



Midpeninsula Regional
Open Space District

PLANNING AND NATURAL RESOURCES COMMITTEE

R-19-141
October 28, 2019

AGENDA ITEM 1

AGENDA ITEM

Wildland Fire Resiliency Program – Vegetation Management Plan

GENERAL MANAGER'S RECOMMENDATIONS

1. Review and provide feedback on the proposed Vegetation Management Plan, including the criteria to determine the location and prioritization for vegetation management areas.
2. Forward the proposed Vegetation Management Plan to the full Board of Directors for consideration of approval with any changes requested by the Committee.

SUMMARY

The Midpeninsula Regional Open Space District (District) is developing a Wildland Fire Resiliency Program (Program) to address the Board of Director's (Board) Fiscal Year (FY) 2019-20 Strategic Objective of working with fire agencies and surrounding communities to prevent, prepare for, and respond to wildland fires. Fire is a fact of life in California and the District's role is to manage open space lands for public safety and ecological health. District land is comprised of fire adapted and/or fire obligate vegetation. One of the best options for managing fire risk is to reduce fuel loads within the Wildland Urban Interface (WUI) and focus on vegetation management along evacuation corridors, populated areas, and areas adjacent to critical infrastructure. Due to past land uses, fire management practices, and disease (such as Sudden Oak Death), reducing fuel loads in certain habitats can make the ecosystem more resilient to wildland fire. Although fuel reduction does not necessarily stop fires from spreading, it may allow time for fire personnel to respond and for private residents in the WUI to evacuate.

A proposed Vegetation Management Plan (VMP) has been prepared to guide the District's ongoing vegetation management work. To complete the VMP, the District needs to establish criteria for locating and prioritizing vegetation management areas. At this meeting, staff will present the proposed VMP and the recommended criteria to the Planning and Natural Resources Committee (PNR) for confirmation. Once confirmed, staff will use this criteria and work with the consultant to locate and prioritize vegetation management areas that address public safety and ensure ecosystem resiliency. The prioritized vegetation management areas will be incorporated into the VMP, along with any amendments requested by the PNR, and forwarded to the full Board when they consider approving the CEQA project description for the Wildland Fire Resilience Program. Funding to implement the VMP would be requested as part of the annual Budget and Action Plan process starting in FY2020-21. The amount of work planned each year will be dependent on staff capacity, funding, and other resource availability, and will need to be balanced with other District priorities that further the mission, annual Strategic Goals & Objectives, and Vision Plan.

BACKGROUND

One component of the District's mission is to "protect and restore the natural environment" within Open Space Preserves (OSPs). Intense wildfires can be destructive to people, communities, and infrastructure, as well as to native plants and wildlife. Conversely, attempts to reduce or suppress wildfire can result in unintended impacts to habitats and decrease biodiversity. The District works with local fire agencies to manage vegetation and reduce fuels on District lands in San Mateo, Santa Clara, and Santa Cruz counties while protecting natural and cultural resources entrusted to the District by the public. Fuel management is the practice of removing or modifying vegetation to reduce the risk of wildfire ignitions, rates of wildfire spread, and fire intensity. Vegetation management to reduce fuels is a complex process that must balance the needs of human communities with natural resource protections.

The primary need for vegetation management for public safety is to reduce fuels that contribute to fire risks along critical roads that allow for ingress and egress, and to provide a buffer from which fires can be fought. In addition, fuel reduction helps to protect critical infrastructure and enable the District to be a good neighbor to adjacent private properties. Vegetation management to reduce fuels can also restore ecosystems by removing invasive plant species and/or dead and dense vegetation that has accumulated due in part to past fire suppression. In addition, impacts from forest disease (e.g. Sudden Oak Death) can be mitigated.

Current Vegetation Management for Public Safety

The District's Integrated Pest Management (IPM) Program allows the District to perform up to 450 acres of non-grazing¹ vegetation management to reduce fuels. The Board approved a transfer of 225 acres to the Fuel Management Category from other categories in July 2019 (R-19-90). Approximately 1,800 person-hours are annually set aside to maintain existing fuelbreaks within the IPM Program. Existing vegetation management work includes, but is not limited to:

- 55 acres of defensible space around District-owned, occupied buildings;
- 51 acres of disc lines; and
- 47 landing zones.

The location and priority of fuelbreaks on District land has at times lacked a strategic regional focus and prioritization, and has instead been largely based on historic practices initiated by prior owners and ad hoc requests from 12 separate fire agencies. As part of the work to develop a more strategic land management approach under the VMP, the District analyzed current vegetation management activities to identify gaps in vegetation management activities. This evaluation was guided by the assistance of outside consultants and input from partner agencies while being mindful of the changing climate and historic fire management (i.e. fire suppression).

Creation of the Wildland Fire Resiliency Program

The District entered into contract with two consultants, Spatial Informatics Group (SIG) and Panorama Environmental, Inc., (Panorama), to develop a Prescribed Fire Program in the summer of 2018 (R-18-72; R-18-120). Later that year, the Board approved a FY2019-20 Strategic Objective of working with fire agencies and surrounding communities to strengthen the prevention of, preparation for, and response to wildland fires. In response, District staff modified the original, narrow program focus (prescribed fire) to be more robust, strategic, and comprehensive, establishing the Wildland Fire Resiliency Program (Program) and

¹ The Conservation Grazing Program encompasses 11,111 acres (or 18% of the preserves) with one objective to reduce fuel loads in grasslands.

correspondingly amended the contracts with SIG and Panorama (R-19-52; R-19-69). This broader Program encompasses the following four components (includes prescribed fire):

1. VMP (Attachment 1)
 - a. Public Safety
 - b. Ecosystem Resiliency
2. Monitoring Plan
3. Pre-fire Plan with Resource Advisor Maps
4. Prescribed Fire Plan

During the week of August 19, 2019, the District held public open houses in Half Moon Bay, Los Gatos, and Woodside with assistance from SIG, Panorama, CAL FIRE, and local fire agencies and firesafe councils. The objective of these meetings was to communicate the District's Program components and invite early public comments on its development. Multiple people expressed the desire for increased vegetation management locations and highlighted the importance of escape routes next to local communities (e.g. Grandview/Espinosa Community, Heather Heights, Redwood Estates, Blackberry Hill Community). Support was expressed about the intentional objectivity in using science to prioritize the location of vegetation management work based on the severity of wildfire risk.

On September 24, 2019, District staff presented to the Planning and Natural Resources Committee on the Program background and development. The Committee recommended several Resource Management Policy changes and areas for clarification, which included the following (Attachment 2; R-19-127):

- Add ecosystem resiliency to the Wildfire Management policies and a recommendation to identify acceptable levels of change to the environment that allow for establishment and maintenance of resiliency at the landscape level.
- Expand the focus of non-fire vegetation management actions as a strategy to reduce fire risk.

DISCUSSION

As many as 90% of wildland fires are caused by human activities, according to the U.S. Forest Service. Fire is a fact of life in California and everyone plays a role in living safely with it. The District manages open space lands for public safety and ecological health, while closely coordinating with local fire departments responsible for fire suppression. The community's role is to prevent wildland fire ignitions and protect private property (e.g. homes). Specific actions that local communities and residents can take include:

- Hardening homes against fire, creating defensible space, and having an evacuation plan (local fire safe councils provide resources);
- Signing up for county emergency alerts;
- Being aware of red flag warning weather when fire danger is highest and planning accordingly;
- Enjoying open space wildlands safely by following smoking, campfire and firearm bans, as well as other public safety rules; and
- Recreating safely while outdoors so emergency resources are available to respond to fires: staying cool, bringing plenty of water, or considering other fire-safe activities during fire weather events.

The proposed VMP focuses on what is referred to as “non-fire” vegetation management and is composed of two components: Public Safety and Ecosystem Resiliency. Only manual, mechanical, grazing, and limited chemical methods of vegetation management are considered in this plan. Prescribed fire to reduce fuel loads and for ecosystem resiliency will be described in detail in a separate Prescribed Fire Plan (anticipated in Spring of 2020).

At this time, District staff is requesting PNR Committee review of the proposed VMP and confirmation of the recommended criteria for locating and prioritizing vegetation management areas (Attachment 3). Once confirmed, staff will work with the consultant team to use criteria for locating and prioritizing vegetation management areas, including fuelbreaks. This information will then be incorporated into the VMP, along with any changes requested by the PNR Committee, prior to forwarding the VMP to the full Board for consideration as part of the CEQA project description for the Wildland Fire Resilience Program.

Public Safety VMP

The Public Safety VMP defines and prioritizes vegetation management activities (e.g. fuelbreaks, defensible space) on District land to reduce wildland fire risks, while also preserving biodiversity and minimizing environmental effects. Vegetation management for fuels reduction will not stop a fire from spreading, but may allow additional time for responding fire personnel to arrive on scene and engage the fire and/or allow private residents in the WUI to evacuate. The Public Safety VMP more specifically identifies the following:

- Vegetation/fuel types and fire regimes present on the preserves;
- Historical and current practices of vegetation management on the preserves;
- Types of vegetation management areas;
- Prioritization and location of vegetation management areas and projects;
- Planning process for undertaking vegetation management projects;
- Methods for creating and maintaining vegetation management areas; and
- Best management practices and environmental protection measures for vegetation management projects.

To create a fuelbreak, vegetation is managed to reduce the continuity of live and dead fuels both horizontally and vertically. Width varies depending on the presence of sensitive resources, the location of habitat transitions, slope, expected fire behavior, and features or infrastructure that need protection. The proposed VMP utilizes environmental analysis to prioritize vegetation management areas for public safety.

Methodology for Locating and Prioritizing Public Safety Treatments Areas

Wildland fire behavior is influenced by three main factors: weather, fuels, and topography. Vegetation management is intended to decrease the risk of extreme wildland fire behavior, slow the spread of a wildland fire, aid in the suppression of a wildland fire, and/or reduce the impacts of wildland fire should it occur. Fuel loads are the primary factor that the District can change to alter the behavior of a wildland fire. The proposed criteria to locate and prioritize vegetation management areas is described in detail within the proposed VMP, section 4.3.3: “Locations of New Vegetation Management Areas” and summarized below:

- Proximity to occupied Midpen structures, vulnerable populations, and along designated Midpen evacuation routes;
- Fire risk (based on CAL FIRE’s map wide map) and field recommendation by professional fire staff;

- Proximity to critical emergency response infrastructure (e.g. communications tower, fire station, helicopter landing zone);
- Known presence of sensitive resources or diseases such as Sudden Oak Death where treatment would favorably benefit the resources; and
- Sites that are adjacent to other fuelbreaks or vegetation management areas and increase the effectiveness of work done on Midpen lands.

