addition to Loma Prieta Peak, such as Kings Mountain (2,315 feet), Black Mountain (2,810 feet), Saratoga Summit (580 feet), and Mount Umunhum (3,442 feet). Midpen lands on the west side of the Santa Cruz Mountain crest, especially those at lower elevations, have a stronger coastal influence especially in terms of higher precipitation and fog cover;



including Miramontes Ridge, Purisima Creek Redwoods, Tunitas Creek, El Corte de Madera Creek, and La Honda Creek OSPs. Midpen lands on the east (leeward) side of the crest are less directly influenced by the coast and experience lower precipitation totals and fewer days of fog, except the OSPs located in passes, including Teague Hill, Rancho San Antonio, Picchetti Ranch, and Sierra Azul OSPs.

Water Resources

Midpen lands contain a variety of water resources that include freshwater, estuarine/brackish, and marine habitats. Water features on and immediately downstream of Midpen lands include year-round streams, ephemeral and perennial creeks, lakes, reservoirs, ponds, and wetlands. Salt marshes occur along the edge of San Francisco Bay.

Within Midpen lands, seven major watersheds empty into either the Pacific Ocean (west of Santa Cruz Mountains crest) or San Francisco Bay (east of Santa Cruz Mountains crest). Hydrology in these watersheds is influenced by precipitation, surface water runoff, geologic stratigraphy, topography, soil permeability, and plant cover. Drainages range from ephemeral and intermittent to perennial streams. Additional information on waters and hydrology is provided in Section 3.10, “Hydrology and Water Quality.”

Significant and Influential Underlying Substrates

Overview

Certain geologic substrates found in the area have a significant effect on the plant species associations they support. Within Midpen lands, two primary bedrock types, serpentinite and Butano Sandstone, affect the constituent vegetation associates. These two bedrock types and derived soils support many of the endemic rare plants known to this region. Refer to Section 3.7, “Geology, Soils, and Seismicity” for more information on the bedrock types underlying Midpen lands.

Serpentine

Serpentine and other ultramafic rocks are the parent material for soils high in magnesium, iron, silicates, and nickel and low in calcium. These chemical and mineral properties create a toxic environment that most plant species are unable to tolerate. Evolutionary and distributional responses to these conditions have resulted in plant species that are endemic to serpentine, are locally or regionally confined to serpentine, are indifferent and occur both on and off serpentine, or are plant species that do not occur on serpentine (Kruckeberg 1984). Primary serpentinite bedrock is mostly found on the east side of the San Andreas Rift Zone in this region, with few exceptions. The OSPs that contain serpentine habitat include El Sereno, Long Ridge, Monte Bello, Rancho San Antonio, Saratoga Gap, Sierra Azul, Skyline Ridge, and St. Joseph’s Hill. Of these OSPs, Sierra Azul, Monte Bello, and El Sereno contain the largest amount of serpentine habitat (Brabb et al. 2000; Wentworth et al. 1999).

Butano Sandstone

Butano sandstone is Eocene aged deposits forming sandstone, mudstone, and shale (Brabb et al. 2000). This sandstone is unique to the area due to its physical and chemical composition



and is correlated to a local endemic manzanita species. Within Midpen lands this bedrock mainly occurs within Purisima Creek, El Corte de Madera Creek, and La Honda OSPs.

Natural Communities and Habitats

The Program area consists of approximately 64,000 acres of open space in the Counties of San Mateo, Santa Clara, and Santa Cruz (**Figure 2-1**) located in 26 open space preserves and a number of easements and/or areas of management agreement. However, the Ravenswood OSP and Stevens Creek Nature Study Area, as well as similar areas along the edge of San Francisco Bay and along the immediate Pacific Ocean shoreline (e.g., west of Highway 1) are not included in the Program area at this time. Biological resources unique to those areas are therefore not discussed further in this chapter. Otherwise, this chapter provides a regional and programmatic characterization of the Program area. Project-level analysis of biological resources present in the areas of specific Program activities cannot be conducted at this time because the Program Manual is designed for future covered activities that may occur in the Program area, rather than discrete Program sites.

Vegetation communities and habitats within the Program area are shaped by the ecological forces at work in the region. Precipitation, topography, soil, climate, the frequency of natural disturbance, and human management (including fire suppression) are all factors that affect the type and pattern of vegetation communities present. The topography encompassing the Midpen boundary and Sphere of Influence is extremely varied, with elevations ranging from sea level to 3,476 feet above mean sea level atop Mt. Umunhum in Sierra Azul OSP. Overall, the Program area is characterized by dry, mild summers and moist, cool winters. Local temperatures are strongly influenced by the San Francisco Bay to the east, the Pacific Ocean to the west, and the Santa Cruz Mountains, which results in a variety of microclimates. The west side of the Santa Cruz Mountains experiences a marine climate, characterized by cool, foggy summers and relatively wet winters while the Bay side of the mountains is generally warmer and sunnier.

Vegetation communities within the Program area were mapped using GIS vegetation data provided by Midpen, which is derived from Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) data provided by the U.S. Forest Service (U.S. Department of Agriculture [USDA] U.S. Forest Service [USFS] 2004), and then further refined by vegetation mapping carried out by Midpen staff for individual projects. **Figure 3.4-1** shows the general vegetation mapping, as provided by Midpen. Nomenclature of general vegetation types was provided by Midpen and is based on, but not identical to, that of the CALVEG classification system. In general, this mapping has a minimum mapping unit of 2.5 acres and captures general habitat conditions at a map scale unit larger than what would be appropriate for individual project-level analysis, because habitat features smaller than 2.5 acres are not included. Field surveys would be necessary to accurately delineate habitats at a specific Program activity site. Midpen is currently in the midst of a collaborative project led by the Golden Gate National Parks Conservancy (GGNPC) and including other regional open space partners, to produce a fine-scale (minimum mapping unit of 0.1 to 0.5 acre) vegetation map for San Mateo County. When those spatial data are available, they will be used in the annual assessment of Program activity impacts.

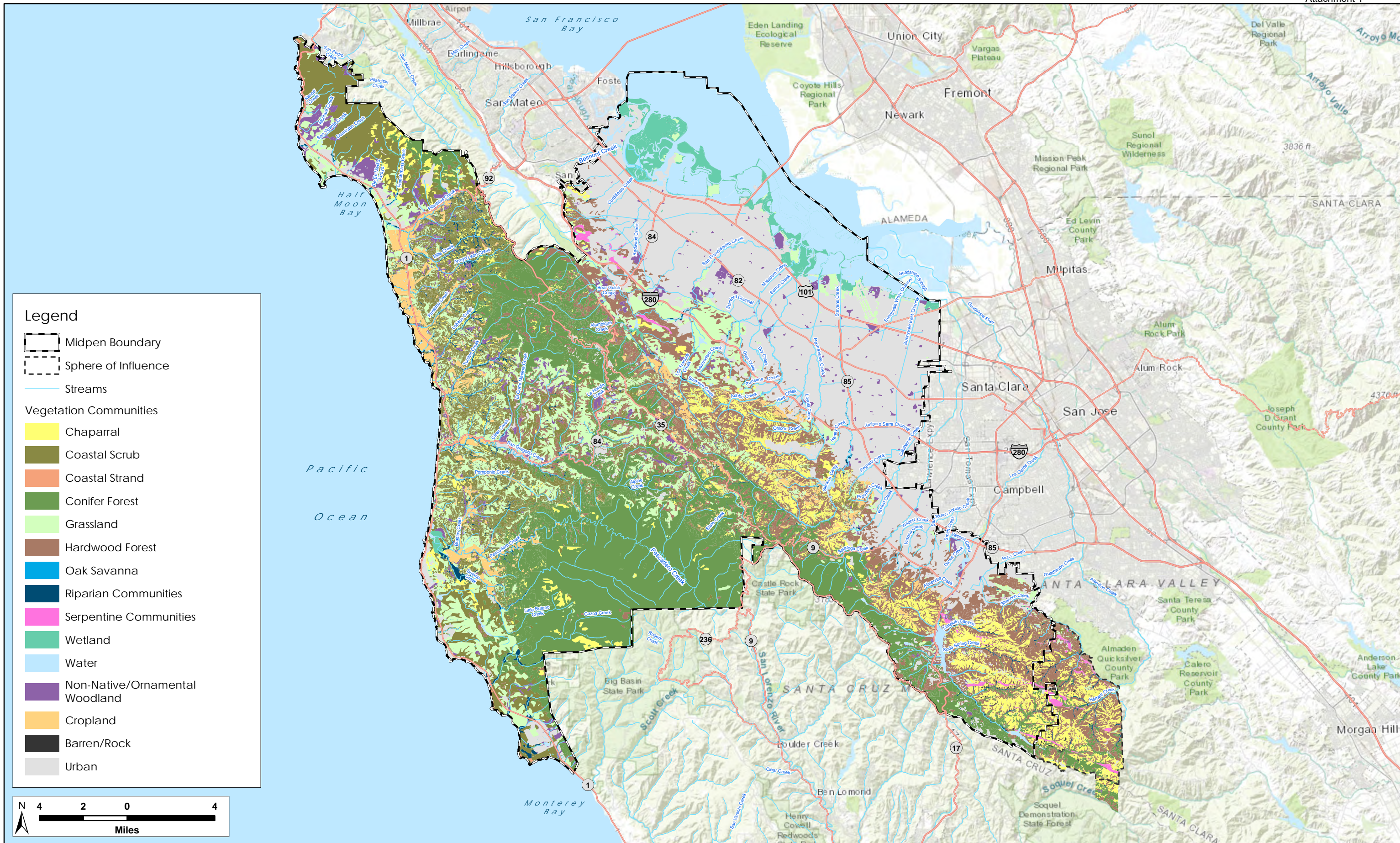


Figure 3.4-1: Vegetation Communities Map
Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
November 2019

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Vegetation data provided by Midpen include 15 general vegetation communities or land use types within the Midpen boundary and Sphere of Influence (see **Figure 3.4-1**): chaparral, coastal scrub, coastal strand, conifer forest, grassland, hardwood forest, oak savanna, riparian communities, serpentine communities (described below as a subset of “grassland”), wetland, water (described below as “aquatic”), non-native/ornamental woodland, cropland, barren, and urban. The general distribution and dominant plant and animal species composition of each habitat/land use type is described below. Descriptions of the plant and animal species typically occurring in each community focus primarily on common (i.e., non-special-status) species. The potential occurrence of special-status species in the Program area is described in detail under the heading *Special-Status Species*. Vegetation descriptions below are based on the following resources: Holland’s system of classification (Holland 1986), the *California Manual of Vegetation* (Sawyer et al. 2009), and the California Wildlife Habitat Relationship System (CWHR) (Meyer and Laudenslayer 1988).

While shown on **Figure 3.4-1** and present within the larger Midpen boundary and Sphere of Influence, coastal strand, cropland, and barren areas occur in minimal quantities within the Program area on which this biological resources evaluation focuses. Therefore, these communities or land use types are not discussed further below.

Chaparral

Chaparral is a shrub-dominated vegetation, with few to no trees, composed primarily of drought tolerant species. The vegetation structure and species composition of chaparral varies throughout the Program area, and therefore different chaparral types are largely a function of elevation, distance from the coast, slope, and aspect. In the Program area, chaparral vegetation has been mapped variously in the preserves as mixed chaparral, mesic chaparral, chamise chaparral, manzanita chaparral, ceanothus chaparral, leather oak chaparral, and black sage chaparral. Annual grasses and forbs, perennials, and/or short-lived shrubs can occur in young stands of chaparral, but are often crowded and shaded out by larger shrubs such as chamise (*Adenostoma fasciculatum*) as the vegetation matures. The short-lived shrubs that occur early on include species of buckwheat (*Eriogonum* spp.), deerweed (*Acmispon glaber*), and various species of ceanothus (*Ceanothus* spp.). In the Program area, chaparral occurs on slopes and ridges with thin soils and may occur on serpentine sites (see discussion of serpentine communities below).

Chaparral communities are typically dry and provide relatively low and homogeneous structure. However, a variety of animal species do occur. Mammals that use chaparral and coastal scrub habitats for cover include the coyote (*Canis latrans*), mountain lion (*Puma concolor*), black-tailed deer (*Odocoileus hemionus columbianus*), bobcat (*Lynx rufus*), and brush rabbit (*Sylvilagus bachmani*), among others. Nests of San Francisco dusky-footed woodrats (*Neotoma fuscipes annectens*) are often present in abundance in chaparral. The Santa Cruz kangaroo rat (*Dipodomys venustus venustus*) occurs in limited areas where silverleaf manzanita chaparral is present on sandy soils of the Franciscan sandstone formation. Such specialized habitat occurs in the Program area only in Sierra Azul OSP, where this kangaroo rat is known to be present, and at Pulgas Ridge OSP, where the species occurred historically but is no longer present. Bats such as the pallid bat (*Antrozous pallidus*) and canyon bat (*Parastrellus hesperus*) forage over these arid scrublands. Bird species that nest



in these habitats include the California scrub-jay (*Aphelocoma californica*), blue-gray gnatcatcher (*Polioptila caerulea*), Bewick's wren (*Thryomanes bewickii*), California thrasher (*Toxostoma redivivum*), California towhee (*Melospiza crissalis*), spotted towhee (*Pipilo maculatus*), California quail (*Callipepla californica*), wrentit (*Chamaea fasciata*), and both Allen's (*Selasphorus sasin*) and Anna's hummingbirds (*Calypte anna*). Reptiles that occur here include the gopher snake (*Pituophis catenifer*), western rattlesnake (*Crotalus viridis*), southern alligator lizard (*Elgaria multicarinata*), and western fence lizard (*Sceloporus occidentalis*). Amphibians may be scarce due to the dry conditions, but during the wet season, amphibians such as California newt (*Taricha torosa*) disperse through chaparral.

Coastal Scrub

Coastal scrub is a shrub-dominated vegetation, typically composed of low growing to moderate sized shrubs that occur closer to the coast in the Program area. Although precipitation is often limited, this community rarely experiences drought stress typical of inland habitats with similar levels of rainfall because of the high humidity and moderate temperatures typical of the coastal environment in which it is found. Coastal scrub differs from chaparral vegetation in that many of the shrubs have softer leaves with flexible branches. Shrub structure within the community can differ, and often depends on the degree of coastal influence. Along the coast, shrubs may be prostrate while further inland they may be several feet tall. The habitat supports a shrub overstory and an herbaceous, grassy understory. Common shrub species in coastal scrub include coyote brush (*Baccharis pilularis*), blue blossom ceanothus (*Ceanothus thyrsiflorus*), California sagebrush (*Artemisia californica*), California blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), and wooly sunflower (*Eriophyllum lanatum*). In the herb understory, bracken fern (*Pteridium aquilinum*) and sword fern (*Polystichum munitum*) are dominant and other associates include cowparsnip (*Heracleum maximum*), Indian paintbrush (*Castilleja* spp.), yerba buena (*Clinopodium douglasii*), and California oatgrass (*Danthonia californica*).

Wildlife species found in coastal scrub communities are very similar those found in chaparral communities and provide habitat for a diverse assemblage of bird species.

Conifer Forest

In the Program area, conifer forest communities are represented by redwood forest, montane hardwood-conifer, and mixed Douglas-fir forests, which are differentiated by the dominance of one or another conifer species. Forested communities in the Program area are structurally similar and support dense stands of mature trees that form overlapping canopies. These conifer forest types are differentiated by the relative dominance of different tree species, which is largely controlled by moisture gradients and soil characteristics. Conifer forests dominate much of the Program area, particularly at higher elevations in, and along the less developed western slope of, the Santa Cruz Mountains.

Redwood forest is a composite habitat name for a variety of conifer species that grow in the coastal influence zone, but which tend to be dominated in the tallest overstory by coast redwood (*Sequoia sempervirens*). The majority of redwood forests are second growth (i.e., they were previously logged). Old growth redwood forest stands occur but are scarce in the Program area. Redwood forests are largely restricted to areas of coastal influence with



relatively stable temperatures and summer coastal fog. Montane hardwood-conifer is a habitat type that contains both hardwoods and conifers in a closed canopy forest setting. Characteristically, this habitat contains a mixture of small stands, either pure conifer stands or small pure broadleaf tree stands. Common trees are redwood, Douglas-fir (*Pseudotsuga menziesii*), tanoak (*Notholithocarpus densiflorus*), Pacific madrone (*Arbutus menziesii*), coast live oak (*Quercus agrifolia*), big leaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), and incense cedar (*Calocedrus decurrens*). Douglas-fir forests are typically more strongly dominated by Douglas-fir and tend to grow more inland and at higher elevations within the Program area.

Wildlife species that occur in conifer forest communities of the Program area are generally similar among the various conifer forest types. In the Program area, conifer forests provide foraging and nesting habitat for many bird species, including the Pacific wren (*Troglodytes pacificus*), chestnut-backed chickadee (*Poecile rufescens*), Pacific-slope flycatcher (*Empidonax difficilis*), Steller's jay (*Cyanocitta stelleri*), acorn woodpecker (*Melanerpes formicivorus*), brown creeper (*Certhia americana*), band-tailed pigeon (*Patagioenas fasciata*), and hermit warbler (*Setophaga occidentalis*). Marbled murrelets (*Brachyramphus marmoratus*) nest in forests of mature, especially old-growth, redwood and Douglas-fir. Winter residents of these forests include Townsend's warbler (*Setophaga townsendi*) and varied thrush (*Ixoreus naevius*). Mammals using conifer forests in the Program area include bobcat, mountain lion, black-tailed deer, and western gray squirrel (*Sciurus griseus*). Hollow trees and logs provide denning sites and nesting sites for many species including the coyote and raccoon (*Procyon lotor*), while cavities in mature trees are used by cavity-dwelling species such as the acorn woodpecker, pileated woodpecker (*Dryocopus pileatus*), northern saw-whet owl (*Aegolius acadicus*), and western screech-owl (*Megascops kennicottii*), as well as bats such as the Yuma myotis (*Myotis yumanensis*) and Townsend's big-eared bat (*Corynorhinus townsendii*). Common amphibians and reptiles found in coniferous forests include the California newt, California slender salamander (*Batrachoseps attenuatus*), western fence lizard, southern alligator lizard and California giant salamander (*Dicamptodon ensatus*).

Grassland

Grassland communities are dominated by grasses and may also contain a diverse set of forbs. These communities provide many important environmental functions for soil stabilization, increasing water infiltrations, and nutrient cycling. In addition, grasslands serve as habitat for many special-status species. In the Program area, both annual and perennial grasslands occur. Annual grasslands are defined as those typically dominated by non-native grasses, whereas perennial grasslands are those in which a significant component of vegetative cover consists of native perennial bunchgrasses. Some of the perennial grassland habitat types in the Program area occur within areas mapped as "serpentine communities" shown on **Figure 3.4-1**.



Annual Grassland

Annual grassland habitat occurs on flat plains and rolling hills, and is an open community composed mainly of annual plant species. Grasses begin to grow during the cool late fall and early winter months and by summer much of the biomass, although standing, is dead. Introduced annual grasses are dominant and include wild oats (*Avena* spp.) and non-native brome species (*Bromus* spp.). The forb community includes many non-native species such as filarees (*Erodium* spp.), mustards (*Brassica* spp. and *Hirschfeldia* spp.), and thistles such as yellow star-thistle (*Centaurea solstitialis*) and Italian thistle (*Carduus pycnocephalus*). Native species can be a significant component of the composition, including native grass species such as bromes (*Bromus* spp.) and needlegrasses (*Stipa* spp.), and native forbs such as yarrow (*Achillea millefolium*), common fiddleneck (*Amsinckia intermedia*), clarkias (*Clarkia* spp.), blue-eyed grass (*Sisyrinchium bellum*), soap plant (*Chlorogalum pomeridianum*), and California poppy (*Eschscholzia californica*). Annual grasslands are found throughout the Program area, primarily in lower and middle elevations.

In the more highly urbanized portions of the Program area, especially east of the Santa Cruz Mountain ridges, wildlife use of grasslands is limited by human disturbance, extent of the habitat in a specific area, abundance of non-native and invasive species, and isolation of grassland habitat remnants from more extensive grasslands. In more rural areas, large expanses of grassy open areas provide higher-quality habitat for these grassland-associated wildlife species.

California ground squirrels (*Spermophilus beecheyi*), where they are present, are an important component of grassland communities, providing a prey base for diurnal raptors and terrestrial predators throughout the Program area. The burrows of California ground squirrels also provide refugia for wildlife species including fence lizards, garter (*Thamnophis* spp.) and gopher snakes, and wintering and migrant burrowing owls (*Athene cunicularia*). Other rodent species present in grassland habitats include the California vole (*Microtus californicus*), Botta's pocket gopher (*Thomomys bottae*), and deer mouse (*Peromyscus maniculatus*). Diurnal raptors such as red-tailed hawks (*Buteo jamaicensis*), northern harriers (*Circus hudsonius*), white-tailed kites (*Elanus leucurus*), and American kestrels (*Falco sparverius*) forage for small mammals over grasslands during the day, and at night nocturnal raptors, such as barn owls (*Tyto alba*) and great horned owls (*Bubo virginianus*), forage for nocturnal rodents such as deer mice. Some bird species, such as western meadowlarks (*Sturnella neglecta*) and grasshopper sparrows (*Ammodramus savannarum*), breed and forage in the Program area solely in grasslands. Mammals such as the coyote, American badger (*Taxidea taxus*), black-tailed jackrabbit (*Lepus californicus*), and striped skunk (*Mephitis mephitis*) utilize grassland habitats in the Program area for foraging. Open grassland habitat with bare ground is important foraging habitat for the pallid bat and Mexican free-tailed bat (*Tadarida brasiliensis*). Amphibians occur in extensive grasslands in low numbers due to the relative lack of cover and the generally dry and hot microclimate; however, more mobile amphibians such as California red-legged frog (*Rana draytonii*) can traverse grasslands during the wet season. Reptiles present include western fence lizard, southern alligator lizard, western skink (*Eumeces skiltonianus*), western terrestrial garter snake (*Thamnophis elegans*), gopher snake, western rattlesnake, California kingsnake, and in some local areas, San Francisco garter snakes (*Thamnophis sirtalis tetrataenia*).



Perennial Grassland

Perennial grasslands are typically dominated by native species including native, perennial bunchgrasses. Perennial grasslands of two main types occur in the Program area: coastal prairie and serpentine bunchgrass grassland. Coastal prairie is unmapped by CALVEG, and would be restricted in the Program area to preserves such as Tunitas Creek OSP, Miramontes Ridge OSP, or Purisima Creek Redwoods OSP that experience coastal influence. Serpentine bunchgrass grassland occurs in areas mapped as “serpentine communities” on **Figure 3.4-1**.

Coastal Prairie

Coastal prairies occur on marine terraces near the Pacific Coast and have a dense herbaceous layer with grasses as a significant portion of the vegetation, including Pacific reedgrass (*Calamagrostis nutkaensis*), California oatgrass, tufted hairgrass (*Deschampsia cespitosa*), and sedges (*Carex* spp.). Wildflowers and native forbs are a component and include goldfields (*Lasthenia* spp.), lupines (*Lupinus* spp.), and clovers (*Trifolium* spp.).

Perennial bunchgrasses can be found in this habitat as well and can include needlegrasses (*Stipa* spp.), California oatgrass, Idaho fescue (*Festuca idahoensis*), one-sided bluegrass (*Poa secunda*), California brome (*Bromus carinatus*), and melic grasses (*Melica* spp.). Relic coastal prairies will often have native perennial bunchgrasses as a significant portion of the vegetation.

The general vegetation structure of coastal prairie habitat is similar to that of non-native grassland habitat, and wildlife species composition in the Program area is similar between perennial and annual grasslands. However, small mammal abundance may be greater in areas dominated by perennial bunchgrasses, if such areas provide greater cover, and raptors may be more abundant in areas dominated by perennial bunchgrasses as a result.

Serpentine Communities

In the Program area, serpentine communities are found in four Midpen preserves in the Program area: Pulgas Ridge OSP, St. Joseph’s Hill OSP, El Sereno OSP, and Sierra Azul OSP. Serpentine habitats in these preserves consist of serpentine bunchgrass grasslands, serpentine wildflower fields, serpentine chaparral, serpentine seeps, and serpentine barrens. Serpentine grasslands are grasslands dominated by perennial bunchgrass such as needlegrasses and melic grasses. Notably, non-native annual grasses are less abundant in serpentine communities than in annual grassland communities. The soils of serpentine communities have extremely high levels of iron and magnesium, making them inhospitable for many species of plants. Serpentine soils can also contain other metals such as chromium, cobalt or nickel that can cause plant toxicity. In addition, the nitrogen and water-holding capacity of the soils may also be low, making the soils less fertile. However, a unique group of vascular plant species, which can tolerate the relatively low calcium to magnesium ratio, has evolved in response to these conditions. As a result, serpentine grasslands generally support native plant communities, including a number of special-status plants (discussed in *Special-Status Plant Species* below). Serpentine wildflower fields occur where the vegetation is dominated by native forb cover consisting of species indicative of serpentine substrates. These communities occur in a matrix with serpentine grassland and serpentine barrens (e.g.,



serpentine rock outcrops or thin soils where vegetation is sparse and limited to small pockets of herbaceous vegetation). Serpentine chaparral consists of fire-adapted shrub vegetation found on serpentine soils. Serpentine chaparral is generally more open than other chaparral types and shrubs tend to be shorter. A common dominant shrub species on serpentine chaparral in the Program area is leather oak (*Quercus durata*). As with serpentine grassland, serpentine chaparral supports special-status plants that are specially adapted and restricted to the unique soil conditions.

Several invertebrate species, including the federally threatened Bay checkerspot butterfly (*Euphydryas editha bayensis*), which was extirpated from the Program area but recently reintroduced to Edgewood County Park and San Bruno Mountain State and County Park, depend on serpentine grasslands because their host-food plants are found primarily in this habitat. Although serpentine grassland habitats in the Program area provide unique habitat structure that may be attractive to certain grassland bird species, the relatively small size and of these habitat patches and their relative isolation from the few other patches of serpentine habitat limit their attractiveness to grassland bird species. Within the Program area, serpentine grassland in general provides habitat for generalist species that do not require large tracts of intact grassland, such as red-tailed hawks, American kestrels, savannah sparrows (*Passerculus sandwichensis*), grasshopper sparrows, and western meadowlarks.

Rock Outcrops

Rock outcrops are present in a variety of plant communities, including grasslands. These outcrops often support few plants due to the paucity of soil, but they provide unique habitat for some wildlife species. On large outcrops, white-throated swifts (*Aeronautes saxatilis*), common ravens (*Corvus corax*), barn owls, and other birds nest and roost in cavities or on ledges, and cliff swallows (*Petrochelidon pyrrhonota*) may attach mud nests under rock overhangs. Near-ground rock outcrops are used by western rattlesnake and other reptiles for thermoregulation. Outcrops may also provide roosting habitat for Pallid bat, big brown bat (*Eptesicus fuscus*), small-footed myotis (*Myotis ciliolabrum*), Yuma myotis, California myotis (*Myotis californicus*), little brown myotis (*Myotis lucifugus*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), and canyon bat.

Hardwood Forest

In the Program area, hardwood forest communities are represented by closed-canopy forests dominated by hardwoods such as coast live oak or California bay. They generally occur in the transition zone between forests and woodland or scrub communities, and in the Program area occur in greatest abundance at somewhat lower elevations than much of the conifer forest. In the majority of the Program area, coast live oak tends to be the dominant canopy species in this forest type. Other co-occurring trees in the canopy include Pacific madrone, tanoak, and canyon live oak (*Quercus chrysolepis*). At drier sites, the co-occurring trees include valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), and gray pine (*Pinus sabiniana*). Depending on site moisture characteristics, the canopy tends to be closed on moister sites and open and widely spaced on drier sites. As with the overstory, the understory composition varies, including shade tolerant shrubs, ferns, and herbs. In the more open settings, grassland species typically occur. Where the hardwood forest intergrades with



chaparral and coastal scrub, the understory may contain California sagebrush, sticky monkeyflower (*Diplacus aurantiacus*), or coyote brush.

Hardwood forests and woodlands produce mast crops that are an important food source for many birds and mammals, including wild turkey (*Meleagris gallopavo*), oak titmouse (*Baeolophus inornatus*), Bewick's wren, Hutton's vireo (*Vireo huttoni*), California scrub-jay, Steller's jay, acorn woodpecker, California quail, black-tailed deer, and San Francisco dusky-footed woodrat. Dusky-footed woodrats can be quite abundant in this habitat type, and the deer mouse and California mouse (*Peromyscus californicus*) also commonly occur. As with coniferous forests, hollow trees and logs, as well as cavities in older mature trees, provide important denning sites for coyotes, raccoons, striped skunks, and bobcats. Cavities in mature trees are also used by cavity-dwelling species such as the oak titmouse, acorn woodpecker, hairy woodpecker (*Dryobates villosus*), and chestnut-backed chickadee, as well as bats such as the Yuma myotis, California myotis, hoary bat (*Lasiurus cinereus*), big brown bat, long-eared myotis (*Myotis evotis*), and occasionally pallid bat. Common amphibians and reptiles found in hardwood forests and woodlands include the California slender salamander, western fence lizard, gopher snake, southern alligator lizard, and California kingsnake.

Oak Savanna

Oak savanna vegetation is mapped where the tree canopy is open and generally has an open grassland understory. Oak savanna habitats generally occur in the transition zone between forests and scrub or grassland communities, and oak savanna is much less extensive in the Program area than those adjacent communities. Oak savanna types include coast live oak woodland, California buckeye (*Aesculus californica*) woodland, gray pine woodland, and valley oak woodland. The herbaceous understory is typically composed of the one of the grassland types described above in *Hardwood Forest*.

Wildlife using oak savanna includes many species that occur in hardwood forests, such as wild turkey, California scrub-jay, Steller's jay, as well as species that are associated primarily with open habitats, such as red-tailed hawk, American kestrel, lazuli bunting (*Passerina amoena*), western bluebird (*Sialia mexicana*), mourning dove (*Zenaida macroura*), and California towhee.

Riparian Communities

Riparian communities occur at the interfaces between terrestrial and aquatic communities, particularly along streams. In California, riparian habitats generally support exceptionally rich animal communities even though they occupy a limited amount of the land cover. The importance of riparian areas in the Program area far exceeds their minor proportion of the total acreage because of their prominent location within the landscape and the intricate linkages between terrestrial and aquatic communities (Gregory et al. 1991). The presence of at least seasonal (and often year-round) water and abundant invertebrates provide foraging opportunities for many species, and the diverse habitat structure provides cover and nesting opportunities. In the Program area, riparian communities are classified by habitat subcategories as riparian woodland or riparian shrubland, depending on whether a tree canopy is present or not.



Riparian woodland habitats are forest and woodland communities dominated by trees such as red willow (*Salix laevigata*), Fremont's cottonwood (*Populus fremontii*), western sycamore (*Platanus racemosa*), and valley oak in the tallest canopy layer. A lower subcanopy can occur that includes tree species such as white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and black walnut (*Juglans hindsii*). Below the tree canopy is a shrub layer that can include native shrubs such as wild rose (*Rosa californica*), California blackberry, poison oak, and coyote brush. Understory herbs include grasses, miner's lettuce (*Claytonia perfoliata*), Douglas' sagewort (*Artemisia douglasiana*), poison hemlock (*Conium maculatum*), hoary nettle (*Urtica dioica*), rushes (*Juncus* spp.), and sedges (*Carex* spp. and *Cyperus* spp.). This habitat occurs along stream courses and rivers throughout the Program area.

Riparian shrubland habitats are those dominated by shrubs such as sandbar willow (*Salix exigua*), arroyo willow (*Salix lasiolepis*), dogwood (*Cornus sericea*), coast twinberry (*Lonicera involucrata*), and California wax myrtle (*Morella californica*), and in some areas currant (*Ribes* spp.). This habitat type often represents pioneer vegetation, which will colonize recently established sand or gravel bars within floodplains. Tall shrub vegetation may establish on gravel banks and terraces adjacent to the more active channels that are either open water or streambeds devoid of vegetation. If not cleared by either human or natural disturbance, this vegetation would, in many settings, develop into a tree-dominated riparian vegetation such as that described above. In some areas, particularly on channel banks and higher floodplain terraces, this vegetation consists of stands of coyote brush.

The maturity and structural diversity of the riparian habitats in the Program area support a high diversity and density of vertebrate species, particularly birds. The wider, more mature riparian corridors provide suitable foraging and breeding habitat for several functional groups of birds including insectivores (e.g., warblers, flycatchers), seed-eaters (e.g., finches), raptors, and cavity-nesters (e.g., swallows and woodpeckers) in addition to a variety of common amphibians, reptiles, and mammals. Among the numerous species of birds that use the riparian habitats for breeding are the Pacific-slope flycatcher, black-headed grosbeak (*Pheucticus melanocephalus*), warbling vireo (*Vireo gilvus*), and Wilson's warbler (*Cardellina pusilla*). The yellow warbler (*Setophaga petechia*) may breed in small numbers at a few locations, but is a much more abundant spring and fall migrant. Raptors such as red-shouldered hawk (*Buteo lineatus*) and Cooper's hawk (*Accipiter cooperii*) nest within riparian corridors and forage in adjacent habitats. Riparian habitats are also used heavily by migrants, including many passerine species, such as western tanagers (*Piranga ludoviciana*) and western wood-pewees (*Contopus sordidulus*) as well as wintering birds. Silver-haired bat (*Lasiorycteris noctivagans*), western red bat (*Lasiurus blossevillii*), and hoary bat are all foliage-roosting species that may roost in riparian trees.

A number of species of reptiles and amphibians occur in riparian corridors within the County. Leaf litter, downed tree branches, and fallen logs provide cover for the arboreal salamander (*Aneides lugubris*), California newt, and Sierran chorus frog (*Pseudacris sierra*) among others. Several lizards may also occur here, including the western fence lizard, western skink, and southern alligator lizard. Mammals such as the ornate shrew (*Sorex ornatus*), California vole, Audubon's cottontail (*Sylvilagus audubonii*), San Francisco dusky-footed woodrat, and raccoon also use riparian habitats.



Aquatic and Wetland Communities

Aquatic and wetland communities are those which are periodically to perennially saturated or inundated. These communities provide many important environmental functions, such as recycling nutrients, purifying water, attenuating floods, and recharging groundwater. In addition, they serve as habitat for many aquatic species. Aquatic and wetland communities present in the Program area include lacustrine habitats (shown as “water” on **Figure 3.4-1**), wetlands, and streams.

Lacustrine habitats contain standing water in areas that are flooded year-round or for the majority of the year. These habitats form from depressions where small ponds may form (man-made in the case of stock ponds), or from dammed stream and river channels. Ponds, lakes, and reservoirs are all examples of lacustrine habitats.

Wetlands are communities vegetated with herbaceous plants and occurring in soils that are inundated or saturated either temporarily or permanently. Freshwater emergent wetlands in the Program area consist of emergent, herbaceous vegetation occurring in portions of drainages where the water source is perennial and slow-moving throughout most of the year, or in depressions where the groundwater table may be high. Freshwater emergent wetlands in the Program area typically occur as dense growth of perennial, obligate wetland species such as cattail (*Typha* spp.), bulrush (*Schoenoplectus* spp.), sedges, water smartweeds (*Persicaria* spp.), and watercress (*Nasturtium officinale*). The exact composition of any wetland is variable and dependent on the hydrology of the landscape. Seasonal wetlands are dominated by hydrophytes (i.e., wetland-adapted plants) that will persist in channels or depressions that are only seasonally moist. These include ruderal, non-native species such as bristly ox tongue (*Helminthotheca echioides*), curly dock (*Rumex crispus*), Italian thistle (*Carduus pycnocephalus*), sheep sorrel (*Rumex acetosella*), rabbit’s foot grass (*Polypogon monspeliensis*), Italian ryegrass (*Festuca perennis*), and cocklebur (*Xanthium strumarium*) and natives such as umbrella sedge (*Cyperus eragrostis*) and California mugwort (*Artemisia douglasiana*).

Streams are shown on **Figure 3.4-1** as blue-line features and include perennial and intermittent drainages throughout the Program area. Streams within the Program area often have some riparian, described as a separate vegetation community above, natural communities associated with them. These aquatic features also commonly support wetland vegetation, and lacustrine features may also be associated with streams, particularly when channels are impounded. Vegetation in stream habitats is more likely associated with the adjacent wetlands and riparian communities than the streams themselves. Aquatic vegetation such as algae may grow on stream beds, and in slower moving waters duckweed (*Lemna* spp.) and other floating and submerged aquatic species may be present.

Aquatic and wetland habitats provide important habitat for a variety of wildlife species. Reservoirs and lakes, such as Lexington Reservoir, Howell Reservoir, and Lake Elsmar, as well as other smaller lakes and bodies of water located throughout the Program area, provide habitat for waterbirds such as the double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), Canada goose (*Branta canadensis*), and mallard (*Anas platyrhynchos*). Wintering ducks, such as bufflehead (*Bucephala clangula*) and



ring-necked duck (*Aythya collaris*), also use reservoirs, lakes, and small ponds throughout the Program area. Small numbers of some species of shorebirds, such as the spotted sandpiper (*Actitis macularius*), forage and roost at the edges of small ponds and lakes during migration and winter. Bald eagles (*Haliaeetus leucocephalus*), ospreys (*Pandion haliaetus*) and terns (*Sterna* spp.) forage at larger reservoirs and lakes, such as at Lexington reservoir.

Aquatic and wetland habitats provide important foraging habitat for bats. Yuma myotis forage over open water habitat, almost exclusively. Silver-haired bats also forage over open water, while little brown myotis and western red bat often forage over woodland streams.

Amphibian species that breed in ponds and lakes throughout the Program area include the native Sierran chorus frog and western toad (*Anaxyrus boreas*) and the non-native American bullfrog (*Lithobates catesbeianus*). The California red-legged frog is a widespread breeder in ponds, streams with suitable egg mass attachment sites, and wetlands that support deeper water. Western pond turtles (*Actinemys [=Emys] marmorata*) are also present in some ponds and lakes.

Despite the limited amount of freshwater marsh habitat available in the Program area, small numbers of sora (*Porzana carolina*) and Virginia rail (*Rallus limicola*) forage in freshwater marshes in the Program area during migration and in winter. American coots (*Fulica americana*), common gallinules (*Gallinula chloropus*), pied-billed grebes (*Podilymbus podiceps*), and several species of ducks breed in freshwater wetlands, channels, and ponds in and around emergent vegetation. Passerine species that breed in freshwater marshes include the marsh wren (*Cistothorus palustris*), song sparrow (*Melospiza melodia*), common yellowthroat (*Geothlypis trichas*), and red-winged blackbird (*Agelaius phoeniceus*).

Fish species present in aquatic habitats in the region are discussed below in *Fish Resources*.

Non-Native/Ornamental Woodland

The ornamental woodland cover type in the Program area consists of vegetation that is dominated by one or more species of non-native, often planted, trees. The most common expression of this habitat type in the Program area is that of eucalyptus (*Eucalyptus globulus*) groves, some of which are remnant plantations, and some of which have established on their own. Other common tree species constituting ornamental woodland in the Program area include blackwood acacia (*Acacia melanoxylon*), cultivated Douglas-fir, non-native Monterey pine (*Pinus radiata*), and Monterey cypress (*Hesperocyparis macrocarpa*).

These trees may provide nesting habitat for birds, but generally the habitat value of homogenous stands of trees is lower than native forest communities described above due to the lower diversity of structural and food resources of monotypic stands and the paucity of understory vegetation and ground cover below dense canopies of species such as eucalyptus and cypress. However, certain eucalyptus species can provide foraging and nesting habitat for breeding, wintering, and migrant birds. Bird species that often frequent eucalyptus trees include the Anna's hummingbird, yellow-rumped warbler (*Setophaga coronata*), and migrant yellow warbler. Red-shouldered hawks, red-tailed hawks, and white-tailed kites often nest in mature eucalyptus trees.



Eucalyptus trees also provide roosting habitat for several bat species. The exfoliating bark provides roosting habitat for Yuma myotis and California myotis, while the foliage provides roosting habitat for silver-haired bat, western red bat, and hoary bat.

Urban

The urban land cover type as depicted in **Figure 3.4-1** can be described as a “developed” habitat. Within the Program area, urban land uses consist primarily of urban and suburban areas; within preserves, urban land uses would include paved roads, parking areas, office and maintenance buildings, and maintenance yards and gravel lots associated with those areas, as well as landscaped areas around historical sites and buildings, cultural landscapes (e.g., Alma Cultural Landscape), and visitors’ centers. Vegetation within urban land uses is dominated by turf grass, ornamental, non-native plants associated with landscaping and irrigation, or ruderal non-native species such as Italian thistle, yellow star thistle (*Centaurea solstitialis*), and upright veldt grass (*Ehrharta erecta*).

Urban habitats typically support a suite of relatively common wildlife species that are tolerant of periodic human disturbance. Some of the most abundant species in developed habitats, such as the Brewer’s blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), Eurasian collared-dove (*Streptopelia decaocto*), European starling (*Sturnus vulgaris*), rock pigeon (*Columba livia*), Virginia opossum (*Didelphis virginiana*), house mouse (*Mus musculus*), eastern gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), Norway rat (*Rattus norvegicus*), and black rat (*Rattus rattus*), are non-native species that are well adapted to the cover, nesting/denning, and foraging conditions provided by developed areas. In addition, a number of native species have adapted to these conditions. Native bird species commonly found in urban habitats in the Program area include the black phoebe (*Sayornis nigricans*), house finch (*Carpodacus mexicanus*), northern mockingbird (*Mimus polyglottos*), Anna’s hummingbird, and California towhee. Native mammals such as the deer mouse, raccoon, and striped skunk utilize these developed areas heavily as well.

Many bridges and other structures, such as old barns, sheds, and other buildings in the Program area, including those on Midpen preserves, provide important nesting and roosting sites for some species of birds and bats. Bats such as the Yuma myotis, California myotis, Mexican free-tailed bat, Townsend’s big-eared bat, pallid bat, and big brown bat may roost in bridges, structures, unoccupied buildings, and/or large trees throughout the Program area, including other structures on Midpen preserves. Caves and abandoned mines, although not common on Midpen properties, also provide roosting habitat for Townsend’s big-eared bat, pallid bat, small-footed myotis, little brown myotis, fringed myotis, long-legged myotis, and Mexican free-tailed bat. Birds such as the black phoebe, cliff swallow, barn swallow (*Hirundo rustica*), northern rough-winged swallow (*Stelgidopteryx serripennis*), and white-throated swift also use bridges and other structures in the Program area for nesting.



Fish Resources

Aquatic features in the Program area, including streams, sloughs, ponds, and lakes, provide habitat for both native and non-native fish species. Rivers, creeks, and streams within the Program area located on the west side of the crest of the Santa Cruz Mountains flow downstream to the Pacific Ocean, while those located on the east side of the crest of the Santa Cruz Mountains flow downstream to the San Francisco Bay. Perennial streams in the Program area support fish resources year-round, especially where wetland and riparian vegetation are present to provide cover, shade, and foraging opportunities. Intermittent drainages can provide habitat for fish species during wet periods, if fish are able to access these drainages from perennially wet areas, but typically dry out in the summer.

Native fish that inhabit waterbodies in the Program area include the Pacific lamprey (*Entosphenus tridentata*), threespine stickleback (*Gasterosteus aculeatus*), prickly sculpin (*Cottus asper*), staghorn sculpin (*Leptocottus armatus*), and coastrange sculpin (*Cottus aleuticus*) (Leidy 2007). Rainbow trout (*Oncorhynchus mykiss*) in the Program area include both resident individuals present in Program area streams throughout their lifetimes (including trout in stream reaches that are separated from marine and estuarine habitats by barriers such as dams) and anadromous Central California Coast steelhead that spawn in freshwater streams and forage as adults in marine habitats before returning to their natal streams to breed (Leidy et al. 2005). Central California Coast Coho salmon (*Oncorhynchus kisutch*) is another anadromous fish that spawns in limited coastal streams in the Program area. In addition, a number of non-native fishes have been introduced to the Program area, including the yellowfin goby (*Acanthogobius flavimanus*), common carp (*Cyprinus carpio*), white crappie (*Pomoxis annularis*), brown bullhead (*Ameiurus nebulosus*), mosquitofish (*Gambusia affinis*), largemouth bass (*Micropterus salmoides*), and bluegill (*Lepomis macrochirus*) (University of California, Davis 2019, Leidy 2007).

Common Wildlife

Common wildlife species are defined as those that have no special status of any kind. Numerous common wildlife species are expected to occur on Midpen lands (Natural Resources Database 2020). **Table 3.4-1** includes a list of some of the more prevalent and well-known common vertebrate species but is by no means a comprehensive accounting of all wildlife that may be present on Midpen lands.

Table 3.4-1 Representative Common Species That May Occur on Midpen Lands

Common Name	Scientific Name
<i>Birds</i>	
Acorn woodpecker	<i>Melanerpes formicivorus</i>
American coot	<i>Fulica americana</i>
American crow	<i>Corvus brachyrhynchos</i>
Anna’s hummingbird	<i>Calypte anna</i>
Barn owl	<i>Tyto alba</i>



Common Name	Scientific Name
Barn swallow	<i>Hirundo rustica</i>
Bushtit	<i>Psaltriparus minimus</i>
California quail	<i>Callipepla californica</i>
California scrub-jay	<i>Aphelocoma californica</i>
Chestnut-backed chickadee	<i>Poecile rufescens</i>
Common merganser	<i>Mergus merganser</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Great horned owl	<i>Bubo virginianus</i>
Mallard	<i>Anas platyrhynchos</i>
Northern flicker	<i>Colaptes auratus</i>
Pacific slope flycatcher	<i>Empidonax difficilis</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Steller's jay	<i>Cyanocitta stelleri</i>
Turkey vulture	<i>Cathartes aura</i>
Mammals	
Black-tailed jackrabbit	<i>Lepus californicus</i>
Bobcat	<i>Lynx rufus</i>
Botta's pocket golpher	<i>Thomomys bottae</i>
Brush rabbit	<i>Sylvilagus bachmani</i>
California ground squirrel	<i>Otospermophilus beecheyi</i>
California myotis	<i>Myotis californicus</i>
California pocket mouse	<i>Peromyscus californicus</i>
California vole	<i>Microtus californicus</i>
Coyote	<i>Canis latrans</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Gray fox	<i>Urocyon cinereoargenteus</i>
House mouse	<i>Mus musculus</i>
Mexican free-tailed bat	<i>Tadarida brasiliensis</i>
Mountain lion	<i>Puma concolor</i>
Mule deer	<i>Odocoileus hemionus</i>
Raccoon	<i>Procyon lotor</i>



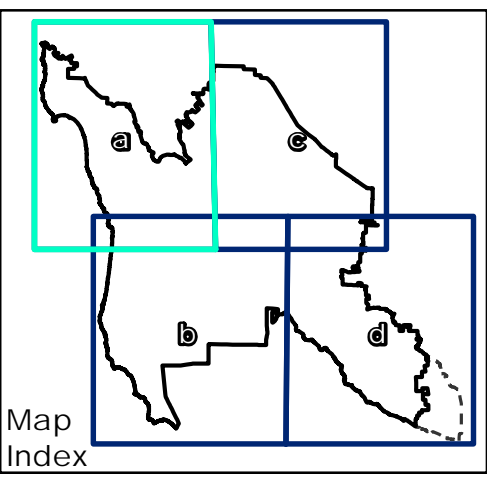
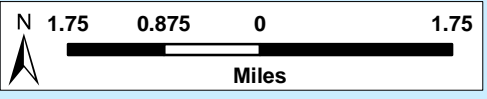
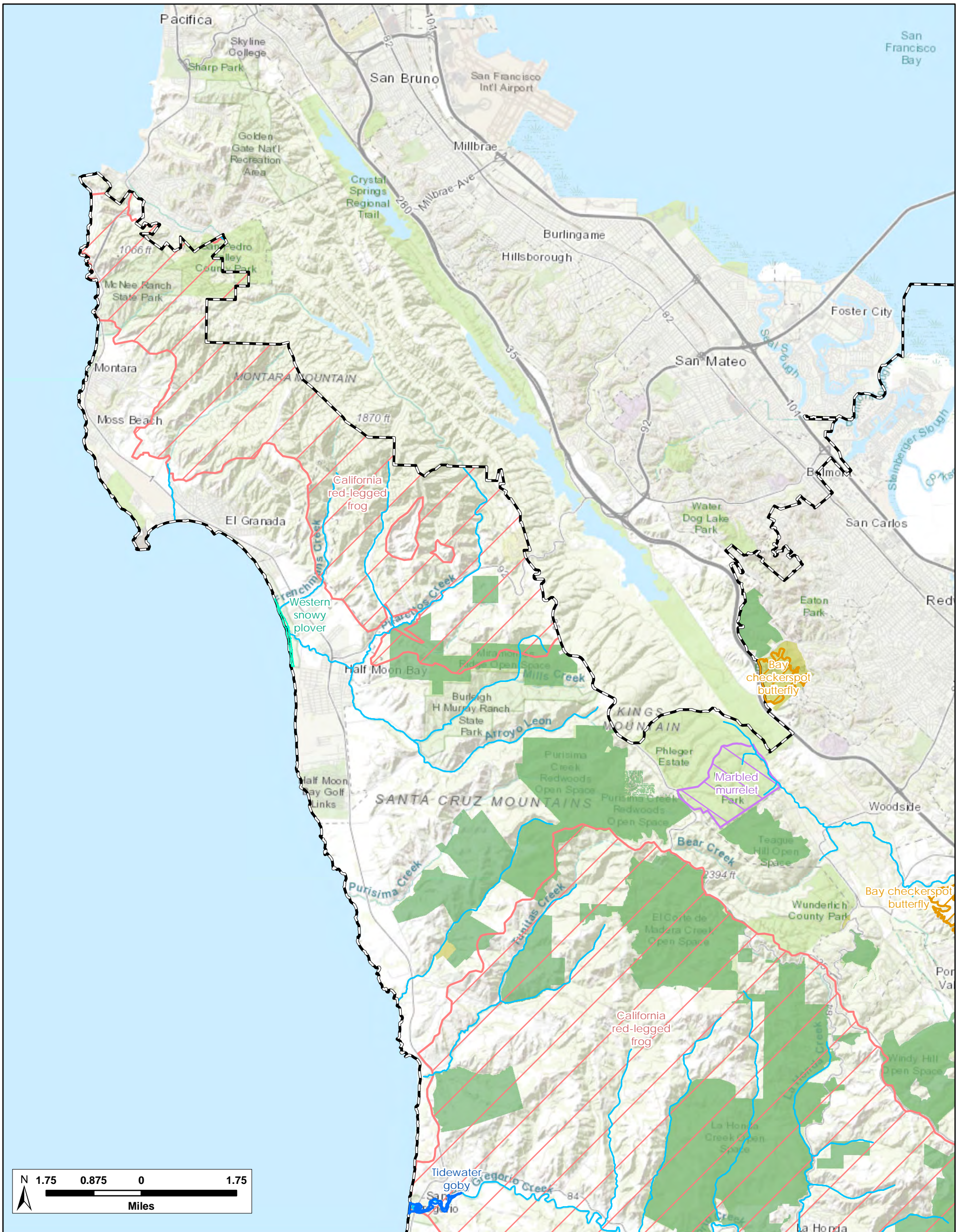
Common Name	Scientific Name
Striped skunk	<i>Mephitis</i>
Virginia opossum	<i>Didelphis virginiana</i>
Western gray squirrel	<i>Sciurus griseus</i>
Reptiles	
California alligator lizard	<i>Elgaria multicarinata</i>
California kingsnake	<i>Lampropeltis getula californiae</i>
Coast gartersnake	<i>Thamnophis elegans terrestris</i>
Coast range fence lizard	<i>Sceloporus occidentalis bocourtii</i>
Northern pacific rattlesnake	<i>Crotalus oreganus</i>
Pacific gopher snake	<i>Pituophis catenifer</i>
Red-eared slider*	<i>Trachemys scripta elegans</i>
Skilton's skink	<i>Plestiodon skiltonianus</i>
Amphibians	
American bullfrog*	<i>Lithobates catesbeianus</i>
Arboreal salamander	<i>Aneides lugubris</i>
California newt	<i>Taricha torosa</i>
California slender salamander	<i>Batrachoseps attenuatus</i>
California toad	<i>Anaxyrus boreas halophilus</i>
Sierran tree frog	<i>Pseudacris sierra</i>
Yellow-eyed ensatina	<i>Ensatina escscholzii xanthoptica</i>

Notes: *Denotes non-native species

Critical Habitat

Figure 3.4-2 shows the critical habitat areas in and around Midpen lands. Much of the northern portion of Midpen lands fall within California red-legged frog Critical Habitat Units SNM-1 and SNM-2 (USFWS 2010), including all or nearly all of El Corte Madera Creek, La Honda Creek, Russian Ridge, Skyline Ridge, and Tunitas Creek OSPs, and portions of Miramontes Ridge, Purisima Creek Redwoods, Windy Hill, Coal Creek, Monte Bello, and Long Ridge OSPs.

A very small portion of Midpen lands fall within designated critical habitat for marbled murrelet (USFWS 2011). A sliver of land within Purisima Creek Redwoods OSP immediately west of Skyline Boulevard falls within Unit CA-13. This area is roughly 1,100 feet long and at most 250 feet wide, and totals approximately 3.3 acres. Critical Habitat Unit CA-14a is located immediately adjacent to Midpen lands, bordering Long Ridge OSP and Skyline Ridge OSP.