Ecosystem Resiliency VMP

Fuel Reduction Areas (FRAs) are locations where the density of fuels is manually or mechanically reduced and modified for habitat enhancement reasons, but not to the same extent as fuelbreaks. FRAs are less permanent than fuelbreaks and are typically implemented in more natural areas where modifications to the fuel load achieves a combination of wildland fire risk reduction and habitat enhancement goals. FRAs can be areas of managed vegetation adjacent to fuelbreaks and can also occur in areas where fuel loading is particularly problematic, such as areas affected by forest disease. The proposed VMP includes a maximum of 1,000 acres per year and no more than 5,000 acres every ten years of FRAs.

FISCAL IMPACT

The VMP will guide the implementation of vegetation management and treatment actions for both ecosystem resiliency and public safety by locating and prioritizing the work. The scheduling and timing of vegetation management and treatment actions will be dependent on annual staff capacity, funding, and other resource availability. The allocation of resources to complete this work will need to be balanced with other District priorities that further the mission, annual Board-approved Strategic Goals and Objectives, and Vision Plan.

The adopted FY2019-20 operating budget includes \$140,000 for additional vegetation management for fire, not including ongoing annual vegetation management activities or staff time. Funding to implement the VMP would be requested annually and considered by the Board as part of the yearly Budget and Action Plan process.

BOARD COMMITTEE REVIEW

On September 24, 2019, the Planning Natural Resources (PNR) Committee received a presentation on the proposed approach for developing the Wildland Fire Resiliency Program and reviewed early public feedback on Program development, including the VMP (R-19-127).

PUBLIC NOTICE

Public notice was provided as required by the Brown Act. Notices were also sent to interested parties, including partner agencies, staff of elected officials, adjoining neighbors, and individuals with interest in Wildland Fires and Resource Management, by postal or electronic mail.

CEQA COMPLIANCE

District staff and consultants will perform a CEQA analysis of the VMP along with the other components of the Program after the Board has approved the project description.

NEXT STEPS

Comments received from the PNR Committee will be incorporated into the draft VMP, including any changes to the criteria that determine the location and prioritization of vegetation management areas. Staff working with the consultant team will use the PNR-confirmed criteria to determine appropriate locations and prioritization for vegetation management areas. Staff will then forward the revised VMP to the full Board when they consider approving the CEQA project description for the Wildland Fire Resilience Program to begin the CEQA review process. The revised VMP will include site specific maps showing potential treatment areas based on prioritization criteria.

Attachments:

1. Proposed DraftVegetation Management Plan
2. Planning and Natural Resources Committee Report, R-19-127
3. Criteria for Locating and Prioritizing Treatments Areas
4. Comment Letter Received

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4 VEGETATION MANAGEMENT PLAN-DRAFT

4 Vegetation Management Plan

4.1 Introduction and Purpose and Need

4.1.1 Background

The Midpeninsula Regional Open Space District (Midpen) has the goal of protecting the natural values in their Open Space Preserves (OSPs) while also protecting public safety. Fuel management is the practice of removing or modifying live and dead vegetation to reduce the potential spread of wildfire ignitions, overall rates of wildfire spread, flame lengths, and fire severity. In addition, vegetation management may aid in suppression of fires and reduce potential impacts and rehabilitation needs associated with fire suppression activities.

Vegetation management may help make evacuation routes less prone to being directly impacted by wildfire. Vegetation management for fuels reduction is a complex process that must balance the needs of human communities with natural resource goals. Vegetation management may also be used to reduce dead fuels in areas affected by diseases such as Sudden Oak Death (“SOD”). The best locations for managing fire risk and reducing fuel loads using non-fire vegetation management methods on Midpen lands is to focus active management in the Wildland Urban Interface (WUI), along evacuation corridors, near developed communities, and adjacent to critical infrastructure.

4.1.2 Purpose and Need

Changing climatic conditions, past land uses, and years of fire suppression have increased fuel loads and fire-prone conditions that could contribute to larger more intense wildland fires. The highest priority for Midpen is public safety (both inside or outside the OSPs) for Midpen staff, firefighters, visitors and people in nearby communities, especially those in the WUI.

The primary need for vegetation management is to reduce fuel loads along critical roads that allow for ingress and egress and to provide a buffer from which fires can be fought. In addition, fuel reduction is needed to protect communities and other critical infrastructure near Midpen lands.

Vegetation management also helps to restore ecosystems closer to pre-fire suppression conditions through the removal of dead and accumulated vegetation and treatment of forest disease and invasive species. Prior to the mid to late 20th century, landscapes in the Bay Area were either managed through natural fire or through Native American practices of prescribed burning that kept fuel loads down. Prior to European contact, the spread of invasive species that alter ecosystems and increases fire risks was also much less of a concern.

4 VEGETATION MANAGEMENT PLAN-DRAFT

The purpose of this Vegetation Management Plan (Plan) is to define the activities that Midpen will implement to increase vegetation management practices that reduce wildland fire risks, while also preserving biodiversity and minimizing effects on the environment. This plan identifies the:

- Historic regional vegetation and fire regimes;
- History of vegetation management on OSPs and current practices;
- Types of vegetation management areas that will be created;
- Locations and prioritization of vegetation management areas and projects;
- Planning process for undertaking vegetation management projects;
- Methods for creating and maintaining vegetation management areas; and
- Best management and environmental protection measures to be implemented during vegetation management projects.

The Plan focuses on what is referred to as “non-fire” vegetation management. Only manual, mechanical, grazing, and limited chemical methods of vegetation management are considered in this plan. Prescribed fire to reduce fuel loads and restore natural ecological processes in interior areas of OSPs, away from the WUI and other infrastructure, will be described in detail in the upcoming Prescribed Fire Plan (to be available in Spring 2020). Implementing vegetation management outlined in this Plan will expand on the work that already occurs by creating and maintaining various types of fuelbreaks, Fuel Reduction Areas (FRAs), and defensible space.

4.1.3 Overall Plan Structure

The plan will describe vegetation management work completed for public safety as well as treatments which may also enhance ecosystem resiliency. While there is some general overlap between methods used to create fuelbreaks, treatments created for public safety will be generally considered semi-permanent and maintained every 3-5 years (as needed). Those treatments created for ecosystem resiliency will be focus on general fuel reduction but not necessarily maintained on a regular basis.

Up to [To Be Determined after comments have been received from the Planning and Natural Resources Committee Meeting] acres of permanent fuelbreaks will be created and maintained. New fuelbreaks will be prioritized and established based on projected long-term staffing and financial resources to ensure Midpen will have the resources necessary for long-term fuelbreak maintenance and management. In addition, this Plan

Overall Plan Structure:

- 1) Fuel Treatments For Public Safety
 - a. Permanent Fuelbreaks (Shaded, defensible space, landing zone, etc.)
 - b. Maintenance every 3 to 5 years
- 2) Treatments for Ecosystem Resiliency
 - a. Fuel Reduction Area
 - b. Temporary
 - c. Objective to make fire resilient forests by reducing fuel loads (disease)

4 VEGETATION MANAGEMENT PLAN-DRAFT

will allow up to 1,000 acres per year, but no more than 5,000 per every 10 years, of treatment in FRAs for ecosystem resiliency.

4.2 Vegetation Management History

4.2.1 Historic and Current Vegetation, Management and Fire History

Prior to European contact, Native American tribes actively managed vegetation within their communities and surrounding areas using prescribed fire. These fires were lit intentionally at various times of the year to enhance vegetation growth, facilitate food collection, and improve forage for animals they hunted. In addition, Native American tribes did not actively suppress lightning ignitions at a landscape scale, which resulted in those fires often burning for days, weeks, and even months, shaping the patterns of vegetation cover and composition over the centuries (Anderson 2005). A detailed fire history study was conducted in the Santa Cruz Mountains, San Mateo County, Huddart Park, and McGarvey Gulch. These studies found that fires burned redwood forests every 12 years, on average. There were intervals both shorter and longer (2-43 years) without fire (Stephens and Fry, 2005). These findings are consistent with studies that have documented extensive human and lightning caused wildfire burning in the state of California. In addition, the composition of the vegetation in the region was shaped by a variety of disturbance pressures including fire and grazing by large herds of ungulate animals.

The arrival of Europeans, including Spanish and Anglo settlers, dramatically changed the management of vegetation communities, particularly grasslands. Major changes included tilling the grasslands for crop production, logging, introduction of cattle herds from Europe, and reduced populations of native grazing animals. The introduction of nonnative plants and animals resulted in changes to grassland species composition from primarily perennial, native plant species to annual, nonnative plant species. Some nonnative species (invasive species) now compete with the native plants in the same ecosystems, reducing the abundance and diversity of native species.

Historic land use and management practices have resulted in higher fuel loads on and adjacent to Midpen lands. The policy of fire suppression has further exacerbated the issue, reducing biodiversity on Midpen land. Invasive plant species continue to spread to adjacent, undeveloped grasslands and other plant communities. Since the 1990s, SOD has infected oak woodlands, resulting in succession of habitats and increased fuel loads. Grasslands and oak woodlands are decreasing due to spread of brush and forest species. Coastal scrub and chaparral habitats are aging with minimal new growth. The understory of redwood and Douglas fir forests, and mature oak woodlands have been converted from low-density plants to denser, taller brush and young trees. Second-growth forests feature higher densities of smaller diameter trees than old growth forests.

Today, in the absence of fire for decades, in some areas both live and dead fuels have accumulated creating higher surface fuel loads, vegetation density, and varied species composition from what was seen prior to European contact.

4 VEGETATION MANAGEMENT PLAN-DRAFT

4.2.2 Current Practices of Fuels Management

Midpen undertakes several actions and activities on their lands to prepare for fire season. The actions related to fuel maintenance and reduction include:

- Maintaining existing fuelbreaks in OSPs closest to people, including but not limited to Pulgas Ridge, Windy Hill, Sierra Azul, Saratoga Gap, and Monte Bello OSPs;
- Defensible Space clearing around 117 Midpen owned structures
- Maintaining hundreds of miles of fire roads; and
- Implementing over 11,000 acres of conservation grazing in part to manage fuels.

Midpen's Integrated Pest Management Program (IPMP), adopted in 2014 with addendum certified and adopted in January 2019, prescribes pest management activities on Midpen lands for a 10-year period covering five major categories of work, including vegetation management. Vegetation management prescriptions address vegetation management within the WUI and around structures to reduce the potential rates of spread and flame lengths of wildfires, particularly within treated areas. In addition, vegetation management may reduce the threat of wildfires that originate in and around buildings. This work is accomplished primarily through mechanical means, using handheld power tools or heavy equipment. The currently implemented treatments, methods, locations and acreages are identified in

Table 1. These treatments are implemented in grasslands, shrublands, forests, and agricultural land. While the IPMP allows for some degree of vegetation management for fuel reduction, it currently only covers maintenance of existing fuelbreaks and does not allow for construction of major new fuelbreaks or vegetation management areas. Table 2 summarizes the vegetation management projects conducted Midpen-wide in 2018.

Locations of existing fuelbreaks, defensible space, helicopter landing zones, and disc lines that have been maintained within the last 5 years are shown in Figures xx through xx in Appendix xx (figures and appendix to be added after PNR Committee review).

4 VEGETATION MANAGEMENT PLAN-DRAFT

Table 1 Current IPM Treatments and Annual Application for Fuels Management

Treatments	Treatment Type	Treatment Method	Locations	Annual Application ^a
Grasslands: Annual mowing Shrublands: Thin brush and mow tall grasses, increase spacing between shrub clusters	Manual and Mechanical	Mowing and Cutting	Defensible space, fuelbreaks, emergency helicopter landing zones	136 acres ^b
Forests: Limb up trees to a height of 8 to 10 feet, thin brush, and mow tall grasses		Discing and Cutting	Disc lines	75 acres over approximately 30 miles
Agricultural land: Mowing and brush thinning along roads, discing along borders of agricultural and rangeland properties, conservation grazing	Chemical	Glyphosate Round-Up ProMax	Defensible space, disc lines, fuelbreak	2 gallons concentrate
			Defensible space	5.2 gallons concentrate over 14 acres

Notes:

^a 1 percent increase annually in treatment is allowed with the value presented as the 2014 allowance.^b For 2019, an additional 225 acres of treatments was approved from other programs to increase the vegetation management capacity while this Plan as being prepared.*Source: (Ascent Environmental, 2014)***Table 2** Summary of Vegetation Management Projects District-Wide in 2018

Purpose	Acres		Total Area
	Foothills	Skyline	
Defensible Space	21.9	33.2	55.1
Landing Zones	6.5	5.3	11.8
Shaded Fuelbreak	36.8	22.7	59.5
Other Fuelbreak	--	14.4	14.4
Total	65.2	75.6	140.8

Source: (Midpeninsula Regional Open Space District, 2019)

4 VEGETATION MANAGEMENT PLAN-DRAFT

4.3 Creation of New Vegetation Management Areas

4.3.1 Overview

Midpen would like to expand its ability to create and treat vegetation management areas and associated total acres per year. This section of the Plan identifies the types of high priority vegetation management areas and their locations.

Wildland fire behavior is influenced by three main factors: weather, fuels, and topography. Wind, temperature, and humidity are important weather variables used to predict fire behavior. The arrangement and type of the vegetation, amount and distribution of smaller-diameter fuels, and the ratio of live-to-dead material factor into how fuels affect wildland fire behavior. Slope and angle of sun exposure affects how a fire will burn. A north-facing slope supports lower fire activity than a south-facing slope but under very dry and windy conditions can burn with high intensities due to higher fuel loading found on these hillsides. Fires burn more rapidly uphill than downhill if sufficient vegetation is available. The steeper the slope, the faster the fire travels in the uphill direction.

Vegetation management is intended to decrease the risk of extreme wildland fire behavior, slow the spread of a wildland fire, aid in the suppression of a wildland fire, and/or reduce the impacts of wildland fire should it occur. Fuel loads are the primary factor that Midpen can change to alter the behavior of a wildland fire. Dead vegetative material on the ground surface, referred to as surface fuels, can be removed.

Generally, vegetation management techniques involve reducing vegetation. Shrubs, small trees, and grass that can act as fuel ladders, allowing a surface wildland fire to travel up into the tree canopy, can be removed, reduced in density, or cut back/mowed. Grasses can be mowed or grazed to manage fuel loads. Small trees and shrubs can be thinned with the aim of leaving larger diameter trees, often having thick fire-resistant bark. The key management areas are fuelbreaks, defensible space, and FRAs. Fuelbreaks and defensible space would be regularly maintained, whereas FRA's would be implemented, then maintained as needed based on field inspections from qualified staff and/or consultants.

4.3.2 Types of Vegetation Management Areas

Overview

This section describes the types of Vegetation Management Areas that comprise the Vegetation Management System for public safety and/or ecosystem resiliency. Vegetation Management Areas for public safety require periodic maintenance to operate as intended. If not regularly maintained, the level of effort and cost required to re-establish the desired conditions begins to approach that of new construction. Developing design standards and dimensions for Vegetation Management Areas are part of Midpen's strategy to reduce the intensity of wildland fire.

4 VEGETATION MANAGEMENT PLAN-DRAFT

Types of Vegetation Management Areas for Public Safety:

1) Fuelbreaks

Definitions

Fuelbreaks are wide strips of land where trees, vegetation, and dead material have been reduced or removed. These areas can slow, and even stop, the spread of a wildland fire because fewer fuels are present to combust. These areas also provide firefighters with zones to take a stand against a wildland fire, or retreat from fire if the need arises. For the purposes of this Plan, fuelbreaks encompass a range of fuel reduction intensities, depending on the resources being protected and the ecological setting.

Typically, fuelbreaks are strategically located considering terrain, existing roads, communities, infrastructure, evacuation routes, vulnerable populations, and sensitive resources. Future fuelbreaks on Midpen land will generally be located along primary and secondary roads, around critical infrastructure, and adjacent to communities. Fuelbreaks can vary in width from approximately 15 feet around minor ingress and egress routes to up to 200 feet around major routes of travel or associated with regional vegetation management treatments. Additional areas can be included near fuelbreaks as FRAs, as described below. Fuelbreaks can reduce fire intensity and severity. They typically do not stop fires without fire department response and regardless of fuelbreak size, extreme fire weather, fire behavior or other confounding scenarios (e.g. multiple ignition events) can carry fire over or through fuelbreaks. Alternative means to protect homes, such as home hardening, are important for individual landowners to implement.

**Terminology:
Fuel Types**

1-hour fuels: very fine fuels (such as needles and leaves) that are easily ignited and burn quickly. Less than 0.25 inch in diameter.

10-hour fuels: larger, less combustible fuels (such as small branches and woody stems). These can readily carry fires when moisture is low. From 0.25 to 1.0 inch in diameter.

100-hour fuels: typically twig and branch material from 1.0 to 3.0 inches in diameter

1,000-hour fuels: larger limbs and tree boles that are greater than 3.0 inches in diameter, and classified as "sound" or "rotten"

Ladder fuels: shrubs or other vegetation that can be ignited at or near the ground level and carry fire into the branches of adjacent trees.

Table 3 Fuelbreak Widths by Habitat Type

Habitat Type	Fuelbreak Width (feet)	Fuel Reduction Areas Width (feet)
Grass	100	100
Shrub	100	200
Oak woodland	200	150
Redwood or Douglas-Fir forest	200	200

Fuelbreaks function as potential anchor points to control lower intensity fires, flank higher intensity fires, and provide firefighter safety. Vegetation is managed to reduce the continuity of live and dead fuels both horizontally and vertically in fuelbreaks

4 VEGETATION MANAGEMENT PLAN-DRAFT

a. Shaded Fuelbreaks

A shaded fuelbreak is an area where the tree canopy is thinned to reduce the potential for a fire to move quickly through an area and/or to reduce fire spread into or through the canopy. Enough tall tree canopy is retained to maintain shade, reduce the potential for rapid re-growth of shrubs and sprouting hardwoods, and minimize erosion. Ladder fuels and woody understory vegetation are thinned out. A shaded fuelbreak can be created manually or by using heavy equipment. Shaded fuelbreaks require follow-up maintenance.



Maintenance of shaded fuelbreak along roads includes annual mowing in grasslands adjacent to the road, clearance of brush and dead vegetation, and removal of ladder fuels to the canopy in forested areas. Shaded fuelbreaks included in this plan may be up to 200 feet wide. Width varies depending on the presence of sensitive resources, the location of habitat transitions, slope, expected fire behavior, and the features or infrastructure that need protection.

b. Non shaded Fuelbreaks

A fuelbreak without shade is used in areas without a tree canopy, typically at a change in vegetation type, such as from forest or shrubland into grassland. Non-shaded fuelbreaks include swaths of land where there is no vegetated canopy, such as a grassland. Since an opening is essentially cleared to create a non-shaded fuelbreak, heavy equipment is typically used for construction, except on steep slopes, where manual treatments are employed. Non-shaded fuelbreaks are most often maintained in grasslands or shrublands versus wooded areas, although they can be implemented at a transition, particularly near homes (see figure x1).

4 VEGETATION MANAGEMENT PLAN-DRAFT

Figure x1. A non-shaded fuelbreak (orange outline) implemented between homes and dense trees on El Granada Boulevard in San Mateo County to reduce the risk of wildfire spread.