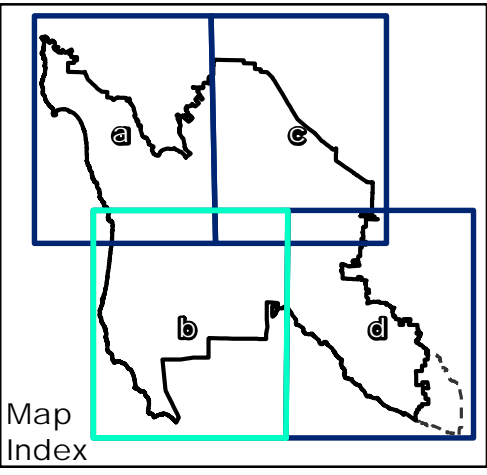
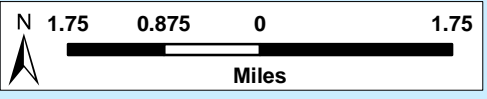
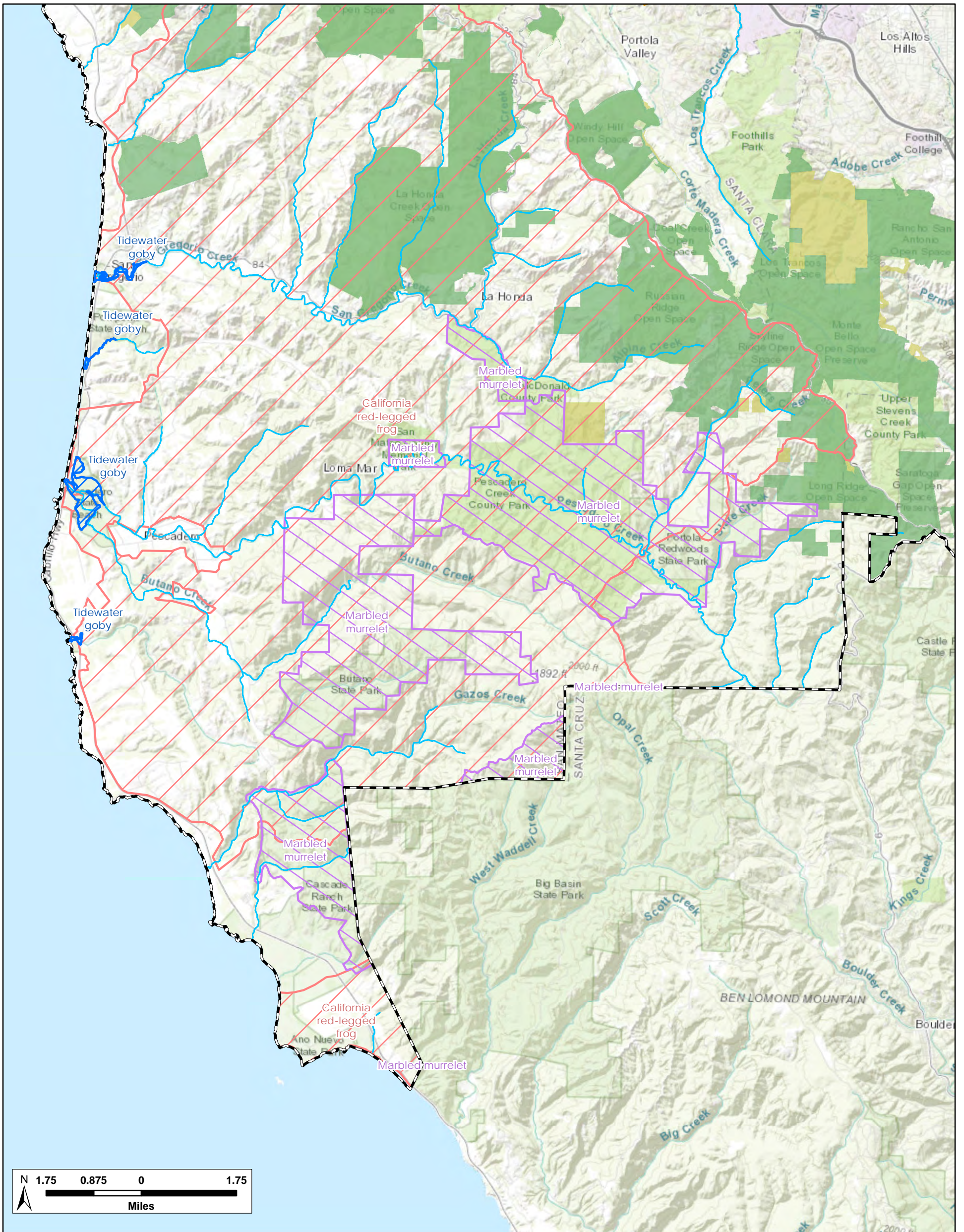


- Legend**
- Midpen Boundary
 - Sphere of Influence
 - Preserves Within Program Area
 - Easement or Management Agreement Within Program Area
 - Bay checkerspot butterfly
 - California red-legged frog
 - Marbled murrelet
 - Tidewater goby
 - Western snowy plover
 - Steelhead

**Spatial data not available for the Central California Coast ESU of coho salmon but designated Critical Habitat encompasses accessible reaches of all rivers between Punta Gorda and the San Lorenzo River (NMFS 1999).*



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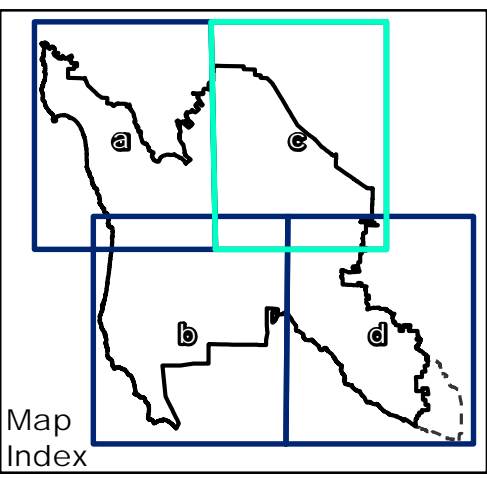
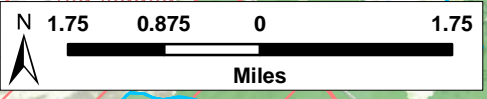
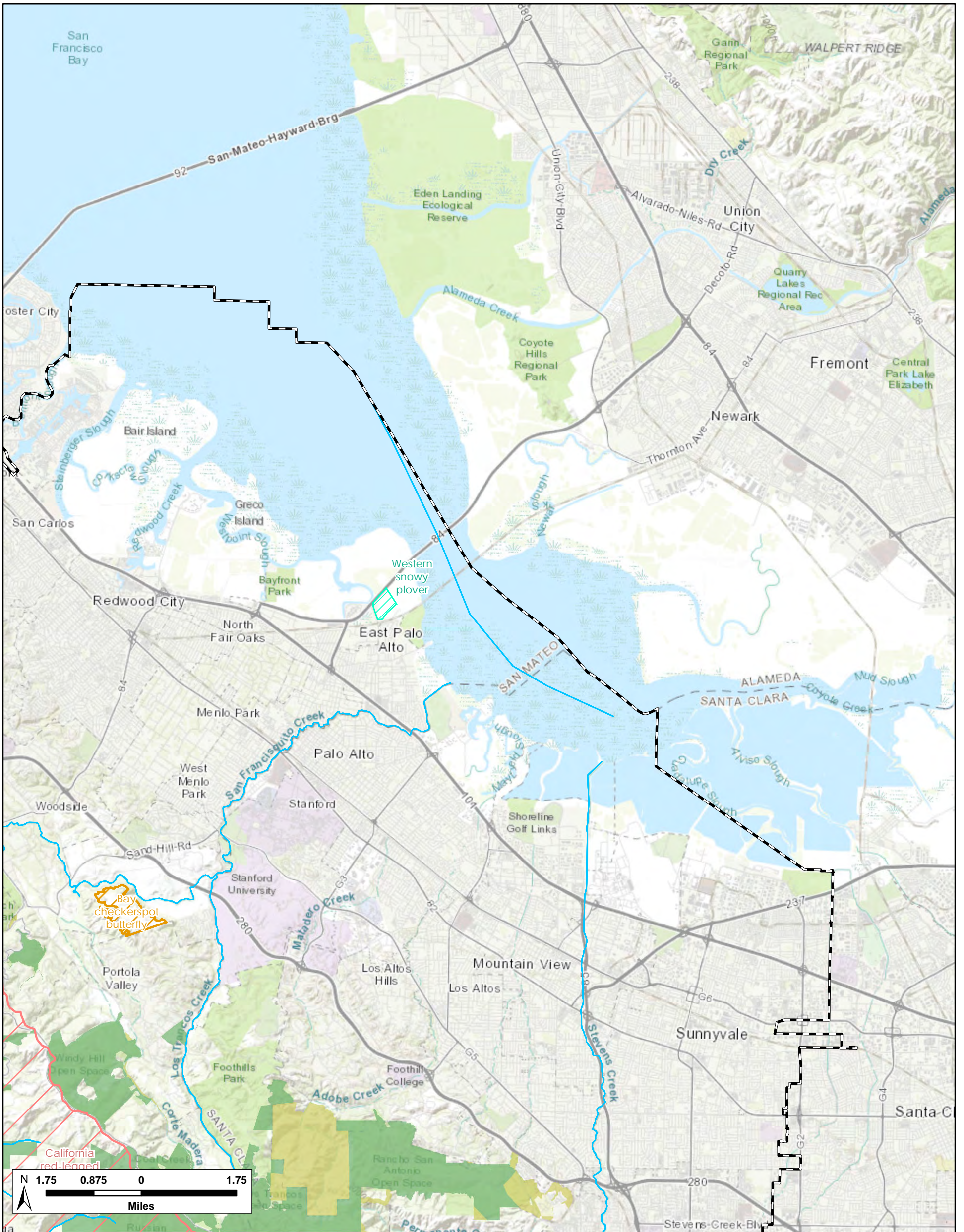


- Legend**
- Midpen Boundary
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 - Easement or Management Agreement Within Program Area
 - USFWS Critical Habitat* California red-legged frog
 - Marbled murrelet
 - Tidewater goby
 - Steelhead

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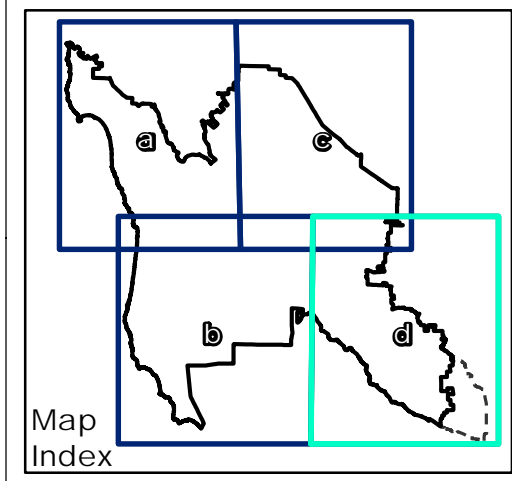
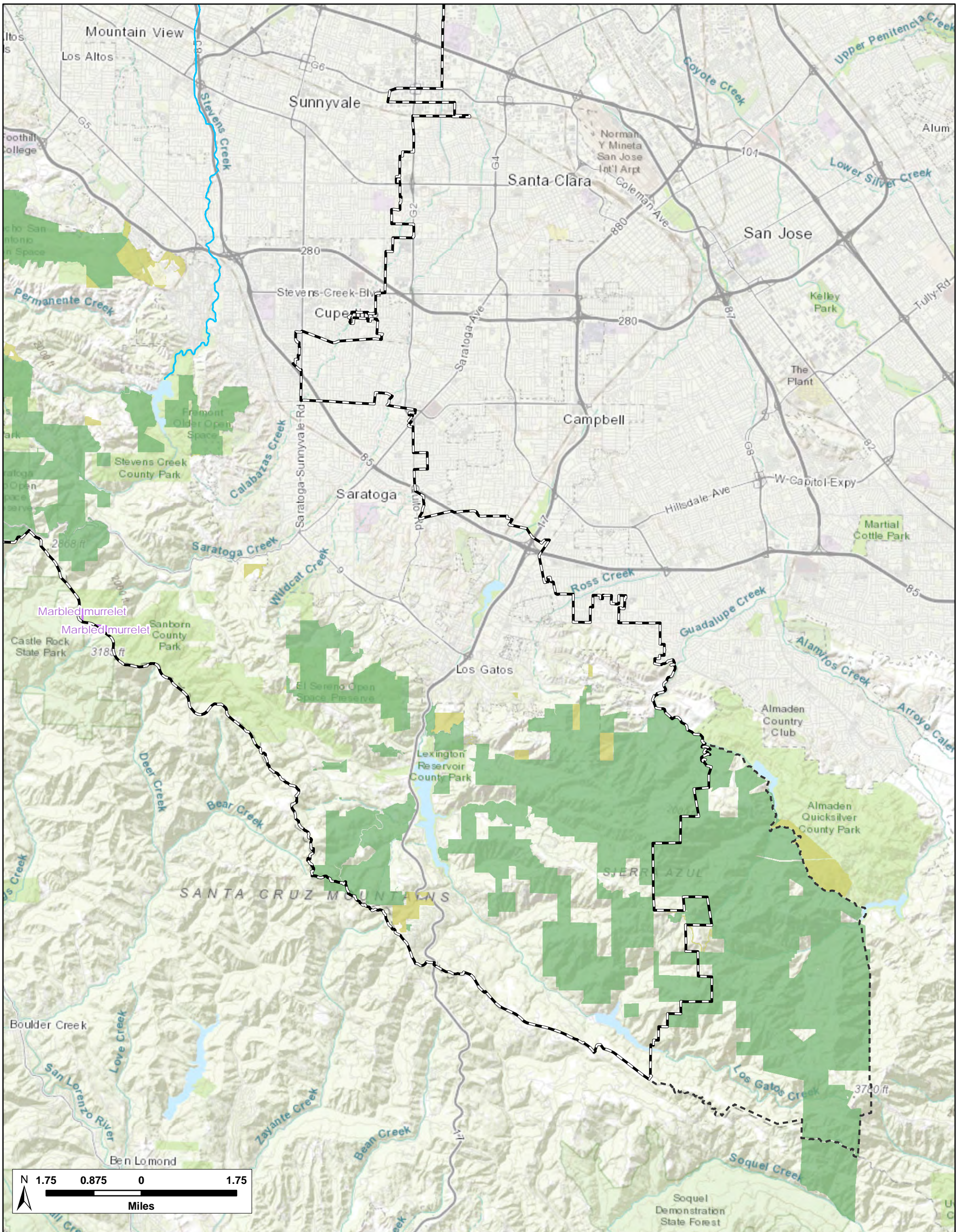


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 - Easement or Management Agreement Within Program Area
 - USFWS Critical Habitat* Bay checkerspot butterfly
 - California red-legged frog
 - Western snowy plover
 - Steelhead

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- Midpen Boundary
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 - Easement or Management Agreement Within Program Area
 - USFWS Critical Habitat* Marbled murrelet
 - Steelhead

*Spatial data not available for the Central California Coast ESU of coho salmon but Designated Critical Habitat encompasses accessible reaches of all rivers between Punta Gorda and the San Lorenzo River (NMFS 1999).



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Streams that have been designated as critical habitat for California central coast Evolutionary Significant Unit (ESU) of steelhead (National Marine Fisheries Service [NMFS] 2005) are present in Miramontes Ridge, Purisima Creek Redwoods, Tunitas Creek, La Honda Creek, Russian Ridge, Los Trancos, Skyline Ridge, Long Ridge, and Windy Hill OSPs. Streams designated as critical habitat for California central coast evolutionarily significant unit (ESU) coho salmon (NMFS 1999) are present in Miramontes Ridge, Tunitas Creek, La Honda Creek, and Skyline Ridge OSPs. The entirety of San Francisco Bay and its adjacent tidal marshes and sloughs are designated critical habitat for Southern DPS green sturgeon (*Acipenser medirostris*) (NMFS 2009). This area includes nearly all of the tidal marshes and sloughs within Ravenswood OSP as well as the reach of Stevens Creek that is immediately adjacent to Stevens Creek Shoreline Nature Study Area.

Critical habitat for special-status plants does not occur within any Midpen OSPs.

Regional Habitat Conservation Plans

A very small portion of Midpen lands along the eastern boundary of Sierra Azul OSP are within the mapped Santa Clara Valley Habitat Plan (Habitat Plan) area (ICF International 2012). The Habitat Plan covers nine wildlife and nine plant species, listed in **Table 3.4-2**.

Table 3.4-2 Covered Species of the Santa Clara Valley Habitat Plan

Common Name	Scientific Name
Plants	
Tiburon Indian paintbrush	Castilleja affinis ssp. neglecta
Coyote ceanothus	Ceanothus ferrisiae
Mount Hamilton thistle	Cirsium fontinale var. campylon
Santa Clara Valley dudleya	Dudleya abramsii ssp. setchellii
Fragrant fritillary	Fritillaria liliacea
Loma Prieta hoita	Hoita strobilina
Smooth lessingia	Lessingia micradenia var. glabrata
Metcalf Canyon jewelflower	Streptanthus albidus ssp. albidus
Most beautiful jewelflower	Streptanthus albidus ssp. peramoenus
Invertebrates	
Bay checkerspot butterfly	Euphydryas editha bayensis
Amphibians	
California tiger salamander	Ambystoma californiense
Foothill yellow-legged frog	Rana boylei
California red-legged frog	Rana draytonii
Reptiles	
Western pond turtle	Actinemys marmorata



Common Name	Scientific Name
Birds	
Tricolored blackbird	Agelaius tricolor
Western burrowing owl	Athene cunicularia hypugaea
Least Bell's vireo	Vireo bellii pusillus
Mammals	
San Joaquin kit fox	Vulpes macrotis mutica

Sensitive Natural Communities

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

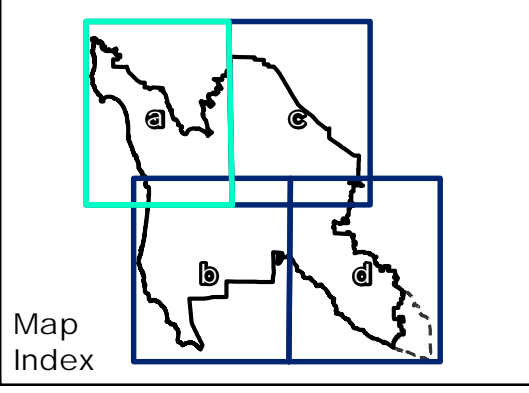
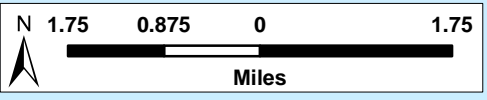
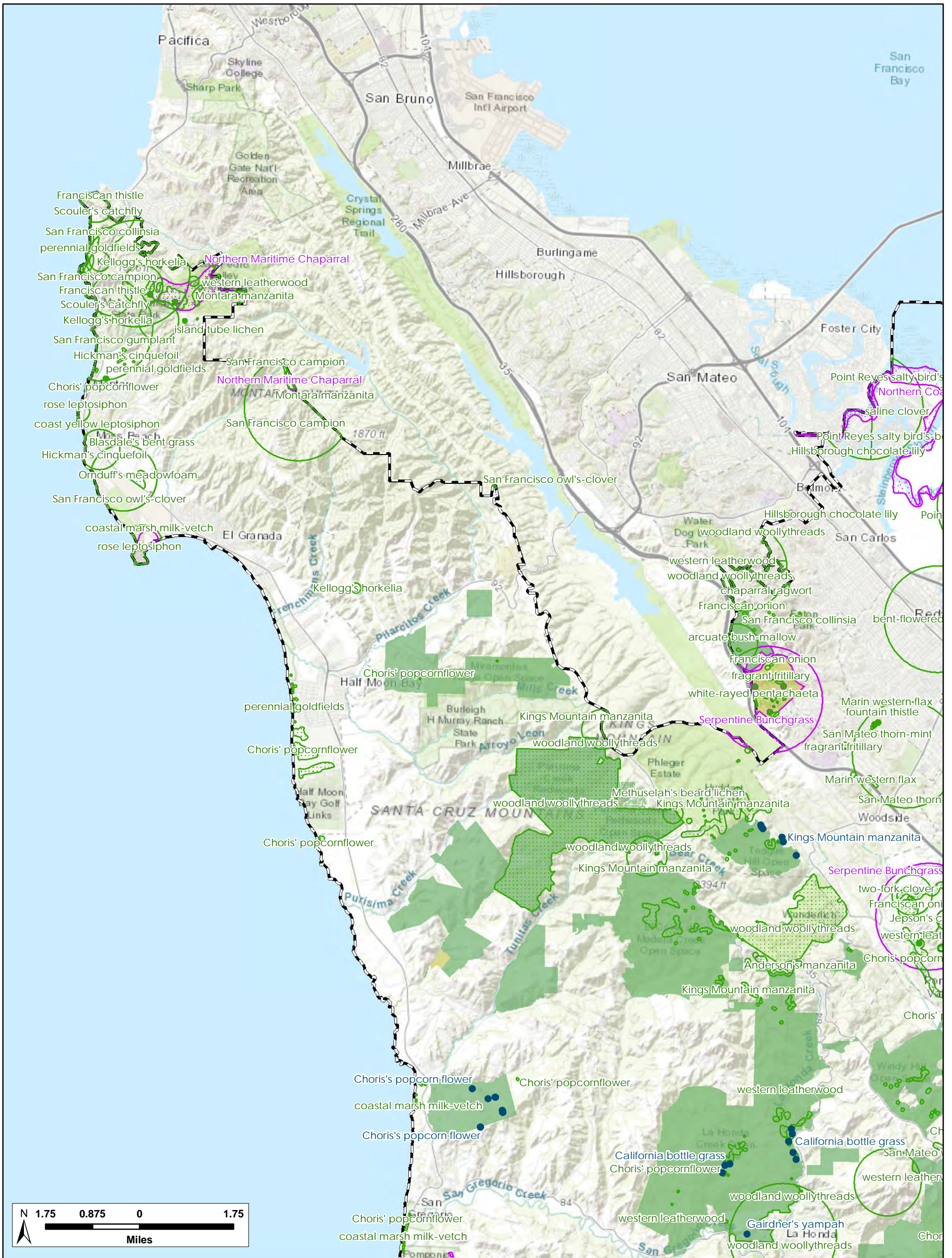
Special-Status Species

Overview

In evaluating habitat suitability for special-status plant and wildlife species to occur within the Program area, relevant literature, knowledge of regional biota, and available occurrence and distribution data were considered. Midpen maintains a GIS database and on-line web-based application that integrates the records Midpen's own past and recent detections of special-status species.

Special-Status Plant Species

A list of special-status plant species known to occur, or thought to have potential for occurrence, in the Program area was compiled using CNPS lists (CNPS 2020a); California Natural Diversity Database (CNDDDB) records (CDFW 2020b) for San Mateo, Santa Clara, and Santa Cruz counties; data from CalFlora (2019) and the Consortium of California Herbaria (CCH1) (CCH1 2019); and occurrence records based on surveys by Midpen biologists (refer to **Appendix D**). Special-status plant records from CNDDDB and Midpen surveys are mapped on **Figure 3.4-3**.

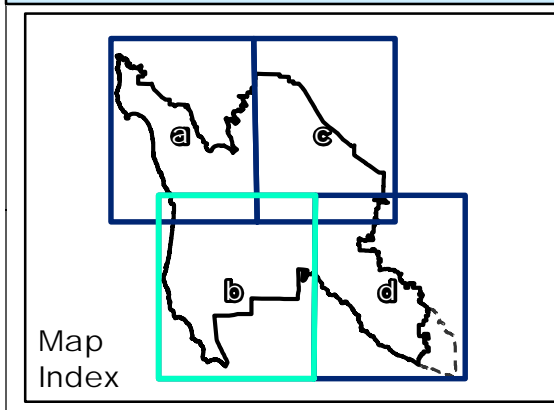
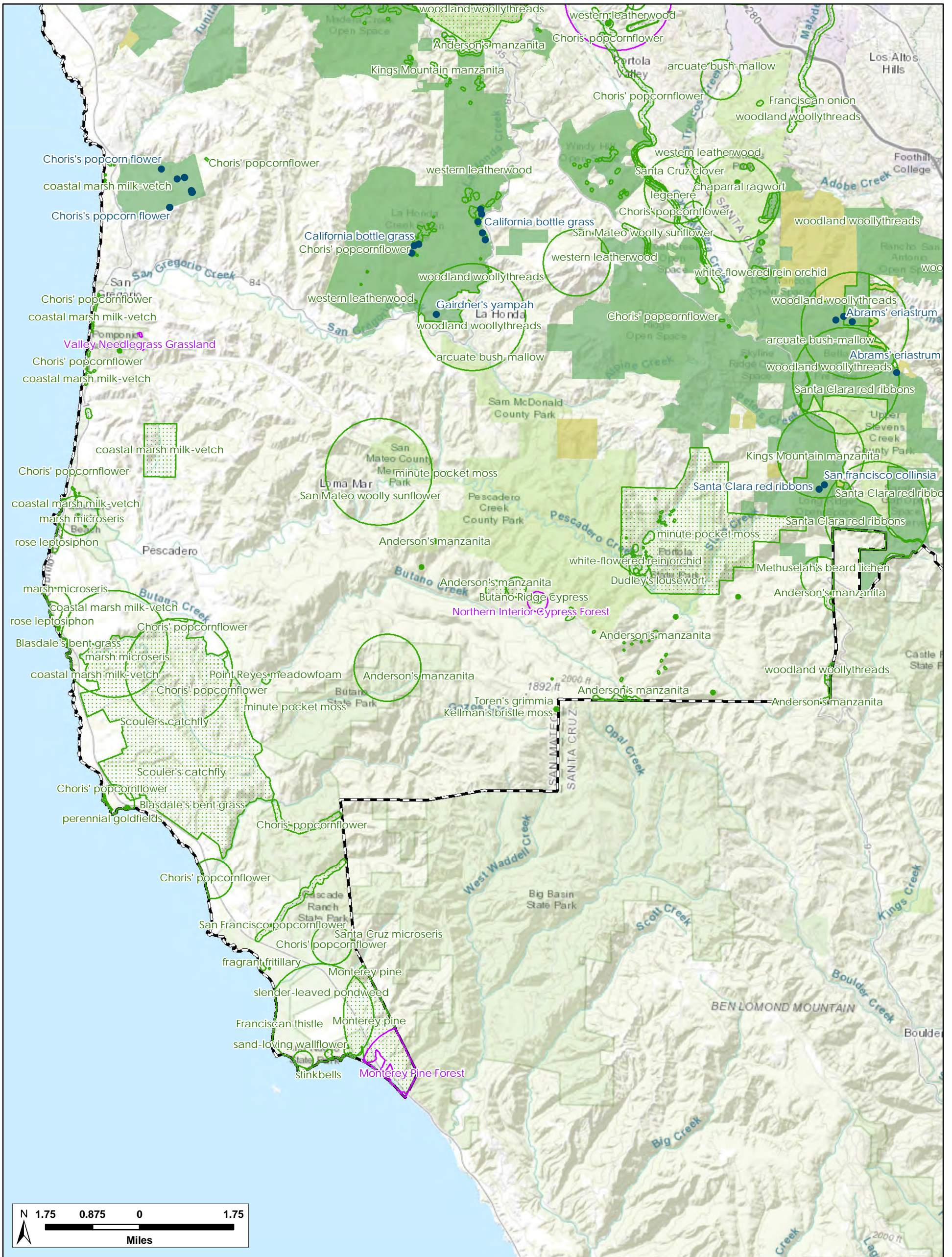


- Legend**
- Midpen Boundary
 - Sphere of Influence
 - Preserves Within Program Area
 - Easement or Management Agreement Within Program Area
 - Midpen Records (Calflora)
 - Plant Observation
 - CNDDDB Records**
 - Specific Location
 - Approximate Location
 - General Area
 - Terrestrial Communities**
 - General Area

Figure 3.4-3 Special-Status Plants Map
 Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
 November 2019



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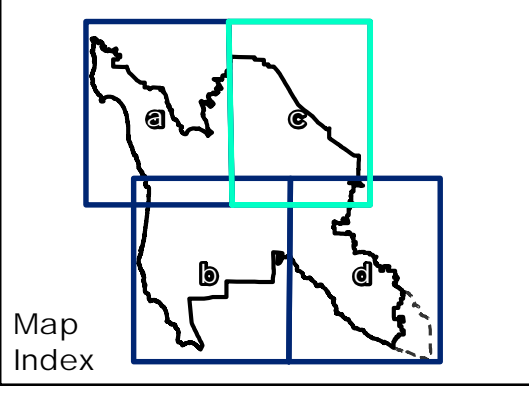
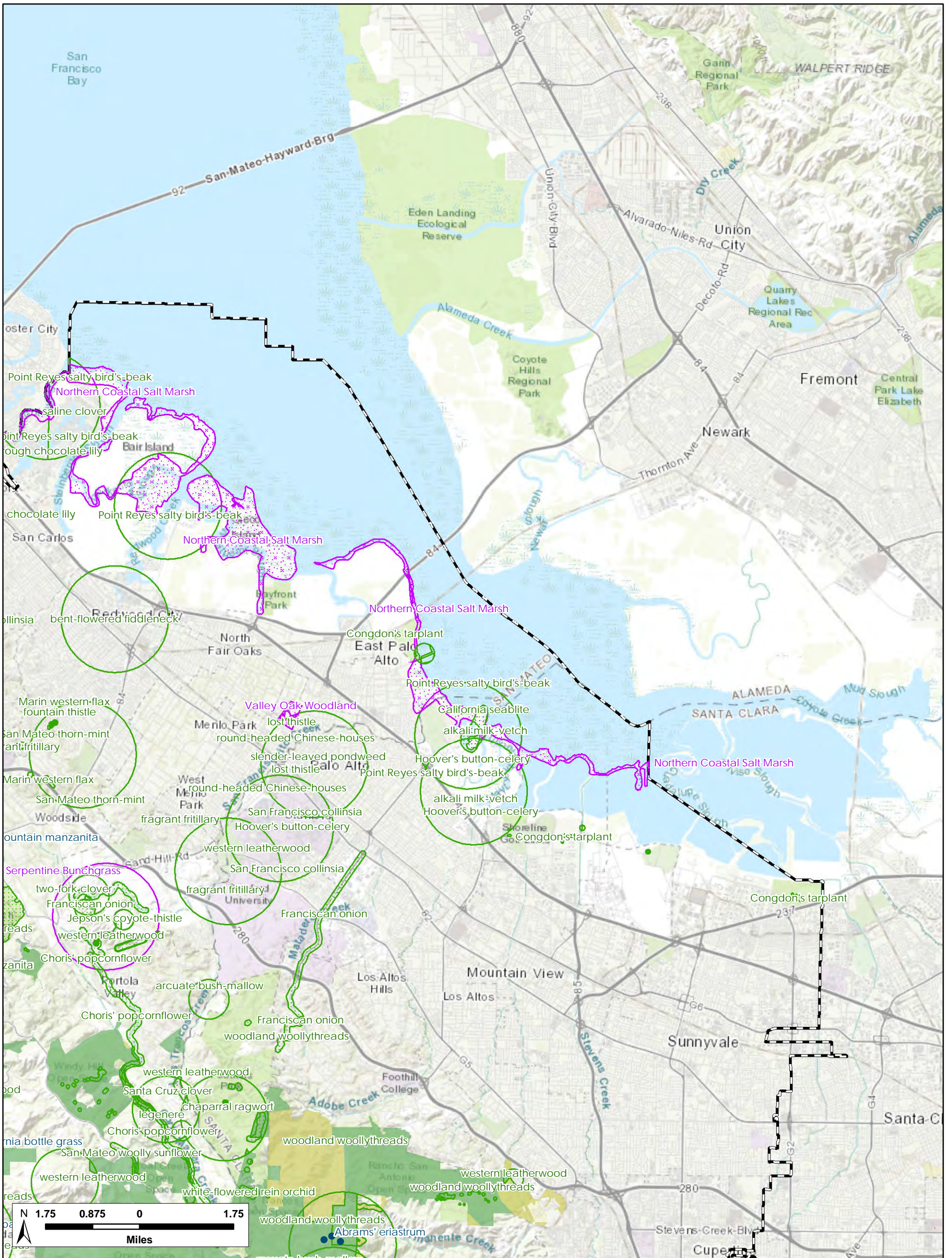


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 - Plant Observation
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 - Specific Location
 - Approximate Location
 - General Area
 - Terrestrial Communities**
 - General Area

Figure 3.4-3 Special-Status Plants Map
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 November 2019



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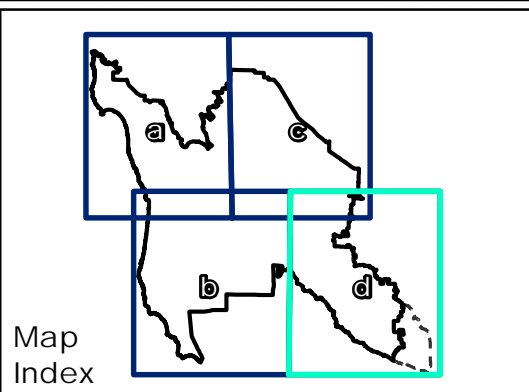
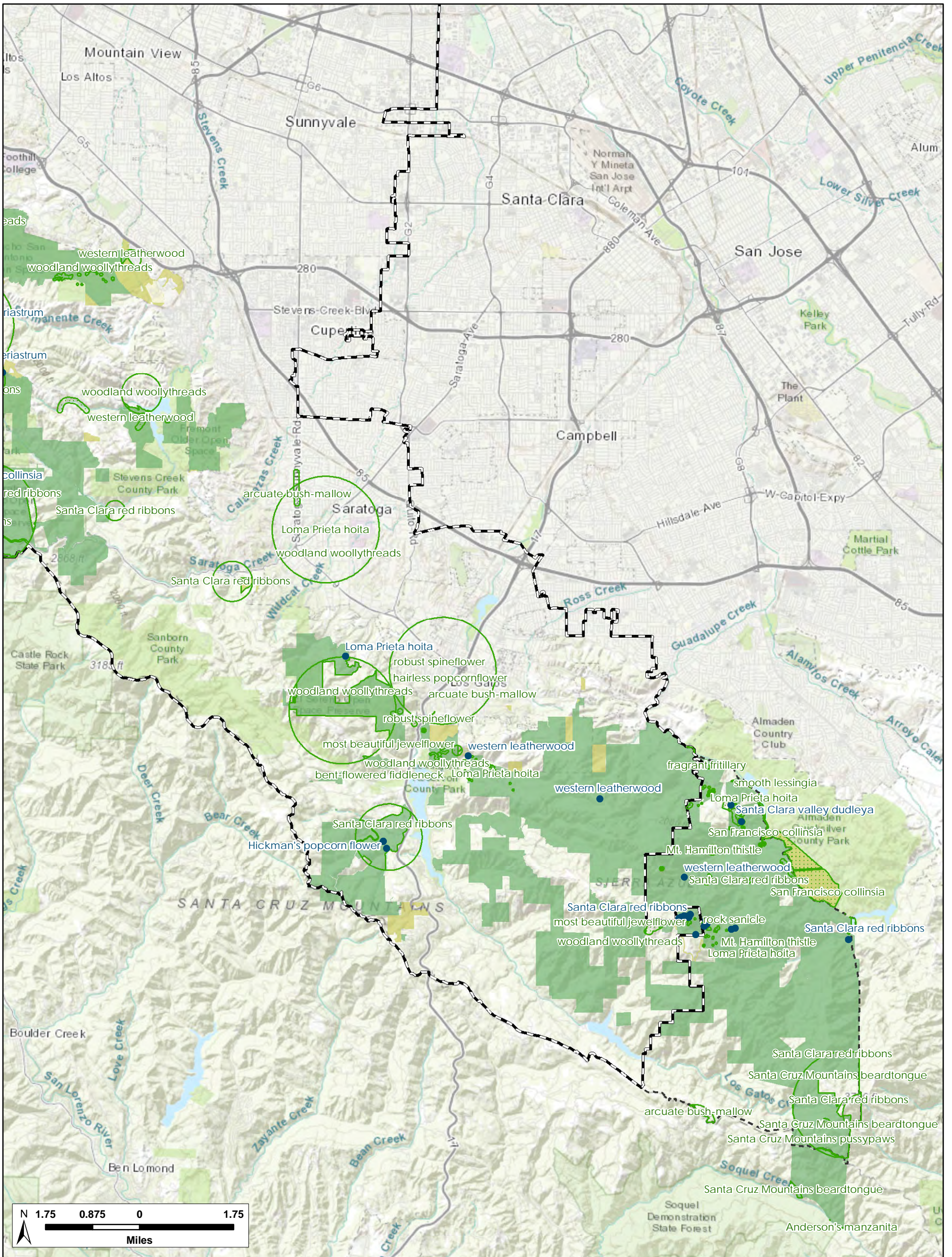
Legend

- Midpen Boundary
- Sphere of Influence
- Preserves Within Program Area
- Easement or Management Agreement Within Program Area
- Midpen Records (Calflora)
- Plant Observation
- CNDDB Records**
- Specific Location
- Approximate Location
- General Area
- Terrestrial Communities**
- General Area

Figure 3.4-3 Special-Status Plants Map
 Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
 November 2019



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Legend

- Midpen Boundary
- Sphere of Influence
- Preserves Within Program Area
- Easement or Management Agreement Within Program Area
- Midpen Records (Calflora)
- Plant Observation
- CNDDB Records**
- Specific Location
- Approximate Location
- General Area
- Terrestrial Communities**
- General Area

Figure 3.4-3 Special-Status Plants



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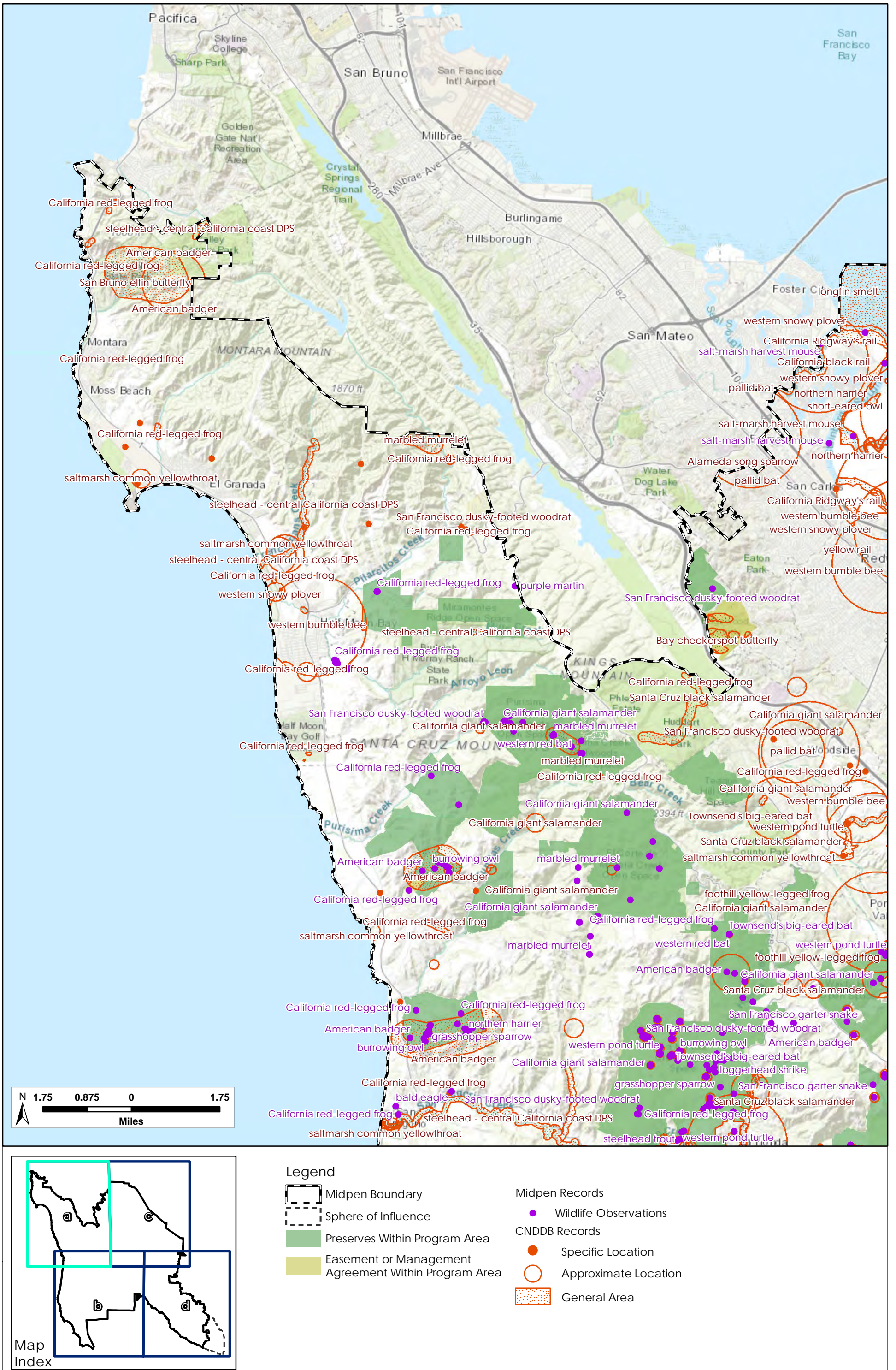
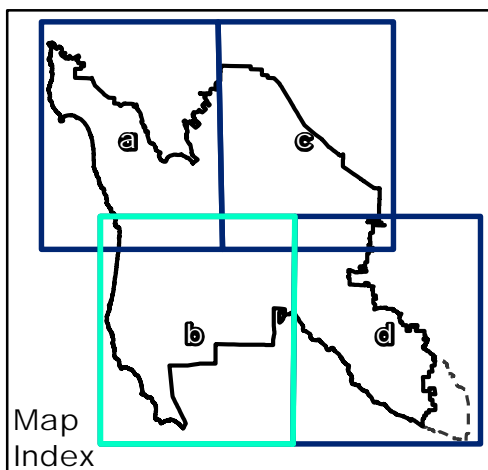
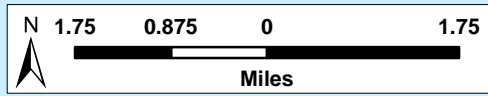
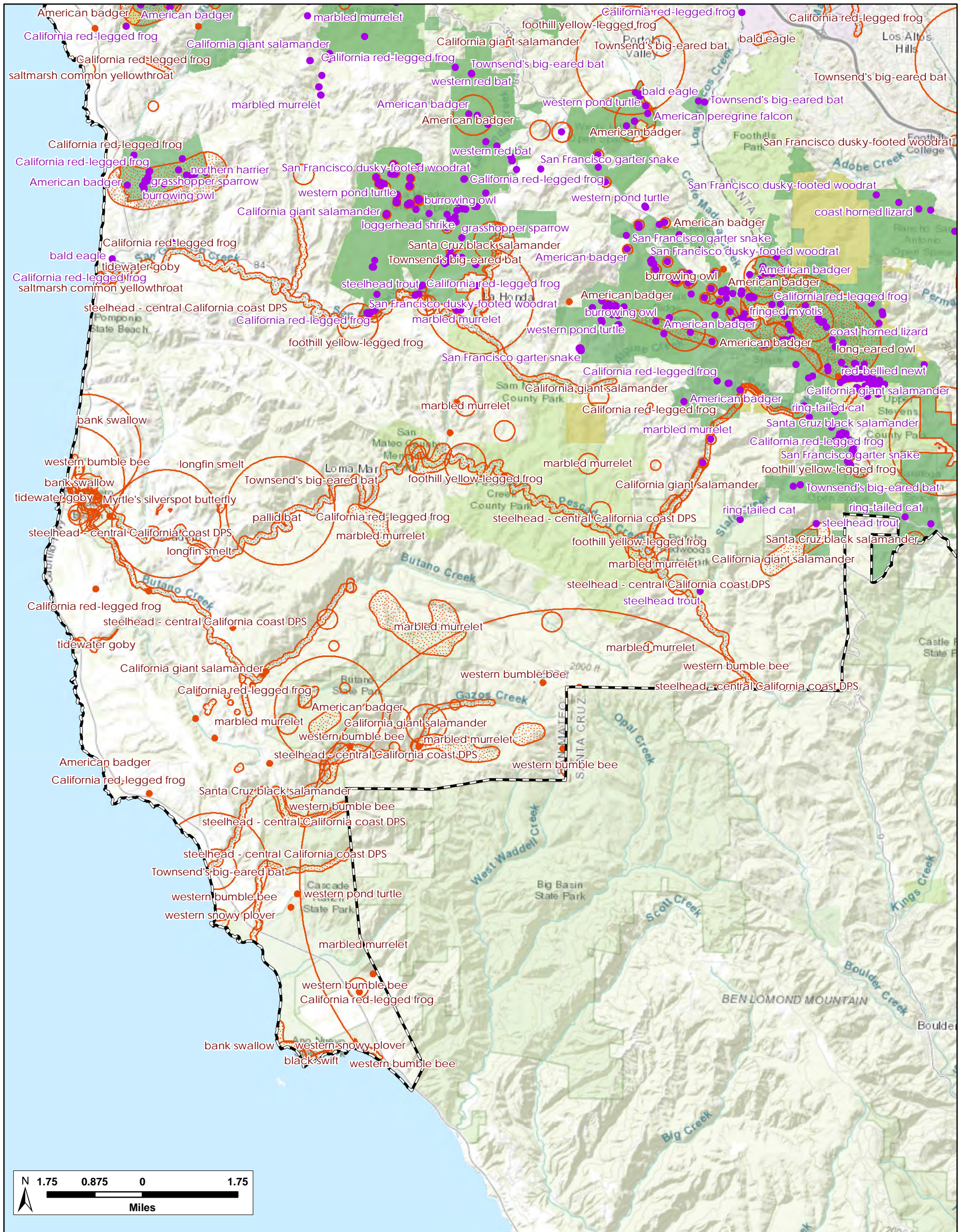


Figure 3.4-4 Special-Status Animals Map
 Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
 November 2019



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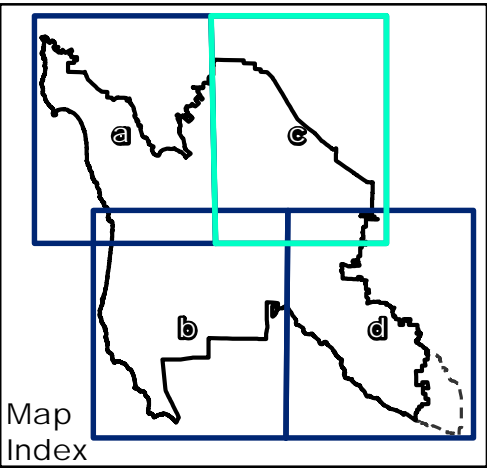
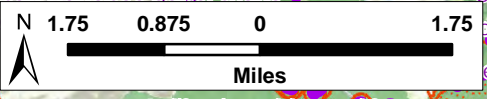
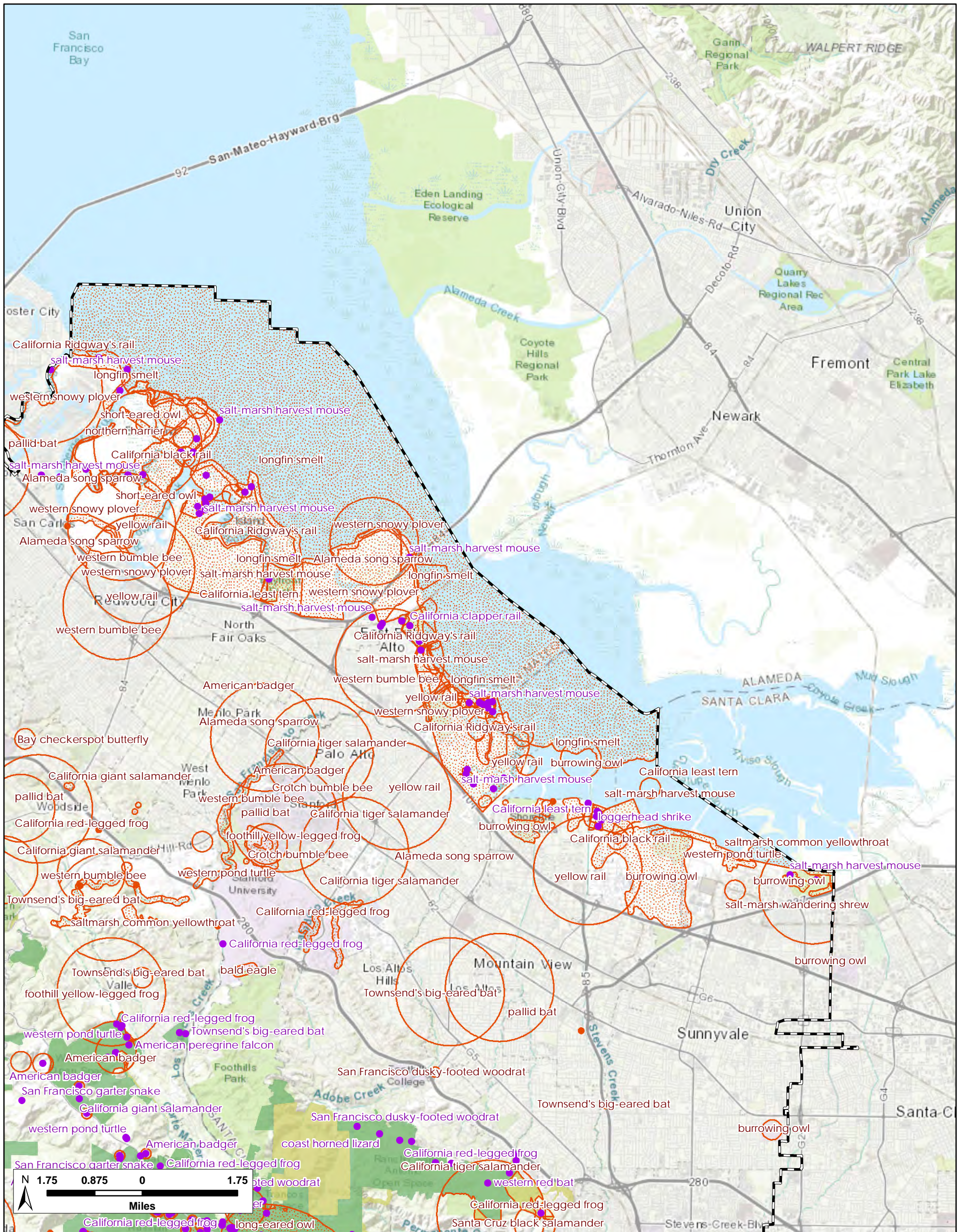
Legend

- Midpen Boundary
- Sphere of Influence
- Preserves Within Program Area
- Easement or Management Agreement Within Program Area
- Midpen Records - Wildlife Observations
- CNDDDB Records - Specific Location
- CNDDDB Records - Approximate Location
- General Area

Figure 3.4-4 Special-Status Animals Map
Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
November 2019



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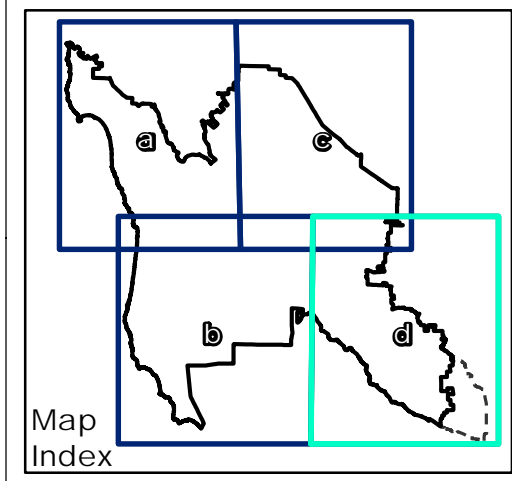
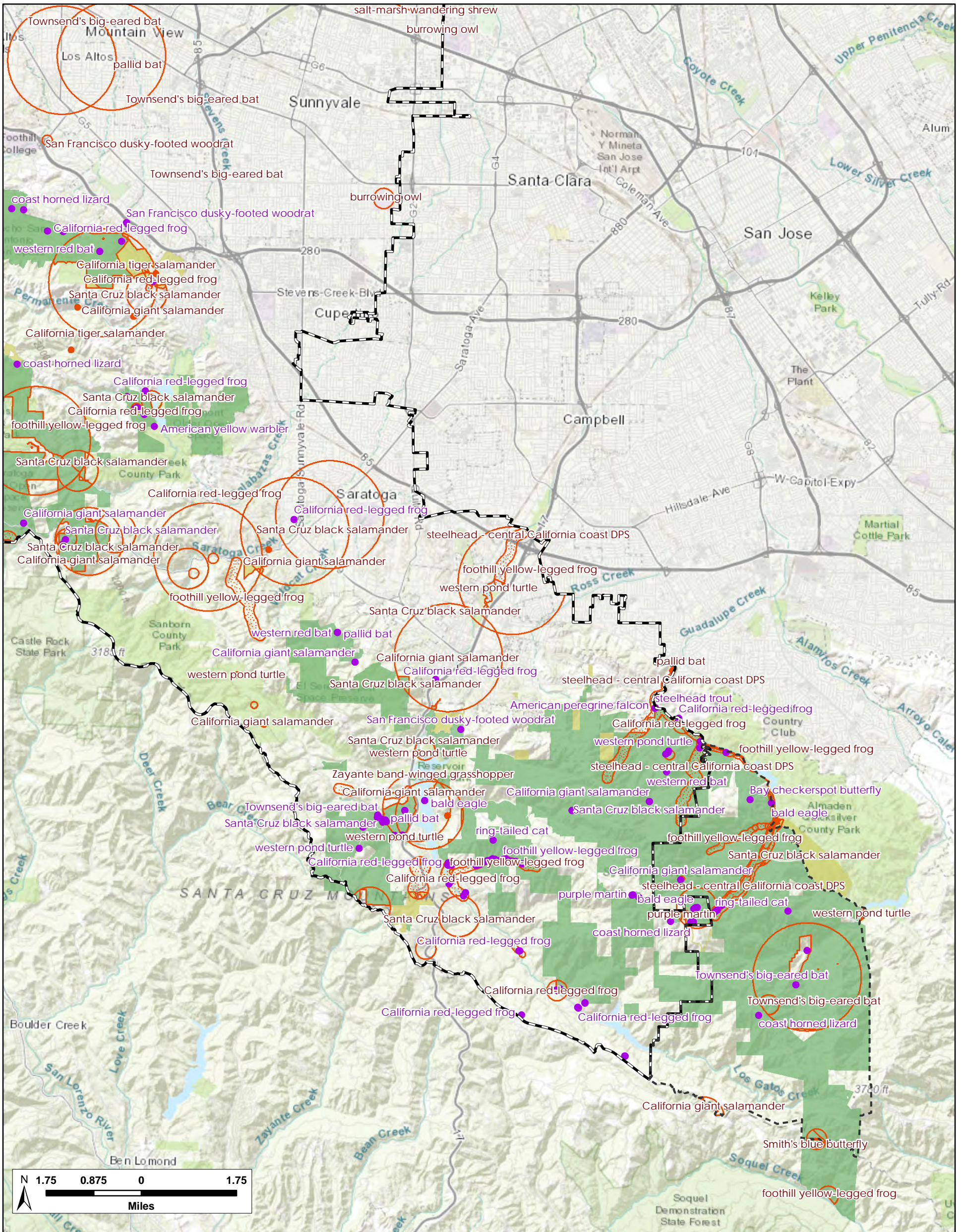


- Legend**
- Midpen Boundary
 - Sphere of Influence
 - Preserves Within Program Area
 - Easement or Management Agreement Within Program Area
 - Midpen Records
 - Wildlife Observations
 - CNDDDB Records
 - Specific Location
 - Approximate Location
 - General Area

Figure 3.4-4 Special-Status Animals Map
 Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
 November 2019



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- Legend**
- Midpen Boundary
 - Sphere of Influence
 - Preserves Within Program Area
 - Easement or Management Agreement Within Program Area
- Midpen Records**
- Wildlife Observations
 - Specific Location
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 - General Area
- CNDDB Records**
- Specific Location
 - Approximate Location
 - General Area

Figure 3.4-4 Special-Status Animals Map
 Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvements Program
 November 2019



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Although the CNPS is not a regulatory agency, and the CNPS's CRPR designations confer no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA's Section 15380 criteria, and adverse effects on these species may be considered significant. Impacts on plants that are listed by the CNPS as CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as CRPR 1B or 2, impacts on them are less frequently considered significant.