Before

After

c. Ingress/Egress/evacuation routes

Due to limited resources, challenging terrain, and/or variable vegetation patterns, it is not always possible to maintain fuelbreaks at an optimal width related to flame length along all routes on Midpen lands. An Ingress/Egress Fuelbreak is a 10-30-foot zone located on both sides of those roads identified as critical for emergency vehicle passage, typically accommodating a smaller Type 3 Wildland Fire Engine. Vegetation management in this zone improves access and reduces radiant heat during a wildland fire, allowing improved fire fighter access during a wildland fire. Ingress/Egress Fuelbreaks are typically cleared of all understory vegetation for the 10 to 30 feet from edge of the road on either side and then mowed annually.

d. Disclines

Disclines are a type of mechanical vegetation treatment that utilize an agricultural cultivator attachment for a tractor to cut and overturn many parallel small trenches in the soil 6 to 12 inches deep. By turning over the soil and leaving mostly a dirt surface, a discline is intended to slow or stop progression of a fire. A discline is typically placed along the perimeter of undeveloped land, ranches, and roadways. There are potential impacts to ground dwelling species as well as erosion and invasive species

4 VEGETATION MANAGEMENT PLAN-DRAFT

consequences to disclines. Given this, they are only installed in limited locations after a thorough evaluation of benefits and consequences. Disclines have been previously documented to stop ignitions on Midpen lands (Figure x2)

Figure x2. Photo of a fire originating from a powerline that was stopped due to an existing discline.



2) Defensible Space

Defensible space is the area immediately surrounding a structure, parcel, development, neighborhood, or community where vegetation management measures to reduce fuels are implemented, providing the key point of defense from an approaching wildfire, or

4 VEGETATION MANAGEMENT PLAN-DRAFT

defense against escaping structure fires. This zone is an area where fuel loads are reduced within 100 feet of the structure or parcel, comprised of three zones. Zone 0 removes all vegetation within 5 feet of occupied structures and allows non-flammable hardscaping or similar techniques. Zone 1 involves removal of all dead matter and dense fuels within 30 feet of occupied buildings, decks, and other structures. Zone 2 involves mowing, removal of ladder fuels, and thinning of vegetation extending from 30 to 100 feet out from buildings and structures (California Government Code 51182, and Public Resources Code Sections 4290 and 4291). Midpen has developed a Defensible Space Permit Program and Clearing Guidelines for adjacent property owners, tenants, homeowners' associations, educational institutions, civic groups and other organizations to create defensible space on Midpen land surrounding their homes and other qualifying structures. Defensible space surrounding Midpen-owned structures is maintained by Midpen and/or their tenants.

Manual and mechanical clearing of flammable vegetation to provide defensible space will occur on an annual basis around an estimated 117 structures by Midpen staff and/or by residential, commercial or agricultural/rangeland tenants. Along the perimeter of Midpen lands, additional vegetation treatment may be required by other agency regulations or ordinances (e.g. Woodside Fire Protection District's Perimeter Property Line Clearance: 2016 CFC sec 304.1.1.A). Defensible space of private property, including private homes located adjacent to Midpen lands, is the responsibility of the person that owns, leases, controls, operates, or maintains the building or structure.

3) Existing Grazing Management Areas

Midpen manages approximately 11,000 acres under its current Conservation Grazing Program. Midpen uses conservation grazing to manage vegetation (flammable vegetation) for fire protection; enhance the diversity of native plants and animals; help sustain the local agricultural economy; and foster the region's rural heritage. More about Midpen's grazing program can be found here <https://www.openspace.org/our-work/resource-management/grazing>

4) Emergency Staging Areas and Emergency Helicopter Landing Zones

Emergency staging areas are key areas during a fire where fire suppression resources may safely park, gather crews, or land a helicopter during a wildland fire. In addition, staging areas may serve as a temporary refuge area during a wildland fire. Sites that are proposed to be designated as emergency staging areas include an additional 200 feet of shaded and non-shaded fuelbreaks surrounding existing parking areas, landing zones, and lookouts. Emergency helicopter landing zones are maintained annually or bi-annually via mowing with a tractor or brushcutter at 47 locations on Midpen lands.

4 VEGETATION MANAGEMENT PLAN-DRAFT

Types of Vegetation Management Areas for Ecosystem Resiliency:

1) Fuel Reduction Areas

Fuel Reduction Areas (FRAs) are locations where fuels are manually or mechanically removed but not to the same extent as fuelbreaks. FRAs are less permanent than fuelbreaks and are typically implemented in more natural areas where fuel load



reduction achieves a combination of wildfire risk reduction and habitat enhancement goals. FRAs can be areas of managed vegetation adjacent to fuelbreaks and can also occur in areas where fuel loading is particularly problematic, such as areas affected by forest disease. FRAs could be used in oak woodlands adjacent to a non-shaded fuelbreak where understory fuels and overtopping conifers, such as Douglas fir, are removed or in grasslands where shrubs are removed. Fuel ladders and surface fuels are greatly reduced, and overstory and understory vegetation is spatially separated so that a ground fire will not, under normal fire conditions, burn too hot and/or climb into the canopy and turn into a crown fire.

4.3.3 Locations of New Vegetation Management Areas

Methodology for Locating Potential Fuel Management Areas for Public Safety

The following criteria will be used to identify the locations of potential new fuel management areas on Midpen lands. Areas classified as “water” or “wetland” are excluded from treatment:

- a) Adjacent to or near existing or planned fuels treatment areas;
- b) Identified by Midpen or other fire management or vegetation management professional staff as important areas for fuels treatment;
- c) Up to 300 feet from vulnerable populations (school, hospital, nursing home);
- d) Up to 100 feet from existing occupied Midpen buildings;
- e) Up to 200 feet from emergency response infrastructure (communications tower, fire station, police station, medivac location, evacuation center, critical water infrastructure, such as storage tanks and pumps for fire suppression);
- f) Up to 200 feet from a designated expanded fire response/fire monitoring clearing zone (safety zone, parking area, staging area, helicopter landing zone, lookout);
- g) Within 200 feet of sensitive resources or other Midpen High Value Asset that would benefit from and/or respond favorably to treatment or at risk of loss in the event of a wildfire;
- h) Within 200 feet of a designated Midpen evacuation route;
- i) Within 10-25 feet (depending on flame length) of primary Midpen designated emergency access roads accessible by a Wildland Type 3 fire engine; and

4 VEGETATION MANAGEMENT PLAN-DRAFT

- j) Areas that enhance the ability to efficiently conduct fire suppression by providing infrastructure (e.g. staging areas, disc lines) and ingress/egress of fire suppression equipment.

Methodology for Prioritizing Vegetation Management Areas for Public Safety

Prioritization is established by assigning points for each of the following factors. The areas with the most points (up to XX) receive the highest priority ranking. Prioritization of vegetation management areas that are currently in the Conservation Grazing Program will be reduced by 1 point recognizing the beneficial reduction of fuel loads that results from grazing activities.

- Within 300 feet of vulnerable populations (schools, hospitals, nursing homes);
- Within 300 feet of designated Midpen evacuation routes;
- Within 100 feet of designated occupied Midpen buildings;
- Within 300 feet of critical emergency response infrastructure (communications tower, fire station, police station, medivac location, pre-planned Incident Command Post, evacuation center);
- Within 300 feet of Midpen designated fire response/fire monitoring clear zones (safety zone, parking area, staging area, helicopter landing zones, Lookout);
- Vegetation treatments identified in the field by professional fire staff;
- Within 300 feet of sensitive resources that would benefit from and/or respond favorably to treatment;
- Within 500 feet or adjacent to current and planned fuel management treatments;
- Within high fire risk areas - CALFIRE Very High, Santa Cruz High C-Fire M-Fire;
- Within 1,000 feet or adjacent to current and planned fuel management treatments;
- Within 300 feet of other high value assets or potential treatment areas identified by Midpen staff (including strategic regional fuelbreaks and cooperative efforts with neighboring property owners); and
- Within 200 feet of sites designated as having SOD Midpen data.

The fuelbreak prioritization criteria will be integrated into a Geographic Information Systems (GIS) along primary and secondary public, paved roads, around critical infrastructure, Midpen infrastructure, and adjacent to communities in the WUI, focusing on the Very High Fire Hazard Zones. Initial fuelbreaks are mapped per the “Methodology for Locating Fuels Treatments for Public Safety”. Fuelbreaks are assigned as shaded, non-shaded, or ingress/egress fuelbreaks with a maximum width indicated in the GIS. FRAs are also identified in each fuelbreak, where applicable for each OSP, as are existing and any new areas of defensible space.

Methodology for Locating Potential Fuel Reduction Areas for Ecosystem Resiliency

The location of new FRAs on Midpen lands are confined to native forests or woodland areas of at least 100 acres in size. Areas classified as “water” or “wetland” are excluded from treatment.

4 VEGETATION MANAGEMENT PLAN-DRAFT

Methodology for Prioritizing Fuel Reduction Areas for Ecosystem Resiliency

Prioritization is established by assigning points for each of the following factors. The areas with the most points (up to X) receive the highest priority ranking.

- Within 300 feet of sensitive resources that would benefit from and/or respond favorably to treatment;
- Within high fire risk areas (Priority zones: CALFIRE Very High, Santa Cruz High C-Fire M-Fire);
- Within 500 feet of points designated as having mortality due to forest disease, such as SOD;
- Identified by Midpen or vegetation management professional staff as important areas for fuels treatment for ecosystem resiliency;
- Where past land use history has increased the number of trees per acre to unnatural conditions;
- Identified as an area for prescribed fire for natural resource benefits;
- Promotes late-seral habitat conditions; and
- Site is experiencing vegetation encroachment that is changing the fuel regime or converting the vegetation type.

Mapping and Description of New Vegetation Management Areas

The Vegetation Management Plan for Public Safety covers a maximum of up to [To Be Determined after comments have been received from the Planning and Natural Resources Committee Meeting] acres, or approximately [To Be Determined after comments have been received from the Planning and Natural Resources Committee Meeting] percent of the OSPs. In addition, the Vegetation Management Plan for Ecosystem Resiliency will allow up to 1,000 acres per year, but no more than 5,000 per every 10 years, of treatment in FRAs. The entire vegetation management system is shown in a series of figures in Appendix A. The following table summarizes the acreage and characteristics of the prioritized vegetation management areas in the overall system by OSP. Given the size of the proposed system, in any given year, only a subset of the system will be built and maintained based on annual staff capacity, funding, and other resource availability. A discussion of the prioritization and the annual planning requirements are presented in the following section.

Figure 1 CalFire Fire Hazard Severity Zones *(To be updated with appropriately scaled map for Midpen Owned Lands)*

4 VEGETATION MANAGEMENT PLAN-DRAFT

Table 4 summarizes the acreage of Vegetation Management Areas by type as well as existing Midpen treatments by OSP. See Appendix A for proposed treatment areas by OSP.