Table 1 in **Appendix D** identifies the 97 special-status plant species known to occur, or thought to have potential for occurrence, in the Program area and describes their distribution, legal status, general habitat requirements, and known occurrences in the Program area. Special-status plants that are restricted to coastal dune, coastal strand, and/or coastal or bay salt marsh habitats are not included in Table 1 in **Appendix D** or discussed further, as the Program area does not include these areas and habitat types.

Special-Status Wildlife Species

Table 2 in **Appendix D** identifies 52 special-status animal species that are listed, proposed, or candidate species under the state or federal Endangered Species Act, designated as California species of special concern by CDFW, or listed as fully protected by the California Fish and Game Code and that are known to occur or may occur within the Program area, and characterizes their potential to occur within Midpen preserves. Their distribution, legal status, general habitat requirements, and known occurrences within Midpen preserves are also provided. Known occurrence locations of special-status animals, based on CNDDDB (CDFW 2020b) and observations by Midpen staff, are provided in **Figure 3.4-4**. Designated critical habitat of federally-listed species within the vicinity of the Program area and Sphere of Influence is shown above in **Figure 3.4-2**.

3.4.3 Regulatory Setting

Federal

Federal Endangered Species Act

FESA provides legislation to protect federally listed plant and animal species. USFWS also designates critical habitat for Endangered or Threatened species under FESA. A critical habitat designation protects areas that are necessary for the conservation of the species. Section 9 of the FESA (50 Code of Federal Regulations 17.3) prohibits the take, possession, sale, or transport of any FESA-listed species. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, capture, collect, or attempt to engage in any such conduct" (16 U.S. Code [USC] Section 1532[19]). Federal regulation 50 Code of Federal Regulations 17.3 further defines the term harm in the take definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. For plants, the FESA prohibits removing, possessing, maliciously damaging, or destroying any listed plant on areas under federal jurisdiction, and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 USC Section 1538[a][2][B]).



Midpen currently holds FESA Section 10(a)(1)(A) Recovery Permits for San Francisco garter snake and California red-legged frog. The Biological Opinion on the issuance of the permit also addresses marbled murrelet, Bay checkerspot butterfly, and Santa Clara Valley dudleya.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) is administered by USFWS and implements four treaties between the U.S. and Canada, Mexico, Japan, and Russia, respectively, to manage and conserve migratory birds that cross national borders. The MBTA makes it unlawful in any manner, unless expressly authorized by permit pursuant to federal regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export at any time, or in any manner, any migratory bird, or any part, nest, or egg of any such bird. The definition of “take” referred to by MBTA is defined as any act to “pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture or collect.” This includes most actions, direct and indirect, that could result in “take” or possession, whether temporary or permanent, of any protected species (Avian Power Line Interaction Committee and USFWS 2005). Although harassment and habitat modification do not constitute a take in themselves under MBTA, such actions that result in direct loss of birds, nests, or eggs including nest abandonment or failure, are considered take under such regulations.

Bald and Golden Eagle Protection Act

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

Clean Water Act of 1977

The U.S. Army Corps of Engineers (USACE) has jurisdiction over waters of the U.S., which are classified as wetlands, navigable waters, or other waters and include marine waters, tidal areas, stream channels, and associated wetlands. Under federal regulations, wetlands are defined as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands generally include swamps, marshes, bogs, and similar areas. USACE does not



consider “isolated” wetlands (i.e., waters not connected to navigable waters) to be waters of the U.S.

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

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

A primary objective of the proposed Program is streamlining the regulatory permitting process by obtaining comprehensive long-term permits that improve work planning and implementation, and reduce delays. Midpen is applying for a Section 404 Regional General Permit from USACE and Section 401 water quality certificate from the RWQCB to cover Program activities that would result in fill.

State

California Endangered Species Act

CESA provides protection for candidate plants and animal species as well as those listed as threatened or endangered by CDFW. CESA prohibits the take of any such species unless authorized; however, California case law has not interpreted habitat destruction, alone, as included in the state’s definition of take. Take is defined in the Fish and Game Code Section 86 as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” (California Fish and Game Code Section 86). CDFW administers the act and authorizes take through Section 2081 agreements, Section 2080.1 consistency determinations (for species that are also listed under the federal ESA), or NCCP.

Midpen currently has a Memorandum of Understanding (MOU) with CDFW describing measures that will avoid take of San Francisco garter snake and California tiger salamander for activities that are performed on their lands for scientific research and habitat creation, enhancement, and maintenance activities related to the conservation and recovery of these



species. In addition, Midpen is currently able to take foothill yellow-legged frog for scientific, educational, or propagation purposes under a letter from CDFW (dated July 2017). This agreement is being revisited as part of Midpen’s programmatic permitting effort. Midpen also maintains a Scientific Collecting Permit for state listed special-status reptiles and amphibians.

Fish and Game Codes

Wetlands and Nesting Birds

Fish and Game Code governs state-designated wetlands, including riparian and stream habitat, and mandates that mitigation be implemented to replace wetland extent and value lost to development. Sections 1600–07 of the Fish and Game Code regulate activities that would alter the flow, substantially change or use any materials from the bed, channel, or bank of any river, stream, or lake, or dispose of any debris. Activities that affect these areas, as well as associated riparian habitats, require a Streambed Alteration Permit from CDFW.

Midpen currently holds a Routine Maintenance Agreement under the California Fish and Game Code § 1602, Lake or Streambed Alteration Agreement, which is valid through 2024. Program activities would be covered under a new or amended Routine Maintenance Agreement.

Fully Protected Species (Fish and Game Code sections 3511, 4700, 5000, 5050, 5515)

The classification of a species as fully protected provides protection to rare, Threatened, or Endangered species. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Impacts to these species need to be avoided to ensure compliance with the regulations.

Porter-Cologne Water Quality Control Act and Section 401 of the Clean Water Act

The RWQCBs administers the Porter-Cologne Act and Section 401 of the CWA. The Porter-Cologne Act requires that “any person discharging waste, or proposing to discharge waste, within any region that could affect the ‘waters of the state’ to file a report of discharge” with the local RWQCB. Waters of the state as defined in the Porter-Cologne Act are “any surface water or groundwater, including saline waters, within the boundaries of the state.”

Pursuant to Section 401 of the CWA, the RWQCB considers waters of the state to include, but not be limited to, rivers, streams, lakes, bays, marshes, mudflats, unvegetated seasonally ponded areas, drainage swales, sloughs, wet meadows, natural ponds, vernal pools, diked bay lands, seasonal wetlands, and riparian woodlands. RWQCB has also claimed jurisdiction and exercised discretionary authority over “isolated waters.”

Midpen conducts routine maintenance activities in compliance with a Section 401 Water Quality Certifications (WQCs) and Waste Discharge Requirements (WDRs) from the San Francisco Bay RWQCB, (Order No. R2-2010-0083, adopted in June 2010). The San Francisco Bay RWQCB has granted waiver letters to allow Midpen to continue conducting work under the existing Order while they apply for a new Section 401 permit.



California Coastal Act and San Mateo County's Local Coastal Program

The California Coastal Act of 1976 requires new development (e.g., buildings, roads, pipe, and utility lines) that occur within the Coastal Zone to obtain a Coastal Development Permit (CDP) from either the California Coastal Commission (CCC) or the local government. While the CCC is the primary agency that issues these permits, once a local agency has a Local Coastal Program (LCP) that has been certified by the CCC, that local agency takes over the primary responsibility for issuing CDPs. All development planned in the Coastal Zone requires either issuance of a CDP or a CDP Exemption.

Midpen activities occurring within the Coastal Zone would be located within San Mateo County. In 1980, the San Mateo County Board of Supervisors and the CCC approved the San Mateo County's LCP. Development must comply with the policies in the LCP. In 1981, the County's Planning and Building Department assumed responsibility for implementing the State Coastal Act in the unincorporated area of the County, including issuance of CDPs. Thus, under the proposed Program, activities that are planned within the Coastal Zone must either obtain a CDP or an exemption from these permit requirements. Activities that involve in-kind facility replacement (i.e., no expansion) are likely to be exempt; however, any upsizing or change in the location or size of infrastructure would require a CDP (e.g., a larger culvert would be considered an expansion and would require a CDP). In addition, activities occurring where sensitive species or habitat may occur would also require a CDP.

Local

Midpeninsula Regional Open Space District – Resource Management Policies

Midpen's resource management includes management of natural, cultural, and agricultural resources. Midpen recognizes the protection of biological resources as one of the primary benefits of open space (Midpen 2021b). Midpen's resource management goals and policies adhere to a strategy of protecting and restoring known rare, endangered, special-status species and sensitive habitats, as well as seriously degraded or deteriorating areas. Further, Midpen's resource management policies give priority to sensitive habitats and consider the relative scarcity of the specific resources involved. Relevant goals to the implementation of the proposed Program include:

Goal VM: Sustain and promote viable and diverse native plant communities characteristic of the region.

Goal WM: Maintain and promote healthy and diverse native wildlife populations.

Goal ES: Use sustainable land management techniques to maintain, restore, or simulate natural disturbance in priority habitats.

Goal HC: Protect ecosystem integrity by maximizing habitat connectivity.



Midpeninsula Regional Open Space District – Vision Plan

Midpen prepared the Vision Plan to articulate the core values for conservation and management of open space over the next 40 years or more. The themes and goals were developed based on Midpen’s mission statement and adopted policies (Midpen 2014). The following themes and goals pertain to the biological resources within Midpen lands that the proposed Program must be consistent with and support:

Stewardship:

- Restore the natural environment, control invasive plants and animals, and limit the spread of pathogens
- Promote natural ecosystem processes
- Protect watersheds and restore stream flow to improve habitat for fish and wildlife

Biodiversity:

- Protect large contiguous areas of intact habitat that represent the Peninsula and South Bay’s full mosaic of natural communities
- Conserve sensitive species and special natural communities

Connectivity:

- Increase connectivity between protected areas to support natural wildlife movement patterns

San Mateo County Heritage Tree Ordinance

According to the Heritage Tree Ordinance of San Mateo County (Ordinance No. 2427), a permit is required for the removal, destruction, or trimming of any Heritage Tree on public or private property, with Heritage Trees defined as: (a) Class 1 trees designated by the Board of Supervisors and (b) Class 2 - any one of 16 designated species of trees of specified diameter at breast height (dbh) (28-inch dbh bigleaf maple [*Acer macrophyllum*]; 48-inch dbh madrone [*Arbutus menziesii*]; 20-inch dbh golden chinquapin [*Chrysolepis chrysophylla*]; all Santa Cruz cypress [*Cupressus abramziana*]; 12-inch dbh Oregon ash [*Fraxinus latifolia*]; 48-inch dbh tan oak [*Lithocarpus densiflorus*]; 48-inch dbh coast live oak [*Quercus agrifolia*]; 40-inch dbh canyon live oak [*Quercus chrysolepis*]; all Oregon white oak [*Quercus garryana*]; 32-inch dbh black oak [*Quercus kelloggii*]; 40-inch dbh interior live oak [*Quercus wislizenii*]; 48-inch dbh valley oak [*Quercus lobata*]; 30-inch dbh blue oak [*Quercus douglasii*]; 48-inch dbh California bay [*Umbellularia californica*]; 30-inch dbh California nutmeg [*Torreya californica*]; or 72-inch dbh coast redwood [*Sequoia sempervirens*]), healthy and generally free from disease.

Removal or trimming of heritage trees would require a permit from the County.

San Mateo County Significant Tree Ordinance

According to the Significant Tree Ordinance of San Mateo County (Part Three of Division VIII of the Municipal Code), a permit is required for the removal or destruction of any Significant Tree within Design Review Districts or Scenic Corridors. A Significant Tree is any tree over



38 inches in circumference (12-inch dbh) measured at 4-1/2 feet above the ground or immediately below the lowest branch. In zoning areas for residential hillside/design review districts (RH/DR) the definition of a significant tree is any tree over 19 inches in circumference (6-inch dbh). In the RH/DR district, permits are required for trimming indigenous trees (native to San Mateo County) as well as cutting trees. This ordinance is not the same as the Heritage Tree Ordinance, and is listed separately in the General Plan for San Mateo County (San Mateo County Planning and Building Division 1986). Removal or trimming of ordinance-sized trees would require a permit from the County. Note that the County is currently preparing updates to the Significant and Heritage Tree Removal regulations to improve management of individual trees and tree canopy in the County, and to improve the tree removal and trimming permit process in a manner that is consistent with the County's General Plan (San Mateo County 2021a). Interim regulations regarding Significant and Heritage trees went into effect on November 18, 2016 (San Mateo County 2021b).

County of Santa Clara – Tree Preservation and Removal Ordinance (Section C16.6)

The County of Santa Clara Tree Preservation and Removal Ordinance (County Code, Sections C16.1–C16.17) protects trees meeting specified conditions. Any person proposing to remove a protected tree is required to file for an administrative permit no less than 10 days prior to removal, or for heritage trees, 90 days prior to removal. A protected tree on any private or public property consists of any of the following:

- Any tree having a main trunk or stem measuring 37.7 inches or greater in circumference (12 inches or more in diameter) at a height of 4.5 feet above ground level, or in the case of multi-trunk trees a total of 75.4 inches in circumference (24 inches or more in diameter) of all trunks in the following areas of the county:
 - parcels zoned "Hillsides" (3 acres or less),
 - parcels within a "-d" (Design Review) combining zoning district,
 - parcels within the Los Gatos Specific Plan area.
- Any tree having a main trunk or stem measuring 18.8 inches or greater in circumference (6 inches or more in diameter) at a height of 4.5 feet above ground level, or in the case of multi-trunk trees, a total of 37.7 inches in circumference of all trunks (12 inches or more of the diameter) in the "h1" New Almaden Historic Preservation zoning district.
- Any heritage tree, as that term is defined in Section C16-2 of the Tree Preservation Ordinance.
- Any tree required to be planted as a replacement for an unlawfully removed tree, pursuant to Section C16-17(e) of the Tree Preservation Ordinance.
- Any tree that was required to be planted or retained by the conditions of approval for any use permit, building site approval, grading permit, architectural and site approval (ASA), design review, special permit or subdivision.



- On any property owned or leased by the County of Santa Clara, any tree that measures more than 37.7 inches in circumference (12 inches or more in diameter) measured 4.5 feet above the ground, or that exceeds 20 feet in height.
- Any tree, regardless of size, within road rights-of-way and easements of the County, whether within or without the unincorporated territory of the County.

Removal of any significant trees would be subject to the requirements of the County of Santa Clara County Code and thus require a permit.

3.4.4 Discussion

a. Would the project have a substantial adverse effect, either directly or indirectly or through habitat modifications, on any species identifies as a candidate, sensitive or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

To evaluate resource sensitivity at work sites under the proposed Program, Midpen would undertake the following process: (1) identify the type of activity and confirm the specific location; (2) conduct a desktop audit to evaluate whether suitable habitat for special-status species is present and determine if a site visit is necessary; and (3) classify the activity at the site in one of the four tiers defined below. The tiered approach is intended to help both Midpen and regulatory agency staff identify resource and site sensitivity and thereby prioritize impact avoidance and minimization measures and/or BMPs and mitigation needs.

- **Tier 1 (No Effect)** – There is no potential for a special-status species to be present in the area at any time. Tier 1 is appropriate if the biologist determines that Program activities would occur in creek reaches inaccessible to special-status fish or, for terrestrial special-status species other than birds, in areas where no suitable breeding habitat is present and there is no connectivity between the site and known or potential breeding habitat (so that non-breeding individuals can also be presumed to be absent). Because foraging or roosting birds could easily fly away before being impacted by Program activities, the implementation of Program activities in non-breeding habitat for special-status bird species would also be considered a Tier 1 because such activities would not result in impacts on individuals that rise to the level of “take”.
- **Tier 2** – A special-status species could occur, at least at times, at a site, but take will not occur. Tier 2 is applicable if the biologist determines that one or more special-status species are known to occur or could possibly occur on-site either because (1) suitable breeding habitat is present, or (2) for terrestrial species and fish, suitable non-breeding habitat is present and there is connectivity between the work site and suitable breeding habitat.
 - **Tier 2A (Not Likely to Adversely Affect)** – The activity will not result in take of special-status species based on the location and timing of work; although a special-status species could occur at the location at times, none would be present when the work will occur.



- **Tier 2B (Not Likely to Adversely Affect individuals, but may be considered Likely to Adversely Affect if permanent habitat impacts occur)** – This activity will not result in take of special-status species with implementation of BMPs (such as pre-activity surveys, exclusion of individuals from the site, and/or implementation of non-disturbance buffers around active nests of special-status birds). Some Tier 2B activities may result in a permanent loss of habitat.
- **Tier 3 (Likely to Adversely Affect)** – The activity may result in take of special-status species, even with implementation of BMPs. Tier 3 is applicable if the biologist determines that (1) special-status species are known to occur or may occur on site either because suitable breeding habitat is present or suitable non-breeding habitat with connectivity between the site and suitable breeding habitat is present; (2) special-status species may be present at the time of day/season in which the Program activity occurs; and (3) special-status species cannot be effectively excluded from the work area, pre-activity surveys cannot definitively determine the absence of the species, and/or “take” in the form of permanent loss of habitat cannot be avoided.

These tiering categories would help Midpen determine which avoidance and minimization measures are necessary to minimize potential take of species. In general, proposed Program activities would take place on an annual cycle, depending on whether they are located away from wetlands and waters of the U.S. and state, riparian resources, and/or federally or state listed species; or activities occur near such resources. In general, activities occurring away from sensitive resources (Tier 1) may occur year-round, although a majority of these types of activities would take place in the spring and summer season. Activities occurring in areas where special-status species are known to occur or could possibly occur (Tiers 2A, 2B, and 3) would generally be limited to occur between May 15 and October 31.

Knowing which tier is applicable to Program activity sites helps guide the planning and impact avoidance approach. It is also noteworthy that Midpen has been conducting biological resources assessments for many years within its preserves as part of its ongoing land management; therefore, desktop reviews for Program activities would draw on existing documented knowledge regarding habitat suitability for special-status species, as well as the conditions (including habitat, time of day, and season) in which special-status species have been observed.

Impacts to Special-status Plant Species

Program activities would have the potential to destroy or otherwise harm special-status plant species if they are present in work areas. Table 1 in **Appendix D** lists the special-status plant species known to occur in the Program area.

Midpen would implement the following BMPs, incorporated as part of the Program, to avoid impacts to special-status plant species to the greatest extent feasible. Descriptions of each BMP are provided in Chapter 2, *Project Description*.



- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-26 Non-native Plant Removal and Herbicide Management
- BMP BIO-4 Special-status Plant Species Avoidance Measures
- BMP BIO-6 Invasive Plant Material Management and Disposal
- BMP BIO-7 Sudden Oak Death and Plant Pathogen Control
- BMP BIO-19 Bay Checkerspot Butterfly and Santa Clara Valley Dudleya Protection Measures
- BMP BIO-24 Riparian Avoidance

Standard operating procedures for Program activities would include implementing BMP BIO-4: Special-status Plant Species Avoidance Measures. This measure includes rare plant avoidance measures within riparian habitat or Waters of the State and/or U.S. and within one-quarter (1/4) mile of a known rare plant occurrence, or within suitable rare plant habitat. It includes protocol-level surveys for sensitive plant species, establishment of site-specific avoidance buffers in coordination with CDFW, avoidance of rare plants and associated buffer zones. If at any time rare plants cannot be avoided, Program activities would not be conducted until Midpen coordinates with CDFW and a mitigation plan is agreed upon. All prescribed grazing areas within Midpen have been mapped for sensitive status plant species and there are not currently any federally or State-listed plants within grazed properties. BMP BIO-19 requires annual monitoring of grazed properties by the Midpen rangeland ecologist to ensure no newly listed species or previously undiscovered species are present. Additionally, this BMP requires surveys by a qualified botanist for sensitive status plant species every 3 years for all Program roads and trail activities in grassland areas. Woodland, hardwood, shrub and scrub, and forested areas would be mapped by a qualified botanist every 5 years. Finally, BMP BIO-19 requires surveys prior to treatment of all areas having known occurrences of Santa Clara Valley dudleya for which recovery actions are proposed. Listed plants would be avoided either through timed activities (e.g., mowing after annuals set seed) or flagging individual plants for avoidance. The remaining BMPs listed above would further reduce the direct and indirect impacts to rare plants that could result from Program activities by minimizing disturbance areas, proper siting of activities, and properly managing invasive non-native species and the potential spread of pathogens. With implementation of these BMPs, the proposed Program would not result in a significant adverse effect on any special-status plant species or their habitat. Therefore, this impact would be **less than significant** and no mitigation is required.

Impacts to Special-status Invertebrate Species

Table 2 in **Appendix D** lists the special-status invertebrate species known to occur in the vicinity of the Program area. Most invertebrate species listed in 3.4-4 have no potential to be impacted by Program activities because the Program is not within the species current range, or the species are associated with habitats (e.g., vernal pools) that would not be impacted by Program activities. Two special-status invertebrate species are considered to have the



potential to occur in the Program area: Bay checkerspot butterfly (*Euphydryas editha bayensis*), and monarch butterfly (*Danaus plexippus plexippus*).

No Bay checkerspot populations are currently present in existing Midpen preserves; however, the species was historically observed in the Sierra Azul OSP and has been reintroduced to Edgewood County Park (Friends of Edgewood 2021), located just south of Midpen's Pulgas Ridge OSP. There is some potential for very small numbers of individuals to occasionally disperse to Pulgas Ridge, though the species is not expected to breed there due to the absence of high-quality habitat. Designated critical habitat Unit 3 (Edgewood Park/Triangle) is present immediately adjacent to Midpen lands, and Midpen holds an easement over Edgewood Park. However, no critical habitat has been designated on existing Midpen preserves, and suitable habitat is not present at any other Midpen preserve.

Along the Peninsula and throughout the Program area, monarch butterflies occur primarily as migrating individuals in the fall and spring (CDFW 2020b). Wintering sites are mostly coastal or near the edge of San Francisco Bay. Purisima Uplands property within Purisima Creek OSP and perhaps Tunitas Creek OSP contain wintering habitat.

Midpen intends to avoid all impacts to special-status invertebrate species. Standard operating procedures for stream maintenance program activities would include implementing BMP BIO-19: Bay Checkerspot Butterfly and Santa Clara Valley Dudleya Protection Measures. This measure requires that all areas having known occurrences of Bay checkerspot butterfly host plants for which recovery actions are proposed be surveyed prior to treatment. Host plants would be avoided either through timed activities (e.g., mowing after annuals set seed) or flagging individual plants for avoidance. In any areas in which host plants cannot be avoided, seed would be collected and the area reseeded under approvals from the USFWS and CDFW. Prior to conducting any manual, mechanical, or chemical Integrated Pest Management (IPM) treatment in serpentine habitats (which may support larval host plants for Bay checkerspot butterfly), surveys would be conducted for dwarf plantain (*Plantago erecta*), purple owl's clover (*Castilleja densiflora*), and exserted paintbrush (*Castilleja exserta*) during the appropriate blooming period, and host plants containing eggs, larva, or pupa of Bay checkerspot butterfly would be avoided.

As described above, monarch butterflies occur primarily as migrating individuals in the Program area. Program activities are not anticipated to have significant impacts on migrating individuals. Purisima Uplands property within Purisima Creek OSP and perhaps Tunitas Creek OSP contain wintering habitat. A 2016 Xerces society report on California monarch overwintering sites did not identify any priority wintering sites within the Program area (Xerces Society 2016). Disturbance of occupied monarch overwintering habitat, such through pruning, tree removal, or activity in close proximity to the overwintering habitat during the overwintering period could result in a significant impact to this species through death of individuals and habitat loss. Removal of milkweeds (*Asclepias* sp.) containing eggs, larva, or pupa of monarch butterflies would be a significant impact. Implementation of Mitigation Measure BIO-1: Avoid Monarch Butterfly Wintering Habitat and Mitigation Measure BIO-2: Avoid Monarch Butterfly Host Plants would reduce these impacts to less than significant.



Mitigation Measure BIO-1: Avoid Monarch Butterfly Wintering Habitat

Prior to any Program activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a qualified biologist or biological monitor working under a qualified biologist will survey the grove for aggregations of monarch butterflies during the overwintering season according to the Xerces Society's Western Monarch Count Protocol (Xerces Society 2019), available at <https://www.westernmonarchcount.org>:

Two surveys will be conducted during the overwintering season, one during the Western Monarch Thanksgiving Count period (the three-week period centered on the Thanksgiving holiday), and a second during the New Year's Count period (the two-week period beginning the weekend prior to New Year's Day).

- Each survey will be conducted by two surveyors to provide multiple independent estimates of monarch numbers.
- Surveys will be conducted in the morning while temperatures are below 55° F (13° C) and monarchs are more likely to be clustered.
- Surveys will not be conducted during rain or strong winds due to poor visibility and the chance that individual monarchs shall be scattered on the ground.
- If no monarch overwintering aggregations are observed, Program activities may proceed pursuant as long as they occur prior to November 1. If Program activities are delayed beyond November 1, then the grove will be re-surveyed.
- If a monarch overwintering aggregation of any size is detected, then no Program activities may take place inside the tree canopy within 200 feet of the aggregation, when present. Activities outside of the canopy line but within 200 feet may proceed (i.e., treatment of low-growing vegetation outside of the tree grove) if a qualified biologist or monitor determines that the activity does not pose a threat to the monarch aggregation.
- Once the aggregation disperses (typically by March), treatment of vegetation within 200 feet of tree(s) where monarch aggregations were observed may proceed if, as determined by a qualified biologist or monitor, it will not result in significant alteration to wind and sunlight patterns within the grove.
- If monarch overwintering aggregations are detected in eucalyptus removal areas, then a long-term tree planting strategy is necessary (see Protecting California's Butterfly Groves [Xerces Society 2017]). A long-term tree planting strategy will also be used for those stands which have historically been used as monarch overwintering habitat (<https://www.westernmonarchcount.org/find-an-overwintering-site-near-you/>).
- Native tree species suitable for monarchs must be planted many years prior to eucalyptus removal with the understanding that they may not reach functional heights to provide wind protection and suitable dappled lighting for 15-30 years. Transplanting saplings from a local source may speed this



process. Planting of eucalyptus will be prohibited. Removal of eucalyptus may proceed once native replacement trees have reached sufficient size to provide wind protection within the grove.

- Standing dead trees generally do not contribute to monarch overwintering habitat (Xerces Society 2017) and may be removed within the grove between April 1 and August 31, outside of the overwintering period, as determined appropriate by a qualified biologist or monitor. Sites where invasive dead trees have been removed may create opportunities for native tree planting within the interior of the grove.
- If a eucalyptus grove where a monarch overwintering aggregation was previously detected is re-surveyed using the Western Monarch Count Protocol (Xerces Society 2019) and found to be unoccupied for 5 consecutive years, then the grove may be removed before native replacement trees have reached full size.

Mitigation Measure BIO-2: Avoid Monarch Butterfly Host Plants

- For all Program activities that only have incidental vegetation removal, Midpen will conduct a pre-construction worker training to identify milkweeds (*Asclepias* sp.), the host plant for monarch butterflies, and survey for eggs/larvae. Following the training, workers will survey the site for milkweed.
- For Program activities that have more than incidental vegetation removal, a qualified biologist or biological monitor working under a qualified biologist will conduct pre-construction surveys for milkweed.
- Host plants containing eggs, larvae, or pupae of monarch butterflies will be avoided, and will be protected with an appropriately-sized buffer as determined by a qualified biologist, taking into account the characteristics of the plant species and the nature of the proposed treatment.
- Vegetation treatment may proceed if a qualified biologist determines that the host plants (1) are not occupied by monarchs, and (2) may benefit from treatment (such as if the host plants have already set seed and post-treatment conditions will favor them over non-native weed species).

With implementation of BMP BIO-19 and Mitigation Measures BIO-1 and BIO-2, Program related impacts to special-status invertebrate species or their habitat would be **less than significant with mitigation**.

Impacts to Special-status Fish Species

Table 2 in **Appendix D** lists the special-status fish species known to occur in the vicinity of the Program area. Two special-status fish species have the potential to occur in the Program area, steelhead (*Oncorhynchus mykiss*) and Central California Coast Coho salmon (*Oncorhynchus kisutch*).



Central California Coast Coho salmon have recently been recorded spawning in the southwestern portion of the Program area in Pescadero Creek (Peninsula Open Space Trust [POST] 2021), and the species spawns in San Gregorio Creek, Pescadero Creek, and Gazos Creek, although it has not been recorded in Gazos Creek during annual monitoring since 2008 (Smith 2013 as cited in CDFW 2015, Midpen 2017). The species was historically collected from San Mateo Creek (Leidy 2007) and may have been present in the San Francisquito Creek watershed (Leidy et al. 2005). However, it has been extirpated from all San Mateo County streams flowing to the Bay (Leidy 2007). Designated critical habitat occurs in the Program area and includes all accessible reaches of all rivers including estuarine areas and tributaries between Punta Gorda and the San Lorenzo River (inclusive) in California. Designated critical habitat is present in or immediately adjacent to La Honda Creek OSP (NMFS 1999).

In the Program area, steelhead are known to occur in a number of coastal streams, as well as in a few streams entering San Francisco Bay, such as Stevens Creek, Guadalupe River/Creek, and San Francisquito Creek (including Los Trancos Creek) (Spence et al. 2008, Center for Ecosystem Management and Restoration 2008). Designated critical habitat includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River to Aptos Creek, California (inclusive), and the drainages of San Francisco and San Pablo Bays (NMFS 2005). Designated critical habitat is present in or immediately adjacent to the following Midpen preserves: Tunitas Creek, La Honda Creek, Russian Ridge, Miramontes Ridge, Skyline Ridge, Long Ridge, Purisima Creek Redwoods, Fremont Older, Los Trancos, and Sierra Azul OSPs. Steelhead could therefore use those creek reaches for spawning, rearing, and/or migration.

Program activities including culvert or bridge maintenance, sediment or debris removal, streambank stabilization, and vegetation management have the potential to result in significant impacts to special-status fish species and their habitat.

Midpen would implement the following BMPs, incorporated as part of the Program, to avoid all impacts to special-status fish species to the greatest extent feasible. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-5 Hazardous Materials Storage/ Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-7 Waste Management
- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-10 Paving and Asphalt Work
- BMP GEN-11 Concrete, Grout and Mortar Application
- BMP GEN-12 Exclude Concrete from Channel



- BMP GEN-13 Concrete Washout Facilities
- BMP GEN-14 Painting and Paint Removal
- BMP GEN-16 Site Stabilization
- BMP GEN-18 Project Completion by End of Work Period
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-20 Aquatic Resource Protection Measures
- BMP GEN-22 Spoils Management
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-26 Non-native Plant Removal and Herbicide Management
- BMP GEN-28 Culvert Replacement
- BMP GEN-29 Culvert Maintenance
- BMP GEN-32 Bridge and Puncheon Replacement
- BMP GEN-33 Bridge and Puncheon Repair and Maintenance
- BMP GEN-34 Ford and Swale (including Drain Lenses and Causeways) Replacement
- BMP BIO-1 Environmental Awareness Training
- BMP BIO-2 Biological Monitor
- BMP BIO-3 Work Area Designation
- BMP BIO-8 Non-Native Animal Control
- BMP BIO-9 General Wildlife Protection Measures
- BMP BIO-21 Salmonid (Coho and Steelhead) Protection Measures
- BMP BIO-22 Biological Monitoring for Stranded Aquatic Life
- BMP BIO-23 Large Woody Material Management
- BMP BIO-24 Riparian Avoidance
- BMP BIO-25 Riparian Restoration
- BMP EC-1 General Erosion Control Measures
- BMP EC-2 Slope or Bank Stabilization
- BMP EC-3 Road and Trail Drainage Maintenance
- BMP EC-4 Road and Trail Minor Relocation
- BMP EC-5 Revegetation of Disturbed Areas
- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-2 Turbidity Monitoring
- BMP SWQ-3 Sediment Filtering Measures



- BMP DW-1 Stream/Aquatic Habitat Isolation
- BMP DW-3 Pumps

Standard operating procedures for Program activities include several BMPs that would avoid or minimize impacts by minimizing the footprint of work activities and minimizing impacts from staging and stockpiling of materials, spills or leaks of chemicals, and other adverse effects, including BMPs GEN-1, GEN-2, GEN-5, GEN-6, GEN-8, GEN-9, GEN-14, GEN-22, GEN-23, and GEN-26. BMPs GEN-10, GEN-11, GEN-12, and GEN-13 would minimize the potential for concrete to result in adverse effects on aquatic habitats by limiting exposure of uncured concrete to these habitats. BMPs GEN-18 and GEN-19 would reduce the potential for erosion or sedimentation by restricting work to the dry season and dry periods. Implementation of BMPs GEN-16, EC-1, EC-2, EC-3, EC-4, EC-5, SWQ-1, SWQ-2, and SWQ-3 would further minimize potential for erosion or sedimentation by stabilizing work sites, implementing erosion control measures, and monitoring water quality. Implementation of BMP BIO-1 would minimize impacts through environmental awareness training of maintenance personnel regarding the sensitivity of special-status fish species. BMPs DW-1 and DW-3 would minimize impacts to aquatic habitat and special-status fish by isolating the work area from the flowing stream and screening pumps to prevent impingement, injury, or mortality. Implementation of BMP BIO-21: Salmonid (Coho and Steelhead) Protection Measures would require restriction on dewatering in Coho streams, seasonal work periods within and around critical habitat for steelhead and Coho that avoid sensitive periods, and seasonal work periods for other streams. BMP BIO-22 would minimize the potential for stranding of special-status fish by capturing or relocating and aquatic species stranded during dewatering and BMP BIO-8 would also minimize impacts through biological monitoring. BMPs BIO-23, BIO-24, and BIO-25 would maintain special-status fish habitat by minimizing removal of large woody debris in streams, avoiding impacts to riparian habitat, and restoring any impacted riparian habitat.

By implementing these measures impacts to special-status fish species and their habitat would be avoided or sufficiently minimized such that significant adverse impacts would not occur. Therefore, this impact would be **less than significant**. No mitigation is required.

As part of the Program, Midpen may implement projects that improve fisheries habitat (e.g., culvert replacement with more fish-friendly options, bank repairs, planting of riparian trees). These measures are likely to result in beneficial effects to special-status fish species and their habitat in the long run.

Impacts to Special-status Amphibian and Reptile Species

Table 2 in **Appendix D** lists the special-status amphibian and reptile species known to occur in the vicinity of the Program area. These species include California red-legged frog (CRLF), California tiger salamander (*Ambystoma californiense*), San Francisco garter snake, foothill yellow-legged frog (FYLF) (*Rana boylei*), California giant salamander, Santa Cruz black salamander (*Aneides flavipunctatus niger*), Red-bellied newt (*Taricha rivularis*), western pond turtle (WPT), and Coast horned lizard (*Phrynosoma blainvillii*).



California red-legged frogs are found primarily in or adjacent to creeks and reservoirs west of the mountain ridges in the less urbanized portions of the Program area. The species is known to occur, or potentially occur, at a number of Midpen preserves, including Tunitas Creek OSP, La Honda Creek OSP, La Purisima Creek Redwoods OSP, Rancho San Antonio OSP, Pichetti Ranch OSP, Coal Creek OSP, Russian Ridge OSP, Long Ridge OSP, Monte Bello OSP, Skyline Ridge OSP, Bear Creek Redwoods OSP, and Sierra Azul OSP (**Figure 3.4-5**). California red-legged frog designated critical habitat units SNM-1 (Cahill Ridge) and SNM-2 (Pescadero) are located in the Program area, and El Corte de Madera Creek OSP, La Honda Creek OSP, Long Ridge OSP, Russian Ridge OSP, Miramontes Ridge OSP, and Skyline Ridge OSP, all contain designated critical habitat.

California red-legged frogs are widespread in suitable habitat within the Program area, and occur in a number of Midpen preserves. The CNDDDB maps numerous records of California red-legged frogs within the Program area (CDFW 202b) (**Figure 3.4-5**). In addition, Midpen has been monitoring California red-legged frogs and their breeding habitats in its preserves since 2009, and has compiled a database of California red-legged frog records throughout many of its preserves (**Figure 3.4-5**). Monitoring work associated with Midpen's construction activities has also generated data on the occurrence of California red-legged frogs within the Program area.

In their analysis, H.T. Harvey and Associates (H.T. Harvey) used available data from the CNDDDB and Midpen to extrapolate the likelihood of California red-legged frog occurrence throughout the Program area (H.T. Harvey 2021). Midpen's monitoring data and observations indicate that California red-legged frogs are unlikely to occur in (a) densely forested, upper-watershed areas where the only waterbodies are ephemeral or intermittent streams or very cool, high-gradient perennial streams, or (b) upland areas away from water sources during the dry season.

Based on California red-legged frog occurrence data from the CNDDDB and Midpen, as well as habitat mapping data within Midpen's preserves showing the locations of streams and waterbodies (which provide breeding, foraging, and dispersal habitat for California red-legged frogs) and coniferous and hardwood forests (where Midpen's data indicate that California red-legged frogs are unlikely to occur, especially during the dry season), H.T. Harvey identified the likelihood of occurrence of California red-legged frogs within Midpen's preserves, easements, and management areas as follows (H.T. Harvey 2021):

- **Absent.** California red-legged frogs are not known or expected to occur in the preserve. The preserve is isolated from nearby populations of the species by major roadways and development, and California red-legged frogs are considered extirpated from the area.
- **Lower Density/Lower Frequency of Occurrence.** The preserve is located within the range of the California red-legged frog, but there are no known recent breeding occurrences within or adjacent to the preserve, records of the species are limited to infrequent encounters of nonbreeding individuals (e.g., along roads), red-legged frogs have not been detected during years of monitoring work by Midpen, and/or the preserve is predominantly vegetated by dense coniferous and/or hardwood forest



(within which California red-legged frogs are not expected to occur regularly, especially during the dry season). California red-legged frogs may be present in these preserves in low densities, and are primarily expected to occur during the wet season when individuals are dispersing across the landscape.

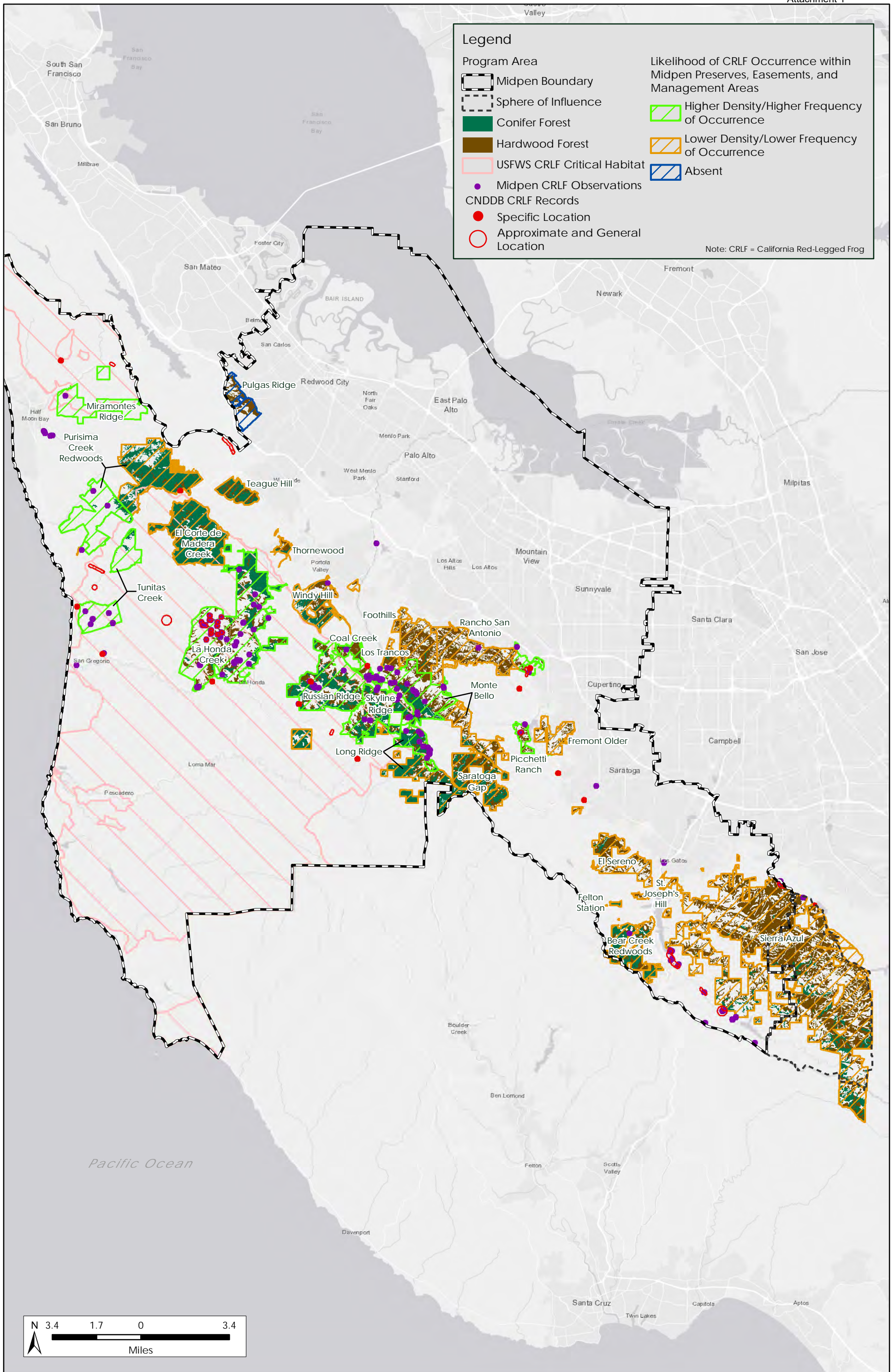
- **Higher Density/Higher Frequency of Occurrence.** California red-legged frogs are known to occur in the preserve or in nearby areas, one or more known breeding ponds is present within the preserve or in nearby areas, the preserve supports one or more streams or waterbodies that provide potential breeding habitat, and/or the preserve supports suitable upland habitat in close proximity to breeding areas nearby. California red-legged frogs are expected to be present in these preserves in higher densities, and may be encountered year-round.

The California tiger salamander is not known to occur in any Midpen preserves. If the California tiger salamander occurs on Midpen lands, it is most likely to occur along the northeastern edge of Sierra Azul OSP adjacent to Almaden Quicksilver County Park, where some potentially suitable upland (i.e., nonbreeding) habitat exists. No known ponds that provide suitable breeding habitat for California tiger salamanders are present in northeastern Sierra Azul OSP; thus, only nonbreeding dispersants are expected to occur on Midpen lands. Only Program activities in the northeastern portion of Sierra Azul OSP have any potential to adversely affect this species or its habitat.

West of the crest of the Santa Cruz Mountains within the Program Area, the San Francisco garter snake is found in a few localized areas along the coast. East of the crest, it is found from the City of South San Francisco and the San Francisco airport, south to Crystal Springs Reservoir (Stanford University 2012). San Francisco garter snakes have been historically documented in four Midpen preserves: Tunitas Creek, Russian Ridge, Skyline Ridge, and Long Ridge OSP (USFWS 2016). However, this species currently has a very limited distribution on Midpen lands, and the only Preserve with confirmed presence at this time is Russian Ridge OSP.

Suitable habitat for the foothill yellow-legged frog is present at multiple locations in the Program area, but the species has essentially been extirpated throughout much of San Mateo County, at least east of the crest of the Santa Cruz Mountains, as there are no records from that area since 1960 (CDFW 2020b). Single records west of the crest of the Santa Cruz Mountains within the past 25 years, from Pescadero Creek County Park and Portola Redwoods State Park, suggest the species may persist west of the crest. In Santa Clara County, east of State Route 17, the species is extant in suitable habitat, including in creeks in Sierra Azul OSP – the only Midpen preserve where the species is likely to occur.

Suitable habitat for the California giant salamander is present in the Program area, and the species has been observed at many Midpen preserves, including Tunitas Creek OSP, Skyline Ridge OSP, Sierra Azul OSP, Saratoga Gap OSP, Purisima Creek Redwoods OSP, Monte Bello OSP, Long Ridge OSP, La Honda Creek OSP, El Sereno OSP, El Corte de Madera Creek OSP, and Bear Creek Redwoods OSP (Midpen 2019, CDFW 2020b). It is most likely to occur near streams, but dispersing individuals could occur in nearby upland habitats.





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The Santa Cruz black salamander is endemic to California and is found in moist streamside habitats in woodlands and forests in the Santa Cruz Mountains in western Santa Clara, northern Santa Cruz, and southernmost San Mateo Counties. This species is found in moist forests and riparian zones in or near streams or seeps. This species has been observed at Sierra Azul OSP, as well as from Bear Creek Redwoods OSP, Long Ridge OSP, Monte Bello OSP, Russian Ridge OSP, and Saratoga Gap OSP (Midpen 2019, CDFW 2020b), and it likely occurs in suitable habitat at other Midpen preserves as well.

Suitable habitat for the red-bellied newt is present in the Program area, and the species is known to occur at Monte Bello OSP. However, because this recently discovered population is disjunct and isolated from the primary population, which is located in Humboldt, Mendocino, Lake, and Sonoma Counties by 80 miles (Reilly et al. 2014), this species is unlikely to occur at any other Midpen preserve.

Creeks, lakes, ponds, and freshwater marshes in the Program area provide suitable habitat for the western pond turtle. This species has been observed at La Honda Creek OSP, Bear Creek Redwoods OSP, Sierra Azul OSP, Russian Ridge OSP, Skyline Ridge OSP, Windy Hill OSP, and Long Ridge OSP (Midpen 2019; CDFW 2020b), and likely occurs in other preserves where suitable habitat is present.

Coast horned lizard was historically known to occur throughout San Mateo County and the Program area. Although there are no recent records from San Mateo County, this species is known to persist in at least three Midpen preserves located in Santa Clara County, with recent records from Bald Mt in the Sierra Azul OSP (2009), Monte Bello OSP (2014), and five records from Rancho San Antonio OSP, including two recent records (2014 and 2018) (Midpen 2019; iNaturalist 2019).

The vast majority of Program activities contribute to the management and enhancement of habitat for special-status amphibians and reptile species either directly (e.g., by constructing wildlife crossings, planting native vegetation, and restoring pond and stream habitats) or indirectly (e.g., by maintaining infrastructure needed to perform management activities), and the Program overall is anticipated to have a substantial net benefit to these species and their habitat.

However, Program activities, including water supply structure and bridge maintenance, vegetation management, road and trail maintenance activities, and new facilities and improvements have the potential to result in significant impacts to special-status amphibian and reptile species, where present, and their habitat. These activities could directly impact individuals or reduce the habitat quality by removing breeding substrate, basking sites, and escape cover in areas where Program activities occur. Injury or mortality of individuals by equipment, vehicle traffic, and worker foot traffic and disturbance of emergent vegetation, boulders, or cobbles that support egg masses could occur; however, Midpen has successfully been operating under a recovery permit issued by USFWS for 10 years and no injury or mortality of CRLF has occurred. Adult special-status amphibians may use existing animal burrows and the undersides of root wads, old boards, and other debris as refugia. Thus, individuals may also be crushed in their burrows by the passage of heavy equipment or trapped and suffocated. In addition, petrochemicals, hydraulic fluids, and solvents that are



spilled or leaked from construction vehicles or equipment may kill individuals at any life stage. Equipment and boots of maintenance personnel could introduce or spread *Batrachochytrium dendrobatidis* (Bd), a pathogen that can result in impairment of health, and even mortality, of amphibians. Facility maintenance activities, including those that require dewatering and those that do not, may temporarily result in increased turbidity within and downstream from the footprint of the activities due to mobilization of fine sediments. Increased turbidity may impair the health of red-legged frog eggs or larvae and make detection of predators and prey more difficult. In addition, seasonal movements (i.e., breeding, aestivation) and/or daily movements may be temporarily affected during Program activities because of dewatering or disturbance of non-instream habitat. Program activities may also result in the temporary loss of habitat value within the specific activity site (e.g., due to physical prevention of red-legged frogs from reaching an area).

Substrate vibrations or seismic sounds may cause individual amphibians to move out of refugia, exposing them to a greater risk of predation or desiccation, and may interfere with predator detection, resulting in a decrease in time spent foraging. Additionally, increases in human concentration and activity near suitable habitat may result in an increase in native and non-native predators that are attracted to trash left in the activity area. For example, raccoons, American crows, and common ravens are attracted to trash and prey opportunistically on amphibians.

The loss of riparian vegetation on stream banks due to water supply structure and bridge maintenance activities may result in indirect effects due to an increase in erosion and sedimentation. Increased turbidity may impair the health of special-status amphibian eggs or larvae and make detection of predators and prey more difficult. Additionally, any replacement of natural banks, or banks that are armored but that provide numerous refugia for red-legged frogs or their prey, with banks that provide no such refugia (e.g., concrete crib walls or sacked concrete) could result in the loss of upland refugia in the form of crevices, cavities, or small mammal burrows. Such effects could also result in the displacement of invertebrates that serve as a food source for special-status amphibians. Replacement of natural banks with would also preclude the re-establishment of riparian vegetation that provides cover and food for red-legged frogs and their prey. Conversely, replacement of “hard” bank substrates with “softer” substrates, which could also potentially occur under the Program, would enhance special-status amphibian habitat by increasing the availability of riparian vegetation and small mammal burrows to special-status amphibians.

Proposed vegetation management activities include the application of herbicides. Adherence to Midpen’s IPMP would ensure that herbicide treatments include the most effective and least environmentally harmful options, and require active monitoring and adaptive management to over time. Herbicides are currently used on Midpen lands under the IPMP. The herbicides proposed for use as part of the Program are the same as those already analyzed and covered by the IPMP EIR and Addendum (Midpen 2014; Midpen, 2019). No new herbicides are proposed for use. Further, chemical use across Midpen lands would not increase with implementation of the proposed Program.



Midpen would implement the following BMPs, incorporated as part of the Program, to avoid impacts to special-status amphibians and reptiles to the greatest extent feasible. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-4 Salvage/Reuse of Plant and Woody Material
- BMP GEN-5 Hazardous Materials Storage/ Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-7 Waste Management
- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-10 Paving and Asphalt Work
- BMP GEN-11 Concrete, Grout and Mortar Application
- BMP GEN-12 Exclude Concrete from Channel
- BMP GEN-13 Concrete Washout Facilities
- BMP GEN-14 Painting and Paint Removal
- BMP GEN-16 Site Stabilization
- BMP GEN-18 Project Completion by End of Work Period
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-20 Aquatic Resource Protection Measures
- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-26 Non-native Plant Removal and Herbicide Management
- BMP GEN-28 Culvert Replacement
- BMP GEN-29 Culvert Maintenance
- BMP GEN-32 Bridge and Puncheon Replacement
- BMP GEN-33 Bridge and Puncheon Repair and Maintenance
- BMP GEN-34 Ford and Swale (including Drain Lenses and Causeways) Replacement
- BMP BIO-1 Environmental Awareness Training
- BMP BIO-2 Biological Monitor



- BMP BIO-3 Work Area Designation
- BMP BIO-8 Non-Native Animal Control
- BMP BIO-9 General Wildlife Protection Measures
- BMP BIO-10 Special-status Species Reporting
- BMP BIO-11 San Francisco Garter Snake Protection Measures
- BMP BIO-12 California Red-Legged Frog Protection Measures
- BMP BIO-13 Foothill Yellow-Legged Frog Protection Measures
- BMP BIO-14 Western Pond Turtle Protection Measures
- BMP BIO-15 California Giant Salamander, Santa Cruz Black Salamander Protection Measures
- BMP BIO-22 Biological Monitoring for Stranded Aquatic Life
- BMP BIO-23 Large Woody Material Management
- BMP BIO-24 Riparian Avoidance
- BMP BIO-25 Riparian Restoration
- BMP EC-1 General Erosion Control Measures
- BMP EC-2 Slope or Bank Stabilization
- BMP EC-3 Road and Trail Drainage Maintenance
- BMP EC-4 Road and Trail Minor Relocation
- BMP EC-5 Revegetation of Disturbed Areas
- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-2 Turbidity Monitoring
- BMP SWQ-3 Sediment Filtering Measures
- BMP DW-1 Stream/Aquatic Habitat Isolation
- BMP DW-2 Pond Dewatering
- BMP DW-3 Pumps

The avoidance and minimization approaches related to California red-legged frog, California tiger salamander, and San Francisco garter snake are outlined below. The use of general BMPs applicable to all special-status amphibian and reptile species follow this discussion.

Avoidance and Minimization Approach for the California Red-Legged Frog

BMPs would be implemented for all activities; however, Midpen would adjust its strategy for implementation of California red-legged frog BMPs based on the impact tier assigned to each activity, as described in detail in BMP BIO-12. Implementation of BMP BIO-12 would require handling by qualified biologists or biological monitors, disinfection of equipment, and limits on the number of California red-legged frog that could be captured at a location per year. For



work at Tier 2A sites, where California red-legged frogs are least likely to occur, a biological training would be conducted, maintenance personnel would watch for California red-legged frogs, and would contact the qualified biologist immediately if one is detected, and further avoidance and minimization measures would be implemented. For Tier 2B sites with greater potential to impact California red-legged frog, additional measures would include focused surveys by a biologist or biological monitor, biological monitoring if appropriate, inspection of parked vehicles before moving, specialized vegetation removal to maximize frog detection and avoidance, allowing California red-legged frog to move out of the project area of their own volition, or relocation by a qualified individual. For Tier 3 sites, additional measures would include presence of a biologist or biomonitor during activities, and specialized surveys, work periods, and procedures for work in ponds.

Avoidance and Minimization Approach for the California Tiger Salamander

The same avoidance and minimization approach described above for the California red-legged frog would be implemented for the California tiger salamander in the much more limited geographic locations and circumstances in which this species could occur in Program activity areas (see above for a description of the potential Program areas where this species may occur). A similar tiering approach would be used for California tiger salamander as that described for California red-legged frog, and the relevant Tier 2A, Tier 2B, or Tier 3 BMPs would be implemented for California tiger salamander per BMP BIO-12. No injury or mortality of individual California tiger salamanders is expected to occur with implementation of BMPs.

Avoidance and Minimization Approach for the San Francisco Garter Snake

A similar tiering approach would be used for San Francisco garter snake as that described for California red-legged frog, and the relevant Tier 2A, Tier 2B, or Tier 3 BMPs would be implemented for San Francisco garter snake per BMP BIO-12. BMP BIO-11 would also be implemented to specifically avoid and minimize impacts on the San Francisco garter snake. Individuals that are found during pre-activity surveys would be avoided; no injury or mortality of individuals is expected to occur with implementation of BMPs, and no relocation of individuals is expected to be necessary for Program activities.

As described above, Midpen would implement BMPs specific to California red-legged frog (BMP BIO-12), and San Francisco garter snake (BMP BIO-11). Other BMPs specific to special-status amphibians and reptiles include those targeted towards avoidance of impacts to foothill yellow legged frog (BMP BIO-13), western pond turtle (BMP BIO-14), and California Giant Salamander and Santa Cruz Black Salamander (BMP BIO-15). Implementation of BMP BIO-13 would require work to stop if an individual is detected in the work area until the animal leaves of its own volition. BMP BIO-14 would require focused pre-construction surveys for western pond turtles, allowing the turtle to leave the work area on its own, or relocating the turtle out of the work area, and avoidance of western pond turtle nests. Implementation of BMP BIO-15 would require pre-construction training, biological monitoring of sensitive habitat, and avoidance or relocation of California giant salamander and Santa Cruz black salamander if present. Implementation of the BMPs described above would avoid and minimize impacts to these species. Several BMPs that would avoid or



minimize impacts by minimizing the footprint of work activities and minimizing impacts from staging and stockpiling of materials, spills or leaks of chemicals, and other adverse effects would include BMPs GEN-1, GEN-2, GEN-5, GEN-6, GEN-8, GEN-9, GEN-14, GEN-22, GEN-23, and GEN-26. BMPs GEN-10, GEN-11, GEN-12, and GEN-13 would minimize the potential for concrete to result in adverse effects on aquatic habitats by limiting exposure of uncured concrete to these habitats. BMPs GEN-18 and GEN-19 would reduce the potential for erosion or sedimentation by restricting work to the dry season and dry periods. Implementation of BMPs GEN-16, EC-1, EC-2, EC-3, EC-4, EC-5, SWQ-1, SWQ-2, and SWQ-3 would further minimize potential for erosion or sedimentation by stabilizing work sites, implementing erosion control measures and monitoring water quality. Implementation of BMP BIO-1 would minimize impacts through environmental awareness training of maintenance personnel regarding the sensitivity of special-status amphibian species and BMP BIO-2 would give the biological monitor stop-work authority to avoid impacts to special-status species. BMPs DW-1, DW-2, and DW-3 would minimize impacts to aquatic habitat by isolating the work area from the flowing stream, conducting dewatering outside of the California red-legged frog breeding season, and screening pumps to prevent impingement, injury, or mortality. Implementation of BMP BIO-8 would improve conditions for special-status amphibian species by controlling nonnative aquatic species and minimizing the attraction of predators into the work area. BMPs BIO-23, BIO-24, and BIO-25 would maintain special-status amphibian species by minimizing removal of large woody debris in streams, avoiding impacts to riparian habitat, and restoring any impacted riparian habitat.

Further, the proposed Program is expected to result in a net benefit to these species and their habitats by planting native vegetation to enhance and restore upland, wetland, and riparian areas; creating new features such as wetlands and off-channel pools to expand aquatic habitats; decommissioning existing infrastructure (e.g., old roads and culverts) to restore habitats; removing nonnative invasive plants; maintaining high-quality grasslands using grazing and fuel management practices; reducing sediment accumulation in ponds and streams and removing debris; and maintaining infrastructure to ensure access for Midpen personnel conducting management activities and avoid detrimental effects of deteriorating structures on habitats. After implementation of BMPs, the Program would not have a significant residual impact on populations of any of these species; rather, the Program and its BMPs are designed to have a beneficial impact on these species and improve the likelihood of the survival and recovery of these species. Therefore, this impact would be **less than significant**. No mitigation is required.

Impacts to Special-status Bird Species

Table 2 in **Appendix D** lists the special-status bird species known to occur in the vicinity of the Program area. These include marbled murrelet, tricolored blackbird, white-tailed kite, bald eagle, golden eagle (*Aquila chrysaetos*), long-eared owl (*Asio otus*), Vaux's swift (*Chaetura vauxi*), black swift (*Cypseloides niger*), olive-sided flycatcher (*Contopus cooperi*), purple martin (*Progne subis*), loggerhead shrike (*Lanius ludovicianus*) yellow warbler, San Francisco common yellowthroat (*Geothlypis trichas sinuosa*), grasshopper sparrow, and Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*). Other bird species that are protected by the MBTA and California Fish and Game Code (§) 3503 and 3503.5 could nest in grasslands, shrubs, trees, and other substrates within the Program area. The marbled



murrelet is described in detail below, while impacts to other special-status birds are described more broadly.

In the Program area, the marbled murrelet is restricted to old-growth redwood forests and isolated patches of late-seral forest, where it breeds, and to coastal waters, where it forages (Sequoia Audubon Society 2001, Cornell Lab of Ornithology 2021). This species is known to occur in Purisima Creek Redwoods OSP and Tunitas Creek OSP (**Figure 3.4-4**), and it may occur in or near other preserves if old-growth redwood forests or late seral forest are present. Records of the species are known along the southern boundary of El Corte de Madera Creek OSP and La Honda Creek OSP, and adjacent to an easement located south of Russian Ridge OSP (**Figure 3.4-4**). However, most known breeding areas are farther downslope from the crest of the Santa Cruz Mountains, and are centered in the area bounded by San Mateo County Memorial Park, Sam McDonald County Park, Pescadero Creek County Park, Portola Redwoods State Park, Butano State Park, and (in adjacent Santa Cruz County) Big Basin State Park (CNDDDB 2021). Two marbled murrelet designated critical habitat units are present in the Program area (CA-13 and CA-14a); however, no Midpen preserves or easements include designated critical habitat. Designated critical habitat is located in Huddart County Park, immediately adjacent to Purisima Creek Redwoods OSP and Teague Hill OSP, as well as at Pescadero Creek County Park and Portola Redwoods State Park, immediately adjacent to La Honda Creek OSP, Long Ridge OSP, and Skyline Ridge OSP (**Figure 3.4-2**).

Suitable nesting habitat for the marbled murrelet is present within Purisima Creek Redwood OSP, Tunitas Creek OSP, and an easement located south of Russian Ridge OSP, as well as immediately adjacent to La Honda Creek OSP, Skyline Ridge OSP, and Long Ridge OSP. A number of Program activities, such as maintenance of roads and trails, culverts, and bridges, as well as vegetation management and other activities, are proposed in these areas. Although Program activities are not expected to result in the loss of nesting habitat, it is feasible that such activities could (in the absence of BMPs) occur sufficiently close to active nests to result in disturbance. Adult birds are not expected to be killed or injured, as they could easily fly from the work site prior to such effects occurring; however, Program activities causing a substantial increase in noise, movement of equipment, or human presence near active nests could result in the abandonment of nests, and possibly the loss of eggs or young as a result.

Similarly, Program activities such as maintenance of roads and trails, culverts, and bridges, as well as vegetation management have the potential to disturb other nesting special-status bird species and their habitat. In the absence of BMPs, this could cause nesting failure or reduced fitness, which could result in a significant impact to special-status birds.

Midpen would implement the following BMPs, incorporated as part of the Program, to reduce impacts on special-status birds, and their habitats to the greatest extent feasible. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-8 Vehicle Maintenance and Parking



- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP BIO-1 Environmental Awareness Training
- BMP BIO-2 Biological Monitor
- BMP BIO-16 Migratory Bird Nest Protection Measures (excludes Marbled Murrelet)
- BMP BIO-17 Marbled Murrelet Nest Protection Measures
- BMP BIO-23 Riparian Avoidance
- BMP BIO-24 Riparian Restoration

Implementation of a number of BMPs that are routine for all Program activities would help to avoid impacts on nesting special-status birds and nesting birds protected by the MBTA and California Fish and Game Code § 3503 and 3503.5. Such general BMPs, which tend to minimize the footprint of work activities and minimize impacts from staging and stockpiling of materials, spills or leaks of chemicals, and other adverse effects, include BMPs GEN 1, 2, 8, 9 and 23. In addition, implementation of BMP BIO-1 would minimize impacts through environmental awareness training of maintenance personnel regarding the sensitivity of special-status bird species. BMP BIO-16 Migratory Bird Nest Protection Measures (excludes Marbled Murrelet) would be implemented to protect nesting birds (including special-status nesting birds). This BMP includes focused surveys for active nests during the nesting season (February 15 - August 30). If active nests are found, a buffer would be established around the nest and maintained until the young have fledged. This BMP also includes monitoring of bird behavior at the nest site to ensure nesting birds are not disturbed by Program activities. BMP BIO-17 would be implemented to specifically avoid and minimize impacts on the marbled murrelet. Program activities within 0.25 mile of suitable nesting habitat for the marbled murrelet, as determined by a qualified biologist, would be confined to the period of September 15 to March 23, outside of the typical nesting season for marbled murrelets (as defined by the Pacific Seabird Group Marbled Murrelet Technical Committee [2003]). BMPs BIO-23 and BIO-24 would also be protective of riparian habitat, where special-status bird species such as yellow warbler and long-eared owl may nest, which would further reduce impacts to these species.

By implementing these measures, impacts to special-status bird species and their habitat would be avoided or sufficiently minimized such that significant adverse impacts would not occur. Therefore, this impact would be **less than significant**. No mitigation is required.

Impacts to Special-status Mammal Species

Table 2 in **Appendix D** lists the special-status mammal species known to occur in the vicinity of the Program area. These include mountain lion, San Francisco dusky-footed woodrat, pallid bat, western red bat, Townsend's big-eared bat, ringtail (*Bassariscus astutus*), and American badger. Several non-special-status but CEQA-relevant bat species (hereafter referred to as "CEQA-relevant bats") have potential to occur in the Program area, including Brazilian free-tailed bats (*Tadarida brasiliensis*), big brown bats (*Eptesicus fuscus*), and myotis bats (*Myotis*



spp.). These CEQA-relevant bat species may be present in trees, bridges, or rock crevices or under exfoliating tree bark in the vicinity of Program activities.

Mountain lions are present in low densities throughout much of the Santa Cruz Mountains. Although they typically tend to avoid areas of high human activity, they occasionally venture into suburban areas. Mountain lions have been recorded in numerous Midpen preserves and could potentially occur in any preserve within the Program area.

The San Francisco dusky-footed woodrat (SFDFW), a California species of special concern, occurs in woodlands and scrub habitats throughout much of the program area, and can be abundant in suitable habitat.

Pallid bat has been recorded in scattered locations in open areas and along roads of the Pacific coastal regions and the Santa Cruz Mountains within the Program area. This species may occur in Midpen preserves with old buildings or large trees (especially oaks) with large cavities. However, pallid bats are expected to occur in low numbers and only in limited areas.

The Townsend's big-eared bat is a scarce resident of the Program area, potentially roosting in old mines, caves, very large cavities in redwood trees, and barns and abandoned buildings in the Santa Cruz Mountains. Townsend's big-eared bats have been detected at several Midpen preserves, including Bear Creek Redwoods OSP, La Honda Creek OSP, Long Ridge OSP, Pichetti Ranch OSP, Russian Ridge OSP, Skyline Ridge OSP, Sierra Azul OSP, and Windy Hill OSP (Midpen data). This species has also been detected at Tunitas Creek Beach, less than 1/2 mile from Midpen's Tunitas Creek OSP. Many of these records are very recent, within the past three years, and in many instances, detections have occurred during the known breeding season for this species, which extends through August. In many cases, Townsend's big-eared bats detected in Midpen preserves have been found in buildings, such as sheds or barns. Therefore, this species may occur in a number of Midpen preserves, albeit in very small numbers.

The western red bat does not breed in the Program area, so no maternity roosts would be affected by proposed Program activities. It does roost solitarily in the foliage of trees during winter or migration.

Suitable habitat for ringtail is present in portions of the Program area that contain dense woodlands and/or rocky outcroppings. It is known to have occurred at Sierra Azul OSP, Saratoga Gap OSP, and Long Ridge OSP (Midpen 2019), and may be present at other Midpen preserves, although it is expected to be rare and local.

Badgers are present in low numbers in open habitats of the Program area, with many recent records from Midpen preserves along the crest of the Santa Cruz Mountains that have open grasslands, including Skyline Ridge OSP, Russian Ridge OSP, Windy Hill OSP, Tunitas Creek OSP, Monte Bello OSP, Coal Creek OSP, and La Honda Creek OSP. Suitable habitat may exist at other preserves. However, populations of this species in the Santa Cruz Mountains are likely low, and this species is expected to occur only in low numbers in any Midpen preserve.



Program activities could result in accidental crushing of SFDFW stick nests, or direct mortality from crushing by mechanical equipment. Implementation of BMP BIO-16, which includes preconstruction surveys and relocation of nests that cannot be avoided, would be implemented to specifically avoid and minimize impacts on SFDFW.

In the absence of BMPs, Program-related disturbance near a maternity roost of pallid or Townsend's big-eared bats could cause females to abandon their young. If trees or structures containing roosting colonies or individual pallid bats or Townsend's big-eared bats were removed or modified, individual bats could be physically injured or killed; could be subjected to physiological stress from being disturbed during torpor; or could face increased predation because of exposure during daylight, a potentially significant impact. Such impacts could be significant because these species' populations are limited locally and regionally and loss of individuals may have a substantial adverse effect on local and regional populations of these species. Implementation of BMP BIO-20, which requires preconstruction surveys for pallid and Townsend's big-eared bats, avoidance of work during the breeding season and winter torpor period if special-status bats are present, providing alternative roost sites, and preparing and implementing exclusion plans, would minimize impacts on special-status bats.

The western red bat does not breed in the Program area but roosts in the foliage of trees during winter or migration. Individuals of this species roost solitarily in foliage, and the number of individuals that could be present on a project site at any given time (and thus the number that could be affected) is likely low. When trees supporting individual bats are removed or modified, individual western red bats could be affected, if present, in the same ways described above for adult pallid and Townsend's big-eared bats.

Program activities could result in similar impacts to CEQA-relevant bat species. Proposed tree removal would have the potential to result in impacts on non-special-status bats. Loss of a small colony (i.e., fewer than 10) of non-special-status bats would not result in a substantial impact on regional populations because of the regional abundance of these species (e.g., in comparison to pallid bat and Townsend's big-eared bat); however, loss of multiple colonies, or of a particularly large colony, of these CEQA-relevant bat species may substantially affect regional populations of any of them. Implementation of BMP BIO-20 would be protective of CEQA-relevant bat species, in addition to special-status bat species. Suitable roost sites for non-special-status bats are expected to be widespread enough that the loss of a roost site resulting from proposed Program activities would not result in a substantial reduction in suitable roosts on a regional scale. Program activities are not expected to result in a substantial reduction in suitable roosts (on a regional scale) for common bat species. Therefore, the loss of roost sites used by common bat species would be a less-than-significant impact.

Program activities may disturb foraging badgers or ringtails or temporarily cause these species to modify their foraging or dispersal areas, but such effects would be temporary. Badger or ringtail dens are not anticipated to be impacted by Program activities.

Midpen would implement the following BMPs, incorporated as part of the Program, to reduce impacts on special-status mammals and their habitats to the greatest extent feasible. Descriptions of each BMP are provided in Chapter 2, *Project Description*.



- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP BIO-1 Environmental Awareness Training
- BMP BIO-16 San Francisco Dusky-footed Woodrat and Nest Protection Measures
- BMP BIO-20 Bat Colony Protection Measures

Implementation of BMPs GEN-1, GEN-2, and BIO-1 would minimize impacts on all special-status mammal species through minimization of the area of disturbance and environmental awareness training of maintenance personnel regarding the sensitivity of these species. As described above, implementation of BMP BIO-16 includes preconstruction surveys for San Francisco dusky-footed woodrat and relocation of nests that cannot be avoided. Implementation of BMP BIO-20, which requires preconstruction surveys for pallid and Townsend's big-eared bats, avoidance of work during the breeding season and winter torpor period if special-status bats are present, providing alternative roost sites, and preparing and implementing exclusion plans, would minimize impacts on special-status bats. By implementing these measures, impacts to special-status mammal species and their habitat would be avoided or sufficiently minimized such that adverse impacts are not likely to occur. Therefore, this impact would be **less than significant**. No mitigation is required.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Note that impacts to wetlands are addressed separately in (c), below.

As described above in the setting section, riparian communities and other sensitive natural communities are present within the Program area. Riparian communities provide a wide range of biological functions for fish and wildlife species. Program activities largely occur in sensitive natural communities including oak woodland, riparian habitat, freshwater wetlands, and riverine aquatic habitat. Program activities such as culvert and bridge and replacement, road and trail drainage feature maintenance, sediment and debris removal, streambank stabilization, road and trail maintenance, water supply structure maintenance, restoration and enhancement projects and vegetation management may occur within riparian corridors along channel banks. Thus, these activities have the potential to result in the loss and/or disturbance of riparian or other sensitive natural community vegetation through pruning and trimming for access, removal of fallen or hazardous trees, herbicide application, trampling, and other impacts. Program activities could also impact native riparian and other sensitive vegetation through the introduction and spread of pathogens such as *Phytophthora*.

As described in Chapter 2, vegetation removal in a riparian area would typically be less than 1,200 square feet per site. Current permit conditions provide for a 20% maximum reduction in riparian canopy and to mitigate for any trees removed above 6" dbh within the top of bank. All vegetation removal activities would be conducted in compliance with the IPMP and the



Wildland Fire Resiliency Program. Additionally, the work limits described in Chapter 2 would limit Program impacts on riparian and other sensitive natural communities. Pesticide application in riparian areas would be limited to one to five sites per year and would be conducted in accordance with the IPMP BMPs. Only pesticides and adjuvants labeled for aquatic use would be allowed.

Conservation grazing activities are not anticipated to result in impacts to sensitive natural communities, as these activities would be conducted in accordance with the goals, policies, and implementation measures included in Midpen's Grazing Management Policy (2008). Certified rangeland managers would prepare site-specific grazing management plans that incorporate BMPs for preserves where grazing will be utilized based on the unique features of each site and determine the appropriate class of livestock and stocking rates. Before conservation grazing activities commence, a biologist would evaluate the area to be grazed to identify sensitive resources, including sensitive natural communities.

The effects of sediment and debris removal, culvert and bridge maintenance, road and trail drainage feature maintenance, streambank stabilization, and vegetation management activities on riparian vegetation have been estimated on an annual basis on past Midpen projects (See **Table 2-3** in Chapter 2, *Project Description*). A precise quantification of the Program impact areas is not possible at this time as Program activities will be determined and prioritized on an annual basis by Midpen within each OSP. Riparian vegetation that is removed by Program activities is expected to regrow, except in areas where capacity or other maintenance activities would require the permanent exclusion of vegetation or where repetitive impacts on riparian vegetation in certain areas could prevent regrowth. The Program also includes various enhancement and restoration activities, which are anticipated to result in a beneficial effect to native riparian vegetation.

Midpen would implement the following BMPs, incorporated as part of the Program, to reduce impacts on sensitive natural communities to the greatest extent feasible. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-5 Hazardous Materials Storage/ Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-10 Paving and Asphalt Work
- BMP GEN-11 Concrete, Grout and Mortar Application
- BMP GEN-12 Exclude Concrete from Channel
- BMP GEN-13 Concrete Washout Facilities



- BMP GEN-14 Painting and Paint Removal
- BMP GEN-16 Site Stabilization
- BMP GEN-18 Project Completion by End of Work Period
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-20 Aquatic Resource Protection Measures
- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-24 Vegetation Management with Prescribed Burns
- BMP GEN-25 Vegetation Management with Livestock
- BMP GEN-26 Non-native Plant Removal and Herbicide Management
- BMP GEN-28 Culvert Replacement
- BMP GEN-29 Culvert Maintenance
- BMP GEN-30 Culvert Removal and/or Replacement with Rolling Dips or Fords
- BMP GEN-31 New Culvert Installation (non-stream crossings)
- BMP GEN-32 Bridge and Puncheon Replacement
- BMP GEN-33 Bridge and Puncheon Repair and Maintenance
- BMP GEN-34 Ford and Swale (including Drain Lenses and Causeways) Replacement
- BMP BIO-1 Environmental Awareness Training
- BMP BIO-2 Biological Monitor
- BMP BIO-3 Work Area Designation
- BMP BIO-5 Sensitive Natural Communities
- BMP BIO-6 Invasive Plant Material Management and Disposal
- BMP BIO-7 Sudden Oak Death and Plant Pathogen Control
- BMP BIO-23 Large Woody Material Management
- BMP BIO-24 Riparian Avoidance
- BMP BIO-25 Riparian Restoration
- BMP EC-1 General Erosion Control Measures
- BMP EC-2 Slope or Bank Stabilization
- BMP EC-3 Road and Trail Drainage Maintenance
- BMP EC-4 Road and Trail Minor Relocation
- BMP EC-5 Revegetation of Disturbed Areas



- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-2 Turbidity Monitoring
- BMP SWQ-3 Sediment Filtering Measures
- BMP DW-1 Stream/Aquatic Habitat Isolation

Standard operating procedures for Program activities include implementing BMP BIO-5: Sensitive Natural Communities, BMP BIO-24: Riparian Avoidance and BMP BIO-25: Riparian Restoration. During treatment of vegetation within a sensitive natural community, BMP BIO-5 would require maintenance of the membership rules of the natural community by preferentially retaining characteristic species to maintain the structure and composition of the community. BMP BIO-24 would require protection of riparian trees from damage to the greatest extent possible, and that vegetation management not adversely impact the riparian zone. BMP BIO-25 would require prioritization of riparian restoration in the same preserve and watershed, tree replacement, revegetation, and the use of native species for revegetation (except in cases where non-native trees are culturally significant). For active revegetation, a revegetation plan would be submitted to CDFW with the annual notification, and monitoring and remediation of revegetation areas. I.

BMPs that would avoid or minimize impacts by minimizing the footprint of work activities and minimize impacts from staging and stockpiling of materials, spills or leaks of chemicals, and other adverse effects include BMPs GEN-1, GEN-2, GEN-5, GEN-6, GEN-8, GEN-9, GEN-14, GEN-22, GEN-23, and GEN-26. BMPs GEN-10, GEN-11, GEN-12, and GEN-13 would minimize the potential for concrete to result in adverse effects on sensitive habitats by limiting exposure of uncured concrete to these habitats. BMPs GEN-18 and GEN-19 would reduce the potential for erosion or sedimentation by restricting work to the dry season and dry periods. Implementation of BMPs GEN-16, EC-1, EC-2, EC-3, EC-4, EC-5, SWQ-1, SWQ-2, and SWQ-3 would further minimize potential for erosion or sedimentation by stabilizing work sites, implementing erosion control measures and monitoring water quality. Implementation of BMP BIO-1 would minimize impacts through environmental awareness training of maintenance personnel regarding the sensitivity of riparian and other sensitive natural communities. BMP BIO-2 would give the biological monitor stop-work authority to avoid impacts to sensitive natural communities. BMP BIO-7 would minimize impacts from plant pathogens by sanitizing and not carrying infected materials into other areas. BMP DW-1 would minimize impacts to aquatic habitat by isolating the work area from the flowing stream.

With these BMPs in place, the Program would have a **less than significant** or potentially beneficial impact to sensitive natural communities including riparian habitat. No mitigation is required.

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Federally protected wetlands are present within the Program area in many OSPs. Program activities such as culvert and bridge and replacement, road and trail drainage feature



maintenance, sediment and debris removal, streambank stabilization, road and trail maintenance, work in ponds, water supply structure maintenance, restoration and enhancement projects and vegetation management may occur in areas supporting wetlands. Thus, these activities have the potential to result in the loss and/or disturbance of wetlands. Wetland vegetation may be lost as a result of mechanical or physical clearing in the work site (including access areas), removal of sediment containing vegetation, and damage to vegetation may occur as a result of crushing by equipment; trampling by personnel; and compaction of soil, which could result in damage to plant roots. Program activities would require temporary water diversions or dewatering. This activity would result in the temporary loss of aquatic and wetland communities and may result in increased turbidity within and downstream from the footprint of the activities caused by mobilization of fine sediments. In addition, because barren slopes are more susceptible to erosion from incident rainfall, the loss of wetland vegetation and non-instream vegetation along stream banks following bank stabilization activities may result in an increase in erosion and sedimentation. Increased erosion and sedimentation may lead to the filling in of pools and damage to wetland vegetation. Program also may affect downstream areas by altering flow patterns.

These activities could result in the placement of fill, hydrological interruption (e.g., dewatering or diversion), alteration of bed and bank, degradation of water quality (e.g., increased sedimentation and turbidity), and other direct impacts, which would be a potentially significant impact. The activities would primarily result in the short-term loss and disturbance of wetlands and aquatic habitats; however, small permanent losses could occur because of the use of hardscape for bank stabilization activities. As described in Chapter 2, Midpen would continue to prioritize the use of earthen and biotechnical bank stabilization solutions over hardscape solutions.

Midpen would implement the following BMPs, incorporated as part of the Program, to reduce impacts on wetlands. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-5 Hazardous Materials Storage/ Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-10 Paving and Asphalt Work
- BMP GEN-11 Concrete, Grout and Mortar Application
- BMP GEN-12 Exclude Concrete from Channel
- BMP GEN-13 Concrete Washout Facilities
- BMP GEN-14 Painting and Paint Removal



- BMP GEN-16 Site Stabilization
- BMP GEN-18 Project Completion by End of Work Period
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-20 Aquatic Resource Protection Measures
- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-24 Vegetation Management with Prescribed Burns
- BMP GEN-25 Vegetation Management with Livestock
- BMP GEN-26 Non-native Plant Removal and Herbicide Management
- BMP GEN-28 Culvert Replacement
- BMP GEN-29 Culvert Maintenance
- BMP GEN-30 Culvert Removal and/or Replacement with Rolling Dips or Fords
- BMP GEN-31 New Culvert Installation (non-stream crossings)
- BMP GEN-32 Bridge and Puncheon Replacement
- BMP GEN-33 Bridge and Puncheon Repair and Maintenance
- BMP GEN-34 Ford and Swale (including Drain Lenses and Causeways) Replacement
- BMP BIO-1 Environmental Awareness Training
- BMP BIO-2 Biological Monitor
- BMP BIO-3 Work Area Designation
- BMP BIO-6 Invasive Plant Material Management and Disposal
- BMP EC-1 General Erosion Control Measures
- BMP EC-2 Slope or Bank Stabilization
- BMP EC-3 Road and Trail Drainage Maintenance
- BMP EC-4 Road and Trail Minor Relocation
- BMP EC-5 Revegetation of Disturbed Areas
- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-2 Turbidity Monitoring
- BMP SWQ-3 Sediment Filtering Measures
- BMP DW-1 Stream/Aquatic Habitat Isolation



Midpen would implement a number of BMPs to address the impacts of Program activities on wetlands and other waters. General BMPs tend to minimize the footprint of work activities and minimize impacts from staging, stockpiling of materials, spills or leaks of chemicals, and other adverse effects. Relevant general BMPs include BMPs GEN-1, GEN-2, GEN-5, GEN-22, GEN-23, and GEN-26. BMPs GEN 16, GEN-21, EC-1 through EC-5, and SWQ-1 through SWQ-3 are specifically designed to reduce adverse effects on water quality, such as increased turbidity. Petrochemicals, hydraulic fluids, and solvents that are spilled or leaked from maintenance vehicles or equipment may also adversely affect water quality within or downstream from the activity area, and fresh concrete may release harmful chemicals into the water if rewatering occurs before the concrete has cured. These impacts would be minimized by implementation of BMPs GEN-5 through GEN-16. BMPs GEN-18 and GEN-19 would reduce the potential for erosion or sedimentation by restricting work to the dry season and dry periods. Implementation of BMP BIO-1 would minimize impacts through environmental awareness training of maintenance personnel regarding the sensitivity of wetlands and waters. BMP BIO-2 would give the biological monitor stop-work authority to avoid impacts to sensitive habitats. BMP DW-1 would minimize impacts to aquatic habitat by isolating the work area from the flowing stream. Implementation of BMP BIO-6 would reduce impacts from invasive plants by requiring equipment to arrive clean on the work site and properly disposing of invasive plants.

Implementation of the above BMPs would reduce and minimize impacts to state and federal wetlands. Midpen acquires dozens of acres of wetland habitats each year through its preservation efforts. As part of the proposed Program Midpen would offset all permanent removal of vegetation from jurisdictional areas through continued land acquisitions and permanent protection of riparian habitats. Additionally, implementation of the restoration and enhancement projects conducted by Midpen would be beneficial to wetlands and other waters associated with Program activities. Therefore, Program activities are not likely to result in the permanent reduction of wetland area, substantial conversion of wetland type, or a significant permanent decline in wetland functions and values. Therefore, this impact would be **less than significant**. No mitigation is required.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

Impacts to nesting non-special-status birds and roosting CEQA-relevant bats are discussed in the responses to question (a), above.

Aquatic features in the Program area, including streams, ponds, and lakes, provide habitat for both native and non-native fish. Program activities including sediment and large woody debris removal may affect the movement of fish species by altering flow paths or the distribution of stream substrate. Dewatering activities would result in short-term losses of available habitat for fish species, but would not result in permanent barriers. Culverts in fish-bearing streams would be designed to provide sufficient depth and velocity of water for passage of native fish and other native aquatic species during high and low flow conditions, which is anticipated to improve habitat conditions for native species.



Implementation of Program activities may cause wildlife to avoid implementation areas during active work due to noise or increased human presence. However, Program activities would be relatively short in duration and would not result in permanent access restrictions or barriers to movement for wildlife. Following the completion of Program activities in an area, wildlife dispersal through the affected area is expected to return to existing conditions.

Midpen would implement the following BMPs, incorporated as part of the Program, to reduce impacts on the movement of native fish and wildlife. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP DW-1 Stream/Aquatic Habitat Isolation
- BMP DW-2 Pond Dewatering
- BMP DW-3 Pumps

Implementation of BMPs GEN-1 and GEN-2 would avoid or minimize impacts by minimizing the footprint of work activities and minimize impacts from staging and stockpiling of materials. BMPs DW-1, DW-2, and DW-3 would minimize impacts to aquatic habitat by isolating the work area from the flowing stream, conducting dewatering outside of the California red-legged frog breeding season, and screening pumps to prevent impingement, injury, or mortality of aquatic species. After implementation of BMPs, the Program would not have a significant residual impact on native resident or migratory fish or wildlife species, established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. Therefore, this impact would be **less than significant**. No mitigation is required.

- e. ***Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

Conflict with Local Policies

The Program would comply with local policies protecting biological resources, including Midpen's Resource Management Policies and Vision Plan, and the General Plans of San Mateo, Santa Cruz, and Santa Clara Counties. Therefore, impacts related to conflict with local policies would be **less than significant**. No mitigation is required.

Conflict with the Local Tree Ordinance

The majority of proposed Program activities would occur in unincorporated San Mateo and Santa Clara Counties, while some work would occur in various cities and towns. As described in Section 3.4.2, both San Mateo and Santa Clara Counties have ordinances protecting trees. Midpen would comply with all such ordinances where applicable, including obtaining a permit from the necessary jurisdictions to remove protected trees and complying with the conditions of such permits (including paying any applicable fees). Therefore, impacts related



to conflict with local policies or ordinances protecting trees would be **less than significant**. No mitigation is required.

Conflict with Local Coastal Program

As described in Section 3.4.2, all development planned in the Coastal Zone requires either issuance of a Coastal Development Permit or a Coastal Development Permit Exemption. Midpen would comply with the LCP by obtaining a permit or exemption for all Program activities that are planned within the Coastal Zone and complying with all applicable permit conditions. Therefore, impacts related to conflict with the LCP would be **less than significant**. No mitigation is required.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

A very small portion of Midpen lands along the eastern boundary of Sierra Azul OSP (approximately 200 acres) are within the mapped Habitat Plan area (ICF International 2012). The Habitat Plan covers nine wildlife and nine plant species, listed in **Table 3.4-2**. Midpen is not a signatory of the Habitat Plan, but coordinates with the signatory parties to the plan regarding any biological issues should they arise. Program activities that occur within the Habitat Plan area would not be covered by the Habitat Plan. Further, the Program includes BMPs to avoid and minimize impacts from Program activities on the species covered by the Habitat Plan, as described above under Impact Criterion a. Therefore, the Program would not conflict with the Habitat Plan. This impact would be **less than significant**. No mitigation is required.



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3.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.5.1 Environmental Setting

Cultural resources include prehistoric Native American archaeological sites; historic-era archaeological sites; tribal cultural resources (TCRs); traditional cultural properties; and historic era buildings, structures, landscapes, districts, and linear features. Cultural resources are protected by the National Historic Preservation Act (NHPA), CEQA, and the California Public Resources Code. These resources are the result of thousands of years of human presence on the landscape. It is widely believed that the San Francisco Bay region was likely inhabited by at least 10,000 B.C. (Milliken et al. 2010) by mobile groups of big game hunters. Over the centuries, indigenous populations became increasingly more sedentary and practiced a foraging subsistence pattern, incorporating the use of seeds and acorns into their diet to supplement animal sources. By the time of the earliest colonists, the Ohlone people were well established in the region.

The first European explorers in the San Francisco Bay area were the Spanish, who arrived in the late 1760s and the 1770s to establish missions; first in San Francisco and then Santa Clara and San Jose. When Mexico became independent from Spain in 1821, the secular government began issuing grants of land to favored citizens. First granted only to Mexican nationals, these tracts of land were soon bestowed upon those outsiders (largely Americans) who agreed to become citizens (Kyle et al. 2002:xiii-xiv). During Mexican rule, 22 tracts of land, or Ranchos, were granted within the Program area, in what was to become San Mateo and Santa Clara counties (Ballard et al. 2013:38-39; California State Lands Commission 1982).

American explorers, traders, and settlers began filtering into California in the early 1800s, but it was not until after the end of the Mexican War and the signing of the Treaty of Guadalupe Hidalgo in 1848, that non-Hispanic Anglos began migrating in masses. This surge



in migration was bolstered by the discovery of gold in the Sierra Nevada foothills and the advent of the Gold Rush in 1849. During this era, the Program area was largely agricultural, though lumber was also a valued commodity. The entire region began to become more urban after World War II, and more so after the Korean War. By the middle of the 20th century, the wartime industry provided jobs and a fledgling local economy. By the middle of the 20th century, the wartime industry provided jobs and a fledgling local economy. At this time, San Mateo and Santa Clara counties became a focal point of the electronics industry, and over the next decades the region fully transformation into the “Silicon Valley” as it is known today.

Midpeninsula Regional Open Space District

Midpen was established nearly 50 years ago upon passage of voter initiative, Measure R, in 1972. The Midpeninsula Regional Park District (as it was originally named) was formed in response to rapid suburban and commercial development in the 1960s by conservationists who were concerned about the encroachment of construction in the hills, open spaces, and bay lands that made living in the Bay Area so desirable (Midpen 2021a).

In its infancy, Midpen was focused in northwestern Santa Clara County and, in 1974, 90 acres of the Foothills OSP (now expanded to 212 acres) was the first purchase made by the agency. The following year, voters approved adding southern San Mateo County to Midpen. Within a year, the first open space preserve in San Mateo County was secured: 274 acres of the Los Trancos OSP. Midpen had grown to include 19 preserves encompassing over 13,000 acres within the first decade of its existence.

Midpen has continued to expand its land base throughout the following decades, including acquisition of land in Santa Cruz County in 1992. Significantly, in 2004, Midpen’s boundaries were expanded to include more than 140,000 acres of the San Mateo County coast, from the Pacific Ocean to the Santa Cruz Mountain ridgeline, between Montara and the San Mateo and Santa Cruz County line. Today Midpen lands cover 227,900 acres in San Mateo, Santa Clara, and Santa Cruz counties. Midpen actively protects over 64,000 acres within 26 preserves, as listed in **Table 2-1**.

Midpen manages land primarily to preserve a regional greenbelt of open space land; however, Midpen is also committed to protect the natural habitats found within the OSPs, and to restore, restore, enhance, and monitor native vegetation and wildlife, as well as protect the many watersheds within Midpen boundaries. As demonstrated by the policies defined by Midpen’s Resource Management Policies (Midpen 2021) and the BMPs associated with the Program, Midpen understands the unique status of cultural resources as non-renewable resources that require protection equal to that of the natural environment.

3.5.2 Existing Conditions

Cultural Resources

Ballard et al. (2013) gathered data to establish baseline information on known cultural resources within the OSPs in support of Midpen’s *2014 Vision Plan* (Midpen 2014). The sources for these data included the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS); files at Midpen’s Administrative Offices;



and site records and base maps on file with Mark Hylkema, archaeologist with California State Parks who has worked extensively with Midpen. Altogether, Ballard et al (2013) identified 30 Native American prehistoric sites, 28 historic period resources, and five multicomponent (both Native American prehistoric and historic period) sites within the OSPs. The study found that, although no archaeological sites had previously been evaluated for National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR) eligibility, 12 built environment resources had been evaluated. Of these, two are listed on the NRHP/CRHR, one has been determined eligible, three have been recommended eligible, three have been determined not eligible, and two have been recommended not eligible.

Midpen (Panorama 2021) recently provided an updated summary of resources, noting that 106 cultural resources have been recorded in or immediately adjacent to the OSPs. These include 35 Native American prehistoric resources, 65 historic period resources, and six multicomponent sites.

Native American sites largely consist of bedrock milling sites, but habitation and resource procurement sites are also present. Historic era resources include both archaeological sites and built environment resources and reflect a broad spectrum of activities, most of which are representative of the American period. Historic period archaeological sites include, but are not limited to, trash deposits, building foundations and remnants, and industrial remains. Extant buildings and structures include barns, residences, cabins, bridges, water impoundment and conveyance features, and roads, among other built environment resources. The historic period resources represent ranching, lumbering, mining, recreation, water management, and military operations over nearly the last two centuries, some of which are identified as historic districts.

Existing data indicate that some of the OSPs contain many more cultural resources than others within Midpen's holdings, and some do not contain any. However, it is important to note that systematic cultural surveys have not been completed for any of the OSPs, therefore many more resources are likely present.

Only a small percentage of the recorded resources have been evaluated for the NRHP/CRHR. Data cited in Ballard et al. (2013:53-60) indicate that few resources have been evaluated at all (n=12), and those that have been evaluated, with one exception, have all been built environment resources. Therefore, there is a high probability that potentially eligible prehistoric and historic-era archaeological sites exist within the OSPs. It is also possible that unevaluated built environment resources within the OSPs would be determined NRHP/CRHR-eligible.

Because all of the OSPs have not been inventoried for cultural resources, it is useful to have a sense of the potential for the presence of resources throughout the OSPs. Identification of built environment resources is, obviously, easier to ascertain than archaeological resources because they are visible above the ground. Therefore, it is particularly beneficial for the Program to have a way to determine the sensitivity of an area for surface or subsurface archaeological deposits in order to avoid disturbance of the resources during implementation of Program activities.



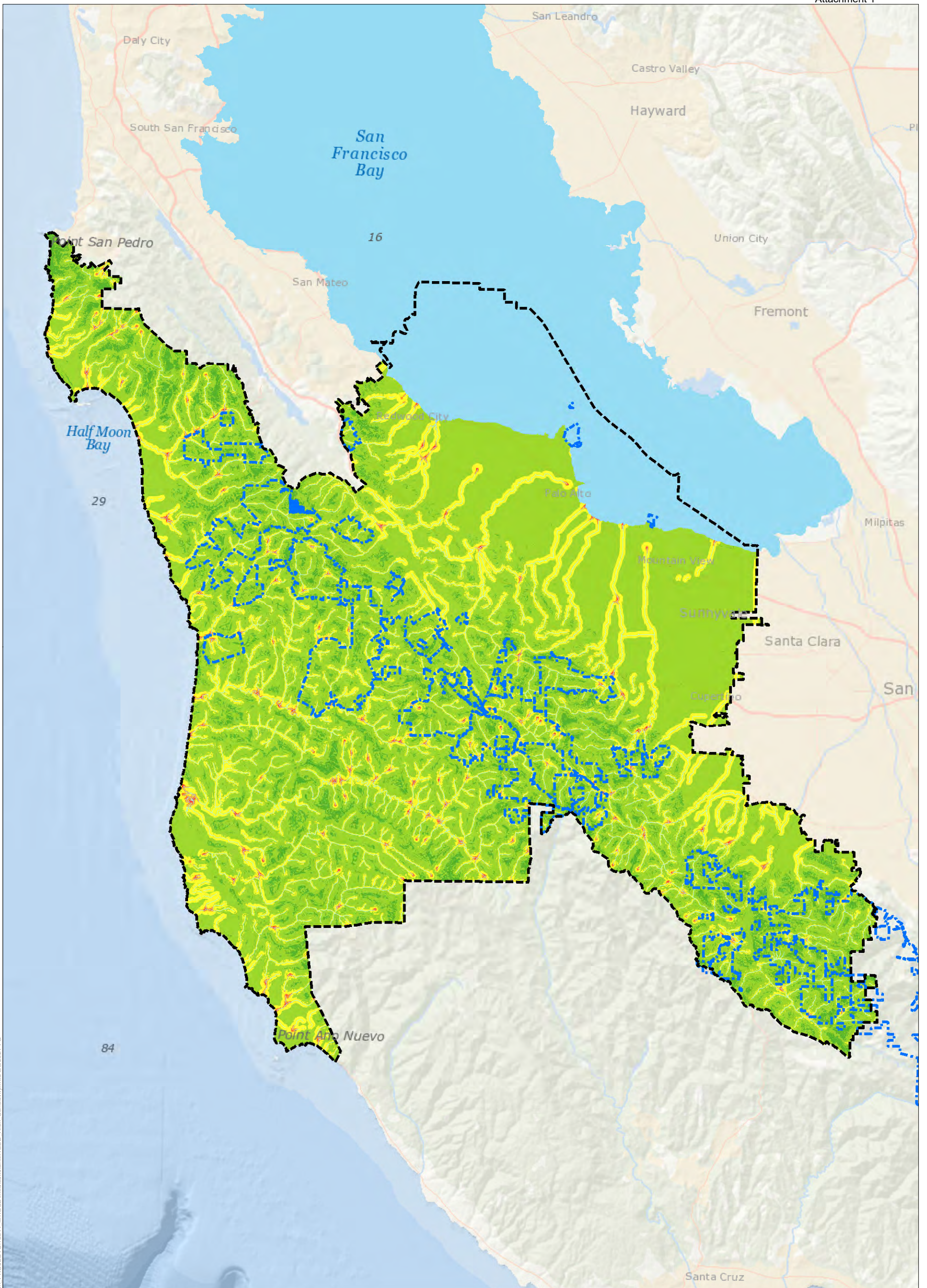
To help determine the potential for buried archaeological resources within the OSPs, a predictive model was developed using a geographic information system. The fundamental concept surrounding predictive models is to project known patterns or relationships into unknown areas. In the case of archaeological predictive modeling, the primary assumption is that archaeological sites tend to recur in areas favorable to human settlement. The model utilized those environmental characteristics of places where sites do or do not occur, and allowed for the extrapolation from small areas to broader geographic areas. Previous research by Meyer (2013) has indicated that among the multiple environmental conditions that may predict prehistoric human settlement or activity in central and northern California, three environmental factors—distance to water, slope, and distance to where a stream met the historical shoreline (or confluence) —are useful for predicting the majority of site locations (see **Table 3.5-1**).

Table 3.5-1. Surface Model Weights by Environmental Condition

Environmental Condition	Scores				
Slope (%) (20% Weight)	>20	15 to 20	10 to 15	10 to 5	0 to 5
Distance to Streams (Feet) (60% Weight)	>1,200	600 to 1,200	300 to 600	150 to 300	0 to 150
Distance to Confluence at shoreline zone (Feet) (20% Weight)	>1,200	600 to 1,200	300 to 600	150 to 300	0 to 150
Scale Value	1	2	3	4	5
Sensitivity Rating	Lowest	Low	Moderate	High	Highest

Surface site potential within the Program area is depicted in **Figure 3.5-1**. A review of the figure indicates that, largely due to the roughness of the terrain, most of the land within the OSPs falls within the low and lowest categories for surface site sensitivity, and that the potential for archaeological sites lies primarily along the many creeks and streams within the region. Still, only a small percentage of Midpen lands have a rating of high or highest for site sensitivity, and these areas are clustered around stream confluences or in small valleys within the watersheds.

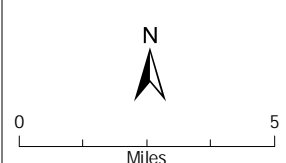
As noted previously, the model is a good indicator for identifying areas most likely to contain archaeological sites, but some caution must be used as not all site types would conform to the model. For example, some seasonal prehistoric sites might be resource-driven, and may in proximity to valuable resources even though the terrain might be steep, or water may not be nearby. Similarly, refuge sites (locations where Native Americans lived to hide from Spanish, Mexican, or American colonizers) might be located in generally less desirable places that would not be captured by the model. Spiritual or ceremonial sites would also be expected to include locations with unique characteristics that would not comport with the model. Locations for some historic period sites related to logging or mining might also not be easily identified through use of the model, as they would be focused on resource availability.



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BaseMap Sources: Sources: Esri, GEBCO, NOAA, National Geographic, Garmin, HERE,

3.5-1



- MROSD Boundary
- Preserve
- Historical Baylands Extent
- Streams

Archaeological Sensitivity (surface)

- Highest
- High
- Moderate
- Low
- Lowest

Surface Archaeological Sensitivity

Midpeninsula Regional Open Space District
Open Space Maintenance and Restoration
Program *Initial Study/ Mitigated Negative
Declaration*



Source: SFEI 2009; Mid Peninsula Open Space District



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In addition to favorable environmental conditions, buried site potential is predicated on two assumptions: (1) archaeological deposits cannot be buried within landforms that developed prior to human colonization of North America; and (2) older surface landforms are less likely to contain buried deposits because human occupation on these landforms was shorter, and the populations were smaller and less dense during periods of greater antiquity. **Figure 3.5-1** depicts the age of landforms within the region, which are also listed in **Table 3.5-2**. The underlying landforms within the existing OSPs are overwhelmingly related to the pre-Pleistocene (>2.5 million years before present (BP)) and have no potential for containing buried cultural remains. Future OSPs, however, may be acquired in areas where the landforms are more likely to contain buried archaeological sites (i.e., Holocene deposits).

Table 3.5-2. Buried Site Sensitivity Rankings

Geological Period	Age (Years BP)	Ranking
Modern	<150	Low
Latest Holocene	1,000-150	High
Mid to Late Holocene	1,000-11,800	High
Latest Pleistocene to Holocene	11,800-30,000	Moderate to Low
Late Pleistocene	30,000-129,000	Low
Early to Late Pleistocene	30,000-1.8 Million	Lowest
Pre-Pleistocene	>1.8 Million	None

3.5.3 Discussion

a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to California Environmental Quality Act Guidelines Section 15064.5?*

Several built environment resources that are considered historical resources are known to exist within Midpen OSPs. However, not all built environment resources on Midpen lands have been evaluated for listing in the NRHP/CRHR; thus, it is possible that built environment resources would also meet the NRHP/CRHR eligibility criteria.

Application of most of the routine maintenance activities outlined in **Table 2-2** would not adversely affect built environment resources because these activities involve minor repairs to existing facilities (e.g., clearing of drainage features, regrading trail surface, etc.); however, some of the Program activities that include replacement or realignment of Midpen facilities could have a deleterious impact to historical resources. For example, although no bridges within the OSPs have been determined NRHP/CRHR-eligible to date, replacement of bridge decking and handrails would be an adverse effect if these elements are contributing elements to the historic structure and are not replaced in kind. Similarly, removal of a bridge that is determined to be a historical resource would be a significant effect. However, in this latter case, the project would be re-examined and it is likely that it would be conducted separately



from the Program. New small-scale facility improvement projects could adversely affect historical resources of the built environment if the modifications and improvements are not done in a manner that is compatible with the characteristics that contribute to the eligibility of the resource. Such activities include relocating bridges, improving existing ranching infrastructure, and repairing existing buildings. An adverse effect to NRHP/CRHR-eligible facilities would require reconsideration of the project and the potential need to address the project individually under CEQA, separately from the Program. It is not anticipated that any restoration and enhancement activities would cause a substantial adverse change to historical resources.

To minimize potential impacts to historic resources, Midpen would implement BMP CUL-1: Review Internal Midpen Cultural Resources Archives (described in Chapter 2, *Project Description*), which would require Midpen to assess the cultural sensitivity of a site prior to conducting work. Assessing the cultural sensitivity of a site for historical resources would reduce potential impacts to built environment resources considered eligible for listing in the NRHP/CRHR by removing projects that could adversely affect historical resources from the Program and evaluating those projects on an individual basis. Thus, with implementation of BMP CUL-1, impacts of the proposed Program on historical resources would be **less than significant**. No mitigation is required.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to California Environmental Quality Act Guidelines Section 15064.5?

Most of the known cultural resources within the OSPs are archaeological sites and, because the OSPs have not been systematically studied by pedestrian survey, it is highly probable that many unrecorded prehistoric and historic period sites are located on Midpen lands. It is also likely that some of the archaeological resources within the OSPs are eligible for listing in the NRHP/CRHR, or are eligible as unique archaeological resources under Public Resources Code Section 21083.2.

Many Program activities involve some level of ground disturbance and, therefore, have the potential to impact archaeological deposits which may be visible on the ground surface or buried with no surface manifestation. **Table 3.5-3** lists routine maintenance activities and new small-scale facilities improvement projects that have the greatest potential for affecting archaeological resources (although any ground disturbance by these activities may have an impact).



Table 3.5-3. Program Activities with the Greatest Potential to Impact Archaeological Resources

Facility or Feature	Activity Type
<i>Routine Maintenance Activities</i>	
Ponds/lakes	Sediment removal that requires excavation outside or deeper than the original engineered extent or depth Livestock exclusion fencing
Water supply structures	Spring box and/or water tank replacement Water line replacement, extensions, or realignments
Roads	Culvert repair and replacement Fords and swales repair and replacement (including new culverts in place of fords) Minor relocation of road segments (unpaved) to correct resource concerns (e.g., erosion, rutting) Installation of new roadside and trailside ditch relief culverts at non-stream crossings Replacement of driveways
Bridges	Repair and fortify bridge abutments Bridge removal or replacement
Roadside/trailside ditches	Replace culverts and ditches Replace and repair fords Sediment and debris removal that requires excavation outside or deeper than the original engineered extent or depth Cleaning ditches that requires excavation outside or deeper than the original engineered extent or depth
Trails	Grading and shaping Culvert repair and replacement Repair and replace fords and swales (including with new culverts) Bank stabilization Minor relocation
Creeks	Bank stabilization
Other Midpen Parks and Open Space features (picnic or rest areas, natural areas, rangeland, staging areas, parking lots, tenant structures, field offices, etc.)	Mechanical removal that involves removal of large woody plant roots of invasive species or for fire fuel management



Facility or Feature	Activity Type
<i>New Facilities and Improvements</i>	
Bridges	Bridge relocation or new installation
Interpretive facilities and signage	Installation of new low-intensity, small-footprint interpretative facilities and signage at existing preserves
Ranching infrastructure	Improve existing ranching infrastructure, including fences, corrals, stock water
Trails	Reroute existing unpaved trails and provide new trail connections and public access
Wildlife crossings	Construct wildlife crossings some of which may also provide public access
Water infrastructure	Install or replace or remove degraded water infrastructure facilities

Restoration and enhancement activities generally have a low potential for impacting archaeological sites; however, any ground disturbance could affect archaeological deposits. Examples of restoration and enhancement activities that may involve ground disturbance include exclusion fencing installation; removal of in-stream infrastructure (i.e., impoundments) and collapsed structures (i.e., bridges or culverts) and road decommissioning.

Program activities listed in **Table 3.5-3** have an enhanced potential for disturbing resources in areas identified with a high or moderate potential for either surface or buried archaeological sites. These sensitive areas are located primarily in the vicinity of watercourses, where many Program activities would occur. Thus, ground-disturbing activity in native soils or replacement or alteration of existing infrastructure could impact archaeological resources. Midpen would implement the following BMPs, incorporated as part of the Program, to avoid or reduce potential impacts to surface and subsurface archaeological resources. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP CUL-1 Review Sensitivity Maps
- BMP CUL-2 Record Search and Field Inventory for Highly or Moderately Sensitive Areas, and Areas of Unknown Sensitivity
- BMP CUL-3 Consult with Native American Tribes
- BMP CUL-4 Construction Monitoring
- BMP CUL-5 Conduct Pre-Maintenance Educational Training
- BMP CUL-6 Address Discovery of Cultural Remains

For Program activities that involve excavation or repair in previously undisturbed native soils beyond existing engineered extent or depths (e.g., some culvert replacement projects), a desktop investigation to determine the presence of known resources and sensitivity of the project site would be conducted (BMP CUL-1). For areas with known sites, or high/moderate



or unknown sensitivity, a cultural resources investigation would be conducted by a qualified professional archaeologist prior to performing the Program activity (BMP CUL-2) and appropriate Native American tribes would be consulted (BMP CUL-3). Construction monitoring (BMP CUL-4) may also be required during ground-disturbing activities within 50 feet of recorded archaeological resources and in areas identified as highly sensitive for cultural areas. All personnel would also receive an educational training by a qualified cultural resources specialist prior to the beginning of each maintenance season (BMP CUL-7) to learn how to identify cultural resources. For all Program activities, if unknown resources are discovered during work, all work would stop and appropriate treatments would be adhered to (BMP CUL-8). Overall, with implementation of the BMPs mentioned above, impacts on archaeological resources would be **less than significant**. No mitigation is required.

c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

CEQA Guidelines Section 15064.5 prescribes the processes and procedures found under Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.95 for addressing the existence of, or probable likelihood of, Native American human remains, as well as the unexpected discovery of any human remains within the Program area.

Program activities that require excavation in native soils, including clearing ditches beyond existing engineered depths or extent, have the potential to unearth unknown human remains. Midpen would implement the following BMPs, incorporated as part of the Program, to avoid or reduce potential impacts to human remains. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP CUL-2 Record Search and Field Inventory for Highly or Moderately Sensitive Areas, and Areas of Unknown Sensitivity
- BMP CUL-3 Consult with Native American Tribes
- BMP CUL-6 Address Discovery of Cultural Remains Appropriately

If human remains were discovered during a field inventory (BMP CUL-2), the Native American Heritage Commission (NAHC) and affiliated tribal members would be contacted (BMP CUL-3) to develop measures to avoid impacts to the remains. If human remains are unearthed during construction, the appropriate County would comply with Health Safety Code Section 7050.5 and adhere to the measures included in BMP CUL-6.

With the implementation of the above-referenced BMPs, impacts resulting from the discovery of human remains would be **less than significant**. No mitigation is required.