Table 4 Vegetation Management Areas by Preserve

Preserve Name	Treatment Category	Ingress/Egress Fuelbreaks (Acres)	New Non-Shaded Fuelbreak (Acres)	New Shaded Fuelbreak (Acres)	New Fuelbreak Total (Acres)	Existing MROSD Treatment (Acres)

4 VEGETATION MANAGEMENT PLAN-DRAFT

4.4 Cyclical Maintenance of Non-Fire Vegetation Management Areas

4.4.1 Overview

Vegetation management to maintain fuelbreak function is performed as it is needed to keep the fuelbreak functional over time. The time between treatments depends on how fast the vegetation in the fuelbreak grows, if invasive species colonize the disturbed area (2014 IPMP CEQA and 2019 IPMP Addendum), the likelihood of an ignition and fire spread, and/or the proximity to buildings and other high value assets. For example, areas such as defensible spaces around structures with grassy fuels, or ingress/egress road corridors with rapidly growing woody weeds, need to be treated annually. Similarly, areas adjacent to picnic facilities also require frequent maintenance. Cyclical maintenance is performed using combinations of different treatment techniques to ensure that the maintenance work is efficient and performed in a timely manner while minimizing ecological impacts. Techniques include a combination of cutting with heavy equipment, mowing, and/or hand tools as well as onsite mastication, mulching, and pile burning. Some chemical methods may also be used in limited circumstances. These techniques are described in detail in Section 4.6.

4.4.2 Maintenance Strategies for Vegetation Management Areas

Vegetation Management Areas Maintained by Midpen

The maintenance requirements of Midpen's vegetation management system (fuelbreaks, defensible space, and FRAs) is related to the structure and composition of the vegetation retained within and surrounding it. Fuelbreaks with large numbers of perennial, fast-growing weeds in or adjacent to them require more frequent maintenance than those without. Should invasive species take hold in fuelbreaks, they can compromise surrounding natural areas by serving as a seed source for invasive species that may spread.

Fuelbreaks, defensible space, and FRAs areas that border or traverse largely intact ecosystems still dominated by native species can be maintained with low-intensity brushing, performed as needed based on field inspections. Frequency of maintenance can vary from annual for fuelbreaks in grass-dominated vegetation types, to approximately once every 3 to 10 years depending on vegetation type, the fuel conditions, and their regrowth. Disposal of brush material is minimal when larger material (e.g., trees and limbs) is chipped or sectioned and scattered on-site. Fuelbreaks bordering intact ecosystems will likely be absent of invasive species or show signs of persistent but small populations of perennial weeds. In intact ecosystems, the likelihood for the spread of invasive species into surrounding areas is not a significant concern; however, these fuelbreaks will be treated annually with Early Detection Rapid Response (EDRR) through the IPMP to detect and remove any invasive species that arise.

Fuelbreaks and defensible space areas that are bordered or traversed by degraded ecosystems dominated by weeds need a different and more intensive maintenance prescription to reduce

4 VEGETATION MANAGEMENT PLAN-DRAFT

the spread of weeds in the fuelbreak and into surrounding areas. Fuelbreaks with non-native species are maintained with annual brushing of the fuels and dominant weeds; disposal of brush is accomplished via chipping, pile burning, or hauling. Invasive species treatment is addressed in Midpen's IPMP. The types and methods of invasive species treatment are stipulated in the IPMP and IPM EIR. The IPMP, however, does not address the acreages of mowing and the quantities of pesticides needed for fuelbreak maintenance. The acreages treated and quantities of pesticide needed to address fuelbreak creation and maintenance are therefore included in this plan and discussed under **Section 4.6**.

Midpen mows 135 miles of roadside to eliminate weeds and unwanted vegetation and allow access for Type 3 Wildland Fire Engines. These activities will continue on an annual basis, as defined in the IPM and covered under that plan.

Fuelbreaks Maintained by Others

Fuelbreaks completed by other individuals or entities may or may not be on lands owned by Midpen. An outside party, such as private landowners, owners of leases or easements, NGOs, or public landowners, retain the responsibility to maintain these fuelbreaks.

Three types of private landowners adjoin Midpen lands: (1) those who have existing assets (i.e., properties or structures) within 300 feet of Midpen boundaries and are within a fuelbreak, (2) those with existing assets within 300 feet but are not within a fuelbreak, and (3) those who have no assets within 300 feet but could propose a new fuelbreak within 300 feet. The burden of pre-fire actions to protect assets from wildfires rests with the residents or private landowners.

Midpen enters into lease and easement agreements with communication and utility companies that have facilities on Midpen land such as Pacific Gas and Electric Company (PG&E) that have infrastructure (e.g. powerlines or water tanks) on Midpen land. Easements are typically managed by the easement holder, with Midpen having limited input on the location, timing, and intensity of vegetation management pursued under that easement by the easement holder. For leases, the responsibility of vegetation management to help protect private assets lie with the leaseholder, and the requirement for vegetation management and defensible space are written into the lease or lease renewal. In all cases, the leaseholder's vegetation management activities must be reviewed and approved by Midpen to ensure that they meet standards for fuel reduction, natural resource protection, and other policies.

Many fuelbreaks along the perimeter of OSPs span ownership boundaries and are jointly managed by adjacent public and/or private landowners, or private entities. For example: Midpen would manage one side of the road while the adjoining landowner(s) manages the other side, even though the property line may not exactly follow the road. Midpen and its adjoining land owners would continue to rely on existing relationships and communication to maintain effective management of these areas.

4 VEGETATION MANAGEMENT PLAN-DRAFT

4.5 Prioritization and Annual Planning

4.5.1 Priorities and 5-Year Plan

Midpen's objective is to create and maintain up to 1,000 acres of fuels management areas annually, depending on funding sources and availability of work crews. The work is discretionary, and projects can be chosen dependent on available funding based on the Plan priorities.

The initial 5 years of target work is identified in Chapter 8: Five Year Target Plan. Projects identified in the Five-Year Target Plan include maintenance of existing fuelbreaks and vegetation management areas and new, critical or high priority vegetation management work, based on wildland fire risk, proximity to the WUI, and efficient use of resources/accessibility (e.g. roadside clearance). Priority projects are summarized in the table below. It should be noted that new land is added to Midpen's landholdings periodically. Vegetation management areas may need to be added as new lands are acquired, following the guidelines presented in Section 4.3.3.

Table 5 Priorities for New Vegetation Management Areas

Preserve Name	Treatment Category	Limited (Acres)	Minor (Acres)	Moderate (Acres)	High (Acres)	Critical (Acres)	Total Acres
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4.5.2 Annual Reporting

Annual reporting will occur: 1) to confirm the projects identified in the upcoming Five-Year Target Plan and 2) to make modifications as needed using adaptive management strategies. See Chapter 7 for more information on the monitoring and annual planning efforts.

The Annual Vegetation Management Report will describe the vegetation management activities undertaken the previous year. The draft Annual Vegetation Management Report will be prepared by the appropriate Vegetation Management or staff Coordinator. The final report will be presented to the General Manager for approval. The report will then be forwarded to the Board of Directors for review.

At a minimum, the Annual Vegetation Management Report will include the following basic information:

- A summary of the areas treated for the year by vegetation treatment category, including habitat type, acreages, and methods used by type of control (mowing, brushcutting, pulling, flaming, herbicide, etc.). A cost per acre will be provided for major treatment types.
- A qualitative assessment of effectiveness of Midpen's Vegetation Management Program, and suggestions for increasing future effectiveness. This assessment will

4 VEGETATION MANAGEMENT PLAN-DRAFT

be based in part on follow up discussions with staff, contractors, and stakeholders involved in the overall vegetation treatment process

- A summary of pesticide use (e.g., herbicide application within a fuelbreak, insecticide use within an FMA), active ingredient (e.g., glyphosate, imazapyr) or pesticide formulation (e.g., Roundup ProMax™) used. This information would also be presented in the annual IPM report.
- A brief summary of public notifications, inquiries and responses about vegetation management on Midpen lands;
- Assessment of compliance with the Vegetation Management Plan including:
 - An evaluation of the effectiveness of any changes in practices that were implemented in the past 12 months.
 - A description of any experimental vegetation management projects (test studies) and the results, including a cost/benefit analysis.
 - Suggested changes to the program or the vegetation management practices proposed for adoption within the next 12 months, including:
 - Any changes in acreages, focus habitats, or areas to be treated to adapt to changing conditions; and
 - Any changes in methods or funding.

Vegetation Management Methods

4.5.3 Vegetation Management Toolbox

Manual, mechanical, grazing, and chemical approaches will be used to manage vegetation. Table 6 identifies the treatment actions and estimates for vegetation management, including creation and maintenance of vegetation management areas. Midpen will also employ a series of BMPs for each management activity undertaken. Each application will be once per year. Pesticides allowed are only those identified in the IPM EIR (Ascent Environmental, 2014), or subsequently approved by Midpen through an addendum process. Additional pesticides that are approved through this process could also be used under this plan in the future to assist with vegetation management area creation and/or maintenance.

Table 6 **Vegetation Management Area Treatment Actions and Estimates**

Treatment Type	Treatment Method	Method of Application	Purpose	Annual Application	Timing of Work
Manual and Mechanical	Mowing & Cutting	Tractors, brushcutters, chainsaws, chippers, masticators, jawz implement, pole pruner	Removal of vegetation for defensible space and fuelbreak creation		April through November, (may continue into fall, weather and resource dependent)

4 VEGETATION MANAGEMENT PLAN-DRAFT

	Discing & Cutting	Tractor-pulled Instrument, pole pruner	Discline creation	April through July
Mechanical	Flaming	--	Invasive species treatment in fuelbreaks	--
	Mowing	Tractors, mowers, or brushcutters	Invasive species treatment in fuelbreaks	--
Chemical	Glyphosate Round-up Promax	Cut-stump	Removal of native stumps for defensible space, fuelbreaks, and discline creation; Invasive species or SOD removal	April through June
		Spot spray	Creation of defensible space	April through June
	Clethodim	Spot spray	Invasive plant control in vegetation management areas	Spring/summer
	Aminopyralid	Spot spray	Invasive plant control in vegetation management areas	Spring/summer
	Clopyralid	Spot spray	Invasive plant control in vegetation management areas	Spring/summer
	Imazapyr	Spot spray	Invasive plant control in vegetation management areas	Spring/summer

4 VEGETATION MANAGEMENT PLAN-DRAFT

Imazapyr	Cut-stump	Invasive plant control/SOD in vegetation management areas	Spring/summer
Phosphite	Spraying or injecting	SOD in vegetation management areas	Spring/summer
Triclopyr BEE/TEA	Spot spray	Invasive plant control	Spring/summer

4.5.4 Treatment Types and Methods

Manual

Manual methods using power and non-powered hand tools to implement the VMP will be consistent with those described in Midpen's IPMP and focused on vegetation management system creation and maintenance. Non-powered hand tools used for cutting are most commonly loppers, hand pruners, hand saws, and hatchets, and may also include pulaskis, machetes, brush hooks, and brush axes. Common powered hand tools include chainsaws and brush cutters. Vegetation management tasks include lopping, pruning, and girdling trees or large single-stem shrubs. Push mowers, leaf blowers, and weed-whips are also used.

Tasks where manual treatments are implemented include lopping and pruning. Hand tools are used in virtually all management areas to perform fine-scale tasks and finish work following use of heavy equipment. Invasive species may be encountered during creation of the vegetation management system. Handling of invasive species is covered under this plan, and methods will be consistent with the IPMP. For herbaceous weeds, without viable seed heads, or woody weeds with small diameter twigs, the slash is scattered on-site. Larger diameter woody material or very large volume of seedless herbaceous material may be piled for burning. State-regulated noxious weeds with viable seeds, including goatgrass and starthistles, are bagged and either solarized on-site or landfilled off-site. Vining weeds, such as periwinkle and cape ivy, may be bagged and landfilled off-site or piled between tarps and solarized to prevent re-rooting while the vegetation decomposes.

Mechanical

Mowing and brushcutting are the primary categories covered under mechanical removal. Motorized heavy machinery is mounted with various mowing, mulching, chipping, and masticating heads for larger scale vegetation removal projects and cyclical maintenance tasks. Grass is typically mowed with tractors. Heavy, diesel-powered equipment includes excavators, backhoes, skid-steers, and tracked chippers, and tractors. Powered hand tools are also used, including brushcutters (metal blade), string trimmers (monofilament plastic line), and chainsaws, and may also include power pole saws and hedge trimmers. These tools are

4 VEGETATION MANAGEMENT PLAN-DRAFT

powered by two-stroke engines that use a mix of gas and engine oil. Ground crews of 3 to 15 persons with brushcutters and chainsaws work where heavy equipment cannot reach, generally more than 30 feet from a road edge and on slopes exceeding 30 percent. Chainsaws are used to limb or remove individual trees or shrubs. Brush-cutters are used where stem diameters are less than 5 inches at cut level or the vegetation is predominately herbaceous. Cutting of herbaceous vegetation, including grasses and very young seedlings, is done with string trimmers.

Motorized heavy machinery are mounted with various mowing, mulching, and masticating heads for larger scale vegetation removal projects and cyclical maintenance tasks. Heavy, diesel-powered equipment used by Midpen includes excavators, backhoes, skid-steers, and tracked chippers. Equipment operates both on-road and off-road. Any equipment used off-road is track-mounted to minimize soil disturbance and compaction. The mowing or grinding heads and chippers reduce material to a size that does not require pile burning. Articulating arms are used to extend reach both outward and up so equipment can primarily stay on existing roads. A backhoe or excavator may push or pull down individual small trees (less than 10 inches diameter at breast height or DBH) either with the arm or with a cable or chain attached to the arm.

Heavy equipment is typically transported to an access point along an existing service road. Use of heavy equipment is generally restricted to sites with 30 percent slopes or less and to unsaturated soils. To maintain public safety, road guards, signage, and temporary closures are used when equipment operates in close proximity to recreational roads and trails.

A masticator is a high-rotation drum with fixed teeth mounted on the hydraulic arm of an excavator that pulverizes vegetation. A masticator is used primarily for fuelbreaks, but also sometimes for brushing around structures, roads, parking lots and brush removal in grasslands. The masticator cuts vegetation ranging from grass to 6-inch diameter trees and can reach up to 22 feet horizontally. Masticators leave behind mulch and pieces of shattered wood up to approximately 12 inches long and can require, depending on vegetation, follow-up use of chainsaws by field staff. Use of a masticator is limited by terrain and soil moisture (i.e. soft ground).

Mulch material includes on-site brush, tree limbs, or imported material. It is accomplished with masticating heads attached to excavators or skid steers and with tracked chippers fed by the material generated by hand crews as they thin dead or diseased vegetation. Mulching involves the spreading of ground-up woody material—generally wood chips, but sometimes shredded bark or compost—over an area to reduce weed prevalence, suppress resprouting woody species, and increase soil moisture.

Chipping is another method of biomass disposal that uses a chipper to reduce branches and other woody material to chips (usually 1 to 2 inches long and less than an inch thick). Most chippers are tow-behind models, but a tracked chipper may be used as a standalone piece of equipment as needed. Chippers vary in size and weight, largely depending on the maximum diameter of material it can chip, but all are diesel equipment. Chipping differs from mulching in

4 VEGETATION MANAGEMENT PLAN-DRAFT

two ways: chips are generally larger in size than mulch and are dispersed widely and shallowly with no intent to smother or suppress vegetation. Chips generally should not be piled more than 4 inches deep in most instances, and should not be placed in drainages, grasslands, or against tree trunks. Chips may also be hauled offsite and utilized as ground cover or erosion control in other areas.

Flaming is also used during vegetation management area creation to address broom and other invasive species seedlings. Consistent with the IPM methods, specially designed small, hand-held propane torches are used in small areas to kill dense and newly emerged green seedlings. Flaming is usually conducted during light rains or on wet days when forest litter or grassland thatch is not likely to catch fire and additional precautions are implemented at the time of use including, bringing truck-mounted or backpack water tanks, and operating with more than one person onsite.

Other methods to get rid of biomass cleared using mechanical methods is through pile burning. Pile burning is a method of biomass disposal which uses fire to eliminate piles of dried plant material. Piles vary in size from 5 to 10 feet in diameter and 4 to 8 feet in height. Piles are constructed in concert with brush or weed removal and are placed in openings, away from power lines, and tree canopies to allow for safe ignition at a later date. The composition of piles varies with vegetation type. Piles could consist of chaparral species, broom, as well as hardwoods, conifer limbs, and tanoak resprouts. The total volume of material burned in a year will not exceed 50 tons. Pile burning occurs between November and May under the direction of Midpen staff on days when weather conditions meet the specifications of the BAAQMD permit. Multiple piles may be burned on a single day. Drip torches or other approved ignition devices are used to start pile ignitions.

Chemical

Limited chemical control (pesticide) is used in vegetation treatment for stump and spot spray treatment, during vegetation management system creation and maintenance. Chemical treatment methods used within vegetation management areas include any method approved under the IPMP (including, but not limited to stump spray and/or spot spray). Chemical controls are not used within 5 feet of trails, roads, or human occupied facilities. Chemical control methods and requirements will follow the IPMP EIR requirements; however, the acreage and amounts of herbicides needed specifically for vegetation system maintenance are covered under this Plan.

Use of herbicide in a cut-stump method is used to maintain treatment areas that contain decadent woody vegetation. Trees or large shrubs that require removal within the inner 30 feet of defensible space are likely to be treated by cut-stump method with pesticide to permanently remove them from this high hazard zone. Although brush encroaching into disc lines and fuelbreaks will be primarily removed with chainsaws, more stubborn woody plants may require treatment with pesticide by cut-stump method. Spot treatments of vegetation within vegetation management areas with other pesticides, as identified in Table 6, may also be used to the limits specified.

4 VEGETATION MANAGEMENT PLAN-DRAFT

To meet legal requirements for defensible space, flammable vegetation may be spot sprayed within the inner 30 feet of a structure with pesticide. Spot-spraying with pesticide is sometimes conducted within this zone especially next to buildings and fences where it is difficult to operate a brushcutter or mower safely without damaging the structure or equipment.

Grazing

Livestock grazing, with sheep, goats, or cattle, or potentially even horses can be used to achieve vegetation management objectives including, fuel load reduction, weed suppression, and habitat enhancement. Midpen has employed both sheep and goats on a small-scale experimental basis for weed control purposes with limited success. Midpen currently utilizes cattle grazing across approximately 11,000 acres with much higher success at reducing fuel loads. Grazing may require the installation of temporary electrified fencing and temporary or permanent water facilities and other infrastructure (tanks, corrals, fences etc.) as well as the deployment of guard animals and/or a shepherd.

4.5.5 Vegetation Management Strategies for Construction and Maintenance

Grasslands

Fire fuels treatment (grass mowing) will be used to reduce potential fire spread and increase suppression efficiency in grasslands. Grasses in vegetation management areas will be reduced in height to less than 4-6 inches but not cleared to mineral soil to minimize soil erosion. Non-native and/or non-local shrubs and trees, decadent native trees and shrubs (i.e. old plants with a substantial number of dead limbs and twigs), and conifers under 10 inches DBH (diameter at breast height) may be removed entirely. In some instances, limited dead and or downed material may be left in place as a habitat feature if it poses little overall fire risk. Cyclical mowing of grasses in defensible space areas and other ignition zones (parking lots and picnic areas) will typically be performed annually; elsewhere grasses will not be mowed.

Removal of encroaching woody material will typically occur once every 3 to 5 years in fuelbreaks and, if needed, 5 to 10 years in FRAs, depending on the rate of regrowth. The maintenance of fuelbreaks will be based on site level assessments and implemented when vegetation no longer meets desired conditions. The work will be accomplished by top-cutting with power tools, such as string trimmers and brushcutters, with the infrequent use of chainsaws and heavy equipment with mower heads mounted on articulating arms. Disposal of woody cut material (slash) less than 1-inch DBH will be performed by lopping and scattering. Larger stemmed material will be chipped on-site and removed or piled and burned on-site after curing for a minimum of 60 days. In some instances, limited dead and or downed material may be left in place as habitat features if it poses little overall fire risk. Herbaceous vegetation is not mowed during the creation of FRAs.