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3.6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.6.1 Regulatory Setting

This section describes the federal, state, and local regulations related to energy resources. Section 3.8, “Greenhouse Gas Emissions,” contains additional discussions of greenhouse gas (GHG)-related regulations that may also be relevant to energy resources.

At the federal level, the USEPA and the National Highway Traffic Safety Administration (NHTSA) have developed regulations to improve the efficiency of cars, and light-, medium-, and heavy-duty vehicles. These regulations are discussed in greater detail in Section 3.8.

Energy resource-related regulations, policies, and plans at the state level, require the regular analysis of energy data and developing recommendations to reduce statewide energy use, and setting requirements on the use of renewable energy sources. Senate Bill (SB) 1389, passed in 2002, requires the California Energy Commission (CEC) to prepare an Integrated Energy Policy Report for the governor and legislature every 2 years (CEC 2020a). The report contains an integrated assessment of major energy trends and issues facing California’s electricity, natural gas, and transportation fuel sectors. The report provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the state’s economy, and protect public health and safety (CEC 2020a). The 2019 Integrated Energy Policy Report includes policy recommendations such as addressing the vulnerability of California’s energy infrastructure to extreme events related to climate change, including sea-level rise and coastal flooding (CEC 2020b).

In addition, since 2002, California has established a Renewables Portfolio Standard (RPS) program, through multiple senate bills (SB 1078, SB 107, SB X1-2, SB 350, SB 100) and executive orders (S-14-08, B-55-18), that requires increasingly higher targets of electricity retail sales be served by eligible renewable resources. The established eligible renewable source targets include 20 percent of electricity retail sales by 2010, 33 percent of electricity retail sales by 2020, 50 percent by 2030, and 100 percent zero-carbon electricity for the state and statewide carbon neutrality by 2045 (CEC 2020b, CEC 2017).



Section 3.8, “Greenhouse Gas Emissions,” provides additional details on California’s 2017 Climate Change Scoping Plan, which details the state’s strategy for achieving the state’s GHG targets, including energy-related goals and policies. It contains measures and actions that may pertain to the proposed Program relating to vehicle efficiency and transitioning to alternatively powered vehicles (CARB 2017).

The General Plans for the Counties of San Mateo, Santa Clara, and Santa Cruz include policies aimed at reducing local contributions to global climate change. These policies include supporting efforts to reduce GHG emissions, promoting sustainable practices and green technology in development, and promoting the use of low-emission vehicles and equipment, among others. San Mateo County has a Government Operations Climate Action Plan and a Community Climate Action Plan (San Mateo County 2020) that contain GHG and energy-related strategies and measures. Santa Clara County’s Climate Action Plan focuses on County Operations and Facilities and is not directly applicable to the proposed Program. Santa Cruz County has a Climate Action Strategy that contains GHG and energy-related goals, policies, and strategies (Santa Cruz County 2020).

Midpen has adopted a Climate Action Plan to identify goals and strategies to reduce GHG emissions generated by Midpen activities. The Climate Action Plan calls for a 20 percent reduction from the 2016 baseline in 2022 and ultimately an 80 percent reduction by 2050. Strategies are identified to reduce GHG emissions associated with four different sectors, one of which is “vehicle fleet, equipment, and business travel,” which would apply to the vehicles and equipment used during implementation of the Program. Some of the strategies correlate to reducing energy use, primarily non-renewable fuels. Applicable strategies include switching tanks and fueling stations to renewable diesel (V1, which was completed in September 2018), acquisition and testing of new electric equipment (V4), purchasing a hybrid or electric vehicle for field offices (V6), and assessing feasibility of alternative fire response models with lower emissions (V7) (Midpen 2018).

3.6.2 Environmental Setting

Energy Resources and Consumption

California has extensive energy resources, including an abundant supply of crude oil, high production of conventional hydroelectric power, and leads the nation in electricity generation from renewable resources (solar, geothermal, and biomass resources) (U.S. Energy Information Administration (EIA) 2020). California has the second highest total energy consumption in the United States but one of the lowest energy consumption rates per capita (48th in 2018) due to its mild climate and energy efficiency programs (EIA 2020). A comparison of California’s energy consuming end-use sectors indicates that the transportation sector is the greatest energy consumer, by approximately two to three times compared to the other end-use sectors (Industrial, Commercial, and Residential, which are listed in order of greatest to least consumption) (EIA 2020). California is the largest consumer of motor gasoline and jet fuel in the United States (EIA 2020).

In the San Francisco Bay Area, data collected for the Clean Air Plan indicates that the largest sources of GHG emissions (and presumably energy use) were from transportation (41



percent), followed by stationary sources such as refineries (26 percent), energy production (14 percent), and buildings (10 percent) (BAAQMD 2017).

Midpen’s largest sources of energy use are vehicles, equipment, employee commutes, facilities, and residences (Midpen 2019). Most Midpen vehicles and equipment use gasoline, diesel, or renewable diesel; while facilities use electricity, natural gas, and propane. In 2019, Midpen signed up for most facilities to receive 100% renewable electricity through Peninsula Clean Energy and Silicon Valley Clean Energy (Midpen 2019).

3.6.3 Discussion

a, b. Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation or Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The proposed Program’s maintenance activities would require the consumption of energy (fossil fuels) for construction equipment, worker vehicles, and truck trips. The proposed Program would not involve any activities that require electricity-based energy use. The consumption of energy for equipment and vehicles would be minimized by spreading removed sediment and debris onsite rather than hauling it away and by minimizing vehicle idling (BMP GEN-15). **Table 3.6-1** shows the estimated annual fuel use from construction equipment, worker vehicles, and truck trips. The calculations used to develop these estimates are presented in **Appendix C**.

Table 3.6-1. Project Fossil Fuel Use

Source Type	Diesel Fuel Use (gallons)	Gasoline Fuel Use (gallons)
Off-road Construction Equipment ¹	118,892	
Worker Vehicles ²		6,308
Hauling Vehicles ³	751	

1. Fuel use for off-road construction equipment was estimated using a fuel use factor from CARB’s off-road in-use engine emissions model of 0.347 pound of diesel per horsepower-hour and diesel fuel density of 7.37 pounds per gallon.
2. Fuel use for construction worker vehicles was estimated using fuel use estimates from Emission FACTor model (EMFAC) with an estimated rate of 21.7 gallons per mile.
3. Fuel use for hauling vehicles was estimated using fuel use estimates from EMFAC with an estimated rate of 5.5 gallons per mile.

The energy consumption during maintenance and facilities upkeep work is necessary for resource protection and restoration. These activities would not cause wasteful, inefficient, and unnecessary consumption of energy or cause a substantial increase in energy demand and the need for additional energy resources. Implementation of BMP GEN-15 would further reduce the proposed Program’s effect by requiring minimization of idling times and requiring



that all equipment be properly maintained. As a result, the proposed Program would not result in wasteful, inefficient, or unnecessary consumption of energy.

In addition, Program activities would not conflict with any of the goals, policies, or implementation actions identified in the applicable energy plans, such as the 2019 *Integrated Energy Policy Report* or the general plans for the Counties of San Mateo, Santa Clara, and Santa Cruz, because the proposed Program would not create any future energy demands and would be completed as efficiently as possible. Further, Midpen would adhere to the goals and policies in its own Climate Action Plan. Thus, the proposed Program would not conflict with any plans relating to renewable energy or energy efficiency. Therefore, this impact is considered **less than significant**. No mitigation is required.



3.7 Geology, Soils, and Seismicity

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



3.7.2 Environmental Setting

Midpen lands are located in the central portion the Coast Ranges geomorphic province, which is characterized by northwest-trending mountain ranges and valleys that parallel the San Andreas Fault. The Coast ranges geomorphic province is bounded by the Pacific Ocean to the west and the Great Valley to the east. The topography of Midpen lands includes a variety of terrain, including steep slopes and canyons along the Santa Cruz Mountains, rolling hills and terraces downslope in the western foothills of the Santa Cruz Mountains that drain into the Pacific Ocean, and rolling hills and valleys in the eastern foothills of the Santa Cruz Mountains that drain into the Santa Clara Valley and the San Francisco Bay (Panorama 2021). Elevations in Midpen lands ranges from 3,400 feet above sea level to approximately sea level. Over 100 soil types underlie Midpen lands. Soils in the Santa Cruz Mountains and foothills, consist of sandy to gravelly loams with intermixed silt and clay. In the foothills of the Santa Cruz Mountains and in the valleys, soils tend to be finer grained and consist of silty loams and clayey loams. These soils transition into fine-grained clayey silty soils or bay mud along the Bay margin (Panorama 2021).

The San Francisco Bay Area is considered a highly seismically active region due to a network of active³ and potentially active faults associated with the San Andreas Fault. The San Andreas, Hayward, Monte Vista, Rodgers Creek, Calaveras, Sargent, Green Valley, and San Gregorio faults are all active faults that form part of the San Andreas Fault system. Portions of Midpen OSPs, including Sierra Azul, Bear Creek Redwoods, Saratoga Gap, Monte Bello, and Los Trancos are crossed by these active faults (Panorama 2021). Risk of fault rupture on California's mapped faults has been assessed by the California Department of Conservation under the Alquist-Priolo Earthquake Fault Zoning Act. An Alquist-Priolo fault zone is a regulatory zone surrounding active faults (CDOC 2019). Some Midpen lands are located within Alquist-Priolo earthquake fault zones according to the Alquist-Priolo Earthquake Fault Zoning Maps (California Geological Survey [CGS] 2002; CGS 2005; CGS 2019).

A landslide is the downslope movement of materials such as rock, soil, or fill from a slope. Landslides may occur due to several factors related to slope stability, including slope, weathering, climate, saturation, vegetation, erosion, earthquakes, and human-induced factors. In general, the relative likelihood of landsliding to occur is based on rock strength and steepness of slopes. **Figure 3.7-1** shows landslide susceptibility for deep landslides to occur in the Program area. Generally, landslide susceptibility is lower in areas with low slopes and strong materials (shown as classes III, V, VI, VII on **Figure 3.7-1**). Landslide susceptibility increases with steeper slopes and weaker rocks. Very high landslide susceptibility classes including VIII, IX, and X, have very steep slopes and weak rocks. Note that **Figure 3.7-1** does not show the potential for landslide triggering events (i.e., intense rainfall or earthquakes) or show the susceptibility of shallow landslides to occur (i.e., debris flows) (CGS 2011). As shown on **Figure 3.7-1**, some areas of the Program area in the Santa Cruz Mountains are moderately and highly susceptible to landslides based on steep slopes and weak underlying

³ Active faults are faults that have ruptured in the last 11,000 years.



rock material. The Santa Cruz Mountains also experience intense rainfall events and are within a highly seismically active region, increasing the potential for landsliding to occur.

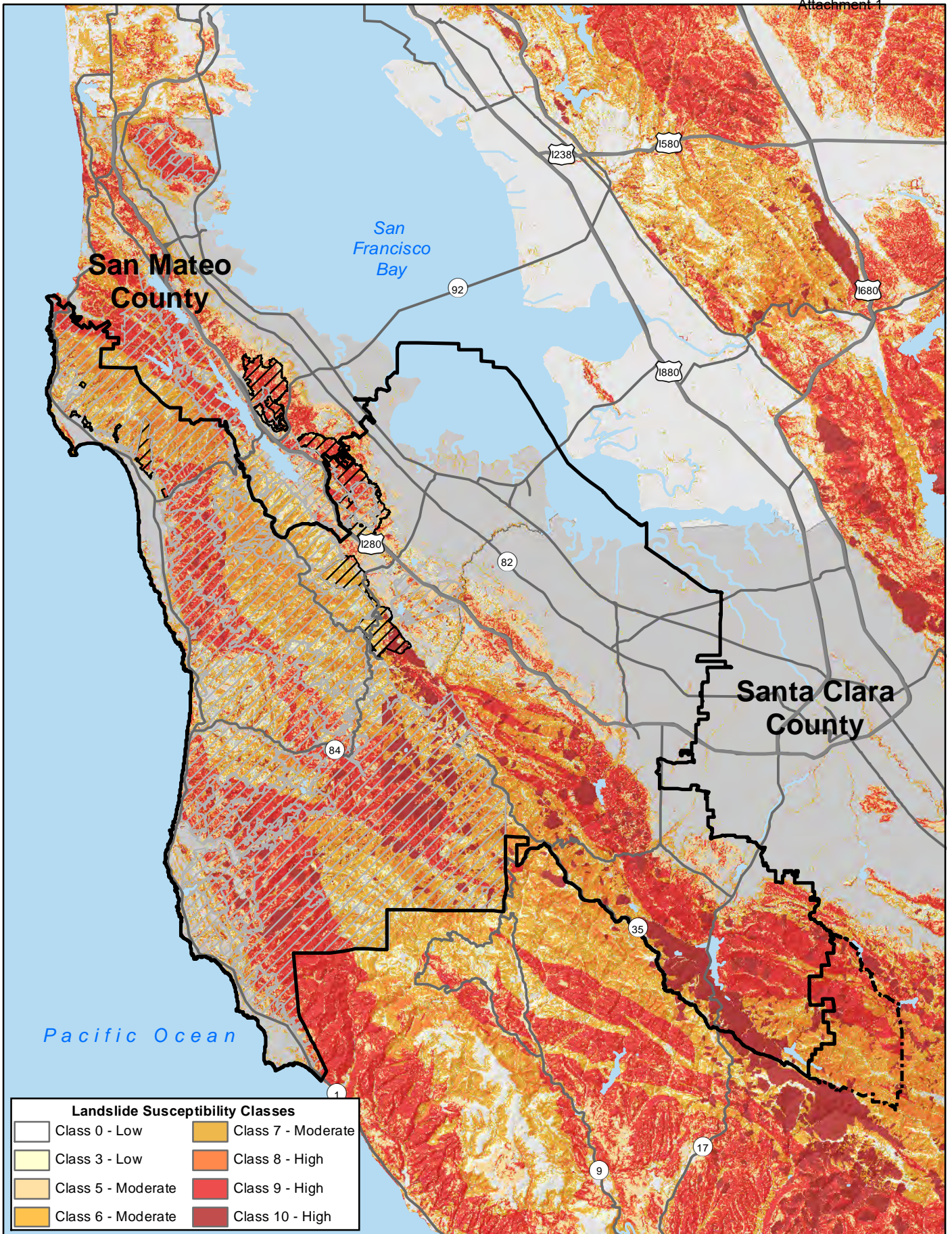
Another form of landslides common on Midpen lands are debris flows. Debris flows are fast-moving flows of mud consisting of rocks, vegetation, and other debris that are typically triggered by intense rainfall events. Generally, areas with steep slopes that are denude of vegetation and experience intense storm events are more susceptible to debris flows. Areas recently burned by forest fires are especially susceptible to debris flows.

Liquefaction occurs when unconsolidated, saturated sediments at or near the ground surface lose their strength, typically during a ground shaking event, and are converted to a fluid-like state. Poorly consolidated and saturated soils and fill materials are the most susceptible to liquefaction. Portions of the Program area that are susceptible to liquefaction from ground shaking are primarily along the Bay margin (CGS 2005; CGS 2002; CGS 2019). Another potential effect of seismically induced liquefaction is lateral spreading and bank failure along creek channels. Lateral spreading is the horizontal movement of relatively flat-lying saturated sediments.

Due to the San Andreas Fault and other faults, the bedrock of Midpen lands is broken up into different blocks from different periods and epochs. Volcanic rocks, sedimentary rocks, and alluvium are the major overlying rocks within Midpen lands. Volcanic rocks are primarily from the Miocene or Oligocene Epoch; sedimentary rocks are from the Pliocene, Miocene, Oligocene or Eocene Epoch; and sediments are from the Holocene or Pleistocene Epoch. The Franciscan Complex consisting of *mélange*, sedimentary, and volcanic rocks and the Great Valley complex consisting of sedimentary and volcanic rocks are the basement rocks that underlie Midpen lands. Surficial sediments from the Holocene and Pleistocene Epochs overlie the basement rocks (Panorama 2021). The most prevalent geologic units include sedimentary rocks, which are located throughout Midpen lands, and Franciscan Complex which composes much of the Santa Cruz Mountains. Some geologic units have a higher potential to be composed of paleontological resources (i.e., fossils). This “sensitivity” is determined by rock type, age and method of formation, and fossil localities that are recorded in that unit. The vast majority of Midpen lands have low sensitivity for paleontological resources, except for portions of Sierra Azul and Rancho San Antonio OSPs, which contain large amounts of Pleistocene alluvium deposits that have a moderate paleontological sensitivity (Panorama 2021).



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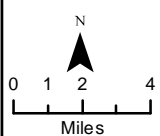


Santa Clara County

San Mateo County

San Francisco Bay

Pacific Ocean



- MROSD Boundary
- Sphere of Influence
- Major Highway
- State Route
- County Boundary

Figure 3.7-1
Landslide Susceptibility within the Program Area

Midpeninsula Regional Open Space District Routine Maintenance and Facilities Improvement Program
Initial Study/Mitigated Negative Declaration



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3.7.3 Discussion

a. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? ii. Strong seismic ground shaking? iii. Seismic-related ground failure, including liquefaction?

Several active faults that are susceptible to rupture and have historically created strong seismic ground shaking cross through the Program area. However, an impact is only considered significant if the project would exacerbate existing seismic hazards by increasing the severity or likelihood of such hazards affecting people above the existing condition.

The number of workers on Midpen lands at any one time and throughout the term of the Program would increase as more routine maintenance, small facility improvement, and restoration projects would be conducted. Workers may be at risk of injury or death from various Program activities if activities are conducted in an area where fault rupture or seismic-related ground failure could occur. However, seismic ground shaking events are unpredictable and the potential for such events to coincide with Program activities is low. Earthquake safety training pursuant to Occupational Safety and Health Administration (OSHA) regulations would minimize potential impacts to workers. Further, all construction and design associated with the Program would comply with applicable California Building Code (CBC) standards (California Code of Regulations, Title 24), which includes standards for various aspects of construction, including but not limited to, excavation, grading, and earthwork; fill placement and embankment construction; foundation investigations; resistance to ground shaking in various zones of the state; and liquefaction potential and soil strength loss. Furthermore, the Program does not include any new structures or operational activities that could create or exacerbate a ground-shaking risk or involve construction of habitable structures that could expose people to adverse effects from earthquakes or strong seismic ground shaking. Implementation of Program activities would not cause an increased risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure, including liquefaction. This impact would be **less than significant**. No mitigation is required.

ii. Landslides?

As shown on **Figure 3.7-1** and described above, areas within the Program area in the Santa Cruz Mountains are susceptible to landslides. During intense rainfall events or earthquakes, there may be an increased potential for landslides to occur. Although most Program activities would be conducted to improve or prevent unstable situations (e.g., bank/berm stabilization), there is a potential for new trails or road/trail re-routes to potentially cause landsliding by disturbing large areas and quantities of soil in unstable,



steep, and landslide prone areas. An increase in landslide risks would be considered a significant impact if it would cause substantial adverse effects. **Mitigation Measure GEO-1** requires implementation of erosion and slope stabilization measures in areas susceptible to erosion and instability. With implementation of Mitigation Measure GEO-1, impacts associated with the Program increasing the severity or likelihood of landslides affecting people over the existing condition would be reduced to **less than significant with mitigation**.

Mitigation Measure GEO-1: Erosion Control and Slope Stability Measures

This mitigation measure applies to any Program activity areas determined to be at risk for erosion and slope instability, including if the activity exposes soils and leaves groundcover or native mulch/organic matter to be less than 70 percent following work; if work is proposed to occur on steep slopes (defined as over 35 percent slope); if evidence of unconsolidated soils or landslides is found on site; or if the scale of the proposed activity would disturb a large area.

Prior to conducting work that could result in erosion or slope instability, qualified personnel will conduct a review of site conditions which may include, but is not limited to, a desktop review of slope, LiDAR, historic evidence of landslides (e.g., Wentworth et al. 1997), local hazard mapping and safety plans, proximity of the site to infrastructure, and modeling of landslide susceptibility GIS data (e.g., Wills et al. 2011). Qualified personnel are personnel who have knowledge and experience in the application of erosion and slope stabilization control measures through training or field experience with control measure installation. The qualified personnel may also conduct a site visit to look for existing signs of erosion or slope instability (e.g., rills or slumped soil). Depending on the slope and the downslope resources (e.g., roads that could be impacted if a slope failed or waterbodies or habitat that could be impacted from erosion.), erosion and slope stabilization measures (listed below) will be implemented. These measures will depend on the site's specific characteristics and the type and extent of work to be performed and will be determined by qualified personnel. The qualified personnel will memorialize in writing their field observations and corresponding recommendations regarding installation of control measures. Control measures may be adjusted as needed depending on the site's specific characteristics.

For activities that involve substantial grading on active slide areas, unstable areas, or unstable soils (as defined in the California Forest Practice Rules), a licensed geologist or Registered Professional Forester (RPF) will conduct the site inspection. This includes activities occurring in previously undisturbed soils (e.g., would not apply for grading within an existing, engineered road or trail); or activities occurring above (within 0.5 mile) or below (within 0.25 mile) infrastructure, including residences or other potentially occupied structures. Activities involving substantial vegetation removal will be conducted consistent with the IPM and Wildland Fire Resiliency Program measures.



A licensed geologist or RPF will also conduct site inspections where any road is proposed to be extended or re-routed by 600 feet or more, regardless of the proximity to active slide areas, unstable areas, or unstable soils. The licensed geologist or RPF will identify specific control measures to be implemented, which may include, but are not limited to, the control measures identified below.

If the desktop review and/or site visit determine that a public safety hazard could occur from Program activities being conducted in unstable areas adjacent to existing infrastructure, sensitive habitat, or habitable structures, a licensed geologist/engineer will perform a site assessment. Recommendations provided in the site assessment will be implemented as needed to ensure that slope instability and public safety hazards do not occur. Recommendations could include measures such as stabilizing slopes with mats or natural materials after tree removal and replanting denude areas to stabilize soils.

In areas that were previously analyzed by an RPF or licensed geologist, Midpen will review the prior recommendations for consistency with the proposed activity and determine if a new review is warranted.

General Control Measures

In addition to Program BMPs GEN-2 and GEN-19, the following general control measure will be implemented during work as determined appropriate by the qualified personnel:

- Shut down use of heavy equipment, skidding, and truck traffic when soils become saturated and unable to support the machines.

Reduced Groundcover Control Measures

In addition to Program BMPs EC-1 through EC-5, the following reduced groundcover control measures will be implemented during work as determined appropriate by the qualified personnel if the activity would leave less than 70 percent of groundcover or native mulch/organic material on site:

- Sow native grasses and other herbs on denuded areas where natural colonization or other replanting will not occur rapidly; use slash or chips to prevent erosion on such areas.
- Use surface mounds, depressions, logs, rocks, trees and stumps, slash and brush, the litter layer, and native herbaceous vegetation downslope of denuded areas to reduce sedimentation and erosion as necessary to prevent erosion or slope destabilization.
- Install approved, biodegradable erosion-control measures and non-filament-based geotextiles (e.g., coir, jute) when:
- Conducting substantial ground-disturbing work (e.g., use of heavy equipment, pulling large vegetation, etc.) within 100 feet and upslope of currently flowing or wet wetlands, streams, lakes, and riparian areas;



- Causing soil disturbance on moderate to steep (i.e., 10 percent slope and greater) slopes; and
- Following the removal of invasive plants from stream banks to prevent sediment movement into watercourses and to protect bank stability.
- Install certified weed-free sediment control devices as appropriate. Sediment control devices will be inspected daily during active construction by workers to ensure that the devices are in good working condition to prevent sediment transport into the waterbodies and will be repaired as needed.

Steep Slopes Control Measures

The following measures will be implemented during work conducted on steep slopes (i.e., greater than 35 percent) as determined appropriate by qualified personnel:

- Avoid use of heavy equipment on slopes greater than 35 percent unless specialized equipment is used that does not impact slope stability as determined by the qualified personnel.
- Prescribed burns and pile burns will be performed outside of perennial and intermittent streams and of riparian forest/ woodland. A 50-foot buffer around perennial and intermittent streams will be maintained when the burn is proposed upslope of the stream on slopes greater than 35 percent.
- Avoid installation of cleared areas, including spur roads or staging areas, on steep slopes, particularly over 50 percent slope, where feasible. Where not feasible, a licensed geologist/engineer or RPF will be consulted, as required above. The licensed geologist/engineer or RPF will identify and require implementation of appropriate design and control measures, including but not limited to, those identified in Low-Volume Roads Engineering (Keller & Sherar, 2003); Handbook for Forest, Ranch, and Rural Roads (Weaver, 2015); or the latest California Forest Practice Rules. Other suitable engineering guidance includes:
 - Locating roads on well-drained soils and slopes where drainage moves away from the road;
 - Providing adequate surface drainage;
 - Avoiding wet and unstable areas (seeps, springs, etc.);
 - Using the natural topography to control or dictate the ideal location of road or cleared area (e.g., staging area); use saddles, follow ridges, use bench areas, etc.

Once work is completed, areas will be inspected as needed (but at least once annually) depending on the size, nature of the work, and the site conditions until groundcover exceeds 70 percent and it is clear that significant erosion and slope instability are not occurring (e.g., no evidence of soil rills, slumped soils, landslides, etc.). Once work is



complete, erosion control and slope stability devices will be removed at the discretion of Midpen staff.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Erosion is a natural process in which rocks, soils, or natural materials are worn away over time by physical forces, including rainfall, water, or wind. The rate of erosion is dependent upon several factors such as material, soil type, slope, vegetation, etc. Erosion potential generally is higher in areas with steep and denuded slopes. Potential sources of erosion include channel incision below culvert crossings, washouts associated with drainage crossings along roads and trails, runoff from unpaved parking areas, overgrazing, and undersized or clogged culvert crossings.

Program activities such as bank/berm repair, culvert clearing, road and trail drainage maintenance, vegetation removal, revegetation, bridge relocation, sediment and debris removal, and removal of in-stream structures would reduce erosion and sedimentation. The stabilization and treatment of streambanks and pond berms that are actively eroding or slumping would reduce long-term erosion and sedimentation of actively destabilized banks/berms. Maintaining and/or updating poorly constructed or non-functioning road and trail crossings and clearing clogged culverts and bridge crossings would prevent erosion and sediment delivery to aquatic resources and reduce the potential for erosive flows to be redirected towards banks, roads, or other facilities. Pruning and selective removal of trees on banks and removal of in-stream structures and debris that has the potential to capture debris or redirect erosive flows toward the banks would reduce erosion/sedimentation processes along banks. Revegetating banks with native species would further stabilize banks, reducing the potential for erosion.

The Program would involve ground-disturbing activities including berm/bank repair, pond restoration, bridge relocation, road grading, culvert repair and replacement, vegetation removal, among others. Access and staging near streams may result in erosion from the streambanks or sediment loading into the channel. Sediment loads to the channel could also result if stockpiled soils or sediment-laden water at work sites enters the channel or if new areas are disturbed for staging activities. Erosion or sediment loading into the channel could also occur if the activities do not revegetate exposed soils or restore low-flow channels as closely as possible to their original location and form. Overgrazing can also enable erosion by compacting soil and removing vegetation. BMPs included below would reduce the potential for erosion and sedimentation during construction. Removal of vegetation could also result in soil erosion and loss of topsoil through the exposure of bare soils and removing root structures and the loss of evapotranspiration; however, potential erosion effects related to vegetation management activities are analyzed in the Wildland Fire Resiliency Program EIR (Panorama 2021).

Constructing new trails and re-routing existing roads and trails may also increase the potential for erosion. However, trail and road re-routes would only occur if the previous route were sited improperly, such as located on a steep slope or on instable soils. Poorly designed and located roads and trails can lead to erosion and sediment delivery. Thus, re-routing existing, poorly situated routes would reduce the potential for erosion. Former routes would



be regraded to minimize erosion and would be replanted with appropriate native plants. Construction of new trails and trail and trail re-routes would comply with the *Handbook for Forest, Ranch & Rural Roads* (Weaver, Weppner, and Hagans, 2015) and *California Forest Practice Rules* (California Department of Forestry and Fire Protection [CAL FIRE] 2020) guidelines for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing roads. Further, the Program involves decommissioning old roads that are no longer necessary for access, which further reduces chronic sediment delivery and restores natural watershed hydrology within Midpen lands.

Midpen would implement the following BMPs to minimize the potential for erosion and sedimentation to occur due to conducting Program activities. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize the Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-16 Site Stabilization
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-25 Vegetation Management with Livestock
- BMP GEN-28 Culvert Replacement
- BMP GEN-29 Culvert Maintenance
- BMP GEN-31 New Culvert Installation (non-stream crossings)
- BMP BIO-24 Riparian Restoration
- BMP EC-1 General Erosion Control Measures
- BMP EC-2 Slope or Bank Stabilization
- BMP EC-3 Road and Trail Drainage Maintenance
- BMP EC-4 Road and Trail Minor Relocation
- BMP EC-5 Revegetation of Disturbed Areas
- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-3 Sediment Filtering Measures
- BMP DW-1 Stream/Aquatic Habitat Isolation

Implementation of the BMPs listed above would minimize the potential for erosion and sedimentation by minimizing ground disturbance and the amount of earthwork, using previously disturbed areas for staging and access, stabilizing the active work site, restoring disturbed and riparian areas following Program activities, avoiding rainy weather, ensuring



proper storage of materials, equipment, and spoils, and preventing overgrazing. Due to the temporary nature of the Program activities and with the implementation of the above listed BMPs, this impact would be **less than significant**. No mitigation is required.

c. *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Some of Midpen lands are subject to instability. As described above in 3.6(a), there is a potential for liquefaction and lateral spreading to occur on Midpen lands due to nearby active faults and ground shaking; however, Program activities would not exacerbate these conditions. Soil collapse may occur when high shrink-swell soils shrink during the dry season or when saturated soils are loaded or compressed. However, Program activities would not involve the construction of large, heavy structures that would cause soil collapse.

Some Midpen lands in the Santa Cruz Mountains are susceptible to landslides due to topography and underlying geology and soils. Landslides or debris flows can damage infrastructure (e.g., roads, trails, or other facilities) and trees and habitat. Program activities that may alter the land and increase the potential for landslides to occur include vegetation removal and construction of new trails and road/trail re-routes. Potential landslide impacts associated with vegetation removal and fuel management activities are analyzed in the Wildland Fire Resiliency Program EIR (Panorama 2021). Although trail and road re-routes are typically conducted to relocate a route from an unstable area, these activities may disturb large previously undisturbed areas within unstable or landslide prone areas, which could result in a significant impact. New trails and road/trail re-routes would comply with the *Handbook for Forest, Ranch & Rural Roads* (Weaver, Weppner, and Hagens, 2015) and *California Forest Practice Rules* (CAL Fire 2020) guidelines for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing roads to prevent impacts associated with unstable soils. Implementation of **Mitigation Measure GEO-1** would further reduce impacts by requiring the implementation of erosion and slope stabilization measures in areas prone to erosion and slope instability.

Other Program activities including bank/berm stabilization, native vegetation plantings/seeding, and road decommissioning would reduce the potential for landslides/debris flow to occur by stabilizing bank/berm slopes, revegetating denuded areas with native species, and removing roads to restore the natural hydrology and watershed processes.

Overall, with the implementation of **Mitigation Measure GEO-1** impacts associated with unstable areas would be **less than significant with mitigation**.

d. *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

Expansive soils or “shrink–swell” soils are soils that expand and contract due to changes in moisture content and are typically comprised of fine-grained clay sediments. Expansive soils may be present within Midpen OSPs along the Bay margin; however, this Program does not



involve conducting activities within OSPs along the bay margin. Expansive soils are not present in other OSPs and the Program does not involve constructing new structures that would create a risk to life or property. Thus, implementation of the Program would not result in an increased risk to life or property associated with expansive soils. **No impact** would occur associated with the Program.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Program would not result in the generation of wastewater, nor involve the construction or modification of any septic tanks or alternative wastewater disposal systems. Thus, the Program would have **no impact** associated with placement of such systems on unsuitable soils in the Program area.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Most geologic units that underlie the Program area have low potential to yield unique paleontological resources. Pleistocene alluvium, which has a moderate potential to yield paleontological resources, is found in large quantities in Sierra Azul and Rancho San Antonio OSPs and in small quantities in several other OSPs. The Program would involve varying degrees of ground-disturbing activities including berm/bank repair, trail reroutes, pond restoration, bridge relocation, road grading, culvert replacement, etc. that could encounter paleontological resources in these OSPs. However, such disturbances would occur in previously disturbed soils and would not extend to great depths below ground; thus, the potential for ground-disturbing activities to uncover or destroy a unique paleontological resource is unlikely.

Midpen would implement the following BMPs to minimize potential impacts to paleontological resources. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-16 Site Stabilization
- BMP EC-2 Slope or Bank Stabilization
- BMP GEO-1 Address Discovery of Paleontological Resources

Implementation of the above listed BMPs would minimize potential impacts on paleontological resources by minimizing the area of disturbance, stabilizing active work sites and banks, ensuring that Midpen staff are trained in the recognition of paleontological resources, and stopping work and implementing treatment measures in the event of such a discovery. With implementation of the above-listed BMPs, potential impacts to paleontological resources would be **less than significant**. No mitigation is required.



3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.8.1 Regulatory Setting

This section describes the federal, state, and local regulations related to GHG emissions and climate change. At the federal level, the USEPA has developed regulations to reduce GHG emissions from motor vehicles and has developed permitting requirements for large stationary emitters of GHGs. On April 1, 2010, USEPA and the NHTSA established a program to reduce GHG emissions and improve fuel economy standards for new model year 2012-2016 cars and light trucks. On August 9, 2011, USEPA and the NHTSA announced standards to reduce GHG emissions and improve fuel efficiency for heavy-duty trucks and buses. In August 2016, USEPA and the NHTSA jointly finalized Phase 2 Heavy-Duty National Program standards to reduce GHG emissions and improve fuel efficiency of medium- and heavy-duty vehicles for model year 2018 and beyond (USEPA 2020). However, some of these standards have been stayed by a court order and USEPA has proposed repealing certain Phase 2 emissions standards (Center for Climate and Energy Solutions 2020).

In recent years, California has enacted a number of policies and plans to address GHG emissions and climate change. In 2006, the California State Legislature enacted Assembly Bill (AB) 32, the Global Warming Solutions Act, which set the overall goals for reducing California’s GHG emissions to 1990 levels by 2020. SB 32 codified an overall goal for reducing California’s GHG emissions to 40 percent below 1990 levels by 2030. Executive Orders (EOs) S-3-05 and B-16-2012 further extend this goal to 80 percent below 1990 levels by 2050. The CARB has completed rulemaking to implement several GHG emission reduction regulations and continues to investigate the feasibility of implementing additional GHG emission reduction regulations. These include the low carbon fuel standard, which reduces GHG emissions associated with fuel usage, and the RPS, which requires electricity suppliers to increase the amount of electricity generated from renewable sources to certain thresholds by various deadlines. In 2018, SB 100 updated the RPS to require 50 percent renewable resources by the end 2026, 60 percent by the end of 2030, and 100 percent renewable energy and zero carbon resources by 2045. EO B-55-18 signed by Governor Jerry Brown set a goal of statewide carbon neutrality by 2045 and net negative emissions thereafter.



CARB approved the First Update to the AB 32 Scoping Plan on May 22, 2014 (CARB 2014). This update defines climate change priorities for the next 5 years and also sets the groundwork to reach long-term goals set forth in EOs S-3-05 and B-16-2012. The update also highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals and evaluates how to align the State's longer term GHG reduction strategies with other state policy priorities for water, waste, natural resources, clean energy, transportation, and land use. CARB is updating the Scoping Plan to reflect progress since 2005, additional reduction measures, and plans for reductions beyond 2020. CARB released and adopted a 2017 Scoping Plan Update (CARB 2017) to reflect the 2030 target set by EO B-30-15 and codified by SB 32 (CARB 2017, CARB 2021).

California has adopted several vehicle emission reduction and fuel efficiency regulations that are similar and consistent with the federal USEPA and NHTSA regulations. These California vehicle regulations were granted under a waiver request by the USEPA and would not necessarily be affected by changes in the federal policies.

The General Plans for the Counties of San Mateo, Santa Clara, and Santa Cruz include policies aimed at reducing local contributions to global climate change. These policies include supporting efforts to reduce GHG emissions, promoting sustainable practices and green technology in development, and promoting the use of low-emission vehicles and equipment, among others. San Mateo County has a Government Operations Climate Action Plan and a Community Climate Action Plan (San Mateo County 2020) that contain GHG and energy-related strategies and measures. Santa Clara County's Climate Action Plan focuses on County Operations and Facilities and is not directly applicable to the Program. Santa Cruz County has a Climate Action Strategy that contains GHG and energy-related goals, policies, and strategies (Santa Cruz County 2020).

Midpen has adopted a Climate Action Plan to identify goals and strategies to reduce GHG emissions generated by Midpen activities. The Climate Action Plan calls for a 20 percent reduction from the 2016 baseline in 2022 and ultimately an 80 percent reduction by 2050. Strategies are identified to reduce GHG emissions associated with four different sectors, one of which is "vehicle fleet, equipment, and business travel," which would apply to the vehicles and equipment used during implementation of the Program. Some of the strategies correlate to reducing energy use, primarily non-renewable fuels. Applicable strategies include switching tanks and fueling stations to renewable diesel (V1, which was completed in September 2018), acquisition and testing of new electric equipment (V4), purchasing a hybrid or electric vehicle for field offices (V6), and assessing feasibility of alternative fire response models with lower emissions (V7) (Midpen 2018).

The BAAQMD has an operational GHG threshold of 1,100 metric tons of carbon dioxide equivalents (MTCO_{2e})/yr for non-stationary source projects (BAAQMD 2017a). For the purposes of this analysis, emissions below the 1,100 MTCO_{2e}/year level were considered to not have a significant cumulative impact on climate change from GHG emissions. **Table 3.8-1** provides the BAAQMD's recommended significance criteria for analysis of GHG impacts, including cumulative impacts. A small portion of the program area falls within MBARD jurisdiction; however, MBARD's GHG thresholds apply to stationary sources.



Table 3.8-1. Applicable BAAQMD CEQA Thresholds of Significance for GHGs

Pollutant	Operational Significance Thresholds
GHGs—projects other than stationary sources	a) Compliance with qualified GHG reduction strategy
	OR
	b) 1,100 metric tons (MT) of carbon dioxide equivalent (CO ₂ e) per year
	OR
	c) 4.6 MTCO ₂ e/service population (residents and employees) per year

Source: BAAQMD 2017a

3.8.2 Environmental Setting

Anthropogenic emissions of GHGs are widely accepted in the scientific community as contributing to global climate change. Temperature rises associated with climate change are expected to negatively impact plant and animal species, cause ocean acidification and sea level rise, affect water supplies, impact agriculture, and harm public health. California has contributed to GHG emissions and was estimated in 2018 by the California Energy Commission to be responsible for approximately 1 percent of the world’s total GHG emissions (CEC 2018). California’s total GHG emissions were estimated as 429 million metric tons of CO₂ equivalents in 2016 by CARB in its Greenhouse Gas Inventory Data (CARB 2018b).

In the San Francisco Bay Area, data collected for the Clean Air Plan indicates that the largest sources of GHG emissions (and presumably energy use) were from transportation (41 percent), followed by stationary sources such as refineries (26 percent), energy production (14 percent), and buildings (10 percent) (BAAQMD 2017b).

In 2018, Midpen’s administrative GHG emissions were 1,307 MTCO₂e, a decrease of 14% from 2016 (Midpen 2019). Midpen’s largest sources of emissions are vehicles, equipment, and employee commutes.

3.8.3 Discussion

a, b. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, OR conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Use of vehicles and off-road equipment, such as woodchippers, chainsaws, excavators, tractors, and rollers, for proposed Program activities would generate emissions of GHGs.

The maximum extent of Program activities would generate emissions of 544 MTCO₂e per year, which is substantially below annual BAAQMD significance thresholds for GHGs. Maximum emissions estimates present a conservative scenario, as daily and annual emissions would often be less. Over the duration of the Program, GHG emissions from vehicles and equipment is expected to decrease due to increasing vehicle fleet efficiency, transition to electric vehicles, and California Air Resources Board’s Low Carbon Fuel



Standard. For additional information on how emissions were estimated refer to **Appendix C** of this IS/MND.

Midpen's Climate Action Plan includes a goal to reduce administrative GHG emissions 20% below the 2016 baseline by 2022, 40% by 2030, and 80% by 2050 (Midpen 2018). The Climate Action Plan includes multiple strategies for achieving these goals, including increasing electric and alternative fuel vehicles and equipment, increasing vehicle fuel economy, increasing use of electric transportation options, and reducing miles driven. Midpen has already implemented multiple Climate Action Plan items that help decrease overall GHG emissions, which would also be consistent with the goals of other state and local climate action plans in the region (Midpen 2019).

Therefore, the proposed Program would not generate GHG emissions with the potential to significantly affect the environment or conflict with any plans to reduce GHGs, and Program-related impacts would be **less than significant**. No mitigation is required.



3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



3.9.1 Environmental Setting

Hazardous materials are chemical and non-chemical substances that can pose a threat to the environment or the public if misused or released. Under the Resource Conservation and Recovery Act (RCRA) in 40 Code of Federal Regulations part 261, explosives, flammable and combustible substances, poisons, radioactive materials, pesticides, petroleum products, and other materials are considered hazardous materials. These substances can be released during motor vehicle or equipment accidents. Hazardous substances also have the potential to contaminate soils, surface waters, and groundwater if they are not properly contained (Panorama 2021).

Contamination in and near the Program area was identified using the SWRCB GeoTracker database and the Department of Toxic Substances Control's (DTSC's) EnviroStor database. No superfund sites, solid waste landfill sites, or radioactive materials were found to occur within the Program area. Known hazardous materials sites within the Program area are listed in **Table 3.9-1**. A majority of these sites are closed leaking underground storage tank (LUST) sites. Three known hazardous materials sites within the Program area are open and include the former Almaden Air Force Station (AFS), Madonna Creek Ranch, and Cooley Landing.

Former Almaden AFS was a previous radar station and is located in the southern portion of Sierra Azul OSP. The former facilities on site include fuel-storage tanks and buildings with asbestos containing materials which led to soil and groundwater contamination. Although some of the contaminated areas have been cleaned up to meet agency remediation standards, contamination still remains on the site (Panorama 2021).

Madonna Creek Ranch site was previously used for agriculture and is in the northwestern portion of Miramontes OSP. A historical, unpermitted dump site was uncovered associated with the past agriculture use. Samples conducted in 2019 detected lead, nickel, diesel, and dieldrin (pesticide) in the soil. Midpen has remediated this site to address the contamination (Panorama 2021).

Cooley Landing is a former waste dump where construction debris was dumped and burned contaminating the soil and groundwater. This site is located within the Ravenswood OSP along the Bay margin. Soil and groundwater were remediated to meet standards and were covered with clean soil to allow for use as a public park; however, additional soil cleanup was approved to occur in 2015 (Panorama 2021).

Soil contamination generally occurs in areas that are or have been previously developed, especially with industrial uses. Soil contamination can also occur in areas where pesticides have been historically applied or mining historically occurred or in areas with underground storage tanks (USTs). Contamination is also sometimes associated with leaking utilities (e.g., leaking petroleum or gas pipelines or leaking transformers on utility poles) or accidental spills. Sites that are currently under Midpen management, or may become under Midpen management, are on undeveloped lands. Remnant contamination from previous industrial uses, particularly in bayside areas, may be present within or near Midpen lands. Some active or abandoned agricultural sites may have residual contamination in soils or have hazardous materials present in containers or tanks (Panorama 2021).



Several other open and closed hazardous materials sites are located directly adjacent to Midpen lands, such as the National Aeronautics and Space Administration’s Ames Research Center site adjacent to the Stevens Creek Nature Study Area, a closed voluntary cleanup site due to past presence of petroleum hydrocarbons, methylene chloride, and herbicides (Panorama 2021).

Midpen is aware of several locations of contamination not listed on government databases and actively conducts cleanup of these sites. Abandoned oil facilities and aboveground storage tanks remain on the Purisima Creek OSP from former oil production. Soil contaminated with oil and diesel was found in and around these facilities, but were determined to not pose a significant threat to the health of users or the environment. An historic dump site and former village, with possible aboveground or underground storage tanks, is located at Bear Creek Redwoods OSP. Concentrations of lead, zinc, and copper were found in excess of hazardous waste toxicity criteria but due to the use of the site as open space, removal is not recommended (Panorama 2021).

Table 3.9-1. Hazardous Materials Sites Within Midpen Lands on Government Database

Open Space Preserve (OSP)	Hazardous Materials Site Name	Type of Hazardous Site and Status	Type of Contamination
Sierra Azul	Almaden Air Force Station- Formerly Used Defense Site	Military Evaluation	Soil: polychlorinated biphenyls (PCBs), asbestos, Freon, polyglycol
		Military UST site Open Remediation	Groundwater: petroleum hydrocarbons, benzene, toluene, xylene
El Corte de Madera Creek	Western States Tanker Spill	LUST cleanup site Completed – case closed	Soil: gasoline
La Honda Creek	Driscoll Ranch	Cleanup program site Completed – case closed	Soil: petroleum hydrocarbons, pesticides, fumigants, herbicides
Pearson- Arastradero	Arastra Hostel	LUST cleanup site Completed – case closed	Soil: heating oil, fuel oil
Rancho San Antonio	Private Residence	LUST cleanup site Completed – case closed	Soil: gasoline
Saratoga Gap	Santa Clara Co. Trans.	LUST cleanup site Completed – case closed	Groundwater: diesel



Open Space Preserve (OSP)	Hazardous Materials Site Name	Type of Hazardous Site and Status	Type of Contamination
Bear Creek Redwoods	Presentation Center and Alma College	LUST cleanup site Completed – case closed	Soil: heating oil, fuel oil, diesel Soil: surface water: gasoline
Pulgas Ridge	Pulgas Ridge Open Space Preserve	Cleanup program site Completed – case closed	Groundwater: diesel
Miramontes	Madonna Creek Ranch	Cleanup program site Open – assessment and interim remedial actions	Soil: lead, nickel, diesel, dieldrin
Ravenswood	Cooley Landing, Ravenswood Industrial Area	Cleanup program site Open – inactive	Soil: arsenic, polychlorinated biphenyls, polynuclear aromatic hydrocarbons, petroleum hydrocarbons

Note: LUST – leaking underground storage tank; UST – underground storage tank

Source: Panorama, 2021.

Existing herbicide use in Midpen preserves is discussed detail in the Wildland Fire Resiliency Program EIR and IPMP EIR as Addended. In general, herbicides are applied to green leaves with a backpack applicator or spray bottle, wick (wiped on), or wand (sprayed on) or applied as pellets to the ground surface. Herbicides are also applied to trees around the circumference of the trunk on the intact bark (basal bark), to cuts in the trunk or stem (a.k.a. “frill and spray”), to cut stems and stumps (cut stump), or are injected into the inner bark with a hypo-hatchet. Most sites use an integrated treatment approach, in which initial treatment can consist of increased chemical or mechanical methods and then a shift towards low-intensity manual methods as the infestation becomes under control and the seedbank is eliminated. (Panorama 2021)

Fire hazards present a considerable risk to vegetation and wildlife habitats throughout the Program area. Additionally, the potential for significant damage to life and property exists in wildland-urban interface areas, where development is adjacent to densely vegetated areas. The Program area lies within a combination of State and local responsibility areas generally identified by CAL FIRE as Very High and High fire hazard severity zones (FHSZs) (CAL FIRE 2007). The OSPs in the northern portion of the Program area within central and southern San Mateo County, as well as western Santa Clara County, fall within a combination of High and Very High FHSZs, with some areas designated as Moderate FHSZ and/or not rated. Midpen OSPs in the southern portion of the Program area within southwestern Santa Clara County fall within a combination of High and Very High FHSZs.



3.9.2 Discussion

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed Program would involve the routine transport, use, and disposal of hazardous materials, such as pesticides, herbicides, fuel, oil, solvents, and related materials. For vegetation management activities involving herbicide use to minimize invasive species and fuel loads, Midpen would need to transport herbicides to those project sites, use herbicides to control nuisance vegetation, and then dispose of herbicide containers or applicator equipment after completing the job. The transport of fuels would also be required for activities such as prescribed burning and potentially prescribed herbivory (e.g., fuel for generators for electric fences). The Program also includes removing hazardous materials such as asbestos and lead based paint from culverts, bridges, and other structures. For other types of projects (e.g., road and bridge repair, road decommissioning, culvert repair and replacement, sediment and debris removal, bank stabilization, aquatic restoration, small-scale facility improvements, etc.), Midpen would use heavy construction equipment that would also require fuel, oil, lubricants, and other potentially hazardous materials. It is also possible that proposed Program activities could encounter contaminated soil or water, which would require transport and disposal.

Such routine transport, use, and disposal of hazardous materials could potentially create a hazard to the public or the environment (e.g., if workers did not wear appropriate personal protective equipment (PPE) when applying herbicides, or if hazardous materials were not disposed of in proper locations or at approved facilities). However, regulations under the OSHA require that Midpen and its contractors provide workers with PPE to limit exposure to potentially harmful hazardous materials (Department of Labor 2019). Compliance with these existing laws and regulations would greatly reduce the potential for proposed Program activities to create a significant hazard to the public or the environment.

Additionally, adherence to Midpen's IPMP would ensure that pest treatments include the most effective and least environmentally harmful options, and require active monitoring and adaptive management to over time. Herbicides are currently used on Midpen lands under the IPMP. The herbicides proposed for use as part of the Program are the same as those already analyzed and are covered by the IPMP EIR as Addended (Midpen 2014a; Midpen 2019). No new herbicides are proposed for use. The toxicity of each of the herbicides has already been analyzed in the IPMP and found to have a moderate to very low toxicity to humans. Chemical use across Midpen lands would not increase with implementation of the proposed Program.

Finally, Midpen would implement the following BMPs, incorporated as part of the Program, to reduce potential impacts associated with improper storage, handling, use, transport, and disposal of hazardous materials. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-5 Hazardous Materials Storage/Disposal
- BMP GEN-6 Spill Prevention and Control



- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-26 Non-native Plant Removal and Herbicide Management

With implementation of the above-listed BMPs and adherence to Midpen's IPMP, impacts associated with the majority of hazardous materials transport, use, and disposal that would occur under the proposed Program would be less than significant. Although less frequent, Program-related ground disturbance could encounter contaminated soil, sediment, or groundwater that would expose workers, the public, or the environment to hazards if adequate precautions are not taken. This would be a significant impact. Implementation of **Mitigation Measure HAZ-1** would minimize potential impacts in this scenario.

Mitigation Measure HAZ-1: Proper Handling and Disposal of Contaminated Soil, Sediment, and Groundwater

Prior to initiating ground-disturbing activities, Midpen or its contractors will inspect the soil, sediment, or groundwater for the presence of possible contamination. If indicators of contamination (e.g., foul odor, staining or sheen, etc.) are found, soil and groundwater sampling will be conducted by an appropriate licensed professional and testing of samples will be completed by a California Certified laboratory. In the event that soils to be excavated are found to be contaminated, the excavated soil will be treated as hazardous materials and disposed of at an approved hazardous waste disposal facility in compliance with state and federal regulations and Midpen operational procedures. Effective dust suppression procedures will be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. Regulatory agencies for the State of California (Department of Toxic Substances Control [DTSC] or RWQCB) and the appropriate county will be contacted by Midpen or its contractor to plan handling, treatment, and/or disposal options. In removing potentially contaminated soil, sediment, or groundwater, workers will wear protective clothing and equipment to limit their exposure.

With implementation of the above-listed BMPs, adherence to Midpen's IPMP, and implementation of Mitigation Measure HAZ-1, impacts associated with hazardous materials transport, use, and disposal that would occur under the proposed Program would be **less than significant with mitigation**.

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

Hazardous materials used or removed during maintenance activities (e.g., herbicides, fuel, oil, lubricants, solvents, asbestos, lead based paint, etc.) could potentially be released to the environment through upset or accidental spills if adequate precautions are not taken. Such a release could harm aquatic or terrestrial organisms and pose a hazard to maintenance workers and/or the public. Midpen would implement the following BMPs, incorporated as



part of the Program, to reduce potential hazards impacts from reasonably foreseeable upset or accident conditions. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-5 Hazardous Materials Storage/Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-26 Non-native Plant Removal and Herbicide Management

Implementation of the BMPs listed above would minimize the potential for accidental releases by requiring proper storage of hazardous materials, including secondary containment, and implementing spill prevention and control measures. While implementation of the above-listed BMPs would address the majority of potential Program-related impacts, they do not fully address the potential for proposed Program activities to create a significant hazard to the public or environment through accidental release of hazardous materials that could result from exposure to contaminated soil, sediment and groundwater encountered during proposed maintenance activities. This would be a significant impact to the public or environment. Implementation of Mitigation Measure HAZ-1, which requires testing and proper disposal of contaminated soil, sediment and groundwater, would reduce potential impacts to **less than significant with mitigation**.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are five schools located within 0.25 mile of Midpen OSPs, as shown in **Table 3.9-2**. As previously discussed, Program activities would involve the transport and use of herbicides, fuel, oil, lubricants, and solvents, which may be hazardous. Additionally, certain activities may occur in areas with existing soil or groundwater contamination. Program activities could occur within close proximity of a school, potentially exposing children to hazardous materials.

Table 3.9-2. Open Space Preserves within 0.25-Mile of a School

OSP Name	School(s) Within 0.25-Mile	Distance to School(s) (Miles)
Windy Hill	Corte Madera School	0.18
Rancho San Antonio	Eastbrook Elementary School	0.19
Purisima Creek Redwoods	Kings Mountain Elementary School	0.10
La Honda Creek	La Honda Elementary School	0.03
Felton Station	Lakeside Elementary School	0.13

Source: *Panorama, 2021*



Heavy equipment used during routine maintenance activities would emit some diesel exhaust and related emissions that can be hazardous. In general, these emissions would be similar to emissions associated with road and other construction projects that commonly occur throughout San Mateo, Santa Clara, and Santa Cruz counties, which are in proximity to existing schools from time to time. While the amount and duration of the equipment and vehicle emissions would depend on the specific characteristics of the Program activity, these emissions would not pose an acute health hazard to children at any nearby school. Please refer to Section 3.3, “Air Quality” for further analysis regarding emissions from equipment and vehicles (including DPM). Further, while it is possible that handling of hazardous materials could occur in proximity to a school, these activities would not pose a significant health hazard to school children because the proposed Program would implement the following BMPs, as incorporated as part of the Program, to reduce hazardous impacts to schools. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-5 Hazardous Materials Storage/Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-26 Non-native Plant Removal and Herbicide Management

Implementation of the BMPs listed above would minimize the potential for accidental releases by requiring proper storage of hazardous materials, including secondary containment, and implementing spill prevention and control measures. While implementation of the above-listed BMPs would address the majority of potential Program-related impacts, they do not fully address the potential for accidental release of hazardous materials that could result from exposure to contaminated soil, sediment and groundwater encountered during proposed maintenance activities. This would be a significant impact, if located within one-quarter mile of an existing school. Implementation of Mitigation Measure HAZ-1, which requires testing and proper disposal of contaminated soil, sediment and groundwater, would reduce potential impacts to **less than significant with mitigation**.