Shrublands (Coastal Scrub, Chaparral)

Shrubs will be removed or thinned until spacing between individual shrubs or shrub islands is more than double the height of the canopy (e.g., for shrub canopies 6 feet in height, 12-foot gaps will be created). Along property boundaries, shrubs may be completely removed to a width that

4 VEGETATION MANAGEMENT PLAN-DRAFT

reduces direct flame contact from adjacent developed properties, to a maximum of 100 feet. In order to create or maintain the required gap size, all target invasive species, dead shrubs, conifers, and chamise will be removed only as necessary. In some instances, limited dead and or downed material may be left in place as habitat features if it poses little overall fire risk (e.g. dusky footed woodrat middens or single snags or logs). Rare native species may be pruned, but not removed in their entirety. Removal will be accomplished by top-cutting with hand tools such as chainsaws and brush cutters, and with cutting or masticating heads mounted on heavy equipment. All stumps will be flush cut as low as possible parallel to the slope of the ground surface. Only resprouting target weed species will be completely uprooted; this uprooting will be minimized on steep slopes. Disposal of the cut material will be done by chipping, pile burning or lopping and scattering. Cyclical maintenance in shrublands will typically be performed once every 3 to 4 years (once every 5 to 10 years in FRAs), though high densities of weeds may necessitate annual maintenance. The maintenance of fuelbreaks will be based on site level assessments and implemented when vegetation no longer meets desired conditions.

Oak Woodlands and Mixed Hardwood Forests

Understory shrubs, target weeds, and conifers less than 12 inches DBH will be removed by the means described above. Depending on the site, more trees may need to be removed, as described below. For retained trees, dead limbs up to 12 feet above ground may be removed. Live limbs up to 12 feet above the ground or up to 1/3 of the tree's total live foliage will also be removed. Select snags (standing dead trees) or limited downed woody debris may be retained for wildlife habitat, but snags or other material that poses a fall hazard or are judged to pose a high risk of firebrand production in a fire event may be removed. Fuel reduction will be accomplished with hand tools and with cutting or masticating heads mounted on heavy equipment. Disposal of the cut material will be performed by chipping, pile burning, or scattering. Downed trees over 6 inches in diameter will be bucked in place; limbs will be removed; and the main trunk will be cut into lengths sufficient to ensure contact with the ground or chipped or removed if feasible. Cyclical maintenance in woodlands or forests will typically be performed once every 3 to 5 years (5 to 10 years or more in FRAs, if needed), though high densities of weeds may necessitate annual maintenance.

These treatments are aimed at removing the flammable understory vegetation to reduce the overall fuel load, as well as to decrease the chance of a crown fire and to preserve the woodland by removing ladder fuels. This treatment type creates a more open, shaded site as shrubs are removed and smaller herbaceous plants and ferns are retained.

Coniferous Forests

In some coniferous areas, mainly in dense Douglas-fir and mixed hardwood forests, reducing the fuel load may require thinning of smaller, mid-canopy trees where densities are high. In these cases, the trees will be felled and their branches removed for chipping, hauling, or pile burning. The trunks, if small enough, will be chipped, hauled, or pile burned as well. If trunks cannot be chipped or hauled, they may be left standing and pruned with leaving on the ground a last resort. The number of trees to be removed will depend upon that particular location and

4 VEGETATION MANAGEMENT PLAN-DRAFT

site characteristics. Canopy-level tree removal will be limited to those trees that pose a hazard to infrastructure or workers.

Agricultural Landscapes

Mowing and brush thinning will occur along agricultural service roads that could provide ignition sources for adjacent natural areas. Conservation grazing may be able to be used to reduce fuel loads.

Hazard Tree Removal

Individual tree removal may be considered in specific locations to reduce production of firebrands and spotting during wildland fires, and reduce risks to public safety. The IPMP allows for 50 to 100 hazard trees to be removed per year, specifically for recreational safety. This plan would allow additional hazard tree removal for fire hazard reduction. For example, scattered live trees (<10 inches DBH) or SOD-killed trees may be removed at ridgetop locations that are vegetated mainly by grass or chaparral. In addition, larger diameter trees (>10 inches in diameter) may be removed on a case by case basis where they are within their falling height of established trails, roads, structures, parking areas, or other places likely to be frequented by visitors and staff. The removal and disposal of these trees would be conducted as previously described. In some instances, hazard trees may be left in place as a habitat feature until use by a species is complete (e.g. wait to fall a hazard tree with a known raptor nest until fledglings have left the nest). The Vegetation Management Plan for Public safety would allow for up to 100 additional hazard trees to be mitigated or removed per year.

4.5.6 Equipment

The following table lists the types of equipment used to implement vegetation management actions.

Table 7 Equipment Table for Vegetation Management Activities

Vehicle/Equipment Type	Fuel Type
Light duty automobile (car/light truck)	gasoline
Heavy truck	gasoline
Water truck	biodiesel
Van/medium truck	gasoline
Type III fire engine	biodiesel
Type IV fire engine	biodiesel
ATV	gasoline
Chainsaw/brushcutter	gasoline (25:1 or 50:1 with 2-stroke oil) or electric
Leaf blower	gasoline or electric

4 VEGETATION MANAGEMENT PLAN-DRAFT

Chipper	biodiesel
Skid steer loader ^a	biodiesel
Backhoe ^a	biodiesel
Excavator ^a	biodiesel
Generator	biodiesel
Driptorch	gasoline and diesel or biodiesel mix (1:4)
Propane torch	propane
Notes:	
^a May be used with masticator or mower head.	

4.5.7 Access

Access will be entirely from existing roads and trails. No new access roads are included as part of this plan. In some cases, access to work sites will not be accessible directly from maintained trails and roads and will be achieved by creating skid trails, which include foot trails or former trails that have grown over and can be cleared for access. Sensitive habitats, creeks, and wetlands will be avoided. Clearing of skid trails will not occur when soils are wet. The skid trails will not be graded or scraped. Skid trails will be rehabilitated following use, which involve de-compacting of soils, removing skid lines, distributing surrounding litter/duff back on-site, and obscuring entrance points with brush.

4.5.8 Personnel

Personnel needed to conduct various vegetation management actions depends upon the project and the year of implementation. The target person hours per project type are summarized in Table 8, as well as the maximum crew size on any given project for each management action. Work will be accomplished through crews of in-house staff as well as contractors. The number of workers on any given project will depend upon the activity. Crews of up to 20 people may be required for some project types. Up to 60 workers may be conducting vegetation management activities in a single day, but generally, only a few crews will be operating simultaneously. The amount of vegetation management work that can be completed each year will depend on annual staff capacity, funding, and other resource availability and will need to be balanced with other Midpen priorities that further the mission, annual Board-approved Strategic Goals and Objectives, and Vision Plan.

4 VEGETATION MANAGEMENT PLAN-DRAFT

Table 8 Summary of Person Hours to Implement Vegetation Management Projects in 5 Year Implementation Plan

Project	Maximum Size Crew	Person Hours per Project
Table Text	Table Text	Table Text
Table Text	Table Text	Table Text
Table Text	Table Text	Table Text

4.5.9 Schedule and Timing for Implementation

Work generally occurs during daylight hours, typically from 7:00 am to 7:00 pm. Vegetation management activities will occur year-round but certain tools and techniques will be confined to specific months due to limitations such as the wet season, species protection requirements, permitting restrictions, and official fire season, determined by CAL FIRE. Scheduling and timing will be dependent on annual staff capacity, funding, and other resource availability and will need to be balanced with other Midpen priorities that further the mission, annual Board-approved Strategic Goals and Objectives, and Vision Plan.

4.6 Permits and Approvals

The following table identifies the potential permits and approvals needed for implementation of the Vegetation Management Plan.

Table 4.7-1 Potentially Required Permits or Approvals for the Proposed Plan

Agency	Approval or Permit
Federal	
U.S. Army Corps of Engineers (USACE)	Clean Water Act, Section 404, Nationwide Permit 14
U.S. Fish and Wildlife Service (USFWS)	Section 7 consultation for impacts to Federally Threatened or Endangered animal species
State	
California Department of Fish and Wildlife (CDFW)	Responsible and Trustee agency for CEQA review 1602 Streambed Alteration Agreement
Caltrans	Encroachment permits
Regional	
Bay Area Air Quality Management District (BAAQMD)	Prescribed burn permitting
San Francisco Regional Water Quality Control Board (SFRWQCB)	Section 401 Water Quality Certification

4 VEGETATION MANAGEMENT PLAN-DRAFT

Local

San Mateo County, Santa Clara County, Santa Cruz County

-Encroachment permit for work requiring traffic control on County roads and Coastal Development Permits for work in the Coastal Zone

-Local tree protection and brush removal ordinances for various counties and cities.

4.7 Best Management Practices Incorporated into the Plan

Per 2014 IPMP CEQA and 2019 Addendum

PLANNING AND NATURAL RESOURCES COMMITTEE

R-19-127
September 24, 2019

AGENDA ITEM 2

AGENDA ITEM

Wildland Fire Resiliency Program – Public Meetings and Resource Management Policy Update

GENERAL MANAGER’S RECOMMENDATIONS



1. Receive updates on the development of the Wildland Fire Resiliency Program.
2. Review public feedback on the development of the Wildland Fire Resiliency Program.
3. Forward the recommended updates to the Resource Management Policies, as they relate to Wildland Fire, to the full Board of Directors for consideration.