Note that herbicides are currently used on Midpen lands under the IPMP. Active ingredients associated with herbicides applied under the IPMP have low to very low toxicity to humans. The herbicides proposed for use as part of the Program are the same as those already analyzed and are covered by the IPMP EIR and EIR Addendum (Midpen, 2014; Midpen, 2019). No new herbicides are proposed for use. Chemical use across Midpen lands, including within one-quarter mile of an existing or proposed school, would not increase with implementation of the proposed Program.

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Known contaminated hazardous sites are identified within and adjacent to the Program area, the majority of which are closed LUST sites (see **Table 3.8-1**). However, there are three



known open hazardous materials sites identified on the SWRCB's GeoTracker database and DTSC's EnviroStor database within the Program area located in the Sierra Azul OSP, Miramontes OSP, and Ravenswood OSP, as described in Section 3.8-1. Additionally, there are several contaminated areas not listed on government databases for which Midpen is involved in cleanup activities. Because Program activities would vary each year and the status of existing contamination and cleanup efforts changes frequently, it is difficult to determine the degree to which Program activities would impact (or be impacted by) existing contaminated sites.

Because a number of locations within or adjacent to the Program area contain contaminated soils, it is possible that Program activities involving ground disturbance could occur on or in the vicinity of documented hazardous materials sites that are listed pursuant to California Government Code Section 65962.5. Were this to occur, Midpen staff or its contractors could be subjected to potential hazards from disturbed contaminated soils on the site, which would be a significant impact. Implementation of Mitigation Measure HAZ-2, which requires review of the proximity of Program-related ground disturbance sites to known hazardous materials clean-up sites and implementation of safety precautions, would reduce potential impacts to **less than significant with mitigation.**

Mitigation Measure HAZ-2: Review of Proximity to Existing Known Hazardous Materials Clean-up Sites and Implementation of Safety Precautions

Midpen and/or its contractors will evaluate the proximity of proposed Program sites that involve ground-disturbing activities to existing known hazardous material clean-up sites. This review will include examination of the planned Program activity footprint in relation to records of hazardous materials sites in the SWRCB's GeoTracker database and the DTSC's EnviroStor database.

If the Program activity is located on or within 100 feet of a documented hazardous material contamination site, for which clean-up activities have not been completed or been successful, Midpen and/or its contractors will commission a Phase I Environmental Site Assessment to more fully characterize the past land uses and potential for soil and/or groundwater contamination to occur at or in close proximity to the site.

If the Phase I Environmental Site Assessment demonstrates a reasonable likelihood that contamination remains within the Program activity's area of disturbance, Midpen and/or its contractors will commission a Phase II Environmental Site Assessment, including soils testing, to characterize the extent of the contamination and develop ways to avoid the contaminated areas during Program activities. Midpen will follow all recommendations of the Phase II Environmental Site Assessment and will avoid areas of contamination, to the extent feasible. In the event that it is not feasible to avoid all areas of contamination, Midpen and its contractors will follow all applicable laws regarding management of hazardous materials and wastes. This includes proper disposal of any contaminated soil in a hazardous waste landfill, and ensuring that workers are provided with adequate personal protective equipment to prevent unsafe exposure.



- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The majority of Midpen lands are not located in an area with an airport land-use plan or within the vicinity of a public use airport or private airstrip. Ravenswood OSP is within 2 miles of the Palo Alto Airport but is not within the airport-influence area (Panorama 2021). Program activities that may occur within 2 miles of an airport would typically involve routine maintenance at culverts, bridges, channels, ponds, and roadside drainage features; vegetation management activities along roads, trails, around existing facilities, in ponds and channels, and restoration and enhancement projects. These activities would not introduce people permanently to an area that could be subject to safety hazards or excessive noise. In addition, the proposed Program would not involve construction of structures in the vicinity of an airport that could exceed height limitations for protection of navigable airspace. Any prescribed burning that may occur in the vicinity of an airport-influence area would be maintained at low intensities that would not generate sufficient smoke to affect air traffic as described in Midpen's Wildland Fire Resiliency Program EIR (Panorama 2021). This impact would be **less than significant**.

- f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Designated evacuation routes pass through or adjacent to most Midpen lands. Program activities that include the operation of heavy equipment on roadways could potentially interfere with traffic movement and impair evacuation procedures in the event of an emergency. Such activities include sediment and debris removal, fallen and hazardous tree removal, culvert repair/replacement, vegetation management (e.g., brushing or mowing), and fuel management activities (e.g., prescribed burning and maintenance of fuel breaks). Hindering evacuation and emergency response could be a significant impact. **Mitigation Measure TRANS-1** requires Midpen to make provisions to allow emergency responders through any work area or clearly designate alternate routes. Minimal delays, lasting a few minutes, would occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicles to pass. Mitigation Measure TRANS-1 would ensure that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them and that the fire district and emergency-response agencies have prior notification of temporary access road closures. With implementation of Mitigation Measure TRANS-1, impacts associated with the interference of an adopted emergency response plan or emergency evacuation plan would be **less than significant with mitigation**.

- g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

The proposed Program would not involve construction of new habitable structures or homes; however, the potential for significant damage to life and property exists in areas designated as wildland-urban interface (WUI) areas, where existing development is adjacent to densely vegetated areas. In the Program area, this can range from a few scattered houses to larger



subdivisions or communities (Midpen 2021b). Further, significant portions of the Program area fall within State Responsibility Areas designated as Very High and High Fire FHSZs, with some areas identified as Moderate or Unrated (CAL FIRE 2007) (See **Figure 3.9-1**). As such, Program-related routine maintenance (e.g., sediment and debris removal and culvert repair/replacement), vegetation management (e.g., brushing, mowing, pile burning, and chemical treatment), and fuel management activities (e.g., prescribed burning and maintenance of fuel breaks and disclines), involving the operation of mechanical equipment and/or the use of fuel or other flammable substances, would take place in these areas, thereby increasing the potential for igniting a brush fire and triggering a wildland fire.

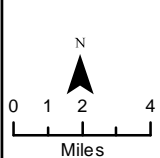
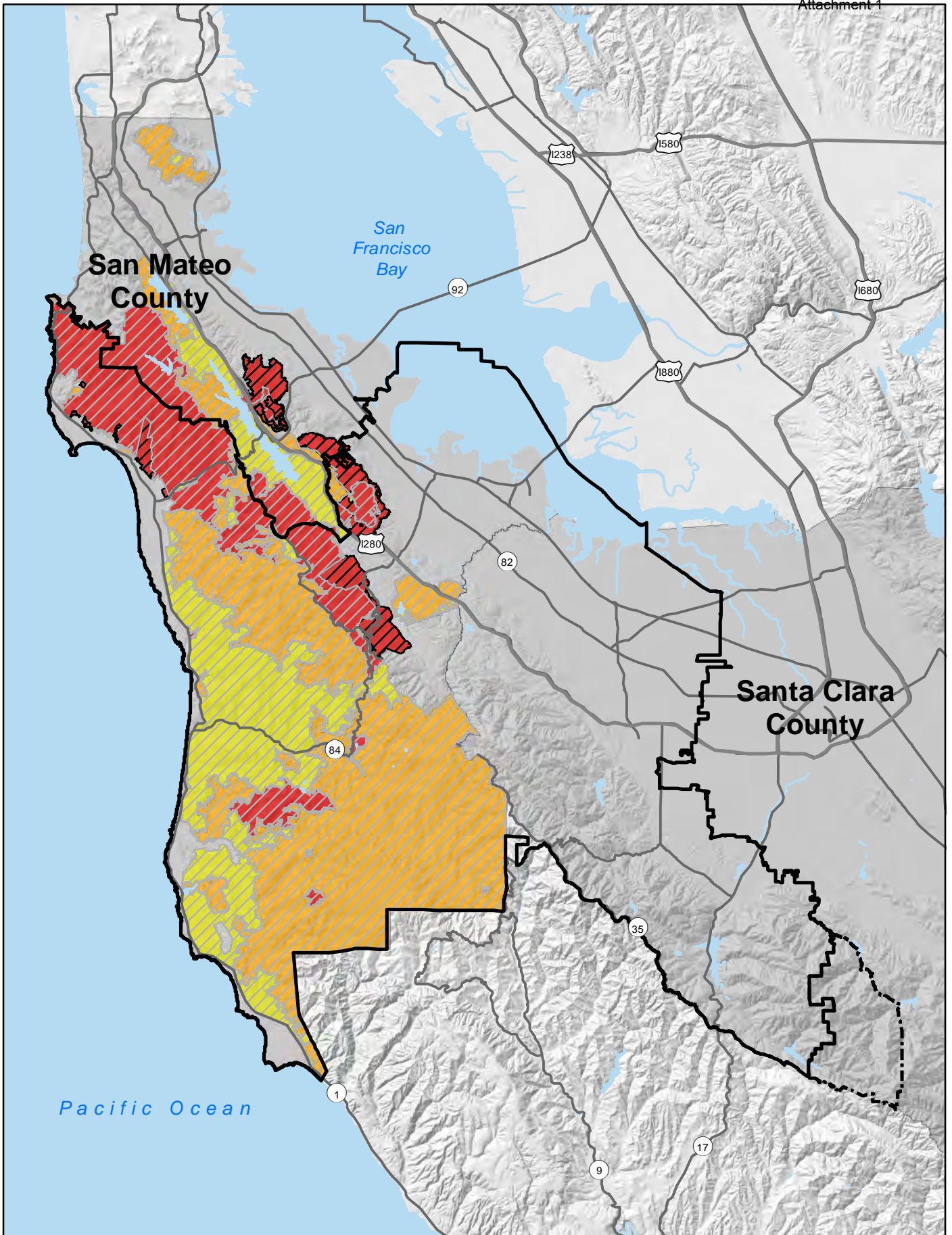
To minimize fire risk from most Program activities, particularly for routine maintenance and vegetation management activities, Midpen would implement BMP GEN-17: Fire Prevention (described in Chapter 2, *Project Description*), which would reduce potential wildland fire impacts associated with those activities by requiring on-site fire suppression equipment, spark arrestors on all equipment with internal combustion engines, restricting activities on high fire danger days, and coordinating with local fire districts.

Prescribed burns and related fuel management activities under the proposed Program would be performed consistent with the methodologies and requirements of Midpen's Wildland Fire Resiliency Program. The purpose of the Wildland Fire Resiliency Program is, in large part, to reduce fuel loads and wildland-fire risks on Midpen lands compared with the baseline conditions. The analysis of wildland fire impacts associated prescribed burns and other fuel management activities is covered in the Wildland Fire Resiliency Program EIR (Panorama 2021).

With implementation of BMP GEN-17, adherence to State and local regulations, and compliance with Midpen's Wildland Fire Resiliency Program, impacts of the proposed Program would be **less than significant**.



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- MROSD Boundary
- Sphere of Influence
- Major Highway
- State Route
- County Boundary

- Wildfire Hazard and Responsibility Area**
- Very High
 - High
 - Moderate

- Local Responsibility Area (LRA)
- State Responsibility Area (SRA)

Figure 3.9-1
CAL FIRE Fire
Hazard Severity Zones
within the Program Area

Midpeninsula Regional Open Space District Routine
 Maintenance and Facilities Improvement Program
Initial Study/Mitigated Negative Declaration



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3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



3.10.2 Environmental Setting

The Program area is located in the Santa Cruz Mountains on the San Francisco Peninsula (Peninsula), primarily within southern San Mateo and northwestern Santa Clara counties, with a small portion in Santa Cruz County. The Peninsula separates the San Francisco Bay from the Pacific Ocean and extends from the Golden Gate south to the Santa Clara Valley and northern end of Monterey Bay. Runoff from the peninsula flows to the Pacific Ocean to the west and the San Francisco Bay and estuaries to the east.

Climate and Precipitation

The Program area exhibits a Mediterranean climate with mild, wet winters and warm, dry summers. Regional climatic conditions are moderated by a cooler, moist marine layer from the Pacific Ocean. The Santa Cruz Mountains influence the occurrence of frequent extreme storms with heavy precipitation that can be responsible for periodic flooding. Rainfall mostly occurs between November and April with seasonal rainfall totals varying depending upon topography, exposure, and elevation. The greatest rainfall quantities occur along the west facing slopes of the Santa Cruz Mountains near the summit of the mountain range where totals reach up to 40 to 50 inches per year. Typical average rainfall ranges from 20 to 30 inches per year. Many small creeks and streams are intermittent, which reflect the seasonal distribution of rainfall. Winter flows are higher, especially during and immediately following storms. Due to the open spaces and undeveloped lands within the Program area, rain is able to mostly percolate into the ground rather than rapidly run off the surface (Horizon 2021).

Surface Water Hydrology and Quality

The Program area can be separated into two hydrological regions by the Skyline-Loma Prieta Ridge in the Santa Cruz Mountains. Watersheds in coastal area of San Mateo County are to the west and southwest of the Skyline-Loma Prieta Ridge and drain towards the Pacific Ocean. Watersheds east of the Skyline-Loma Prieta Ridge are located in the South Bay Area and Santa Clara County and drain to the San Francisco Bay. The Program area is located within 25 watersheds within the Santa Cruz Mountains, including the following from north to south: San Pedro Creek, Denniston Creek, Arroyo Leon, San Mateo Creek, Purisima Creek, San Francisquito Creek, Cordilleras Creek, Oakland Inner Harbor-San Francisco Bay, San Francisco Bay Estuaries, San Gregorio Creek, La Honda Creek, Adobe Creek, Permanente Creek, Stevens Creek, Calabazas Creek, Lower Pescadero Creek, Upper Pescadero Creek, Butano Creek, Gazos Creek, Waddell Creek, Saratoga Creek, San Tomas Aquino Creek, Los Gatos Creek, Guadalupe River, and Alamitos Creek. Many of Midpen's OSPs are located within the headwaters or uppermost sections of these watersheds. Most of these watersheds contain steep slopes and deep canyons, typical of the Santa Cruz Mountains. Surface waters within the Program area are year-round streams, ephemeral and perennial creeks, lakes, reservoirs, and ponds. Major creeks and streams within the Program include, but are not limited to, Pescadero Creek, San Gregorio Creek, Tunitas Creek, Lobitos Creek, Purisima Creek, Pilarcitos Creek, Cordilleras Creek, San Francisquito Creek, Adobe Creek, Permanente Creek, Stevens Creek, Saratoga Creek, San Tomas Aquino Creek, Los Gatos Creek, and Guadalupe River.

The CWA is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. Under CWA Section 303(d), states are required



to identify “impaired water bodies” (those that do not meet established water quality standards), identify the pollutants causing the impairment, establish priority rankings for waters on the list, and develop a schedule for developing control plans to improve water quality. A list of impaired waterbodies within and downstream of the Program is included in Table 3-4 of Chapter 3 of the Program Manual (**Appendix B** of this IS/MND). A Total Maximum Daily Load (TMDL) is developed by states, territories, or authorized tribes for constituents on the CWA Section 303(d) List to restore the quality of the waterbody. TMDLs identify the sources of pollutants and identify actions to restore water quality. TMDLs developed for waterbodies in the Program area include sediment/siltation in San Francisquito, San Gregorio, Pescadero, and Butano creeks; toxicity in urban creeks such as Calabazas, Corte Madera, Matadero, Permanente, and Stevens creeks; selenium in Permanente Creek; and mercury in Guadalupe River watershed. Refer to Chapter 3 of the Program Manual (**Appendix B** of this IS/MND) a further description of water quality impairments.

In addition to major creeks and streams in the Program area, there are over 100 natural and humanmade ponds located on Midpen lands. A majority of these ponds are either humanmade or have been heavily modified from their natural condition. Ponds have many uses, including providing valuable habitat for rare plants and special-status species, supplying clean water for livestock, protecting water quality of creeks and streams, supporting fire suppression, and providing aesthetic value to visitors. Typically, ponds are spring fed year-round (Horizon 2021).

Groundwater Hydrology and Quality

The majority of the Program area within the Santa Cruz Mountains is not underlain by a groundwater basin. In the Santa Cruz Mountains, groundwater conditions vary locally depending on geologic conditions. The occurrence of groundwater is dependent on the presence of porous, permeable rock capable of storing and transmitting water. Hard, fine-grained rock formations underlie most areas of the Santa Cruz Mountains; however, deep weathering, shearing, and fracturing of the rock can create permeability and porosity in the rock units, allowing pockets of water to form. Groundwater can also occur locally in deep colluvial and landslide deposits (Horizon 2021).

The eastern side of the Program is primarily located within the Santa Clara Valley Groundwater Basin, within the Santa Clara subbasin and the San Mateo Plain subbasin (California Department of Water Resources [DWR] 2020). The Santa Clara subbasin is bounded to the west by the Santa Cruz Mountains, to the east by the Diablo Range, to the north by Santa Clara County northern boundary line, and to the south by the groundwater divide near the town of Morgan Hill (DWR 2004a). The San Mateo Plain subbasin is bounded by the San Francisco Bay to the east, the Santa Cruz Mountains to the west, the Westside subbasin to the north, and San Francisquito Creek to the south (DWR 2004b). The primary source of groundwater recharge is infiltration of streamflow and precipitation. Artificial recharge also occurs as part of the Santa Clara Valley Water District (Valley Water) artificial facility recharge program where either locally conserved or imported water is released to in-stream and off-stream facilities to maintain groundwater levels. Valley Water is the Groundwater Sustainability Agency (GSA) for the portion of the Santa Clara subbasin within



Santa Clara County. Groundwater within the groundwater basin supplies approximately 50 percent of the potable water to residents in the Santa Clara Valley (Horizon 2021).

Groundwater in the Santa Clara Valley Groundwater Basin is generally of good quality and drinking water standards are consistently met. The Priority Basin Project of the Groundwater Ambient Monitoring and Assessment (GAMA) study tested raw water samples for a variety of organic and inorganic constituents for the entire 620-square mile San Francisco Bay, including the Santa Clara Valley Groundwater Basin. Fourteen volatile organic compounds (VOCs) and six pesticides were detected in the wells sampled; however, all detections of VOCs and pesticides in study area wells were below established safety thresholds (Horizon 2021).

Flooding

Because the Program area is generally located at areas of high elevation, flooding is not typically an issue. However, OSPs along the Bay margin (i.e., Ravenswood and Stevens Creek Shoreline Nature Study Area) are located in low-lying areas of the Bay and are thus located within the existing 100-year floodplain. OSPs along the Bay margin would experience flooding from major storms and sea-level rise (Panorama 2021); however, activities at these OSPs are not included in the Program.

3.10.3 Discussion

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The following subsections describe the ways in which Program activities could temporarily degrade water quality. In many cases, Program activities (particularly repair/replacement of failed culverts and drainage features, berm/bank stabilization, removal of in-stream structures, and removal of sediment and debris) would benefit water quality as these activities would stabilize slopes, reduce sediment loading into creeks and other waterways, and remove pollutants from channels. Thus, in the long-term once Program activities are complete at a given site, water quality conditions would improve relative to existing conditions.

Ground-Disturbing Activities

Ground-disturbing activities including berm/bank repair, pond restoration, bridge relocation, road grading, trail repair, culvert repair and replacement, vegetation removal, over grazing, road and trail re-routes, among others could expose soils and increase the potential for soil erosion and transport of sediment downstream of the work area. During a storm event, soil erosion could occur at an accelerated rate. Sediment releases may increase turbidity, which could cause an increase in water temperature and a corresponding decrease in dissolved oxygen levels. Eroded sediments can also carry heavy metals, nutrients, or pathogens. The movement and transport of soil, sediment, and other loose material associated with these ground disturbing activities could also emit dust which could affect surface waters in the vicinity of the work areas. Although ground-disturbing activities would be short-term and temporary, discharge of sediment to surface waters could adversely



impact water quality, endanger aquatic life, and/or result in a violation of water quality standards. As described in Chapter 2, *Project Description*, the Program has established size and length limits for ground-disturbing activities. These self-imposed limits, along with implementation of BMPs listed below, would minimize erosion and sediment transport during and after proposed Program activities. Midpen would implement the following BMPs, incorporated as part of the Program, to minimize potential temporary impacts to water and water quality due to ground-disturbing activities. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-7 Waste Management
- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-15 Dust Management Controls
- BMP GEN-16 Site Stabilization
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-22 Spoils Management
- BMP GEN-25 Vegetation Management with Livestock
- BMP BIO-3 Work Area Designation
- BMP BIO-24 Riparian Restoration
- BMP EC-1 General Erosion Control Measures
- BMP EC-2 Slope or Bank Stabilization
- BMP EC-4 Road and Trail Minor Relocation
- BMP EC-5 Revegetation of Disturbed Areas
- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-2 Turbidity Monitoring
- BMP SWQ-3 Sediment Filtering Measures

Implementation of the above-listed BMPs would reduce temporary impacts to water quality due to ground-disturbing activities by minimizing ground disturbance and the amount of earthwork, using previously disturbed areas for staging and access, stabilizing the active work site, restoring disturbed and riparian areas following Program activities, avoiding rainy weather, ensuring proper storage of materials, equipment, and spoils, installing silt control and filtering devices, and monitoring water quality. The Program also includes restoration activities such as native vegetation plantings and road decommissioning that would further prevent erosion from occurring on Midpen lands by stabilizing bank/berm slopes,



revegetating denuded areas with native species, and removing roads to restore the natural hydrology and watershed processes.

In-Water Activities

Program activities within stream channels and ponds associated with bridge repair/maintenance and replacement, bank/berm stabilization, sediment removal, in-stream structure removal, and other activities could result in short-term water quality impacts through the disturbance of bed, banks, and berms, which may result in increased turbidity in the water column and migration of sediment to areas downstream. Work would generally occur during the dry season when the stream channel is dry, except for perennial streams or during wet weather years in which the channel does not dry. If work is necessary where water is in the stream channel, work would be scheduled during low flow and dewatering would be conducted through the use of silt fences, wattles, and/or coffer dams. Work within ponds would occur when the pond is dry if prior to August 15 or if pond draining is necessary, work would occur between August 15 and November 1 to avoid CRLF breeding season.

Midpen would implement the following BMPs, incorporated as part of the Program, to avoid and minimize water quality effects due to in-channel work including dewatering. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-8 Vehicle Maintenance and Parking
- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-12 Exclude Concrete from Channel
- BMP GEN-18 Project Completion by End of Work Period
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-20 Aquatic Resource Protection Measures
- BMP GEN-28 Culvert Replacement
- BMP GEN-29 Culvert Maintenance
- BMP GEN-31 New Culvert Installation (non-stream crossings)
- BMP GEN-32 Bridge and Puncheon Replacement
- BMP GEN-33 Bridge and Puncheon Repair and Maintenance
- BMP GEN-34 Ford and Swale (including Drain Lenses and Causeways) Replacement
- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-2 Turbidity Monitoring
- BMP DW-1 Stream/Aquatic Habitat Isolation
- BMP DW-2 Pond Dewatering



Implementation of the above-listed BMPs listed would minimize temporary impacts on water quality by reducing sediment pollution from work areas during dewatering and pond draining activities by avoiding rainy weather, excluding equipment and materials from channels with flows, ensuring in-channel activities are conducted properly, diverting flows around the active work area, and monitoring water quality. As noted above, once work is complete at road/trail slip-outs, bank/berm stabilization sites, and failed culverts/drainage features, water quality conditions would improve as proposed activities would repair erosion along banks/berms, slopes, and roads near creeks and other waterways.

Accidental Release of Hazardous Materials

Program activities would primarily be conducted by hand or with small gas-powered tools, such as chainsaws and brushcutters. Midpen strives to use the least impactful method when conducting Program activities. However, some activities such as sediment removal, pond and wetland restoration, culvert repair/replacement, and water supply structure maintenance could require the use of heavy equipment (e.g., excavators, bulldozers), typically operated from the top of bank/berm, or if unavoidable, within the stream channel. In such instances, work would occur during the dry season.

Fuels and lubricants such as oil and grease are used in excavation and transportation equipment and vehicles. During Program activities, equipment and worker vehicles would be stored and refueled at designated staging areas adjacent to the work site, out of the channel or waterway. Maintenance of bridges and other instream facilities may require repainting or concrete repair using concrete, mortar, or grout. The Program also includes removing hazardous materials such as asbestos and lead based paint from culverts, bridges, and other structures. If hazardous materials (e.g., fuels, oils, concrete, lead-based paint) were accidentally released directly or indirectly into the stream channel, the sediment and water in and around the work site could be significantly degraded. Fine sediments contained within stream channels are particularly apt at absorbing pollutants such as petroleum products. Water in the stream channels can transport pollutants downstream and carry them through the soil into underlying groundwater, thus affecting a larger area. Accidental release of construction-related hazardous materials could adversely affect water quality. In addition, any on-site trash and debris generated from Program activities could pose a potential water quality risk if transported to surface waters. Any trash and debris generated during work would be limited and would be properly disposed of in accordance with BMPs to minimize the potential for waste to be transported to waters in the Program area.

Midpen would implement the following BMPs, incorporated as part of the Program, to avoid and minimize impacts due to accidental release of hazardous materials. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-5 Hazardous Materials Storage/ Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-7 Waste Management
- BMP GEN-8 Vehicle Maintenance and Parking



- BMP GEN-9 Equipment Maintenance & Fueling
- BMP GEN-10 Paving and Asphalt Work
- BMP GEN-11 Concrete, Grout and Mortar Application
- BMP GEN-15 Exclude Concrete from Channel
- BMP GEN-16 Concrete Washout Facilities
- BMP GEN-14 Painting and Paint Removal

Implementation of the BMPs listed above would minimize the potential for accidental releases of hazardous materials into stream channels by requiring appropriate material and equipment staging, maintenance, and refueling areas, onsite hazardous materials management, spill prevention and response, and work site housekeeping.

Vegetation Management Effects on Water Temperatures

Proposed vegetation management activities include brushing, fuel management, pruning, tree removal, downed tree management, pesticide application, conservation grazing, and invasive plant removal. Some of these vegetation management activities are conducted as part of the existing condition to maintain the status quo and would not result in new effects. Vegetation management activities associated with fuel management are analyzed in the Wildland Fire Resiliency Program EIR (Panorama 2021). The discussion below analyzes potential effects of riparian vegetation management activities on water quality.

Vegetation removal along creeks would be limited (i.e., removing trees if stream capacity is limited, or the tree is threatening streams, ponds or bed and banks of streams, or water quality) and would not involve significantly thinning the riparian corridor. The primary purpose of vegetation management activities within water bodies is to maintain natural hydrologic processes and protect facilities and the public. Midpen maintains downed trees to provide habitat; therefore, it is unlikely that Program activities would remove the canopy over stream channels to such an extent that water temperatures would increase and exceed Water Quality Control Plan (Basin Plan) water quality objectives (e.g., increase of 5°F above background conditions). As a result, vegetation management activities would not permanently affect water quality and thus would not cause water temperatures to increase and exceed water quality objectives. Additionally, thinning of vegetation and removal of dead branches may even result in a beneficial effect to water temperatures in the long-term by maintaining or promoting increased canopy cover over stream channels. The Program would also involve native vegetation plantings, which would increase canopy cover over stream channels thereby reducing water quality effects related to increased water temperature.

Midpen would implement the following BMPs, incorporated as part of the Program, to avoid and minimize water quality effects due to vegetation management activities. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-4 Salvage/ Reuse of Plant and Woody Material



- BMP GEN-16 Site Stabilization
- BMP GEN-23 Vegetation and Tree Removal and Retention
- BMP GEN-27 Snags
- BMP BIO-22 Large Woody Material Management
- BMP BIO-23 Riparian Avoidance
- BMP BIO-24 Riparian Restoration

Implementation of BMPs listed above would reduce any temporary effects associated with riparian vegetation removal activities by minimizing the area of disturbance and removal of vegetation, revegetating/restoring disturbed and riparian areas, reusing removed vegetative material for restoration purposes, retaining trees, snags, and vegetation where possible, and avoiding impacts to riparian areas.

Use of Pesticides

Midpen currently applies pesticides to control invasive plants within the framework of the IPMP. Pesticides would be used consistent with Midpen's IPM Guidance Manual, which uses an integrated approach of chemical, manual, and mechanical methods to manage vegetation along trails, roads, and wildlands. All pesticide applications would be in accordance with federal, state, local regulations, labeled specifications, and any court injunctions concerning special-status species in place. Midpen uses the following pesticide application methods to control invasive species: foliar/spot spray, cut-stump, basal bark application, wick/wipe application, and frill/injection. Existing herbicide use in Midpen preserves is discussed detail in the Wildland Fire Resiliency Program EIR and the IPMP EIR as Addended. Guidelines for safe handling and applying pesticides and other BMPs in the IPMP Guidance Manual (Midpen 2014b) would be implemented during treatment.

Pesticide application near waterbodies and in riparian areas is only conducted when manual or mechanical methods are not feasible or appropriate for the site. Pesticides would not be used in or within 15 feet of any fish-bearing stream, lake, pond, or other water bodies known to support special-status aquatic species without prior consultation with CDFW. For other water bodies, pesticide use is limited to control non-native plant species where excess vegetation is determined to be the cause of sediment deposition and/or debris accumulations that result in flooding or damage to facilities. All pesticides and adjuvants used in aquatic areas would be labeled for aquatic use. Nonetheless, accidental release of pesticides or transport of applied pesticides in stormwater runoff to local surface waters would pose a significant water quality impact. Compliance with Program BMPs listed below, in addition to the BMPs and mitigation measures provided in the IPMP EIR as Addended, would prevent improper or over-application of chemicals and improper disposal and prevent discharge or runoff of chemicals into aquatic features. Refer to the IPMP EIR as Addended for analysis of impacts associated with pesticide application (Midpen 2014a; Midpen 2019).



Midpen would implement the following BMPs, incorporated as part of the Program, to minimize impacts associated with pesticide application. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-2 Minimize Area of Disturbance and Site Maintenance
- BMP GEN-5 Hazardous Materials Storage/ Disposal
- BMP GEN-6 Spill Prevention and Control
- BMP GEN-26 Non-native Plant Removal and Herbicide Management

With implementation of the above-listed BMPs, and adherence to the to the BMPs and mitigation measures identified in the IPMP EIR as Addended, impacts to water quality from applying pesticides would be minimized by complying with exiting pesticide application regulations and label specifications, minimizing the work area, and ensuring proper storage and disposal of pesticides and spill prevention and response.

Overall, implementation of the BMPs listed above would minimize the potential for proposed Program activities to substantially degrade water quality or violate water quality standards or waste discharge requirements. In addition, proposed Program activities such as culvert repair/replacement, clearing clogged drainage features, berm/bank stabilization, and sediment and debris removal would provide long-term water quality benefits by reducing sediment loading into creeks, minimizing existing erosion, and ensuring adequate hydraulic conveyance and capacity within creeks, drainages, and ponds. Therefore, this impact would be **less than significant**. No mitigation is required.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Program activities would include maintenance of water supply infrastructure, including servicing existing wells, to maintain water supply, provide accessible water for livestock and wildlife, and supply clean water to residences. Additionally, restoration and enhancement activities would involve decommissioning abandoned/inactive water wells to protect surface water and groundwater quality. The Program would not install new wells or pumps as part of the Program. Program activities would not involve any actions that would substantially deplete groundwater supplies or affect the aquifer volume or groundwater table level.

Out of the 280,000 acres that comprise the Program area, less than 10% of the area consists of impervious surfaces. Program activities would not substantially increase new impervious surfaces within Midpen lands that would affect groundwater recharge or groundwater supply. Further, Program activities may improve groundwater recharge functioning by removing sediment and debris in streams and ponds and conducting habitat enhancement activities, including potential gravel augmentation. Stream channel bottoms are some of the most effective groundwater recharge locations in a groundwater basin. Removal of sediments and debris from channel bottoms and addition of gravel would encourage groundwater recharge functioning in channel bottoms. This would have a beneficial impact on



groundwater recharge. Overall, **no impacts** related to groundwater supply or groundwater recharge would occur.

c. Would the project substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

The proposed Program would involve culvert clearing and drainage feature maintenance, bridge repair/replacement, sediment and debris removal, pond decommissioning, among others that could affect existing drainage patterns in the Program area's stream channels and drainages. The proposed Program would not substantially alter existing drainage patterns as a goal of the Program is to maintain existing facilities to protect natural resources and water quality, including culverts, road and trail drainage features, bridges, and other recreational facilities. Without conducting needed repairs and improvements, areas subject to active erosion or sediment accumulation would continue to be subject to such conditions. Over time, erosion and sediment accumulation could increase at such sites, further degrading site conditions such that bank/berm failures or flooding may occur. Additionally, by not conducting work, erosive forces could redirect runoff such that new drainage pathways could be created and cause further damage to such facilities, thereby decreasing water quality.

Although ground-disturbing activities could increase the potential for erosion and siltation, Program activities such as bank/berm repair, culvert clearing and road and trail drainage feature maintenance, vegetation removal, revegetation, bridge relocation, sediment and debris removal, and removal of in-stream structures would help reduce erosion and sedimentation. Refer to 3.6(b) for a further discussion on erosion.

Midpen would implement the following BMPs, incorporated as part of the Program, to minimize the potential for erosion and siltation from Program activities. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-1 Staging and Access
- BMP GEN-2 Minimize the Area of Disturbance and Site Maintenance
- BMP GEN-3 Construction Entrances and Perimeter
- BMP GEN-16 Site Stabilization
- BMP GEN-19 Avoid Inclement Weather
- BMP GEN-21 Staged Materials Management and Excavation Ramps
- BMP GEN-22 Spoils Management
- BMP GEN-25 Vegetation Management with Livestock
- BMP GEN-28 Culvert Replacement
- BMP GEN-29 Culvert Maintenance
- BMP GEN-31 New Culvert Installation (non-stream crossings)



- BMP BIO-24 Riparian Restoration
- BMP EC-1 General Erosion Control Measures
- BMP EC-2 Slope or Bank Stabilization
- BMP EC-3 Road and Trail Drainage Maintenance
- BMP EC-4 Road and Trail Minor Relocation
- BMP EC-5 Revegetation of Disturbed Areas
- BMP SWQ-1 Water Body Protection Measures
- BMP SWQ-3 Sediment Filtering Measures
- BMP DW-1 Stream/Aquatic Habitat Isolation

Implementation of the BMPs listed above would reduce the potential for erosion and siltation to occur during and after Program activities by minimizing ground disturbance and the amount of earthwork, using previously disturbed areas for staging and access, stabilizing the active work site, restoring disturbed and riparian areas following Program activities, avoiding rainy weather, ensuring proper storage of materials, equipment, and spoils, installing silt control and filtering devices, and monitoring water quality. Due to the temporary nature of the Program activities and with adherence to the above listed BMPs, this impact would be **less than significant**. No mitigation is required.

ii, iii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff?

Proposed new facility improvements, such as new trails or water infrastructure improvements (e.g., water tanks, spring boxes, etc.), could result in an increase in hardened surfaces in Midpen lands, which could increase the rate and amount of runoff. However, any increase in impervious surface would be minimal in relation to the majority of open space and undeveloped lands in the Program area (less than 10 percent of Midpen lands consist of impervious surfaces). Thus, minor increases in surface runoff resulting from hardened surfaces would not be substantial. Most Midpen facilities are not served by a municipal storm drainage system and runoff would continue to infiltrate into the ground and drain to creeks and drainages, similar to the existing condition. In addition, many of the Program activities are needed to maintain hydraulic capacity in creeks, drainages, and ponds to prevent potential flooding from occurring. Implementation of applicable BMPs noted above in Section 3.8(a) would limit the potential for temporary work sites to generate polluted runoff (e.g., from accidental discharge of hazardous materials used in construction equipment). Thus, Program activities would not create runoff that would result in flooding, exceed the capacity of existing stormwater drainage systems, or provide substantial additional sources of polluted runoff. Impacts would be **less than significant**. No mitigation is required.



iv. Impede or redirect flood flows?

The Program would not involve the construction of new structures that would impede or redirect flood flows. The Program would reduce the potential for flooding by providing sediment and debris removal, vegetation management, maintenance and repair or replacement of culverts and other drainage features, and bank and berm repair. Therefore, implementation of the Program would result in **no impacts** related to placing structures that would impede or redirect flood flows.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The Program area mostly lies inland within the Santa Cruz Mountains and thus would not be located in a tsunami inundation zone. Seiche events are not likely to occur within Midpen lands due to site elevation and distance from the Pacific Ocean and the San Francisco Bay. Flooding may occur along creeks and streams that travel from the upper watershed areas through San Mateo and Santa Clara counties. Midpen participates in flood-protection Programs, including constructing major flood protection projects and protection of properties in previously flooded areas (Panorama 2021). Risk of tidal flooding may also occur within OSPs along the Bay margin; however, no Program activities are proposed to occur along the Bay margin. Implementation of Program activities would not cause seiches to occur due to the nature of the activities. Although flooding could occur along creeks and stream within the Program area, Program activities, including clearing clogged culverts and drainage features; removing sediment from creeks, bridges, and ponds; and stabilizing pond berms/banks would reduce the potential for flooding to occur, and would thus reduce the risk of pollutant release due to inundation. . This impact would be **less than significant**. No mitigation is required.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Program area is primarily located in the San Francisco Bay RWQCB jurisdiction, though the area from Gazos Creek south is within the Central Coast RWQCB jurisdiction. Each RWQCB has developed a Basin Plan that designates beneficial uses for major surface waters and groundwater basins and establishes specific water quality objectives for those waters. Beneficial uses for many of the surface waters within and downstream of Midpen lands are identified in the Basin Plans. A project could conflict with a Basin Plan by degrading water quality in a manner where water-quality objectives are not met or beneficial uses are impacted or not achieved.

As analyzed under 3.9(a), the Program could impact water quality through ground-disturbance, accidental release of hazardous materials, in-water activities, vegetation management activities, and use of pesticides. Increased erosion and consequent sedimentation could occur associated with ground-disturbing activities and in-channel work. Eroded sediments could carry metals, nutrients, or pathogens, impacting efforts to achieve or maintain identified TMDLs, water quality objectives, and identified beneficial uses. Accidental release of hazardous materials or pesticides could also impact downstream waterbodies. Increased contamination of an impaired waterbody, such as additional sedimentation in San



Gregorio Creek or San Francisquito Creek, would conflict with the Basin Plan, which would be considered a significant impact. BMPs listed above under 3.9(a) would reduce the potential for Program activities to impair waterbodies in such a manner that conflicts to identified TMDLs, water quality objectives, or beneficial uses identified in the Basin Plan would occur.

As described above, a small portion of the Program area is within the Santa Clara subbasin, which is managed by Valley Water under the 2016 Groundwater Management Plan. Thus, the small portion of Midpen lands underlain by the subbasin are subject to Valley Water's 2016 Groundwater Management Plan goals and strategies. One of the sustainability goals of the 2016 Groundwater Management Plan is to protect groundwater from contamination. Valley Water conducts monitoring and implements numerous activities to protect groundwater resources (Panorama 2021). As discussed under 3.8(b), Program activities would not result in impacts related to depletion of groundwater supplies or reduce groundwater recharge. Thus, Program activities would not affect the implementation or success of Valley Water's 2016 Groundwater Management Plan.

Overall, the Program would not conflict with the Basin Plan or with a sustainable groundwater management plan. This impact would be **less than significant**. No mitigation is required.



3.11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.11.1 Environmental Setting

The Program area consists of approximately 227,900 acres in Santa Clara, San Mateo and Santa Cruz counties. Approximately 64,000 acres consist of open space, most of which are located in Midpen’s 26 OSPs in the Santa Cruz Mountains. Land uses within Midpen’s OSPs predominantly consist of natural open space and recreation. Agriculture uses (i.e., conservation grazing) and rural residential uses also occur in some OSPs. Many of Midpen’s OSPs abut small areas of low-density residential development (Panorama 2021). The Program area is located within multiple jurisdictions, including 17 cities (i.e., Atherton, Cupertino, East Palo Alto, Half Moon Bay, Los Altos, Los Altos Hills, Los Gatos, Menlo Park, Monte Sereno, Mountain View, Palo Alto, Portola Valley, Redwood City, San Carlos, Saratoga, Sunnyvale, and Woodside) as well as unincorporated areas in San Mateo, Santa Clara, and northern Santa Cruz counties.

Midpen’s *Ordinance for Use of Midpeninsula Regional Open Space District Lands*, first adopted in 1993, includes regulations intended to reduce environmental impacts associated with visitors, contractors, employees, and other users of Midpen lands (Midpen 2020). Other documents that guide the use and vision of Midpen lands include the *Resource Management Policies* (Midpen 2021) and the *Vision Plan* (Midpen 2014). Land use planning for residential areas adjacent to Midpen’s OSPs is governed by local general plan documents and ordinances. In unincorporated areas, land uses are regulated by the respective county general plans (e.g., Santa Clara County General Plan [Santa Clara County 1994], San Mateo County General Plan [San Mateo County Planning and Building Division 1986], and Santa Cruz County General Plan [Santa Cruz County 1994], which provide goals and policies to guide development while protecting sensitive resources.

3.11.2 Discussion

a. Would the project physically divide an established community?

Implementation of the Program would not involve any new development that could physically divide a community. The proposed Program involves routine maintenance



activities, small-scale facility improvements, and restoration and enhancement projects. These activities would not change the overall natural landscape or uses of Midpen lands but would maintain/upgrade degraded and/or dilapidated facilities, such as trails, roads, bridges, culverts, drainage features, water supply infrastructure, and existing buildings. Further, new trails, roads, and reroutes constructed under the Program would provide new connections and facilitate improved access across Midpen lands. The proposed Program would streamline Midpen's management of its lands to ensure a consistent approach to conducting such activities. Although some Program activities along roadways and trails, including culvert repair/replacement, road grading and shaping, trail tread repair and regrading, and vegetation management could cause temporary disruptions to existing roadways or recreational trails that connect existing communities, Program activities would be short in duration. As such, the proposed Program would not permanently affect access to surrounding land uses or create any new permanent, physical barriers between established communities. Thus, this impact would be **less than significant**. No mitigation is required.

b. Would the project cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Midpen currently conducts routine maintenance activities, small scale facility improvements, and restoration and enhancement projects as individual projects. Thus, the proposed Program includes activities that already occur on Midpen lands. As described in Chapter 2, *Project Description*, the purpose of the Program is to apply a more comprehensive and consistent approach to conducting these types of activities. In addition, most Program activities would maintain/upgrade existing Midpen facilities and would not result in new development or alter land from its present use. Although some small-scale facility improvement projects, such as new roads, trails, or bridges, may be constructed, all activities conducted under the Program would comply with Midpen and local land use regulations and policies.

The proposed Program would support Midpen and County General Plan goals and policies by reducing soil disturbances, erosion, and water quality impacts associated with Program activities through implementation of BMPs; promoting growth of native vegetation and protecting and restoring special-status species and sensitive habitats; rehabilitating areas disturbed prior to Midpen ownership; acquiring and providing public access to lands while protecting and restoring natural resources; removing and managing invasive species; and reducing fire fuels and restoring ecosystems. For the reasons stated above, the proposed Program would not conflict with any land use plans or policies and impacts would be **less than significant**. No mitigation is required.



3.12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.12.2 Environmental Setting

Mineral resources of significance found and extracted in Santa Clara County include construction aggregate deposits such as sand, gravel, and crushed stone, as well as salts found in the evaporation ponds along the San Francisco Bay margin (Santa Clara County 1994). There are four active mines located in Santa Clara County: (1) Curtner Quarry, (2) Permanente Quarry, (3) Stevens Creek Quarry, and (4) Lexington Quarry (CDOC 2016). Mineral resources of significance that are found and extracted in San Mateo County include mineral water, salines, and crushed stone (Midpen 2011). Two active mines are located in San Mateo County: (1) Pilarcitos Quarry and (2) Langley Hill Quarry (CDOC 2016). Active mineral operations in Santa Cruz County provide mineral resources for industrial and construction uses, including glass and cement. Four active mines are located in Santa Cruz County: (1) Felton Quarry, (2) Quail Hollow Quarry, (3) Olive Springs Quarry, and (4) Wilder Sand Plant (CDOC 2016). Mines within the three counties produce a combination of sand and gravel, stone, limestone and fill dirt. Mines located in San Mateo County and northern Santa Clara County are in the South San Francisco Bay Production-Consumption Region, while those located in southern Santa Clara County and Santa Cruz County are located in the Monterey Bay Production-Consumption Region (CDOC 2015). Within the Santa Cruz Mountains, rock suitable for road-base construction is found and extracted.

Although there are no active quarries on Midpen lands, five of the ten active mines within the three counties are located within the Program area (CDOC 2016). The Kaiser Permanente and Stevens Creek quarries are near the Monte Bello, Picchetti Ranch, and Rancho San Antonio OSPs and the Lexington Quarry is in close proximity to the Sierra Azul OSP within the Program area. The Kaiser Permanente quarries located along Monte Bello Ridge are actively mined for cement. Active quarries are also located in proximity to the Miramontes and Russian Ridge OSPs (Panorama 2021). Additionally, a significant mineral resource area is also located near the Purisima Creek Redwood and Tunitas Creek OSPs within the Program area (Panorama 2021).



3.12.3 Discussion

a, b. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

The proposed Program involves routine maintenance, small-scale facility improvements, and restoration and enhancement activities. Although Program activities may occur in proximity to active resource recovery sites, the Program would not involve activities that could directly affect the availability of a mineral resource. In addition, the proposed Program would not alter land uses, access, or subsurface areas that could impact mineral resources. The proposed Program would not result in the loss of availability of a known mineral resource that would be of value to the region nor result in the loss of an active mineral resource recovery site. As a result, **no impact** would occur.



3.13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.13.1 Overview of Noise Concepts and Terminology

Noise

In the CEQA context, noise can be defined as unwanted sound. Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level, or sound intensity. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive, creating the A-weighted decibel (dBA) scale.

Different types of measurements are used to characterize the time-varying nature of sound. Below are brief definitions of these measurements and other terminology used in this section.

- **Decibel (dB)** is a measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.



- **A-weighted decibel (dBA)** is an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Maximum sound level (L_{max})** is the maximum sound level measured during a given measurement period.
- **Minimum sound level (L_{min})** is the minimum sound level measured during a given measurement period.
- **Equivalent sound level (L_{eq})** is the equivalent steady-state sound level that, in a given period, would contain the same acoustical energy as a time-varying sound level during that same period.
- **Percentile-exceeded sound level (L_{xx})** is the sound level exceeded during x percent of a given measurement period. For example, L_{10} is the sound level exceeded 10 percent of the measurement period.
- **Day-night sound level (L_{dn})** is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels during the period from 10:00 p.m. to 7:00 a.m. (typical sleeping hours). This weighting adjustment reflects the elevated sensitivity of individuals to ambient sound during nighttime hours.
- **Community noise equivalent level (CNEL)** is the energy average of the A-weighted sound levels during a 24-hour period, with 5 dB added to the A-weighted sound levels between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels between 10:00 p.m. and 7:00 a.m.

In general, human sound perception is such that a change in sound level of 3 dB is barely noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. **Table 3.13-1** presents example noise levels for common noise sources; the levels are measured adjacent to the source.

Table 3.13-1. Examples of Common Noise Levels

Common Outdoor Activities	Noise Level (dBA)
Jet flyover at 1,000 feet	110
Gas lawnmower at 3 feet	100
Diesel truck at 50 feet traveling 50 miles per hour	90
Noisy urban area, daytime	80
Gas lawnmower at 100 feet, commercial area	70
Heavy traffic at 300 feet	60
Quiet urban area, daytime	50
Quiet urban area, nighttime	40
Quiet suburban area, nighttime	30
Quiet rural area, nighttime	20

Source: Caltrans 2013



Vibration

Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be composed of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). Most environmental vibrations consist of a composite, or “spectrum,” of many frequencies. The normal frequency range of most ground-borne vibrations that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz. Vibration information for this analysis has been described in terms of the peak particle velocity (PPV), measured in inches per second, or of the vibration level measured with respect to root-mean-square vibration velocity in decibels (VdB), with a reference quantity of 1 micro-inch per second.

Vibration energy dissipates as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. High-frequency vibrations reduce much more rapidly than do those characterized by low frequencies, so that in a far-field zone distant from a source, the vibrations with lower frequency amplitudes tend to dominate. Soil properties also affect the propagation of vibration. When ground-borne vibration interacts with a building, a ground-to-foundation coupling loss usually results but the vibration also can be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows, shaking of loose items, or the motion of building surfaces. In some cases, the vibration of building surfaces also can be radiated as sound and heard as a low-frequency rumbling noise, known as ground-borne noise.

Ground-borne vibration is generally limited to areas within a few hundred feet of certain types of industrial operations and construction/demolition activities, such as pile driving. Road vehicles rarely create enough ground-borne vibration amplitude to be perceptible to humans unless the receiver is in immediate proximity to the source or the road surface is poorly maintained and has potholes or bumps. Human sensitivity to vibration varies by frequency and by receiver. Generally, people are more sensitive to low-frequency vibration. Human annoyance also is related to the number and duration of events; the more events or the greater the duration, the more annoying it becomes.

3.13.2 Regulatory Setting

Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans, and noise ordinances set forth the specific standards and procedures for addressing particular noise sources and activities. General plans recognize that different types of land uses have different sensitivities toward their noise environment; residential areas are generally considered to be the most sensitive type of land use to noise, and industrial/commercial areas are generally considered to be the least sensitive. **Table 3.13-2** includes a summary of local noise standards for jurisdictions where Program activities are proposed. Note that the table only includes standards for incorporated areas that contain existing OSPs. It is possible that land acquired in the future may fall under the jurisdiction of a community not listed in the table below.



Table 3.13-2. Noise Standards for the Counties and Incorporated Cities where Program Activities are Proposed

Jurisdiction	Noise Standards
San Mateo County	The San Mateo County Noise Ordinance exempts activities conducted on public parks, in addition to, noise associated with construction, repair, or grading during the hours of 7:00 a.m. to 6:00 p.m. on weekdays and 9:00 a.m. to 5:00 p.m. on Saturdays.
Santa Clara County	The Santa Clara County Noise Ordinance prohibits the use of construction-related tools and equipment between the hours of 10:00 p.m. and 7:00 a.m. on weekdays and Saturdays or at any time on Sundays and holidays where the sound generated creates a noise disturbance across a residential or commercial real property line.
Santa Cruz County	The Santa Cruz County Noise Ordinance considers multiple factors in determining whether a noise violation exists, including loudness, pitch, and duration of the sound, time of day or night, necessity of the noise, level of customary background noise, and proximity to any building regularly used for sleeping purposes.
Cupertino	<p>The City of Cupertino Noise Ordinance limits the use of motorized equipment for landscape maintenance activities to the hours of 8:00 a.m. to 8:00 p.m. on weekdays, and 9:00 a.m. to 6:00 p.m. on weekends and holidays, with the exception of landscape maintenance activities for public schools, public and private golf courses, and public facilities, which are allowed to begin at 7:00 a.m. Construction equipment is exempt from noise standards provided that reasonable efforts are made by the user to minimize the disturbances to nearby residents. Grading, construction and demolition activities are allowed to exceed the noise limits of Section 10.48.040 during daytime hours; provided, that the equipment utilized has high-quality noise muffler and abatement devices installed and in good condition, and the activity meets one of the following two criteria:</p> <ol style="list-style-type: none"> 1. No individual device produces a noise level more than 87 dBA at a distance of 25 feet (7.5 meters); or 2. The noise level on any nearby property does not exceed 80 dBA.
East Palo Alto	The City of East Palo Alto Noise Ordinance exempts: 1) activities conducted in parks, public playgrounds and school grounds provided such parks, playgrounds and school grounds are owned and operated by a public entity; and 2) noise sources associated with demolition, construction, repair, remodeling or grading of any real property, provided such activities do not take place between the hours of 8:00 p.m. and 7:00 a.m.
Los Altos Hills	The Town of Los Altos Hills Municipal Code exempts construction equipment from noise standards when operated on weekdays between the hours of 8:00 a.m. and 5:30 p.m.
Los Gatos	The Los Gatos Municipal Code allows construction, alteration or repair activities between the hours of 8:00 a.m. to 6:00 p.m. weekdays, and 9:00 a.m. to 4:00 p.m. Saturdays if they meet at least one of the following noise limitations: 1) No individual piece of equipment produces a noise level exceeding 85 dBA at 25 feet. 2) The noise level at any point outside of the property plane does not exceed 85 dBA.



Jurisdiction	Noise Standards
Menlo Park	The City of Menlo Park Municipal Code contains exceptions from noise limits for: construction activities performed between 8:00 a.m. and 6:00 p.m. on weekdays property owners undertaking construction activities to maintain or improve their property on weekends and holidays between 9:00 a.m. and 5:00 p.m. powered equipment used on a temporary, occasional or infrequent basis operated between the hours of 8:00 a.m. and 6:00 p.m. on weekdays. No piece of equipment shall generate noise in excess of 85 dBA at 50 feet.
Mountain View	The City of Mountain View Municipal Code limits construction activity with respect to development between 7:00 a.m. to 6:00 p.m., Monday through Friday.
Palo Alto	The City of Palo Alto Municipal Code exempts any noise source which does not exceed a noise level of 70 dBA at a distance of 25 feet between the hours of 8:00 a.m. and 8:00 p.m. Monday through Friday, 9:00 a.m. and 8:00 p.m. on Saturday, and 10:00 a.m. and 6:00 p.m. on Sundays and holidays. Construction on non-residential property is limited to Monday – Friday 8:00 a.m. to 6:00 p.m., Saturday 9:00 a.m. to 6:00 p.m. During construction no individual piece of equipment shall produce a noise level exceeding 110 dBA at 25 feet and the noise level outside of the property plane of the project shall not exceed 110 dBA.
Portola Valley	The Town of Portola Valley Noise Element establishes non-transportation noise standards for receiving land uses. Daytime (7:00 a.m. to 10:00 p.m.) standards are 50 Leq and 65 Lmax for residential land uses, and 55 Leq for other sensitive land uses including medical, convalescent, and religious facilities, schools, libraries, museums, playgrounds, and parks. The Town’s noise control ordinance limits construction activities to between 8:00 a.m. and 5:30 p.m. on weekdays.
San Carlos	San Carlos limits construction hours to 8:00 a.m. to 5:00 p.m. Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays.
San Jose	The City of San Jose’s acceptable exterior noise level objective is 60 dBA Day-Night Average Sound Level or less for residential and most institutional land uses.
Saratoga	The Town of Saratoga municipal code states that construction and grading activities are allowed Monday through Friday, between the hours of 7:30 a.m. and 6:00 p.m. and on Saturdays, between 9:00 a.m. and 5:00 p.m. Construction is not allowed on Sundays or on weekday holidays. These activities shall not exceed 100 dBA measured at any point 25 feet or more from the source of noise. Gasoline powered chainsaws may be utilized between 8:00 a.m. and 5:00 p.m. Monday through Friday and between 10:00 a.m. and 5:00 p.m. on Saturdays and Sundays. Woodchippers shall not exceed 100 dBA at any point 25 feet or more from the source of noise. Woodchippers may be utilized between 8:00 a.m. and 5:00 p.m. Monday through Friday and Saturdays between 10:00 a.m. and 5:00 p.m. Use of woodchippers shall not be allowed on Sundays.
Woodside	The Town of Woodside Noise Element lists maximum noise levels of 55 Ldn for residential and open space land uses and 60 Ldn for commercial land uses. The Town’s municipal code limits hours of construction on weekdays between 7:30 a.m. and 5:30 p.m., and on Saturdays between 8:00 a.m. and 1:00 p.m.