SUMMARY

The Midpeninsula Regional Open Space District (District) is developing a Wildland Fire Resiliency Program (Program) to address the Board of Director’s (Board) Fiscal Year (FY) 2019-20 Strategic Goals and Objectives that include working with fire agencies and surrounding communities to strengthen the prevention of, preparation for, and response to wildland fires. To engage the public and receive early feedback in the process of developing the Program, the District held three public open houses. Consultants (working closely with District staff, partners, and stakeholders) have reviewed, identified gaps, and recommended several changes to the District’s Resource Management Policies (RMP) that address the changing reality of California’s wildland fires and reflect the latest science of ecosystem resiliency

BACKGROUND

The Board approved the FY2019-20 Strategic Goals and Objectives that include working with fire agencies and surrounding communities to strengthen the prevention of, preparation for, and response to wildland fires. In response, District staff began developing a robust, strategic, and comprehensive fire management program. The District entered into contract with two consultants, Spatial Informatics Group, Inc., (SIG) and Panorama Environmental, Inc., (Panorama) to assist in the development of a Prescribed Fire Program in the summer of 2018, which then expanded to the development of a more comprehensive Wildland Fire Resiliency Program (Program) (R-19-52; R-19-69). The Program will address four main components of the District’s Wildland Fire Management activities:

- 1) Wildland fire risk reduction through non-fire fuel reduction activities;
- 2) Monitoring of District lands;
- 3) Preparation of pre-fire plans with Resource Advisor maps; and

- 4) Use of prescribed fire to manage wildland fire fuels, reintroduce fire as a natural and cultural process, and provide staff and local fire agency fire training opportunities.

DISCUSSION

Public Open Houses

During the week of August 19, 2019, the District held public open houses in Half Moon Bay, Los Gatos, and Woodside with assistance from SIG, Panorama, local fire agencies, CAL FIRE, and firesafe councils. The objective of these meetings was to communicate the District's Program components and invite early public comment on the development of program elements. Outreach and notices prior to the events included 1,441 postcards to preserve neighbors, posting on the District's August eNews, sending an Interested Parties e-blast, event posting on Facebook and through Evite, updates to the project webpage on the District's website, and personal invites to fire agency partners (e.g. CAL FIRE, Woodside Fire, Santa Clara County Fire, Firesafe Councils).

The format of the event was a 45-minute presentation to describe fire ecology and history within the San Francisco Bay Area, explain what the District currently does for fire preparedness, outline the framework of the new developing Program, and inform how the public can get further involved. This presentation is currently on the District website for public viewing. After the presentations, the public was invited to review and comment at four workshop-style stations: 1) non-fire fuels management, 2) protection and monitoring of the environment, 3) pre-fire and resource advisor maps, and 4) an informational station about actions the public can do to protect themselves from fire.

Overall, the feedback from the public was overwhelmingly positive with appreciation expressed to the District for engaging the public early in the process of developing the Program. Multiple people expressed concern for fuel reduction locations or escape routes next to local communities (e.g. Grandview/Espinosa Community, Heather Heights, Redwood Estates, Blackberry Hill Community). Support was expressed about the intentional objectivity through the use of science for prioritizing fuel breaks as many people were unaware of the decision-making process. Some requested that work be conducted prior to completing the full Project analysis. Attachment 1 highlights and summarizes comments and feedback received at each station. This information will be used to further develop Program components as well as guide public outreach and education on wildland fire.

Board of Forestry and Fire Protection – California Vegetation Treatment Program (CalVTP)

On June 24, 2019, the California State Board of Forestry and Fire Protection released the CalVTP Draft PEIR for a 45-day public review and comment period, ending on August 9, 2019. The CalVTP identifies, among other treatment actions, prescribed burning (i.e. pile burning and broadcast burning). Staff from the Natural Resources and Planning Departments reviewed and commented on the proposed program. Comments included general support for the CalVTP and a request for two modifications to the Program: expansion of the geographic scope and the inclusion of an Invasive Species Biologist during project planning.

Of particular interest, the District may be able to tier off the Cal VTP and associated PEIR for future prescribed fire burns in conjunction with CAL FIRE, potentially affecting Program and CEQA work currently contracted with SIG and Panorama to complete. District staff is deferring some aspects of the prescribed fire portion of the Program until the CalVTP Final PEIR has been

certified and adopted (anticipated in early 2020 if SB 632 (Galgiani) is signed by Governor Newsom, which specifies a February 1, 2020 deadline). Once the PEIR has been certificated and adopted, the District will analyze the current scope of work with SIG and Panorama to determine if the CAL FIRE program provides a full analysis and what, if any, additional environmental evaluation by the District is warranted.

Resource Management Policies (RMP) and Goals

The RMPs document defines the policies and practices used by the District to protect and manage resources on District lands. The word “resources”, as used in this document, includes plants, animals, water, soil, terrain, geologic formations, historic, scenic, and cultural features. The RMPs comprise a "living" document that grows and changes regularly, based on new experience and information. It is reviewed and updated every five to ten years and chapters amended as needed to respond to ever-changing resource conditions (e.g. insect or disease outbreaks, large cataclysmic events, climate change etc.). A review of the RMPs by SIG and Panorama determined that the goals and components of the District’s Program are generally supported by the RMPs.

SIG and Panorama also performed a detailed review of other relevant documents and policies, including external agency documents (e.g. CALFIRE) in collaboration with stakeholder organizations (e.g. Sierra Club, Amah Mutsun Tribal Band) to further inform the District’s Program development. SIG and Panorama prepared a report, *Wildland Fire Resiliency Program-Resource Management Policies Analysis and Recommendations* (Attachment 2) which presents the methods and results (including a gap analysis) of the District’s RMP review and provides recommendations for revised and additional policies that will support the overarching objectives and goals of the District Wildland Fire Resiliency Program. The primary recommended additions or modifications to the existing RMP policies and implementation measures that will support the new Program are:

- Create or augment existing policy to define and support programmatic planning efforts for wildland fire resiliency activities and the removal of regulatory barriers.
- Create or augment existing policy to acknowledge consideration of the adopted Community Wildfire Protection Plans for San Mateo and Santa Clara Counties, and the implementation of actions that are consistent with District practices.
- Add ecosystem resiliency to the Wildfire Management policies and a recommendation to identify acceptable levels of change to the environment that allow for establishment and maintenance of resiliency at the landscape level.
- Augment existing policies to incorporate the definition and importance of adaptive management and decision-making flexibility that responds to ecological feedback.
- Expand the focus of non-fire fuel management actions as a strategy to reduce fire risk.
- Add existing policy and implementation methods to acknowledge the need for new technology and tools to effectively support management methods.
- Add existing policy to address post-fire restoration and response.
- Allow for acceptable levels of visual change at the landscape scale resulting from fuels management actions under Scenic and Aesthetic Resource policies to protect from catastrophic biodiversity and aesthetic impacts resulting from large fire events.

- Add and modify Climate Change policies to allow for trade-offs between some upfront carbon sequestration loss and greenhouse gas emissions in exchange for fuel reduction projects, prescribed burns, and development of ecological resiliency to prevent large scale, catastrophic fires that would result in greater overall greenhouse gas impacts.

FISCAL IMPACT

Review of the draft policy changes and summary of community response has no direct fiscal impact. An explanation of future implementation costs will be presented to the full Board when the final Wildland Fire Resiliency Program is brought before them for consideration.

BOARD COMMITTEE REVIEW

No prior Board Committee review has occurred for this item. The full Board was provided an informational update on the Prescribed Fire Program in February of 2019 in which changes to the Project scope were discussed, resulting in Board approval to proceed with a more comprehensive Wildland Fire Resiliency Program (R-19-03). The Board approved amending the contract with SIG at the April 24, 2019 Board meeting (R-19-52), to provide fire ecology services and a detailed project description for the Program. The Board approved amending the contract with Panorama, at the May 22, 2019 Board meeting (R-19-69), to provide environmental review services for the Program.

PUBLIC NOTICE

Public notice was provided as required by the Brown Act. Public notice was also sent to the Resource Management and Wildland Fire interested parties list by postal or electronic mail.

CEQA COMPLIANCE

The District's existing RMPs were adopted in 2011 and evaluated in an Initial Study/Mitigated Negative Declaration. Updates to the policies may require additional CEQA evaluation, depending on the guidance provided by the Planning and Natural Resources Committee and direction provided the Board. Any further CEQA evaluation would be presented to and considered by the Board when it considers adopting changes to the Policies.

NEXT STEPS

Comments received from the open houses will be incorporated, where appropriate, into Program components, as well as guide public outreach and education on wildland fire. If supported by the Planning and Natural Resources Committee, the draft recommended RMP changes will be forwarded to the full Board for consideration, anticipated in Quarter 3 of FY2020. If the CalVTP Draft PEIR is certified and adopted, staff would issue a FYI to the Board or return to the PNR Committee to discuss how it affects the District's proposed Program. Staff will return to PNR in October of 2019 to discuss the Non-Fire Fuels Management Plan.

Attachments:

1. Public Comment Summary Report
2. Resource Management Policies Analysis and Recommendations
3. Comment Letters Received

Responsible Department Heads:

Kirk Lenington, Natural Resources Manager

Korrine Skinner, Public Affairs Manager

Matthew Andersen, Chief Ranger and Visitor Services Manager

Michael Jurich, Land and Facilities Manager

Prepared by:

Coty Sifuentes-Winter, Senior Resource Management Specialist, Natural Resources

Criteria for Locations and Prioritization of New Vegetation Management Areas

PUBLIC SAFETY VMP

Methodology for Locating Vegetation Treatments for Public Safety

The locations for establishment of new fuel management areas was initiated by identifying Midpen lands within the areas below. Areas classified as “water” or “wetland” were excluded from treatment:

- Adjacent to or near existing or planned fuels treatment areas;
- Identified by Midpen or other fire management or vegetation management professional staff as important areas for fuels treatment;
- Up to 300 feet from vulnerable populations (school, hospital, nursing home);
- Up to 100 feet from existing occupied Midpen buildings;
- Up to 200 feet from emergency response infrastructure (communications tower, fire station, police station, medivac location, evacuation center, critical water infrastructure, such as storage tanks and pumps for fire suppression);
- Up to 200 feet from a designated expanded fire response/fire monitoring clearing zone (safety zone, parking area, staging area, helicopter landing zone, lookout);
- Within 200 feet of sensitive resources or other Midpen High Value Asset that would benefit from and/or respond favorably to treatment or at risk of loss in the event of a wildfire;
- Within 200 feet of a designated Midpen evacuation route;
- Within 10-25 feet (depending on flame length) of primary Midpen designated emergency access roads accessible by a Wildland Type 3 fire engine; and
- Areas that enhance the ability to efficiently conduct fire suppression by providing infrastructure (e.g., staging areas, disc lines) and ingress/egress of fire suppression equipment.

Methodology for Prioritizing Vegetation Management Areas for Public Safety

Prioritization