Sources: San Mateo County 2020, Santa Clara County 2013, Santa Cruz County 2020, Cupertino 2020, East Palo Alto 2020, Los Altos Hills 2020, Los Gatos 2020, Menlo Park 2020, Mountain View 2020, Palo Alto 2020, Portola Valley 2020, San Carlos, 2021, San Jose 2020, Saratoga 2021, Woodside 2012, Woodside 2020



Environmental Setting

Noise conditions in the Program area vary greatly based on local land uses. The majority of Midpen lands are located in quiet, rural areas comprised largely of open space. Major sources of noise in the Program area include highways, railroads, and airports. Interstate 280, U.S. Highway 101, and State Highways 92, 84, 35, 17, 9, and 1 influence noise conditions at multiple existing Midpen OSPs. Caltrain and VTA trains operate within the Program area and multiple airports are located in or near Midpen lands including, Moffett Federal Airfield, Palo Alto Airport, San Jose International Airport, San Carlos Airport, San Francisco International Airport, and Eddie Andreini Sr. Airfield.

With respect to noise, sensitive receptors may include residences, schools and school yards, parks and playgrounds, daycare centers, nursing homes, places of worship, medical facilities, and facilities with vibration-sensitive equipment. Given the size of the Program area and uncertainty around the timing and location of Program activities, a detailed analysis of sensitive receptors is not practical; however, the most prevalent sensitive receptors within the Program area and in the vicinity of existing OSPs include rural and suburban residences and other recreational areas.

3.13.3 Discussion

- a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

The proposed Program would result in temporary increases in ambient noise levels during the day from the operation of heavy equipment and use of vehicles and trucks associated with Program activities. Noise from the operation of heavy equipment could affect sensitive receptors (e.g., residents, recreational users, school children) located in close proximity to active work areas.

Table 3.13-2, above, summarizes specific noise criteria and noise restrictions on heavy equipment from general plans and noise ordinances of jurisdictions within the Program area. For the proposed Program, noise regulations and standards for San Mateo County, Santa Clara County, Santa Cruz County, Cupertino, East Palo Alto, Los Altos Hills, Los Gatos, Menlo Park, Mountain View, Palo Alto, Portola Valley, San Carlos, San Jose, Saratoga, and Woodside would be considered when Program activities occur within these jurisdictions. As indicated in **Table 3.13-2**, most jurisdictions restrict the hours of when construction activities may occur and many establish numeric noise level thresholds for residential areas or for specific types of equipment.

In addition to the local criteria listed in **Table 3.13-2**, above, the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) recommends noise and vibration criteria for evaluating daytime construction equipment-related noise impacts in outdoor areas. The FTA recommends noise thresholds of 90 dBA equivalent continuous sound level (Leq) and 100 dBA Leq for residential and



commercial/industrial areas, respectively (FTA 2018). For this analysis, local criteria and the FTA’s criteria and guidance are jointly used to analyze the proposed Program’s potential noise impacts.

To roughly estimate anticipated noise levels at nearby sensitive receptor locations from construction equipment, the FTA recommends that the noisiest two pieces of equipment be used in these noise estimations along with the following assumptions:

- full power operation for a full one hour,
- there are no obstructions to the noise travel paths,
- typical noise levels from construction equipment are used, and
- all pieces of equipment operate at the center of the project site.

Using these simplifying assumptions, the noise levels at specific distances can be obtained using the following equation:

$$L_{eq}(equip) = EL_{50ft} - 20\log_{10}(D/50)$$

Where:

L_{eq} (equip) = the noise emission level at the receiver at distance D over 1 hour.

EL_{50ft} = noise emission level of a particular piece of equipment at reference distance of 50 feet.

D = the distance from the receiver to the piece of equipment in feet.

In order to add the two noisiest pieces of equipment together, the following equation applies:

$$L_{total} = 10 \log_{10}\left(10^{\frac{L_1}{10}} + 10^{\frac{L_2}{10}}\right)$$

Where:

L_{total} = The noise emission level of two pieces of equipment combined

L_1 = The noise emission level of equipment type 1

L_2 = The noise emission level of equipment type 2

Typical noise levels for the operation of the proposed Program’s two loudest pieces of equipment were used to estimate the individual and combined noise levels at the nearest sensitive receptors (FTA 2018). Note that multiple types of equipment would generate high noise levels. For example, cranes, graders, excavators, bulldozers, rollers, and chainsaws may each generate noise levels of 85 dBA. **Table 3.13-3** provides the values used for the reference equipment noise levels at 50 feet, and the distances needed from the equipment to comply with FTA’s and the jurisdictions with the most stringent local noise thresholds (i.e., the city of Cupertino and town of Los Gatos). **Appendix E** of this IS/MND provides details on the assumptions for the operation of equipment used for Program activities and anticipated noise levels. It should be noted that estimated noise levels are conservative and represent the



noisiest potential combination of equipment operating in tandem, which would not be a frequent occurrence. Succumbing

Table 3.13-3. Predicted Noise Levels of Heavy Equipment and Distances to Applicable Noise Thresholds

Equipment Type	Noise Level at 50 feet (dBA)	Distance (feet) to 90 dBA, FTA threshold	Distance (feet) to 85 dBA, Los Gatos Noise Threshold	Distance (feet) to 80 dBA, Cupertino Noise Threshold
Excavator	85	28	50	89
Bulldozer	85	28	50	89
Combined	88	40	71	126

Source: FTA 2018, Federal Highway Administration (FHWA) 2019. Noise calculations are shown in **Appendix E**.

Exceeding established noise thresholds in close proximity to sensitive receptors could be a potentially significant impact. While some of Midpen’s Program activities would not involve operation of heavy equipment, other Program activities (e.g., pond maintenance, restoration and enhancement projects, and tree removal) may exceed established noise thresholds when activities occur in close proximity to sensitive residential receptors. Noise impacts associated with these activities at individual sites would be temporary, of short duration (up to three weeks for bridge maintenance and replacement and pond maintenance projects), infrequent, and similar in scale and frequency to those currently conducted by Midpen.

Program activities would generally be conducted during daytime hours (between 7:00 a.m. and 5:00 p.m., depending on the time of year) on weekdays, which is largely in compliance with the construction hours listed in **Table 3.13-2**. Weekend operations would occur infrequently and may include volunteer-based events for invasive plant removal by hand. Given that the majority of Program activities would take place in fairly remote and sparsely populated locations on large OSPs and that the operation of noisy equipment would occur during hours permitted by applicable jurisdictions, the majority of potential noise impacts would be minimized. However, since the location of Program sites and future Midpen lands is uncertain, a potentially significant noise impact to nearby sensitive receptors remains.

Implementation of **Mitigation Measure NOI-1**, which includes the implementation of best noise control practices and notification of nearby sensitive receptors of upcoming work, would reduce noise generated from heavy equipment used in close proximity to sensitive receptors. As stated above, work at each project site would be temporary, infrequent, and short in duration. Additionally, the operation of noisy equipment would only take place during normal construction hours (between 7:00 a.m. and 5:00 p.m.) or in compliance with the applicable noise standard included in **Table 3.13-2**. . Therefore with implementation of Mitigation Measure NOI-1, temporary exceedances of thresholds established by the FTA and local jurisdictions (as applicable) from the use of heavy equipment would be **less than significant with mitigation**.



Similar to equipment-related noise generated during maintenance activities, traffic-related noise from vehicles and trucks during maintenance activities would be temporary, infrequent, and of a short duration at any given maintenance location. The limited number of daily trips required for maintenance activities would occur during normal work hours, in compliance with local regulations, and would not result in a substantial increase in traffic causing ambient noise levels to substantially increase. Additionally, the proposed Program would not construct any stationary equipment or other permanent sources of noise that would permanently increase ambient noise levels in the Program area.

Overall, with the implementation of **Mitigation Measure NOI-1** the proposed Program would comply with applicable noise thresholds. This impact would be **less than significant with mitigation**.

Mitigation Measure NOI-1 Noise Control

For all Program activities, Midpen will implement the following noise control practices to minimize disturbances to residential areas surrounding work sites:

- The operation of heavy construction equipment will be limited to occur between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday and comply with applicable local noise requirements.
- Program activities in residential areas will not occur on Saturdays, Sundays, or any holidays except during emergencies, or with advance notification of surrounding residents. Powered equipment (vehicles, heavy equipment, and hand equipment such as chainsaws) will be equipped with adequate mufflers maintained in good condition. Best available noise control techniques (e.g., mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) will be used for all equipment and trucks, as necessary.
- Staging areas will be located as far as possible from noise sensitive receptors during maintenance work.
- At work sites where heavy equipment will be used within 40 feet of sensitive receptors for longer than 5 days within the Program area, residents/sensitive receptors will be notified at least one week prior to performing maintenance work. At Program sites where heavy equipment will be used within 75 feet and 130 feet in Los Gatos and Cupertino, residents/sensitive receptors will be notified at least one week prior to performing maintenance work. The notification will include the anticipated schedule and contact number for a Midpen representative who can address noise complaints.

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

The FTA guidelines establish a construction vibration annoyance threshold of 80 vibration velocity in decibels (VdB) for infrequent events (fewer than 30 vibration events per day) and a damage threshold of 0.12 inches per second (in/sec) PPV for buildings extremely



susceptible to vibration damage (FTA 2018). Buildings considered extremely susceptible to vibration damage include fragile historic buildings, ruins or ancient monuments. Vibration and ground-borne noise levels were estimated for the proposed Program by following the methods described in the *FTA Noise and Vibration Impact Assessment* (FTA 2018). For the purposes of this analysis, it was assumed that equipment used during proposed Program activities would have similar vibration sound levels as a large bulldozer or loaded trucks. **Table 3.13-4** lists PPV and noise vibration levels for equipment used under the proposed Program as well as the distance to sensitive receptors that must be met in order to be comply with the FTA’s established thresholds.

Table 3.13-4. Construction Equipment and Vibration Distance

Equipment	PPV at 25 feet	Distance to PPV of 0.12 in/sec (Building Damage Threshold)	Noise Vibration Level at 25 feet	Distance to Noise Vibration of 80 VdB (Annoyance Threshold)
Large Bulldozer	0.089 in/sec	20.5 feet	87 VdB	43 feet
Loaded Trucks	0.076 in/sec	18.4 feet	86 VdB	39.6 feet

Because Midpen lands consists primarily of large areas of open space, it is unlikely that extremely susceptible buildings would be located within the building damage threshold of Program work areas. Although sensitive receptors (i.e., residences) may be located in areas within the noise vibration annoyance threshold, work at each project site would be temporary, infrequent, and short in duration. Therefore, this impact would be **less than significant**. In addition, and although not necessary to reduce this impact to less than significant, implementation of Mitigation Measure NOI-1 would further reduce groundborne vibration impacts to sensitive receptors by limiting work near sensitive receptors.

- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The closest OSPs to existing airports are the Ravenswood OSP and Stevens Creek Shoreline Nature Study Area. The Ravenswood OSP is located less than a mile from the Palo Alto Airport and falls within the airport’s 60 dB CNEL noise contour (Santa Clara County Airport Land Use Commission 2016a). The Stevens Creek Shoreline Nature Study Area is adjacent to Moffett Field and falls within the airfield’s 70 dB CNEL (Santa Clara County Airport Land Use Commission 2016b). However, no Program activities would be conducted at these OSPs along the Bay margin under the proposed Program. The San Carlos Airport and Eddie Andreini Sr. Airfield are located within the Program area; however, these two airports are not located within two miles of any current OSPs. Because no Program activities would be conducted at the OSPs along the Bay margin or within close proximity to any airports, the proposed Program would not expose workers to excessive noise levels from airport operations. Therefore, **no impact** would occur.



3.14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.14.2 Environmental Setting

As shown in **Figure 2-1**, the Program area consists of approximately 227,900 acres in Santa Clara, San Mateo, and Santa Cruz counties. Nearly 64,000 acres are protected open space, most of which are located in Midpen’s 26 OSPs in the Santa Cruz Mountains. Midpen lands serve 17 cities and unincorporated areas in the three counties, with a combined population of over 700,000 residents (Panorama 2021). The predominant land uses in Midpen’s OSPs are natural open space, recreation, and agriculture. There are several small, rural residences located on some OSPs as well as small areas of low-density residential development adjacent to Midpen lands.

3.14.3 Discussion

a. *Would the project induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

The proposed Program would not involve the construction of new housing or introduce new land uses associated with population increases (e.g., employment centers) that would directly induce population growth in the area. The proposed Program would involve facility improvements (e.g., roads, trails, bridges) to support public access; however, these recreational improvements are small-scale (e.g., construction of new trail connection between two existing trails or re-routing existing road/trail to avoid sensitive habitat) and would not draw new residents to the area. Because the number of activities conducted annually would increase under the Program, an increase in Midpen employees or contracted workers may be required. However, the overall increase in employment opportunities from the Program would be minimal and primarily seasonal (most likely fewer than 15 full-time-equivalent jobs). Additional workers would be sourced from the local available work force in



the region. Thus, impacts associated with inducing population growth either directly or indirectly would be **less than significant**. No mitigation is required.

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Program activities would occur on Midpen lands; however, these activities would be confined to specific sites, including ponds, lakes, creeks, water supply infrastructure, roads, trails, open spaces, and other recreational facilities. Although some residences are located on Midpen lands near facilities and open spaces requiring maintenance and/or improvement, the Proposed Project would not remove any housing units. Thus, no residents would be displaced by Program activities. Therefore, the proposed Program would not result in the displacement of existing housing or people from Midpen lands. As such, **no impacts** related to housing or people displacement would occur.



3.15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a. Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3.15.2 Environmental Setting

Midpen collaborates with state and local agencies to ensure comprehensive provision of public services across their lands. Midpen rangers are hired to support police and fire protection services provided by other state and local agencies. Midpen’s rangers are responsible for visitor contact and patrolling OSPs to enforce federal, state, and local laws, and Midpen regulations. Sometimes rangers perform fire suppression and emergency medical response.

Fire protection services are provided by local fire departments and volunteer fire companies within Midpen lands, as well as CAL FIRE. CAL FIRE provides fire protection in the State Responsibility Areas, which encompasses the majority of Midpen lands within the OSPs. Law enforcement services on Midpen lands are provided by local police departments. County sheriffs’ offices provide services to the unincorporated areas of San Mateo, Santa Clara, and Santa Cruz counties. The California Highway Patrol responds to vehicular accidents, including those involving pedestrians, bicyclists, and equestrians on Midpen lands. State and county park rangers also provide law enforcement within state and county parks adjacent to Midpen lands. (Panorama 2021)

Emergency medical services in San Mateo County are provided by American Medical Response, the County’s 9-1-1 ambulance provider, and local fire departments (San Mateo County 2021). Santa Clara County Ambulance is Santa Clara County’s 911 ambulance provider, which is operated by Rural/Metro Ambulance (Santa Clara County Ambulance 2017). American Medical Response West provides emergency services in Santa Cruz County (Santa Cruz County 2021).



Several school district jurisdictions within San Mateo and Santa Clara counties overlap with the Program area. Four elementary schools and one middle school are located within 0.25 mile of Midpen OSPs.

3.15.3 Discussion

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a. Fire Protection

As discussed in Section 3.14, “Population and Housing,” the proposed Program would not induce population growth in the Program area and therefore would not require construction of new or altered fire protection facilities in order to maintain acceptable response times.

Some vegetation management activities, such as mowing, brushing, and tree removal, would involve the use of internal combustion-powered equipment (e.g., tractor-operated mowers and chippers), in addition to the use and storage of flammable and/or hazardous materials (e.g., fuel), which could temporarily increase fire risk or provide an ignition source. Such activities could require a response from the CAL FIRE or other local fire departments if a fire ignites, diverting resources from other calls for service. Midpen would implement BMP GEN-17: Fire Prevention (described in Chapter 2, *Project Description*), which would reduce potential wildland fire impacts associated with those activities by requiring on-site fire suppression equipment, spark arrestors on all equipment with internal combustion engines, and restricting activities on high fire danger days. By implementing necessary safety precautions through BMP GEN-17, the potential for CAL FIRE or other local fire departments to provide resources to Midpen lands would be reduced.

Additionally, the proposed Program involves fuel management activities that would overall reduce potential fire risks, including maintaining disclines, shaded fuel breaks, and defensible space around buildings and prescribed burns. All vegetation management activities would be conducted according to CAL FIRE regulations and burn protocols. Prescribed burns would be monitored to ensure adherence to burn prescriptions as well as the conditions outlined in the Wildland Fire Resiliency Program (Midpen 2020).

As discussed in Section 3.17, “Transportation,” Section 3.9, “Hazards and Hazardous Materials,” and Section 3.20, “Wildfire,” the proposed Program would include the operation of heavy equipment on roadways and may require temporary lane closures that could interfere with fire response times. Impeding fire protection and impacting response times could be a significant impact. **Mitigation Measure TRANS-1** requires Midpen to make provisions to allow emergency responders through any work area or clearly designate alternate routes. Minimal delays, lasting a few minutes, would occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicles to pass. Mitigation Measure TRANS-1 would ensure that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them and



that the fire district and emergency-response agencies have prior notification of temporary access road closures. With implementation of Mitigation Measure TRANS-1, impacts to fire protection response times would be **less than significant with mitigation**.

b. Police Protection

As discussed in Section 3.14, “Population and Housing,” the proposed Program would not induce population growth in the Program area that would increase demand for police protection services or result in the need for new or physically altered police protection facilities. However, as discussed above, heavy equipment would be operated on roadways and temporary lane closures could affect response times of police services. Impeding police protection services and impacting response time could be a significant impact. **Mitigation Measure TRANS-1** requires Midpen to make provisions to allow emergency responders through any work area or clearly designate alternate routes. Minimal delays, lasting a few minutes, would occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicles to pass. Therefore, with implementation of Mitigation Measure TRANS-1, impacts to police protection response times would be **less than significant with mitigation**.

c, d, e. Schools, Parks and Other Facilities?

As discussed in Section 3.14, “Population and Housing,” the proposed Program would not involve the construction of new facilities that would directly or indirectly induce population growth in the area, necessitating the construction of additional schools, parks, or other public facilities. For an analysis of potential impacts on parks and other recreational uses, refer to Section 3.16, “Recreation.” **No impact** would occur.



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3.16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.16.2 Environmental Setting

Recreation is the primary use of nearly all Midpen lands. Ranging from 55 to over 19,000 acres, 24 out of the 26 OSPs are open to the public year-round, free of charge, from dawn until just after sunset (Midpen 2021). Recreational facilities available for public use within the OSPs include over 240 miles of trails, restrooms, picnic tables and benches, horse stables, visitor centers, and parking areas. Each year, an estimated two million recreationalists visit Midpen lands (Midpen 2019). Recreational activities include hiking, biking, horseback riding, bird watching, and picnicking. In addition, many other open space lands and trails maintained by various agencies, including state and county parks, abut Midpen lands and have trails connecting onto Midpen lands.

3.16.3 Discussion

- a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

As described in Section 3.14, "Population and Housing," the proposed Program would not induce population growth in the area. The proposed Program would involve routine maintenance of existing facilities, including road and trails; new small-scale facility improvements and facilities, including the construction of new trail/road bridges and trail re-routes; and restoration and enhancement projects. Some Program activities, particularly those involving trails and roads, would require temporary closure of those facilities such as trails, picnic areas, or parking areas in order to access the site or use as staging areas. Although temporary closures could briefly increase use of nearby recreational facilities, the proposed Program would not permanently increase the demand of other recreational



facilities such that substantial deterioration would occur. This impact would be **less than significant**. No mitigation is required.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The proposed Program would involve the routine maintenance of recreational facilities, such as trails and roads, and the construction of new small-scale recreational facility improvements including new trails/roads and re-routes, new bridges and replacements, and new interpretative facilities and signage. No new large-scale recreational facility projects would be conducted under the Program. Potential effects on the environment including to air quality, noise, traffic, and aesthetics associated with the proposed Program have been addressed in the other sections of this IS/MND and were found to be less than significant with mitigation.

Although recreational users of trails, picnic areas, and other facilities may experience temporary disruptions during maintenance and construction as described above in Section 3.16 (a), alternative recreational opportunities would continue to be available in Program area. Further, implementation of the proposed Program would improve the condition of existing recreational facilities and improve public access throughout Midpen's OSPs. Thus, impacts would be **less than significant**. No mitigation is required.



3.17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.17.2 Environmental Setting

The circulation system within the Program area includes roads ranging from freeways and major arterials to local collector streets to rural roads. Regional access to the Program area is provided via U.S. Highway 101 (U.S. 101), I-280, I-880, and SR-1. Local access to the Program area is provided via SR-9, SR-17, SR-35, SR-84, and SR-92, all of which are part of the California State Highway System, with the exception of U.S. 101. SR-35 (Skyline Boulevard) runs adjacent to 15 of the 26 OSPs, serving as a key access route to the Program area.

The San Mateo City/County Association of Governments (C/CAG) is the designated Congestion Management Agency for San Mateo County and the Valley Transit Authority (VTA) is the designated Congestion Management Agency for Santa Clara County. Each Congestion Management Agency is responsible for developing and updating the Congestion Management Program (CMP) in its respective jurisdiction. C/CAG’s CMP identifies I-280, SR-1, SR-35, SR-84, and SR-92 as CMP roadways. VTA’s CMP contains a large list of CMP roadways, including SR-17 and SR-35, which pass adjacent to Midpen lands.

Numerous County and local roads lead to parking lots where the public can access Midpen’s OSPs (see **Table 3.16-1** for a list of local access roads adjacent to Midpen OSPs). In general, local access roads that provide access to the majority of OSPs veer off of main highway routes, except for the Saratoga Gap OSP (which is accessed directly from Skyline Boulevard or Highway 9). Miramontes Ridge OSP is closed to the public and does not have publicly



accessible local roads (Panorama 2021). Public parking is available at all OSPs besides Miramontes Ridge, Teague Hill, and Tunitas Creek OSPs.

Table 3.17-1. Local Access Roads Adjacent to Midpen Lands

Managed Land	Local Access Roads
Bear Creek Redwoods OSP	Bear Creek Road
Coal Creek OSP	Skyline Boulevard Page Mill Road
El Corte de Madera Creek OSP	Star Hill Road Skyline Boulevard Native Sons Road Bear Gulch Road
El Sereno OSP	Montevina Road
Felton Station (Closed to the public)	Black Rock
Foothills OSP	Page Mill Road
Fremont Older OSP	Prospect Road
La Honda Creek OSP	Sears Ranch Road Allen Road ¹
Long Ridge OSP	Portola Heights Road Portola Heights Road
Los Trancos OSP	Page Mill Road
Miramontes Ridge OSP (Closed to the public)	San Mateo Road Skyline Boulevard
Monte Bello OSP	Page Mill Road
Picchetti Ranch OSP	Montebello Road
Pulgas Ridge OSP	Edmonds Road
Purisima Creek Redwoods OSP	Edmonds Road
Rancho San Antonio OSP	Cristo Rey Drive
Rancho San Antonio County Park	Cristo Rey Drive
Ravenswood OSP	Bay Road
Russian Ridge OSP	Page Mill Road Alpine Road
Saratoga Gap OSP	Skyline Boulevard Highway 9
Sierra Azul OSP and Easements	Alma Bridge Road
Skyline Ridge OSP	Edmonds Road

¹Note that Midpen has an agreement with the neighbors on this private road pertaining to public access. The public is only allowed to the Allen Road parking area with a permit.

Source: *Panorama 2021*



There are a number of public transit operators who operate public bus and rail service within the vicinity of the Program area, including San Mateo County Transit District (SamTrans), Santa Clara VTA, and Santa Cruz Metro Transit District. SamTrans operates 76 bus routes throughout San Mateo County and portions of San Francisco and Santa Clara counties. Santa Clara VTA provides bus, light rail, and paratransit services to areas near the eastern and southern portions of the Program area in Santa Clara County, including Cupertino, Los Altos, Los Altos Hills, Los Gatos, Mountain View, Palo Alto, Saratoga, and Sunnyvale. Santa Cruz Metro Transit District provides transit service throughout Santa Cruz County near the southwestern portion of the Program area. While the SamTrans Bus Line 295 may come close to Pulgas Ridge OSP, with a stop at Cordilleras Center located approximately 0.15 mile away, and may provide limited weekday and no weekend service, there is no direct transit service to any of Midpen lands (Panorama 2021). Caltrain (a commuter railroad operating between the cities of San Francisco and San Jose) is operated by the Peninsula Corridor Joint Powers Board and serves the eastern portion of San Mateo County and the western and southern portions of Santa Clara County. Several stations within its Zones 2 and 3 from, Belmont to Sunnyvale, would provide access to the eastern portion of the Program area, though no direct service to any of the OSPs is provided.

Public recreational opportunities are provided at most of the OSPs in the Program area and include 240 miles of easy-access/ADA accessible trails, hiking trails, mountain biking trails, and equestrian trails. Numerous state and County roads, including SR-35, SR-84, SR-92, Purisima Creek Road, Kings Mountain Road, La Honda Road, and Alpine Road, connect to and are within OSPs and may be used by bicyclists; however, none of these roadways are designated as Class 1, 2, or 3 bikeways⁴. OSPs near the Santa Clara and San Mateo County lines, including portions of Rancho San Antonio, Foothills, Los Trancos, and Monte Bello OSPs, can be accessed by a Class 2 bikeway along Stevens Creek Boulevard and Page Mill Road. Additionally, the Ravenswood OSP can be accessed by Class 1 and Class 2 bikeways, and the Stevens Creek Shoreline OSP can be accessed by the Stevens Creek Trail, a protected shared-use trail for pedestrians and bicyclists. The Ravenswood and Stevens Creek Shoreline OSPs are located along the San Francisco Bay and can be access by the San Francisco Bay Trail; however, activities conducted at these two OSPs are not included in the Program.

⁴ Bikeways are generally classified as follows (Caltrans 2017):

- **Class 1** bikeways, also known as bike paths or shared use paths, are facilities with exclusive right of way for bicyclists and pedestrians, away from the roadway and with cross flows by motor traffic minimized.
- **Class 2** bikeways are bike lanes established along streets and are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel.
- **Class 3** bikeways, or bike routes, designate a preferred route for bicyclists on streets shared with motor traffic not served by dedicated bikeways to provide continuity to the bikeway network.
- **Class 4** separated bikeways, often referred to as cycle tracks or protected bike lanes, are for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature.



3.17.3 Discussion

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Program activities would generate worker and Program-related vehicle trips, and, for activities along or in close proximity to public roadways (e.g., culvert repair/replacement, roadside drainage feature maintenance, bridge maintenance, road maintenance, and brushing and mowing), could require temporary lane closure along portions of state highways and local access roads in the Program area. Program activities also could require temporary re-routing of bicycle lanes or bicycle routes in the public right-of-way, as well as temporary closure of trails and other pedestrian facilities located within Midpen lands.

As described in Chapter 2, Project Description, most Program activities typically would involve a 3 to 6 person crew, depending on the activity. Activities such as bridge maintenance and replacement may require up to 7 people. Other activities, such as conservation grazing and fuel management, would generally require a 2 person crew. In a given year, it is anticipated that the maximum number of projects that Midpen would conduct under the Program would be:

- 50 culvert repair and replacement projects;
- 10 bridge maintenance and replacements;
- 256 road and trail drainage feature maintenance projects;
- 28 sediment and debris removal projects;
- 4 streambank stabilization projects;
- 6 water supply structure maintenance projects;
- 3 pond and lake repair projects;
- 6 minor maintenance projects (e.g., repair of fences, gates and signage, and trash rack clearing);
- 83 road and trail maintenance projects (e.g., paved and unpaved road projects, road/trail surface maintenance projects, and roadway/trail slip-outs and slide repairs);
- 53 new small-scale facility improvements (e.g., trail bridges, interpretative facilities and signage, wildlife passage, building and structure improvement projects, etc.); and
- 50 restoration and enhancement projects.

In addition, Midpen would conduct annual brushing and mowing activities along approximately 600 miles of roads and trails, parking lots, and other recreational facilities, occurring over approximately 160 days. Midpen would also annually conduct 30 miles of discline maintenance, occurring over 8 days and 2 days of conservation grazing. IPMP



activities, including pesticide application and vegetation removal, would occur over approximately 300 days. Although it may vary from year to year, Program activities may generate up to 246 haul truck trips annually. Most of these estimated haul truck trips would be associated with the import of fill for culvert repair/replacement, bridge maintenance, road and trail drainage feature maintenance, unpaved road and trail maintenance, and roadway/trail slip-outs and slide repairs. These trips represent a conservative estimate, assuming the maximum number of Program activities that may occur annually on Midpen lands. However, most of these activities are ongoing and the periodic trips generated under the proposed Program would be similar to past levels of work for similar activities. Further, assuming haul truck trips associated with these activities would primarily occur over 6 months during the peak work season from April to October (or approximately 100 workdays), this would translate to approximately 2.5 haul trips per day, or 12.5 per week. Spread over an area of approximately 64,000 acres, these vehicle trips would not have a substantial effect on the local circulation systems in the Program area.⁵

During the peak work season, the work crew at any one project site may consist of up to 7 workers; however, projects occurring with the greatest frequency (e.g., road and trail drainage feature maintenance, culvert replacement, and restoration and enhancement projects) would have typical crew sizes of 3 to 5 workers. Additionally, it is likely that several projects would overlap in duration during the peak work season. Although it is unknown how many projects would occur in a typical day, if 10 crews were employed simultaneously, up to 50 workers would be driving to and from project sites. Even if each worker drove independently to the work site, these vehicle trips would have a negligible impact on the local circulation system given the size of the Program area and the diffuse locations of the OSPs, and would not substantially affect level-of-service or any other performance metric. Additionally, these trips would not affect bicycle routes on local roadways, trails or other pedestrian facilities on Midpen lands. Further, the Program would not involve construction of any housing or new retail or commercial uses that would generate any new long-term vehicle trips.

Finally, a number of Program activities (e.g., culvert repair/replacement, drainage feature maintenance, bridge maintenance, road maintenance, and brushing and mowing) may take place along, or in close proximity to, public roadways. Where insufficient widths for both work vehicles/equipment and regular traffic occur, temporary closing or narrowing of lanes may be necessary, which could lead to temporary traffic delays and/or create traffic hazards if adequate precautions are not taken, resulting in a significant impact. Implementation of **Mitigation Measure TRANS-1** would ensure that vehicle flow and emergency access is maintained during Program activities. Mitigation Measure TRANS-1 would ensure that appropriate agencies with jurisdiction are notified in advance of the closures as well as adjacent neighbors, unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them, and traffic flaggers

⁵ Although Program vegetation management activities are discussed in the IPMP EIR as Addended (Midpen 2014, 2019) and the Wildland Fire Resiliency Program EIR (Panorama 2021), truck and worker trips are accounted for in this Program herein.



are present to safely maintain traffic flow. Mitigation Measure TRANS-1 would also minimize impacts to neighbors who require driveway access, pedestrian and bicyclist traffic, and the limited public transit (e.g., occasional buses) that may travel through the Program area.

Mitigation Measure TRANS-1: Emergency Responders and Access

The following measures shall be implemented to ensure emergency access is maintained:

1. At least one week prior to temporary lane or full closure of a public road, Midpen shall contact the appropriate emergency response agency/agencies with jurisdiction (e.g., CalTrans, County, City) to ensure that each agency is notified of the closure and any temporary detours in advance. Midpen shall also notify adjacent neighbors along the road in advance of temporary closure.
2. In the event of an emergency, roads (public roads, and Midpen-owned or managed roads) or access trails blocked or obstructed by activities shall be cleared to allow emergency vehicles to pass.
3. During temporary lane or road closures on public roads, Midpen shall use flaggers equipped with two-way radios. During an emergency, flaggers shall radio to the crew to cease operations and reopen the public road to emergency vehicles.
4. In work areas, all vehicles and equipment shall be parked so the road is not blocked or obstructed when there is no operator present to move the vehicle.

With implementation of Mitigation Measure TRANS-1, impacts on the local circulation system would be **less than significant with mitigation**.

b. Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?

Although many of the proposed Program activities would occur at a similar level of frequency as current conditions, the proposed Program would generate increased vehicle trips from both workers traveling to project sites as well as from truck haul trips associated with conducting Program activities. Based on the air quality modeling completed in CalEEMod, the proposed Program would generate approximately 178,984 vehicle miles traveled (VMT) annually. A majority of these trips would be from worker trips from Program activities such as bridge maintenance and replacement, unpaved road maintenance, roadway or trail slip-outs and slide repairs, culvert replacement, and road and trail drainage feature maintenance (see **Appendix C, Air Quality/Greenhouse Gas Calculations** for calculations). Because Program activities would occur at a similar level as current conditions, the proposed Program would not result in a substantial increase in VMT compared to existing conditions. Thus, the Program would not conflict with State CEQA Guidelines Section 15064.3 subdivision (b); impacts would be **less than significant**. No mitigation is required.



c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Program activities would not substantially change the design of any roadway or intersection. Rather, these activities would address potentially dangerous roadway and trail conditions, such as slip-outs and slides, fallen trees, potholes, and cracked or deteriorated surfaces (i.e., from erosion or stormwater damage). Managing vegetation along roads would also have the benefit of maintaining site distances for motorists, thereby minimizing potentially hazardous conditions resulting from roadside overgrowth. However, such activities could pose hazards to motorists, bicyclists and recreationalists due to incompatible uses, such as operation of heavy equipment and vehicles on roadsides/trailsides. Additionally, certain Program activities (e.g., road repaving, bridge maintenance, slip-out/slide repairs, culvert repair/replacement, and vegetation management) may require temporary closure of one or more lanes of traffic. In addition, operation of heavy construction equipment at work sites would be incompatible with other vehicles on local roads. Implementation of Mitigation Measure TRANS-1 would ensure that potential impacts from heavy equipment on local roadways are minimized by requiring flaggers to safely guide travelers during Program activities, notifying local agencies with jurisdiction regarding planned lane closures, and ensuring that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them. With implementation of Mitigation Measure TRANS-1, this impact would be **less than significant with mitigation**.

d. Would the project result in inadequate emergency access?

The proposed Program would not include any activities that would permanently block or constrain publicly accessible roadways or emergency access routes. Rather, in the long term, the Program would alleviate conditions that could impede emergency access by repairing deteriorated roads, reducing fuel loads, and clearing roadside vegetation to maintain line of sight for emergency responders. During some Program activities (e.g., road repaving, bridge maintenance, slip-out/slide repairs, culvert repair/replacement, and vegetation management) partial lane closure may be required on a short-term basis and could temporarily limit the mobility of emergency response vehicles or residents attempting to evacuate the area. However, implementation of Mitigation Measure TRANS-1 would require that emergency responders are allowed through any work area or clearly designate alternate routes. Minimal delays, lasting a few minutes, would occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicles to pass. Mitigation Measure TRANS-1 would also ensure that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them and that the fire district and emergency-response agencies have prior notification of temporary access road closures. Program activities would have a beneficial effect on emergency response in the long term by ensuring that emergency vehicle and evacuation access is maintained along roadsides through roadway maintenance, vegetation clearance, and fuel reduction. With implementation of Mitigation Measure TRANS-1, impacts related to emergency access would be **less than significant with mitigation**.



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3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Pub. Res. Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.18.2 Environmental Setting

Prior to the arrival of the Spanish explorers in northern California in the late 1700s, the Program area was occupied by numerous indigenous Ohlone groups, as described in Section 3.5, “Cultural Resources.” Each group was a discrete political entity that controlled a defined territory that provided food and materials for daily sustenance, as well as connectivity to the spiritual world. The landscape remained largely natural but was nurtured through cultivation techniques that encouraged and increased the abundance of the most sought-after resources but also shaped the world view of the indigenous inhabitants. As Ballard et al (2013:5) eloquently stated:

“We can also presume that the landscape was an integral part of the ideological world of the societies living within them. For tribes that used the study area as home and resource procurement lands, the ridges, valleys, streams and other features played crucial roles in establishing boundaries between communities, and were also features of the mind. Landforms and the flora and fauna fit within the context of native views of creation and the forces of the spiritual world. Thus, even though a given area may have served routine functional uses, it still could be seen as a special place where its attributes might trigger recollections of traditional lore and be read like a book. The landscape was text, and through oral traditions including songs, stories and legends, or inheritance of gathering or hunting rights, it could be read symbolically by the various communities interfacing within it.”



The lands within Midpen’s modern-day OSPs have the potential to contain tribal cultural resources (TCRs), whether they be specific utilitarian or spiritual sites, or landscapes that reflect daily subsistence and invoke a deep attachment to their ancestors.

Midpen contacted the NAHC on November 17, 2020 for a search of the Sacred Lands Files and for a list of tribes with a traditional and cultural affiliation with the Program area. The NAHC responded on December 1, 2020, noting that sacred sites are listed in the Sacred Lands File for the Program area. The NAHC also provided a list of twelve tribes and individuals traditionally affiliated with Midpen lands who might have knowledge of the sacred lands on file. Although none of the Native American tribes in the Program area have submitted letters of interest to Midpen pursuant to Public Resources Code Section 21080.3.1(b)(1), in the spirit of compliance with Public Resources Code Section 21080.3.1, Midpen notified local tribes listed by the NAHC about the proposed Program via letter with a return receipt, mailed on December 10, 2020. The Native American tribes contacted by Midpen are listed in **Table 3.18-1**.

Table 3.18-1. Native American Contacts

Name of Contact	Organization/Tribe
Monica Arellano	Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
Tony Cerda, Chairperson	Costanoan Rumsen Carmel Tribe
Andrew Galvan	Ohlone Indian Tribe
Corrina Gould, Chairperson	The Confederated Villages of Lisjan
Valentin Lopez, Chairperson	Amah Mutsun Tribal Band
Charlene Nijmeh, Chairperson	Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
Patrick Orozco, Chairman	Costanoan Ohlone Rumsen-Mutsun Tribe
Ms. Katherine Erolinda Perez, Chairperson	North Valley Yokuts Tribe
Timothy Perez	North Valley Yokuts Tribe
Ms. Ann Marie Sayers, Chairperson	Indian Canyon Mutsun Band of Costanoan
Kanyon Sayers-Roods	Indian Canyon Mutsun Band of Costanoan
Ms. Irene Zwierlein, Chairperson	Amah Mutsun Tribal Band of Mission San Juan Bautista

No responses were received from the tribes contacted on December 20, 2020 and listed in **Table 3.18-1**. To date, Midpen is not aware of any TCRs within the Program area. Nevertheless, Midpen continually works with local tribal communities on implementation of TEK practices in the OSPs, such as in Purisima Creek, Sierra Azul, Russian Ridge, and Skyline Ridge (refer to Chapter 2, *Project Description* for additional information on this Program activity). Tribes are primarily interested in cultivating and harvesting plants with cultural significance. Through regular communication with the tribes, Midpen would be kept informed about the potential to impact TCRs with Program activities proposed under this Program.



3.18.3 Discussion

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?***

Although the NAHC indicated that significant Native American resources are located within the region, no TCRs that are listed or eligible for listing in the CRHR or a local register of historical resources have been identified by contacted tribes within the Program area. Therefore, **no impact** to TCRs that are currently listed or eligible for listing in the CRHR or other historical resource registers would occur.

TCRs that may be archaeological in nature and discovered during ground disturbance activities, or are otherwise known to tribes but not formally listed or determined eligible for listing, are discussed below.

- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?***

Only one of the Native American archaeological resources known to exist within the OSPs has been evaluated for significance, and it was determined not to be eligible for the CRHR and has not been determined to be a TCR. However, future studies are likely to identify additional archaeological sites that are evaluated as significant, or other significant resource types, some of which may be TCRs. In addition, because not all archaeological sites have surface manifestations, ground-disturbing Program activities may encounter unknown buried cultural resources. Similarly, unknown human remains may be uncovered during project excavations. Buried archaeological remains and human remains may be determined eligible for listing in the CRHR and as TCRs.

The response from the NAHC indicated that significant cultural resource sites have been recorded within Midpen lands; thus, local Native American tribes likely have knowledge of locations and resources that are culturally significant and would be considered TCRs. However, tribes convey this information to Midpen on a need-to-know basis. As a result, ground disturbance under the Program has the potential to adversely impact TCRs that relate to significant gathering areas or locations of spiritual or ancestral importance that do not present as archaeological sites (i.e., they do not contain artifacts or other site indicators). Midpen would implement the following BMPs, incorporated as part of the Program, to avoid or reduce potential impacts to tribal cultural resources. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP CUL-1 Review Sensitivity Maps



- BMP CUL-2 Record Search and Field Inventory for Highly or Moderately Sensitive Areas, and Areas of Unknown Sensitivity
- BMP CUL-3 Consult with Native American Tribes
- BMP CUL-4 Construction Monitoring
- BMP CUL-5 Conduct Pre-Maintenance Educational Training
- BMP CUL-6 Address Discovery of Cultural Remains or Paleontological Resources Appropriately

Application of the BMPs listed above would prevent significant impacts to archaeological sites and human remains that could be identified as TCRs, whether observed through pedestrian survey or discovered during construction, as discussed in Section 3.5, “Cultural Resources.” For Program activities that involve excavation or work in previously undisturbed native soils beyond existing engineered extent or depth, a desktop investigation to determine the presence of known resources and review of sensitivity of the Project site (BMP CUL-1) would be conducted. For areas with known sites, or high/moderate or unknown sensitivity, a cultural resources investigation would be conducted by a qualified professional archaeologist prior to performing the Program activity (BMP CUL-2) and appropriate Native American tribes would be consulted (BMP CUL-3). Construction monitoring (BMP CUL-4) may also be required during ground-disturbing activities within 50 feet of recorded archaeological resources and in areas identified as highly sensitive for cultural areas. All personnel would also receive an educational training by a qualified cultural resources specialist prior to the beginning of each maintenance season (BMP CUL-5) to learn how to identify cultural resources. If unknown resources are discovered during work, all work would stop and appropriate treatments would be adhered to (BMP CUL-6). In addition, for locations that are considered culturally significant and are unrelated to archaeological deposits, Midpen would annually notify tribes, with whom they have a working relationship, about the upcoming projects to allow the tribes the opportunity to express any concerns that they might have about the potential to impact TCRs. With the implementation of the BMPs listed above, impacts to TCRs would be **less than significant**. No mitigation is required.



3.19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the Project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.19.1 Environmental Setting

Water for use in buildings and public facilities in the Program area generally comes from springs, creeks, and groundwater or from commercial water supplies. Irrigation water for agricultural uses comes from surface waters, springs, and wells. Wastewater is generated from public restrooms in the Program area and is stored in on-site vaults before removal and disposal by local service providers.

Solid waste disposal services are provided for residences by local providers. For OSPs located in San Mateo County, solid waste would be transferred to one of the four transfer stations to be sorted and separated into material that requires disposal at a landfill. There is one active



landfill in San Mateo County, Ox Mountain Landfill (or Corinda Los Trancos Landfill), which is located in the city of Half Moon Bay and is a Class III Municipal Solid Waste Landfill. The Ox Mountain Landfill accepts all types of solid waste except hazardous waste. Ox Mountain Landfill has a maximum permitted throughput of 3,598 tons per day with a maximum permitted capacity is 60,500,000 cubic yards. As of December 2015, this landfill had a remaining capacity of 22,180,000 cubic yards and the estimated closure date for the Ox Mountain Landfill is January 2034 (California Department of Resources Recycling and Recovery [CalRecycle] 2021a).

In Santa Clara County, solid waste would be transferred to one of the three transfer stations, sorted and separated, and disposed of at one of the two active landfills or at composting facilities located in the cities of San Jose and Milpitas.

- The Guadalupe Landfill is a Class III Municipal Solid Waste Landfill that accepts soil, concrete, asphalt, and other construction and demolition debris for recycling. The Guadalupe Landfill accepts up to 3,650 tons of material per day (Waste Management 2021). As of January 2011, this landfill has a remaining capacity of 11,055,000 cubic yards with an estimated closure date of January 2048 (CalRecycle 2021b).
- The Kirby Canyon Landfill accepts construction and demolition debris and municipal special waste. The Kirby Canyon Landfill has a maximum permitted throughput of 2,600 tons per day with a maximum permitted capacity of 36,400,000 cubic yards. As of July 2015, this landfill had a remaining capacity of 16,191,600 cubic yards with an estimated closure date of December 2059 (CalRecycle 2021c).
- The Newby Island Facility and the Zanker Road Facility are green material composting facilities that accept green materials and wastes. The Newby Island Facility has a maximum permitted throughput of 700 tons per day with a maximum permitted capacity of 146,600 cubic yards (CalRecycle 2021d).
- Zanker Road Facility stopped operating as a landfill in 2015 and now has a maximum permitted throughput of 200 tons per day of green materials (CalRecycle 2021e).

Pacific Gas and Electric Company (PG&E) maintains power lines and underground gas lines through the Program area. PG&E maintains these facilities through easements. PG&E retains the responsibility for vegetation clearance associated with PG&E infrastructure, under the jurisdiction of the California Public Utilities Commission (CPUC) (and not Midpen), by law and conducts vegetation management under PG&E utility lines in compliance with by General Order 95, Section III of the CPUC.

Midpen facilities are not typically served by municipal storm drain facilities and thus, implementation of the proposed Program would not impact existing stormwater drainage facilities.



3.19.2 Discussion

- a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?*

The Program includes maintenance of septic, telephone, telecommunications, and other utilities, installation, or replacement of water infrastructure to support conservation grazing practices, and repair or replacement of existing drainage facilities (i.e., culvert repair/replacement, swale and ford maintenance, clearing drainage features, etc.). Although the proposed Program would not require or result in the construction of new water or wastewater treatment, electric power, natural gas, or telecommunication facilities, existing infrastructure may be expanded from its original location to provide connection to existing utilities. These expansions would be small and would not result in significant environmental effects as discussed throughout this IS/MND. Program activities would be conducted to maintain Midpen facilities while enhancing and protecting the natural environment. As such, **no impact** would occur.

- b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

The proposed Program would not involve construction of any housing, commercial buildings, or any other structures or landscaping that would require permanent water supplies. Dust control activities at Program work sites (per BMP GEN-15) would require a minimal amount of water, which would likely be supplied by a water truck and would not adversely affect local water supplies or substantially increase the volume of water used in the Program area. Given the relatively limited amount of water needed, no additional water supplies or entitlements would be needed to support the proposed Program. Therefore, this impact would be **less than significant**. No mitigation is required.

- c. Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The Program would not construct any new or expanded housing or other occupied buildings that would generate additional wastewater or require connection to the municipal wastewater collection and treatment system. A nominal amount of wastewater would be generated by maintenance workers using portable restrooms on site, which would be disposed of at a sewage treatment plant by the sanitation contractor. The limited amount of wastewater generated by the small number of workers on-site at one time would not substantially contribute to an exceedance of capacity at local wastewater treatment facilities. As such, implementation of the Program would not necessitate the expansion of any wastewater treatment facilities. Therefore, this impact would be **less than significant**. No mitigation is required.



d, e. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Solid waste generated by the proposed Program activities would include excavated sediment from clearing culverts, ponds, streams, and drainage features; vegetative debris from vegetation management activities; trash and debris from other maintenance and facility improvement activities; hazardous materials such as asbestos and lead based paint from culverts, bridges, and other structures; and general refuse generated by Midpen workers.

Removed sediment would be primarily used with Midpen lands or disposed of at an approved facility in accordance with applicable federal and state regulations. Prior to disposal, Midpen would test the material to determine the suitability for disposal or reuse. If suitable, Midpen may re-use the sediment on-site; at another wetland, channel, or restoration site; or reuse it at an upland area. If not suitable for reuse, the sediment may require landfill disposal or hazardous waste disposal. Excavated sediment may be stockpiled onsite for up to three working days so that it can be loaded into trucks for off-site disposal.

Debris and materials from vegetation management activities would be processed using a masticator. The masticator would leave behind chips and pieces of shattered wood which would be hauled offsite to use as ground cover or erosion control in other areas. Midpen may also stockpile chips and other vegetative material at permanent composting sites near field offices for use on future projects. Generally, the proposed Program would not use local or regional composting facilities to dispose of vegetative materials. However, if off-site hauling is required, materials would be disposed of at a permitted facility that has capacity to accept the materials, such as the Newby Island or Zanker composting facilities. Otherwise, materials would be chipped on-site. Other organic materials would be distributed in upland areas similar to the surroundings of where the material was removed from.

Removed hazardous materials, including asbestos, lead based paint, and soils with hazardous levels of contaminants would be disposed of at an appropriate hazardous waste disposal facility, discussed in more detail in Section 3.9 of this IS/MND.

Trash, tires, and other debris may impair hydraulic conditions, reduce conveyance capacity, cause erosion or scour on banks, and/or threaten existing facilities. Midpen routinely removes such debris from channels, lakes, ponds, ditches, and other drainage features to improve hydraulic conditions. Removed debris would require disposal at an appropriate disposal facility. Other solid waste generated from Program activities including fence posts, watering troughs, pipes, metal infrastructure, and worker refuse would also require off-site disposal at an appropriate disposal facility. All waste and materials would be transported to local transfer stations to be sorted and separated in material that can be composted, recycled, or require landfill disposal. Because transfer stations prioritize reuse, recycling, and composing of incoming material, only a portion of the trash and debris would require disposal at a landfill facility. As described above, the Ox Mountain Landfill, Guadalupe Landfill, and Kirby Canyon Landfill all have sufficient capacity to dispose of any non-hazardous solid



waste generated from the Program. Midpen has a Waste Diversion Policy that directs salvaging, recycling, and the proper disposal of all other materials.

Midpen would implement the following BMPs, incorporated as part of the Program, to address temporary impacts associated with solid waste. Descriptions of each BMP are provided in Chapter 2, *Project Description*.

- BMP GEN-7 Waste Management
- BMP SWQ-1 Water Body Protection Measures
- BMP GEN-5 Hazardous Materials Storage/ Disposal

Implementation of the BMPs listed above would ensure that solid waste generated onsite would be stored and appropriately disposed of in accordance with all regulations related to solid waste. Implementation of the Program would not significantly affect permitted capacity of local or regional solid waste disposal services serving Midpen lands nor change existing levels of compliance with federal, state, and local regulations related to solid waste. For these reasons and with the implementation of the BMPs listed above, impacts associated with solid waste would be **less than significant**. No mitigation is required.



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3.20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

3.20.2 Environmental Setting

The Office of the State Fire Marshal and the CAL FIRE administer state policies regarding wildland fire safety. Midpen staff and contractors must comply with applicable requirements in the Public Resources Code when implementing Program activities (i.e., routine maintenance, facility improvements, and restoration projects) at any sites with forest-, brush-, or grass-covered land. Additionally, Santa Mateo, Santa Clara, and Santa Cruz counties have established Hazard Mitigation Plans, which contain goals and policies to protect residents and structures from wildfires.

The Program area lies within a combination of State and local responsibility areas generally identified by CAL FIRE as Very High and High FHSZs (CAL FIRE 2007). The OSPs in the northern portion of the Program area within central and southern San Mateo County as well as western Santa Clara County occur primarily in the Santa Cruz Mountains. These areas consist of rural land uses, are densely forested, and are highly susceptible to wildfire, particularly during the late summer and fall. These OSPs fall within a combination of High



and Very High FHSZs, with small areas designated as Moderate FHSZ and/or not rated. Midpen OSPs in the southern portion of the Program area within southwestern Santa Clara County occur within the Sierra Azul Range and the Santa Teresa Hills in densely forested areas. Due to a mix of topography, rural land uses, and vegetation, this portion of the Program area is also highly susceptible to wildfire. These OSPs fall within a combination of High and Very High FHSZs.

Fire hazards present a considerable risk to vegetation and wildlife habitats throughout the Program area. Additionally, the potential for significant damage to life and property exists in areas designated as wildland-urban interface areas, where development is adjacent to densely vegetated areas. In the Program area, this can range from a few scattered houses to larger subdivisions or communities, which have the potential to become urban ignition sources as well as fire fuels (e.g., structures, vehicles, equipment, burn piles, barbecues, etc.) and pose a potential threat to OSPs (Midpen 2021). One of the primary anticipated outcomes of Midpen's recent Wildland Fire Resiliency Program is to reduce fire fuels that contribute to the risk of catastrophic wildfire and restore ecosystems by removing invasive plant species and/or dead and excessive accumulated vegetation due to past fire suppression.

In recent years, the Santa Cruz Mountains have been prone to periodic wildfire events as a result of fire suppression, the introduction of invasive plant species, and changes in forest management (Fire Safe San Mateo County 2019). Significant fires in recent years in San Mateo County include the Skeggs Fire in 2017, which burned approximately 50 acres three miles west of the town of Woodside (CAL FIRE 2018), and the Cabrillo Fire in 2019, which burned 62 acres just south of Pescadero (CAL FIRE 2019). In August 2020, the CZU Lightening Complex fires burned a record 86,509 acres in San Mateo and Santa Cruz counties, resulting in one death, one injury, and the destruction of 1,490 structures. Numerous fires have occurred in Santa Clara County in recent years in proximity to the Program area, particularly in the Sierra Azul range. Prior to 2020, the most significant recent fire within proximity to the Program area was the Loma Fire in 2016, northwest of Morgan Hill, which burned 4,474 acres and destroyed 28 structures. In August 2020, the Crews Fire burned 5,513 acres north of Gilroy (CAL FIRE 2020), and the SCU Complex fires, the third largest in the State's history, burned 396,624 acres in eastern Santa Clara County and five other counties.

The majority of the proposed Program activities would be conducted in areas where there is high to very high fire risk throughout San Mateo and Santa Clara counties, and a small portion of northern Santa Cruz County. **Figure 3.9-1** shows the proposed Program area overlain with CAL FIRE FHSZs.

3.20.3 Discussion

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

As described in Section 3-18, "Transportation," and Section 3-9, "Hazards and Hazardous Materials," proposed Program activities that include the operation of heavy equipment on roadways could potentially interfere with traffic movement and impair evacuation procedures in the event of an emergency, such as a wildfire. Such activities include sediment



and debris removal, fallen and hazardous tree removal, culvert repair/replacement, vegetation management (e.g., brushing or mowing), and fuel management activities (e.g., prescribed burning and maintenance of fuel breaks). Temporary lane closures and operation of heavy equipment on public roadways could potentially impede movement of fire apparatus and vehicles, as well as residents attempting to flee a wildfire. Hindering evacuation and emergency response represents a potentially significant impact. **Mitigation Measure TRANS-1** requires Midpen to make provisions to allow emergency responders through any work area or clearly designate alternate routes. Minimal delays, lasting a few minutes, could occur while crews reposition equipment and vehicles to ensure adequate room for emergency vehicle passage. Mitigation Measure TRANS-1 would ensure that unattended authorized work vehicles are not parked in such a way that blocks the road when there are no operators in attendance to move them and that the fire district and emergency-response agencies have prior notification of temporary access road closures. With implementation of Mitigation Measure TRANS-1, impacts associated with the interference of an adopted emergency response plan or emergency evacuation plan would be **less than significant with mitigation**.

b, d. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby, expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire / Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Program activities would not involve placement of people or habitable structures in areas without adequate fire protection. Additionally, proposed Program activities would not result in the creation of new wildland areas which could increase fire dangers. Rather, the proposed Program involves primarily routine maintenance activities, many of which would reduce potential wildland fire risks. In particular, fuel management activities such as maintaining disclines, shaded fuel breaks, and defensible space around buildings would help protect people, structures, and habitat from wildfire risks. Additionally, prescribed burns would help restore native upland habitats and control invasive vegetation, further reducing the likelihood of wildfires on Midpen lands. Additionally, maintenance activities such as downed tree management, erosion protection, and bank stabilization would minimize downstream flooding or landslides that could occur in the aftermath of a wildfire in the vicinity of the proposed Program.

Because Program activities involving the use of vehicles and equipment would be conducted during the dry summer months when fire danger is the highest, there is a potential for an accidental ignition of a wildland fire. To ensure that necessary precautions are taken to reduce such risks, Midpen would implement BMP GEN-17: Fire Prevention (described in Chapter 2, *Project Description*), which would reduce potential wildland fire impacts associated with those activities by requiring on-site fire suppression equipment, spark arrestors on all equipment with internal combustion engines, and restricting activities on high fire danger days.

Additionally, Midpen would conduct prescribed burns prior to the peak of wildfire season, which could also ignite a wildfire if not controlled properly. Prescribed burns and related fuel



management activities under the proposed Program would be performed consistent with the methodologies and requirements of Midpen's Wildland Fire Resiliency Program. The purpose of the Wildland Fire Resiliency Program is, in large part, to reduce fuel loads and wildland-fire risks on Midpen lands compared with the baseline conditions. The analysis of wildland fire impacts associated prescribed burns and other fuel management activities is covered in the Wildland Fire Resiliency Program EIR (Panorama 2021).

With implementation of BMP GEN-17, adherence to State and local regulations, and compliance with Midpen's Wildland Fire Resiliency Program, the proposed Program would neither exacerbate wildfire risks and expose Program occupants to pollutant concentrations from a wildfire, nor would it expose people or structures to significant risks, including downslope or downstream flooding or landslides. The proposed Program would reduce the risks and hazards associated with wildfire. Therefore, this impact would be **less than significant**. No mitigation is required.

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The proposed Program would, by design, involve maintenance of infrastructure that would benefit the natural environment and ultimately achieve Program outcomes described in Chapter 2, *Project Description*. Maintenance activities specifically intended to reduce wildfire fuel loads such as discing adjacent to major roads/highways, grasslands along the wildland-urban interface areas, and around Midpen buildings; and maintenance of shaded fuel breaks along roads and road-width trails, staging areas, and helicopter landing zones would be beneficial by limiting the potential for wildland fires on Midpen lands and adjacent areas of residential development. Similarly, maintenance and replacement of existing infrastructure such as culverts, bridges, roadside drainage features, as well as re-routes of roads and trails, would both ensure access is maintained for emergency responders while also reducing soil disturbances, erosion, and water quality impacts. Additionally, the proposed Program would involve water infrastructure improvements, such as repairing spring boxes, water lines, and/or storage tanks. Such activities would support conservation grazing efforts and also ensure availability of an onsite water supply in the event of an emergency.

Program activities would be conducted using a range of equipment, including mechanical tools such as tractors, brushcutters, chainsaws, chippers, masticators, to heavier equipment such as dozers, loaders, and excavators, which could temporarily exacerbate fire risk and potentially cause a fire in adjacent wildland fuel areas. As discussed above and in Section 3.9, "Hazards and Hazardous Materials," implementation of BMP GEN-17: Fire Prevention would minimize potential impacts associated with activities involving the use of vehicles and heavy equipment by requiring on-site fire suppression equipment, spark arrestors on all equipment with internal combustion engines, requiring a 10-foot distance between flammable materials and any equipment that could produce a spark, and requiring a 25-foot distance between portable tools powered by gasoline-fueled internal combustion engines and flammable materials. Additionally, BMP GEN-17 also includes specific protocols for the use of mechanical equipment in high fire risk areas, including restricting operation to outside the



fire season (i.e., May 1 – November 30) when possible, and monitoring weather conditions prior to any high-risk activity.

The maintenance of infrastructure associated with the proposed Program would ultimately help Midpen achieve its conservation goals and reduce the risk of wildland fires. Additionally, implementation of BMP GEN-17, would reduce potential impacts related to the installation or maintenance of associated infrastructure that could exacerbate fire risk or result in temporary or ongoing impacts to the environment. Therefore, this impact would be **less than significant**. No mitigation is required.



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3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
b. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the Project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Does the Project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.21.1 Discussion

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

As discussed throughout this IS/MND, significant but mitigatable impacts were identified for biological resources; geology, soils, and seismicity; hazards and hazardous materials; noise; and transportation. With implementation of BMPs identified in **Appendix A** and Mitigation Measures BIO-1, BIO-2, GEO-1, HAZ-1, HAZ-2, NOI-1, and TRANS-1, the proposed Program would not have the potential to substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered



plant or animal, or eliminate important examples of the major periods of California history or prehistory. Therefore, this impact would be **less than significant with mitigation**.

b. Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

A cumulative impact refers to the combined effect of “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (State CEQA Guidelines Section 15355). As defined by the State of California, cumulative impacts reflect “the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” (State CEQA Guidelines Section 15355[b]).

The following cumulative analysis evaluates the potential cumulative impacts from the proposed Program in combination with other related past, present, and probable future projects in the area, shown in **Table 3.21-1**.



Table 3.21-1. Summary of Cumulative Projects in Midpen Lands and Surrounding Area

No.	Project Name	Description	Planned or Expected Date
1	Midpeninsula Regional Open Space District Integrated Pest Management Program (IPMP)	The IPMP outlines management of all pests on Midpen lands. The IPMP also includes some rodent and insect pest management strategies at Midpen-owned structures. The IPMP involves use of manual and mechanical treatments as well as chemical methods, such as pesticides, herbicides, and insecticides.	Ongoing since 2014
2	Forest Management Projects	Midpen conducts forest management practices through various programs and plans including: <ul style="list-style-type: none"> ▪ Los Trancos – Page Mill Eucalyptus Removal ▪ Restoration Forestry Demonstration Project. 	Early phases of planning/ implementation
3	Preserve and Master Plans	Midpen conducts specific OSP projects such as habitat restoration and recreational facility improvements through Preserve Plans including: <ul style="list-style-type: none"> ▪ Bear Creek Redwoods Preserve Plan ▪ La Honda Creek Master Plan ▪ Hawthorns Area Plan ▪ Mindego Ranch Use and Management Plan ▪ Mt Umunhum Restoration and Public Access Site Plan ▪ Ravenswood Comprehensive Use and Management Plan ▪ Skyline Master Plan 	Ongoing or in Progress



No.	Project Name	Description	Planned or Expected Date
4	Natural Resource Protection and Restoration Projects	<p>Midpen implements numerous projects identified as key project portfolios in Midpen’s Vision Plan including:</p> <ul style="list-style-type: none"> ▪ Mount Umunhum Environmental Restoration and Public Access Project ▪ Miramontes Ridge: Gateway to the San Mateo Coast Public Access, Stream Restoration, and Agriculture Enhancement Projects ▪ Purisima Creek Redwoods: Purisima-to-Sea Trail Completion, Watershed Protection, and Conservation Grazing Projects ▪ La Honda Creek: Upper Area Recreation, Habitat Restoration, and Conservation Grazing Projects ▪ La Honda Creek: Driscoll Ranch Area Public Access, Endangered Wildlife Protection, and Conservation Grazing Projects ▪ Russian Ridge: Public Recreation, Grazing, and Wildlife Protection Projects ▪ Cloverdale Ranch: Wildlife Protection, Grazing, and Trail Connections ▪ Regional: Redwood Protection and Salmon Fishery Conservation ▪ Long Ridge: Trail, Conservation, and Habitat Restoration Projects ▪ Various additional small creek, pond, and tree restoration projects 	Ongoing



5	Regional Trails, Public Access, and Education Projects	<p>Midpen implements many public access improvement projects throughout Midpen lands. Midpen has identified the following regional trail and public access projects, some of which were identified in Midpen’s Vision Plan:</p> <ul style="list-style-type: none"> ▪ Coal Creek: Reopen Alpine Road for Trail Use ▪ Beatty Parking Area and Trail Connections Project ▪ Bear Creek Redwoods: Public Recreation and Facilities Projects ▪ Highway 17 Wildlife and Regional Trail Crossings ▪ Highway 17 Bay Area Ridge Trail Connections ▪ Ravenswood Bay Trail Project ▪ El Corte de Madera Creek: Bike Trail and Water Quality Projects ▪ El Sereno: Dog Trails and Connections ▪ Windy Hill: Trail Improvements and Preservation ▪ Hawthorns Public Access Project ▪ La Honda Creek/Russian Ridge: Preservation of Upper San Gregorio Watershed and Ridge Trail Completion ▪ Peninsula and South Bay Cities: Partner to Complete Middle Stevens Creek Trail ▪ Develop trails between Butano State Park, Pescadero Creek County Park, and Russian Ridge OSP, and between Skyline Ridge OSP, Portola Redwoods State Park, and Big Basin State Park ▪ Regional: Complete Upper Stevens Creek Trail ▪ South Bay Foothills: Saratoga-to-Sea Trail and Wildlife Corridor ▪ Sierra Azul: Cathedral Oaks Public Access and Conservation Projects ▪ Sierra Azul: Rancho de Guadalupe Family Recreation and Interpretive Projects ▪ Sierra Azul: Loma Prieta Area Public Access, Regional Trails, and Habitat Projects 	Ongoing
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No.	Project Name	Description	Planned or Expected Date
6	Infrastructure Improvement Projects	<p>Midpen proposes several infrastructure improvement projects within Midpen lands, including:</p> <ul style="list-style-type: none"> ▪ Midpen Office Building Project ▪ South Area Office (Campbell) ▪ American Disabilities Act (ADA) Self-Evaluation and Transition Plan Update Implementation ▪ La Honda Parking and Trailhead Feasibility Study and Short-term Measures ▪ Rancho San Antonio: Interpretive Improvements and Refurbishing ▪ Rancho San Antonio Multimodal Access Project Implementation ▪ Purisima Creek Redwoods Multimodal Access Study ▪ Highway 35 Multiuse Trail Crossing and Parking Feasibility Study ▪ Mount Umunhum Radar Tower Project ▪ Sierra Azul Ranger Residence ▪ Solar Panels Installation at Skyline Field Office ▪ Various additional grazing infrastructure projects ▪ Various residential and structural maintenance and repairs projects (e.g. Hawthorns Historic House re-roof, Thornewood Historic Estate, La Honda White Barn stabilization, Rancho San Antonio Deer Hollow Farm White Barn stabilization, etc.) 	Ongoing
7	Wildland Fire Resiliency Program	<p>This program includes managing vegetation and infrastructure on Midpen lands to reduce wildland fire risks. Vegetation would be managed primarily with manual and mechanical methods, prescribed herbivory, and herbicides. Manual and mechanical methods include mowing, cutting, discing, masticating, pile burning, chipping, and flaming. Treatment types include fuelbreaks, evacuation routes, disclines, defensible space, invasive species removal, and prescribed burns.</p>	Planned implementation date of May 2021[



No.	Project Name	Description	Planned or Expected Date
8	Memorial County Park Facility Improvement Project	This project includes constructing a new restroom and shower buildings, resurfacing park roads, improving paths of travel, and accessible features that are ADA compliant. It is the first facility improvement project in Memorial County Park. Memorial County Park is located near La Honda Creek OSP.	Under construction – anticipated to be complete summer 2021.
9	Memorial Park Wastewater Treatment Facilities Improvement Project	This project would replace Memorial County Park's existing wastewater treatment plant facility and septic system with a new wastewater treatment plant. The collection system would also be repaired and pipe sections and manholes would be replaced to fix structural defects and reduce infiltration and inflow.	Under construction -- complete October 2020.
10	Ohlone-Portolá Heritage Trail Project	This project will construct or use existing public trails for a 90-mile Ohlone-Portolá Heritage Trail alignment through San Mateo County. The trail will use segments of the California Coastal Trail, existing sidewalks and/or trails on POST and Midpen lands, state and County park, and the Golden Gate National Recreation Area.	Project was approved by San Mateo County Board of Supervisors in June 2019. Currently in early stages of planning.
11	Tunitas Creek Beach Improvement Project	This project will provide safe public access to Tunitas Creek Beach including improved environmental protection, equity and inclusion, education and environmental awareness, and outdoor experiences.	Undergoing design
12	Sanborn County Park Master Plan	This master plan provides for long range development and management of the park while balancing protecting natural resources.	Implementation is underway



No.	Project Name	Description	Planned or Expected Date
13	San Francisco Public Utilities Commission Southern Skyline Boulevard Bay Area Ridge Trail Extension Project	This project will construct a new trail extension on the Peninsula Watershed that would link the existing Fifield-Cahill Ridge Trail with the Golden Gate Recreation Area (GGNRA) Phleger estate to the south in the future. The proposed Southern Skyline Boulevard Ridge Trail Extension would parallel upper Highway 35 from Highway 92 south to the Phleger Estate. The new extension would add six new trail miles, creating a single 16.5-mile trail through the Peninsula Watershed when combined with the existing 10-mile Fifield-Cahill Ridge Trail.	City and County of San Francisco Planning Commission certified EIR in 2021. San Francisco Public Utilities Commission approved project in 2021. Final design is underway, and construction anticipated in 2022.

Source: Panorama 2021.



Impacts Avoided

The proposed Program would have no impact on the following resources and would therefore not contribute to potential cumulative impacts on these resources:

- Agriculture and Forestry Resources
- Mineral Resources
- Population and Housing

Cumulative Impacts

Aesthetics

Although temporary visual impacts would occur from the presence of personnel, equipment, staging, earthwork, and other Program-related activities, these activities would be temporary and would not result in significant visual impacts. Over the long term, visual conditions of Midpen facilities would generally improve as a result of implementation of the proposed Program (e.g., repairing dilapidated/failed culverts, removing trash and debris from ponds/channels, enhancing riparian habitat, etc.). For these reasons, the Program would not contribute to a cumulatively significant impact related to aesthetics.

Air Quality

Vehicles and other off-road equipment used for Program activities would cause daily and annual emissions of criteria air pollutants. As discussed in Section 3.3, "Air Quality," daily emissions of all criteria air pollutants are not significant/substantial because annual emissions would be well below annual BAAQMD and MBARD significance thresholds. These significance thresholds take into account the levels at which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. As such, the BAAQMD and MBARD thresholds utilized also represent cumulative thresholds. Like the Program, the other projects identified in **Table 3.21-1** would also generate criteria air pollutants subject to BAAQMD and MBARD thresholds. Therefore, because the proposed Project emissions would be below BAAQMD and MBARD significance thresholds, the proposed Project would not make a considerable contribution to cumulative impacts related to regional air quality.

Biological Resources

Program activities would occur in similar habitats to some of the other projects identified in **Table 3.21-1**. Thus, the Program could result in similar habitat impacts, including impacts to riparian areas, oak woodland, wetlands, and riverine aquatic habitat as the other cumulative projects. Midpen actively manages their lands to protect and restore the natural environment; thus, the vast majority of the proposed Program activities benefit listed species and their habitats (e.g., pond de-sedimentation, trash and debris removal, invasive species removal, etc.).



Although the Program may impact biological resources, most impacts would be temporary. Some permanent loss of habitat could occur as well as impacts to special-status species and habitat as a result of the proposed Program activities. These impacts would be reduced through implementation of **Mitigation Measures BIO-1** and **BIO-2** and Program BMPs. Further, any permanent impacts associated with Program activities would be offset through the various enhancement and restoration activities included under the Program. Given that (1) the nature of the Program, Midpen's mission and adopted Resource Management Policies (Midpen 2021), and the intent of other planned Midpen projects is to protect and restore the natural environment, (2) the Program's long-term effects on biological resources would be beneficial, and (3) the impacts of the Program would be effectively mitigated, the Program would not have a cumulatively considerable impact to biological resources.

Cultural Resources and Tribal Cultural Resources

Many of the other cumulative projects identified in **Table 3.21-1** may involve some amount of ground disturbance, and thus may have the potential to uncover buried archaeological resources, some of which could be TCRs. If proper protocols were not followed, this could result in adverse effects on cultural resources and TCRs. Additionally, similar to the proposed Program, none of the cumulative projects would be anticipated to significantly affect known built environment resources or substantially change a place or landscape. Also, natural resource, restoration, and infrastructure improvement projects would generally have less of a potential to adversely affect cultural resources and TCRs than other typical development projects in the region, such as housing developments. Given implementation of BMPs, significant effects on cultural resources and TCRs from the proposed Program would be avoided or minimized. Overall, the Program would not have a cumulatively considerable impact on cultural resources or TCRs.

Energy

Most of the other cumulative projects identified in **Table 3.21-1** would involve operation of construction equipment and use of energy in the form of fossil fuels. However, similar to the proposed Program, the energy use associated with these other projects would be temporary. None of the projects would include construction of housing, buildings, or commercial or industrial uses that could create a substantial long-term demand for energy. As such, and given the fact that the Program's energy use would be relatively minor and similar to existing conditions, the Program would not have a cumulatively considerable impact to energy.

Geology, Soils, and Seismicity

Midpen lands and the surrounding area are located in a seismically active region that may be susceptible to seismic-related ground shaking and ground failure, as well as other geologic hazards including landslides. Although construction workers and recreationalists may be exposed to seismic-related hazards when conducting Program activities and recreating in the area, the proposed Program and other cumulative projects would not exacerbate existing seismic hazards, such as ground shaking. Further, no habitable structures would be constructed under the proposed Program or cumulative projects listed in **Table 3.21-1**. Program activities and other cumulative projects that disturb large areas located in unstable, landslide prone locations could cause landsliding. Implementation of **Mitigation Measure**



GEO-1 would require that erosion and slope stabilization measures are implemented in areas susceptible to erosion and instability. Similar requirements would be required for other cumulative projects located in landslide prone areas of the Santa Cruz Mountains in accordance with state and local regulations. Although the other cumulative projects shown in **Table 3.21-1** may involve earthmoving activities, none of these projects would be expected to result in a substantial loss of topsoil. Implementation of BMPs would prevent or minimize Program-related effects on soils (e.g., erosion) and paleontological resources. Lastly, one of the benefits of the proposed Program is to maintain the functional integrity of Midpen facilities to prevent detrimental effects and to enhance the natural environment. As such, the proposed Program would not contribute to a cumulatively significant impact regarding geology, soils, and seismicity.

Greenhouse Gas Emissions

GHGs are cumulative in nature and the cumulative impact from GHG production at a global scale is significant. The proposed Program would generate GHG emissions during Program activities; however, these activities would be limited in nature and duration, similar to activities conducted in the existing condition and be required to comply with state and local regulations. Similar to the Program, the other projects identified in **Table 3.21-1** would also generate GHG emission; however, these would be temporary and would be required to comply with state and local regulations. Thus, the proposed Program would not contribute to a cumulatively significant impact to greenhouse gas emissions.

Hazards and Hazardous Materials

Similar to the proposed Program, other cumulative projects would be required to comply with standard federal, state, and local requirements to minimize impacts related to hazardous materials. The other cumulative projects listed in **Table 3.21-1** would be expected to use hazardous materials during construction and operation of construction equipment, and certain projects may involve the use of herbicides over the longer term for vegetation management. All herbicide application is required to comply with federal, state and local standards and label specifications. Midpen also aims to reduce per-acre pesticides use at individual sites in natural areas over time. As described in Section 3.9, “Hazards and Hazardous Materials,” Program activities would be of short duration. Implementation of **Mitigation Measures HAZ-1** and **HAZ-2** would ensure that maintenance workers and the public are protected from any contaminated soils, sediment, or groundwater encountered during Program activities and any contamination associated with known hazardous materials cleanup sites in proximity to proposed activities. Given the above, the proposed Program would not substantially contribute to a cumulatively significantly impact related to hazards and hazardous materials.

Hydrology and Water Quality

Similar to the proposed Program, many of the other cumulative projects identified in **Table 3.21-1** would benefit hydrology and water quality over the long term through enhancing riparian habitat and managing overgrown or invasive vegetation. Short-term construction-related impacts could occur, and many of the streams in Midpen lands are impaired for various constituents. As described Section 3.10, “Hydrology and Water Quality,” the proposed



Program would implement BMPs to minimize potential construction-related impacts on hydrology and water quality. The proposed Program would also not include any new significant amounts of impervious surface that would generate additional runoff and create potential for generation of polluted stormwater. Given the long-term benefits of the Program and implementation of effective BMPs, the proposed Program would not substantially contribute to a cumulatively significant impact related to hydrology and water quality.

Land Use and Planning

The proposed Program would not divide an established community or conflict with existing land use plans or policies. Similar to the proposed Program, other identified cumulative projects would not include substantial above-ground structures or developments and would be primarily limited to habitat restoration and public access improvements. Thus, the proposed Program would not contribute to a cumulatively significant impact related to land use.

Noise

Similar to the proposed Program, the other cumulative projects identified in **Table 3.21-1** would generate construction noise similar to or greater than the proposed Program. As described in Section 3.13, “Noise”, noise generated during Program activities would be temporary and of short duration at any given location and generally localized. All Program activities would occur during normal work hours, in compliance with the relevant jurisdictions’ noise standards. Implementation of Mitigation Measure NOI-1 would ensure that noise control measures are implemented in locations in close proximity to sensitive receptors. Further, the proposed Program would not permanently increase noise levels above the existing condition. For the reasons above, the proposed Program would not result in a cumulatively significant impact related to noise.

Public Services

The other cumulative projects identified in **Table 3.21-1** would have limited potential to adversely affect public services, as these projects would not induce population growth (i.e., would not include housing, generate new permanent jobs, or remove barriers to growth) such as to increase demand for public services or directly impact any fire protection, police protection, school, or park facilities. Population density and public service facilities are variable throughout the Program area and cumulative impacts are likely to be more location-specific. While the proposed Program could increase fire risk from operation of internal combustion engine equipment in vegetated areas, compliance with applicable requirements (e.g., CAL FIRE) and implementation of BMPs would minimize this potential risk and any associated impacts on fire protection services. The proposed Program and other cumulative projects would not adversely affect other types of public services (e.g., police, schools, parks). Therefore, the proposed Program would not contribute to a cumulatively significant impact to public services.

Recreation

The proposed Program would not induce population growth that would result in a significant increased use of recreation facilities in the Program area. The proposed Program may result



in temporary disruptions to recreational trails and facilities; however, these activities would be of short duration. In addition, Midpen lands and surrounding state and County parks have a large number of trails and recreational facilities; thus, Program activities would not significantly affect the availability of public trails or recreational facilities. Similar to the proposed Program, other cumulative projects involve public access improvements that would increase recreational access and improve recreational facilities and opportunities throughout Midpen lands. Overall, the proposed Program would not contribute to a cumulatively significant impact related to recreation.

Transportation

During Program activities, the proposed Program would contribute some vehicle traffic to local roadways (e.g., vehicle trips to work sites and truck haul trips); however, the vehicle traffic and VMT from the proposed Program would be similar to existing conditions and the ongoing work conducted by Midpen. In addition, these trips would be spread over an area of approximately 64,000 acres and would not have an appreciable effect on the circulation system. For any activities occurring on or near roads that would result in temporary closures, appropriate traffic controls would be implemented to maintain traffic flow (particularly for emergency responders) and reduce potential safety hazards through implementation of **Mitigation Measure TRANS-1**. In general, traffic conditions throughout the region are variable and congestion-related cumulative impacts would be relatively localized. Some of the other cumulative projects listed in **Table 3.21-1** may generate haul truck trips, but like the proposed Program would not create substantial long-term vehicle trips or VMT. As a result, the proposed Program would not contribute to a cumulatively significant impact related to transportation.

Utilities and Service Systems

The proposed Program would not directly nor indirectly induce growth in the Program area and therefore would not increase the cumulative demand for utilities and service systems. Given that the other cumulative projects identified in **Table 3.21-1** would not include any housing or similar land uses that would require permanent water, wastewater, electricity, or other utilities services, these projects also would not increase cumulative demand for utilities and service systems. Any temporary need for water or wastewater service during construction or Program activities and other cumulative projects would be limited and would have no potential to substantially contribute to an exceedance in capacity or need for additional entitlements or sources. Therefore, the proposed Program would not contribute to a cumulatively significant impact to utilities and service systems.

Wildfire

As discussed under Section 3.20, "Wildfire," although Program activities would occur within very high or high fire hazard severity zones, compliance with applicable requirements and implementation of BMPs during Program activities would minimize the risk of accidental ignition of a wildfire. Further, the proposed Program includes activities such as maintaining disclines, shaded fuel breaks, and defensible spaces around buildings and other vegetation management activities that would protect people, structures, and habitat from wildfire risks. Similar to the proposed Program, other cumulative projects would be required to implement



fire safety measures during construction activities, such that these projects would not substantially exacerbate wildfire risks. Over the long term, these projects would not establish land uses that could increase overall wildfire risk or place new people or structures in areas susceptible to wildfire. Therefore, the proposed Program would not contribute to a cumulatively significant impact to wildlife.

Summary

Based on the cumulative impact analysis provided above, and with implementation of BMPs and mitigation measures included herein, the proposed Program would not result in any significant cumulative environmental impacts. This impact would be **less than significant with mitigation**.

c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Based on the analysis provided in the above resource sections, the proposed Program would result in less than significant impacts for the following resources topics: aesthetics, air quality, energy, greenhouse gas, hydrology and water quality, land use, public services, recreation, utilities and service systems, and wildfire. Mitigation measures pertaining to biological resources, geology, soils, and seismicity, hazards and hazardous materials, noise, and transportation would reduce Program-related impacts to a less than significant level. As such, implementation of the already identified mitigation measures would ensure that the effects on human beings would be **less than significant with mitigation**.

Chapter 4 REPORT PREPARATION

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None.

Chapter 2, Project Description

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Notice of Intent to Adopt a Mitigated Negative Declaration

1. **Project Title:** Midpeninsula Regional Open Space District Open Space Maintenance and Restoration Program (Program)
2. **Lead Agency:** Midpeninsula Regional Open Space District (Midpen)
3. **Contact Person:** Aaron Hébert, Senior Resource Management Specialist, ahebert@openspace.org; (650) 625-6561
4. **Project Location and APN:** The Program area includes Midpen’s Sphere of Influence within northern Santa Clara and southern San Mateo counties, and a small portion of Santa Cruz County, Various APNs
5. **General Plan designation:** Multiple
6. **Zoning:** Multiple
7. **Project Description:** Midpen has developed the Open Space Maintenance and Restoration Program Manual to describe the various routine maintenance, small-scale facility improvements and new low intensity/small footprint facilities, and restoration and enhancement projects conducted by Midpen. Program activities include culvert and bridge maintenance; road and trail drainage feature maintenance; sediment and debris removal; streambank/pond berm stabilization; water supply structure maintenance; pond maintenance; vegetation management (i.e., mowing, brushing, pruning, aquatic herbicide application, conservation grazing, etc.); road and trail maintenance; roadway or trail slip-out/slide repairs; existing building repairs and utility improvements; recreational facility improvements, including new trails/roads and wildlife crossings; conservation grazing infrastructure improvements; aquatic habitat restoration; native vegetation plantings; invasive species removal; and road decommissioning. The Manual provides a comprehensive and consistent approach to conducting Program activities.
8. The project site is not located on the lists enumerated under Section 65962.5 of the Government Code, including, but not limited to lists of hazardous waste facilities.
9. **Public Review Period: The IS/MND is available for a 30-day public review period**, which begins on August 5, 2021 and ends at 5 p.m. on September 5, 2021. Please send comments on the IS/MND via email to ahebert@openspace.org or to the following address: 330 Distel Circle, Los Altos, CA 94022.
10. **Document Availability:** Copies of the IS/MND are available for review at Midpen’s main Administrative Office (330 Distel Circle, Los Altos); Foothills Field Office (222500 Cristo Rey Dr, Cupertino); and Skyline Field Office (21150 Skyline Ranch Road, La Honda). Due to the COVID-19 pandemic, please contact Aaron Hebert, ahebert@openspace.org to set up an appointment to view the paper copy. To view the hard copies at Midpen’s Administrative Office, members of the public must first call or email ahead to schedule a review time given COVID-19-related office closures and limited staff presence in the office. Midpen’s COVID-19 safety protocols must be followed, including face masks and physical distancing of 6 feet, for entry into the Administrative Office and for duration of reviewing the document. An electronic copy of the IS/MND is also available to review on Midpen’s website: <https://www.openspace.org/about-us/notices>

Jul 28, 2021

Date

Brian Malone (Jul 28, 2021 08:23 PDT)

By: Brian Malone, Assistant General Manager

RESOLUTION NO. ____**A RESOLUTION OF THE BOARD OF DIRECTORS OF THE MIDPENINSULA REGIONAL OPEN SPACE DISTRICT ADOPTING A MITIGATED NEGATIVE DECLARATION INCLUDING A MITIGATION MONITORING PROGRAM IN CONNECTION WITH THE OPEN SPACE MAINTENANCE AND RESTORATION PROGRAM**

WHEREAS, The Midpeninsula Regional Open Space District (“MROSD”) is a lead agency, as provided for under section 21067 of the California Environmental Quality Act (CEQA, Public Resources Code sections 21000 et seq.); and

WHEREAS, an Initial Study and Mitigated Negative Declaration (collectively referred to as the MND), attached to the MROSD Board Report, dated September 22, 2021, and incorporated into this Resolution as if fully set forth herein; was prepared for the Open Space Maintenance and Restoration Program (“Project”) pursuant to the requirements of the California Environmental Quality Act (CEQA, Public Resources Code section 21000 et seq.) and the CEQA Guidelines (14 Cal. Code Regulations sections 15000 et seq.); and

WHEREAS, a Notice of Intent (NOI) to adopt an MND was distributed to the California Office of Planning and Research’s State Clearinghouse (CEQAnet), interested agencies, individuals, and on the MROSD website, notifying all parties of the availability and 30-day public review period of the MND from August 9, 2021 to September 7, 2021. Copies of the full MND were available on the MROSD website, at the MROSD main Administrative Office (330 Distel Circle, Los Altos, CA 94022), at the Foothills Field Office (222500 Cristo Rey Drive, Cupertino, CA 95014), and at the Skyline Field Office (21150 Skyline Ranch Road, La Honda, CA 94020), and printed copies were available upon request; and

WHEREAS, The MND identified potentially significant adverse impacts on the environment, including specific impacts to Biological Resources, Geology, Soils and Seismicity, Hazards and Hazardous Materials, Noise, Public Services, Transportation, and Wildfire and found that the mitigation for the proposed Project would avoid or mitigate these impacts to below a level of significance by adoption and implementation of the Mitigation Monitoring Program (MMP); and

WHEREAS, a Mitigation Monitoring Program (Exhibit A) was prepared to ensure compliance with the MND’s mitigation measures and attached to the MROSD Board Report, dated September 22, 2021, and incorporated into this Resolution as if fully set forth herein; and

WHEREAS On September 22, 2021, the Board of Directors of MROSD conducted a duly noticed public meeting whereby all oral and written comments received during the public review period and a staff recommendation for approval of the MND were presented to the Board of Directors of MROSD. The Board of Directors of MROSD reviewed and considered the information in the MND, administrative record, and Staff Reports for completeness and compliance with CEQA and CEQA Guidelines.

NOW, THEREFORE, BE IT RESOLVED THAT, BASED UPON THE INITIAL STUDY, MITIGATED NEGATIVE DECLARATION, MITIGATION MONITORING PROGRAM, ALL COMMENTS RECEIVED AND ALL SUBSTANTIAL EVIDENCE IN LIGHT OF THE WHOLE RECORD PRESENTED, THE MROSD BOARD OF DIRECTORS FINDS THAT:

1. The MND and NOI were prepared and publicly noticed in accordance with all legal requirements pursuant to the California Environmental Quality Act (CEQA, Public Resources Cod sections 21000 et seq.) and the CEQA Guidelines (14 Cal. Code. Regulations sections 15000 et seq.)
2. All interested parties desiring to comment on the MND were given the opportunity to submit oral and written comments on the adequacy of the MND prior to this action by the MROSD Board of Directors and all comments raised during the public comments period and at the public meeting on the MND were responded to adequately.
3. Prior to approving the Project, the MROSD Board has considered the MND, along with all comments received during the public review process.
4. The MND identified all potentially significant impacts to the environment and finds potentially significant impacts will be mitigated to less than significant or avoided by adoption of the mitigation measures as described in the MND as part of the Project and through implementation of the MMP.
5. The MROSD Board finds that, on the basis of the whole record before it, including the MND and all comments received, there is no substantial evidence that the Project will have a significant effect on the environment in that, although the Project could have a significant effect on the environment, there will not be significant effect since Mitigation Measures have been made a part of the Project to avoid such effects.
6. The MROSD Board determines that the MND reflects MROSD's independent judgement and analysis and adopts the MND.
7. The MROSD Board adopts the MMP and finds that these mitigation measures are fully enforceable conditions on the Project and shall be implemented as part of the Project.
8. The location and custodian of the documents or other material which constitute the record of proceedings upon which this decision is based are located at the offices of the General Manager of the Midpeninsula Regional Open Space District, 330 Distel Circle, Los Altos, California 94022.

* * * * *

PASSED AND ADOPTED by the Board of Directors of the Midpeninsula Regional Open Space District on ____, 2021, at a Regular Meeting thereof, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST:

APPROVED:

Secretary
Board of Directors

President
Board of Directors

APPROVED AS TO FORM:

Hilary Stevenson, General Counsel

I, the District Clerk of the Midpeninsula Regional Open Space District, hereby certify that the above is a true and correct copy of a resolution duly adopted by the Board of Directors of the Midpeninsula Regional Open Space District by the above vote at a meeting thereof duly held and called on the above day.

Jennifer Woodworth, District Clerk

EXHIBIT A

MITIGATION MONITORING PROGRAM

Open Space Maintenance and Restoration Program

State Clearinghouse Number: 2021080129

San Mateo County, CA
Santa Clara County, CA
Santa Cruz County, CA

September 2021

Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022-1404

OPEN SPACE MAINTENANCE AND RESTORATION PROGRAM MITIGATION MONITORING PROGRAM

This mitigation monitoring program (MMP) includes a brief discussion of the legal basis and purpose of the program, a key to understanding the monitoring matrix, discussion and direction regarding noncompliance complaints, and the mitigation monitoring matrix itself.

LEGAL BASIS AND PURPOSE OF THE MITIGATION MONITORING PROGRAM

Public Resources Code (PRC) 21081.6 requires public agencies to adopt mitigation monitoring or reporting programs whenever certifying and environmental impact report or mitigated negative declaration. This requirement facilitates implementation of all mitigation measures adopted through the California Environmental Quality Act (CEQA) process.

MONITORING MATRIX

The following pages provide a series of tables identifying the mitigations incorporated into the Open Space Maintenance and Restoration Program (the project). These mitigations are reproduced from the Mitigated Negative Declaration for the project. The columns within the tables have the following meanings:

Number:	The number in this column refers to the Initial Study section where the mitigation is discussed.
Mitigation:	This column lists the specific mitigation identified within the Mitigated Negative Declaration.
Timing:	This column identifies at what point in time, review process, or phase the mitigation will be completed. The mitigations are organized by order in which they appear in the Mitigated Negative Declaration.
Who will verify?	This column references the District staff that will ensure implementation of the mitigation.
Agency / Department Consultation:	This column references any public agency or District Department with which coordination is required to ensure implementation of the mitigation. California Department of Fish and Wildlife is listed as CDFW. The United States Fish and Wildlife Service is listed as USFWS.
Verification:	This column will be initialed and dated by the individual designated to confirm implementation.

NONCOMPLIANCE COMPLAINTS

Any person or agency may file a complaint asserting noncompliance with the mitigation measure associated with the project. The complaint shall be directed to the District's General Manager in written form, providing specific information on the asserted violation. The General Manager shall cause an investigation and determine the validity of the complaint; if noncompliance with the mitigation has occurred, the General Manager shall cause appropriate actions to remedy any violation. The complainant shall receive written confirmation indicating the results of the investigation or the final action corresponding to the particular noncompliance.

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
Mitigation in Section 3.4.	<p>Mitigation Measure BIO-1: Avoid Monarch Butterfly Wintering Habitat: Prior to any Program activities in tree groves comprised primarily or entirely of pine, cypress, fir, or eucalyptus that are within 2 miles of the Pacific Coast, a qualified biologist or biological monitor working under a qualified biologist will survey the grove for aggregations of monarch butterflies during the overwintering season according to the Xerces Society’s Western Monarch Count Protocol (Xerces Society 2019), available at https://www.westernmonarchcount.org:</p> <p>Two surveys will be conducted during the overwintering season, one during the Western Monarch Thanksgiving Count period (the three-week period centered on the Thanksgiving holiday), and a second during the New Year’s Count period (the two-week period beginning the weekend prior to New Year’s Day).</p> <ul style="list-style-type: none"> • Each survey will be conducted by two surveyors to provide multiple independent estimates of monarch numbers. • Surveys will be conducted in the morning while temperatures are below 55° F (13° C) and monarchs are more likely to be clustered. • Surveys will not be conducted during rain or strong winds due to poor visibility and the chance that individual monarchs shall be scattered on the ground. • If no monarch overwintering aggregations are observed, Program activities may proceed pursuant as long as they occur prior to November 1. If Program activities are delayed beyond November 1, then the grove will be re-surveyed. • If a monarch overwintering aggregation of any size is detected, then no Program activities may take place inside the tree canopy within 200 feet of the aggregation, when present. Activities outside of the canopy line but within 200 feet may proceed (i.e., treatment of low-growing vegetation outside of the tree grove) if a qualified biologist or monitor determines 	Prior to construction	District Natural Resource Specialist or their designee	USFWS	

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<p>that the activity does not pose a threat to the monarch aggregation.</p> <ul style="list-style-type: none"> • Once the aggregation disperses (typically by March), treatment of vegetation within 200 feet of tree(s) where monarch aggregations were observed may proceed if, as determined by a qualified biologist or monitor, it will not result in significant alteration to wind and sunlight patterns within the grove. • If monarch overwintering aggregations are detected in eucalyptus removal areas, then a long-term tree planting strategy is necessary (see Protecting California’s Butterfly Groves [Xerces Society 2017]). A long-term tree planting strategy will also be used for those stands which have historically been used as monarch overwintering habitat (https://www.westernmonarchcount.org/find-an-overwintering-site-near-you/). • Native tree species suitable for monarchs must be planted many years prior to eucalyptus removal with the understanding that they may not reach functional heights to provide wind protection and suitable dappled lighting for 15-30 years. Transplanting saplings from a local source may speed this process. Planting of eucalyptus will be prohibited. Removal of eucalyptus may proceed once native replacement trees have reached sufficient size to provide wind protection within the grove. • Standing dead trees generally do not contribute to monarch overwintering habitat (Xerces Society 2017) and may be removed within the grove between April 1 and August 31, outside of the overwintering period, as determined appropriate by a qualified biologist or monitor. Sites where invasive dead trees have been removed may create opportunities for native tree planting within the interior of the grove. • If a eucalyptus grove where a monarch overwintering aggregation was previously detected is re-surveyed using the 				

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	Western Monarch Count Protocol (Xerces Society 2019) and found to be unoccupied for 5 consecutive years, then the grove may be removed before native replacement trees have reached full size.				
Mitigation in Section 3.4.	<p>Mitigation Measure BIO-2: Avoid Monarch Butterfly Host Plants:</p> <ul style="list-style-type: none"> For all Program activities that only have incidental vegetation removal, Midpen will conduct a pre-construction worker training to identify milkweeds (<i>Asclepias</i> sp.), the host plant for monarch butterflies, and survey for eggs/larvae. Following the training, workers will survey the site for milkweed. For Program activities that have more than incidental vegetation removal, a qualified biologist or biological monitor working under a qualified biologist will conduct pre-construction surveys for milkweed. Host plants containing eggs, larvae, or pupae of monarch butterflies will be avoided, and will be protected with an appropriately-sized buffer as determined by a qualified biologist, taking into account the characteristics of the plant species and the nature of the proposed treatment. Vegetation treatment may proceed if a qualified biologist determines that the host plants (1) are not occupied by monarchs, and (2) may benefit from treatment (such as if the host plants have already set seed and post-treatment conditions will favor them over non-native weed species). 	Prior to construction	District Natural Resource Specialist or their designee	USFWS	
Mitigation in Section 3.7.	<p>Mitigation Measure GEO-1: Erosion Control and Slope Stability Measures: This mitigation measure applies to any Program activity areas determined to be at risk for erosion and slope instability, including if the activity exposes soils and leaves groundcover or native mulch/organic matter to be less than 70 percent following work; if work is proposed to occur on steep slopes (defined as over 35 percent slope); if evidence of</p>	Prior to during construction	District Natural Resource Specialist or their designee	N/A	

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<p>unconsolidated soils or landslides is found on site; or if the scale of the proposed activity would disturb a large area.</p> <p>Prior to conducting work that could result in erosion or slope instability, qualified personnel will conduct a review of site conditions which may include, but is not limited to, a desktop review of slope, LiDAR, historic evidence of landslides (e.g., Wentworth et al. 1997), local hazard mapping and safety plans, proximity of the site to infrastructure, and modeling of landslide susceptibility GIS data (e.g., Wills et al. 2011). Qualified personnel are personnel who have knowledge and experience in the application of erosion and slope stabilization control measures through training or field experience with control measure installation. The qualified personnel may also conduct a site visit to look for existing signs of erosion or slope instability (e.g., rills or slumped soil). Depending on the slope and the downslope resources (e.g., roads that could be impacted if a slope failed or waterbodies or habitat that could be impacted from erosion.), erosion and slope stabilization measures (listed below) will be implemented. These measures will depend on the site’s specific characteristics and the type and extent of work to be performed and will be determined by qualified personnel. The qualified personnel will memorialize in writing their field observations and corresponding recommendations regarding installation of control measures. Control measures may be adjusted as needed depending on the site’s specific characteristics.</p> <p>For activities that involve substantial grading on active slide areas, unstable areas, or unstable soils (as defined in the California Forest Practice Rules), a licensed geologist or Registered Professional Forester (RPF) will conduct the site inspection. This includes activities occurring in previously undisturbed soils (e.g., would not apply for grading within an existing, engineered road or trail); or activities occurring above (within 0.5 mile) or below (within 0.25 mile) infrastructure, including residences or other potentially occupied structures. Activities involving substantial vegetation</p>				

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<p>removal will be conducted consistent with the IPM and Wildland Fire Resiliency Program measures.</p> <p>A licensed geologist or RPF will also conduct site inspections where any road is proposed to be extended or re-routed by 600 feet or more, regardless of the proximity to active slide areas, unstable areas, or unstable soils. The licensed geologist or RPF will identify specific control measures to be implemented, which may include, but are not limited to, the control measures identified below.</p> <p>If the desktop review and/or site visit determine that a public safety hazard could occur from Program activities being conducted in unstable areas adjacent to existing infrastructure, sensitive habitat, or habitable structures, a licensed geologist/ engineer will perform a site assessment. Recommendations provided in the site assessment will be implemented as needed to ensure that slope instability and public safety hazards do not occur. Recommendations could include measures such as stabilizing slopes with mats or natural materials after tree removal and replanting denude areas to stabilize soils.</p> <p>In areas that were previously analyzed by an RPF or licensed geologist, Midpen will review the prior recommendations for consistency with the proposed activity and determine if a new review is warranted.</p> <p><i>General Control Measures</i></p> <p>In addition to Program BMPs GEN-2 and GEN-19, the following general control measure will be implemented during work as determined appropriate by the qualified personnel:</p> <ul style="list-style-type: none"> • Shut down use of heavy equipment, skidding, and truck traffic when soils become saturated and unable to support the machines. <p><i>Reduced Groundcover Control Measures</i></p>				

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<ul style="list-style-type: none"> • In addition to Program BMPs EC-1 through EC-5, the following reduced groundcover control measures will be implemented during work as determined appropriate by the qualified personnel if the activity would leave less than 70 percent of groundcover or native mulch/organic material on site: • Sow native grasses and other herbs on denuded areas where natural colonization or other replanting will not occur rapidly; use slash or chips to prevent erosion on such areas. • Use surface mounds, depressions, logs, rocks, trees and stumps, slash and brush, the litter layer, and native herbaceous vegetation downslope of denuded areas to reduce sedimentation and erosion as necessary to prevent erosion or slope destabilization. • Install approved, biodegradable erosion-control measures and non-filament-based geotextiles (e.g., coir, jute) when: • Conducting substantial ground-disturbing work (e.g., use of heavy equipment, pulling large vegetation, etc.) within 100 feet and upslope of currently flowing or wet wetlands, streams, lakes, and riparian areas; • Causing soil disturbance on moderate to steep (i.e., 10 percent slope and greater) slopes; and • Following the removal of invasive plants from stream banks to prevent sediment movement into watercourses and to protect bank stability. • Install certified weed-free sediment control devices as appropriate. Sediment control devices will be inspected daily during active construction by workers to ensure that the devices are in good working condition to prevent sediment transport into the waterbodies and will be repaired as needed. <p><i>Steep Slopes Control Measures</i></p>				

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<p>The following measures will be implemented during work conducted on steep slopes (i.e., greater than 35 percent) as determined appropriate by qualified personnel:</p> <ul style="list-style-type: none"> • Avoid use of heavy equipment on slopes greater than 35 percent unless specialized equipment is used that does not impact slope stability as determined by the qualified personnel. • Prescribed burns and pile burns will be performed outside of perennial and intermittent streams and of riparian forest/ woodland. A 50-foot buffer around perennial and intermittent streams will be maintained when the burn is proposed upslope of the stream on slopes greater than 35 percent. • Avoid installation of cleared areas, including spur roads or staging areas, on steep slopes, particularly over 50 percent slope, where feasible. Where not feasible, a licensed geologist/engineer or RPF will be consulted, as required above. The licensed geologist/engineer or RPF will identify and require implementation of appropriate design and control measures, including but not limited to, those identified in Low-Volume Roads Engineering (Keller & Sherar, 2003); Handbook for Forest, Ranch, and Rural Roads (Weaver, 2015); or the latest California Forest Practice Rules. Other suitable engineering guidance includes: <ul style="list-style-type: none"> • Locating roads on well-drained soils and slopes where drainage moves away from the road; • Providing adequate surface drainage; • Avoiding wet and unstable areas (seeps, springs, etc.); • Using the natural topography to control or dictate the ideal location of road or cleared area (e.g., staging area); use saddles, follow ridges, use bench areas, etc. 				

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
Mitigation in Section 3.9	<p>Mitigation Measure HAZ-1: Proper Handling and Disposal of Contaminated Soil, Sediment, and Groundwater: Prior to initiating ground-disturbing activities, Midpen or its contractors will inspect the soil, sediment, or groundwater for the presence of possible contamination. If indicators of contamination (e.g., foul odor, staining or sheen, etc.) are found, soil and groundwater sampling will be conducted by an appropriate licensed professional and testing of samples will be completed by a California Certified laboratory. In the event that soils to be excavated are found to be contaminated, the excavated soil will be treated as hazardous materials and disposed of at an approved hazardous waste disposal facility in compliance with state and federal regulations and Midpen operational procedures. Effective dust suppression procedures will be used in construction areas to reduce airborne emissions of these contaminants and reduce the risk of exposure to workers and the public. Regulatory agencies for the State of California (Department of Toxic Substances Control [DTSC] or RWQCB) and the appropriate county will be contacted by Midpen or its contractor to plan handling, treatment, and/or disposal options. In removing potentially contaminated soil, sediment, or groundwater, workers will wear protective clothing and equipment to limit their exposure.</p>	Prior to and during construction	District Natural Resource Specialist or their designee	DTSC; Regional Water Quality Control Board (RWQCB); appropriate County	
Mitigation in Section 3.9	<p>Mitigation Measure HAZ-2: Review of Proximity to Existing Known Hazardous Materials Clean-up Sites and Implementation of Safety Precautions: Midpen and/or its contractors will evaluate the proximity of proposed Program sites that involve ground-disturbing activities to existing known hazardous material clean-up sites. This review will include examination of the planned Program activity footprint in relation to records of hazardous materials sites in the SWRCB's GeoTracker database and the DTSC's EnviroStor database.</p> <p>If the Program activity is located on or within 100 feet of a documented hazardous material contamination site, for which clean-up activities have not been completed or been successful,</p>	Prior to and during construction	District Natural Resource Specialist or their designee	N/A	

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<p>Midpen and/or its contractors will commission a Phase I Environmental Site Assessment to more fully characterize the past land uses and potential for soil and/or groundwater contamination to occur at or in close proximity to the site.</p> <p>If the Phase I Environmental Site Assessment demonstrates a reasonable likelihood that contamination remains within the Program activity's area of disturbance, Midpen and/or its contractors will commission a Phase II Environmental Site Assessment, including soils testing, to characterize the extent of the contamination and develop ways to avoid the contaminated areas during Program activities. Midpen will follow all recommendations of the Phase II Environmental Site Assessment and will avoid areas of contamination, to the extent feasible. In the event that it is not feasible to avoid all areas of contamination, Midpen and its contractors will follow all applicable laws regarding management of hazardous materials and wastes. This includes proper disposal of any contaminated soil in a hazardous waste landfill, and ensuring that workers are provided with adequate personal protective equipment to prevent unsafe exposure.</p>				
Mitigation in Section 3.13.	<p>Mitigation Measure NOI-1: Noise Control: For all Program activities, Midpen will implement the following noise control practices to minimize disturbances to residential areas surrounding work sites:</p> <ul style="list-style-type: none"> The operation of heavy construction equipment will be limited to occur between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday and comply with applicable local noise requirements. Program activities in residential areas will not occur on Saturdays, Sundays, or any holidays except during emergencies, or with advance notification of surrounding residents. Powered equipment (vehicles, heavy equipment, and hand equipment such as chainsaws) will be equipped with adequate mufflers maintained in good condition. Best available 	During project construction	District Project Manager or their designee	N/A	

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<p>noise control techniques (e.g., mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) will be used for all equipment and trucks, as necessary.</p> <ul style="list-style-type: none"> • Staging areas will be located as far as possible from noise sensitive receptors during maintenance work. • At work sites where heavy equipment will be used within 40 feet of sensitive receptors for longer than 5 days within the Program area, residents/sensitive receptors will be notified at least one week prior to performing maintenance work. At Program sites where heavy equipment will be used within 75 feet and 130 feet in Los Gatos and Cupertino, residents/sensitive receptors will be notified at least one week prior to performing maintenance work. The notification will include the anticipated schedule and contact number for a Midpen representative who can address noise complaints. 				
Mitigation in Section 3.17	<p>Mitigation Measure TRANS-1: Emergency Responders and Access: The following measures shall be implemented to ensure emergency access is maintained:</p> <ul style="list-style-type: none"> • At least one week prior to temporary lane or full closure of a public road, Midpen shall contact the appropriate emergency response agency/agencies with jurisdiction (e.g., CalTrans, County, City) to ensure that each agency is notified of the closure and any temporary detours in advance. Midpen shall also notify adjacent neighbors along the road in advance of temporary closure. • In the event of an emergency, roads (public roads, and Midpen-owned or managed roads) or access trails blocked or obstructed by activities shall be cleared to allow emergency vehicles to pass. • During temporary lane or road closures on public roads, Midpen shall use flaggers equipped with two-way radios. 	Prior to and during construction	District Project Manager or their designee	Caltrans; appropriate County or City	

<i>Number</i>	<i>Mitigation</i>	<i>Timing</i>	<i>Who will verify?</i>	<i>Department or Agency Consultation</i>	<i>Verification (Date & Initials)</i>
	<p>During an emergency, flaggers shall radio to the crew to cease operations and reopen the public road to emergency vehicles.</p> <ul style="list-style-type: none"> In work areas, all vehicles and equipment shall be parked so the road is not blocked or obstructed when there is no operator present to move the vehicle. 				

California Department of Transportation

DISTRICT 4
OFFICE OF TRANSIT AND COMMUNITY PLANNING
P.O. BOX 23660, MS-10D | OAKLAND, CA 94623-0660
www.dot.ca.gov



September 2, 2021

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GTS #: 04-MULTIPLE-2021-00270
GTS ID: 23880
Co/Rt/Pm: MULT/VAR/VAR

Aaron Hebert
Senior Resource Management Specialist
Midpeninsula Regional Open Space District
330 Distel Circle
Los Altos, CA 94022

Re: Midpeninsula Regional Open Space District Open Space Maintenance and Restoration Program Draft Mitigated Negative Declaration (MND)

Dear Aaron Hebert:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for this project. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system. The following comments are based on our review of the August 2021 MND.

Project Understanding

The Open Space Maintenance and Restoration Program Manual provides a detailed and consistent approach for the Midpeninsula Regional Open Space District to conducting program activities including routine maintenance, small-scale facility improvements, new facility construction, and restoration and enhancement projects.

Construction-Related Impacts

Potential impacts to the State Right-of-Way (ROW) from project-related temporary access points should be analyzed. Mitigation for significant impacts due to construction and noise should be identified. Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, visit: <https://dot.ca.gov/programs/traffic-operations/transportation-permits>. Prior to construction, coordination may be required with Caltrans to develop a Transportation Management Plan (TMP) to reduce construction traffic impacts to the State Transportation Network.

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Aaron Hebert, Senior Resource Management Specialist
September 2, 2021
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Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Lisel Ayon at Lisel.Ayon@dot.ca.gov. Additionally, for future notifications and requests for review of new projects, please email LDIGR-D4@dot.ca.gov.

Sincerely,

A handwritten signature in black ink that reads "Mark Leong". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

MARK LEONG
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse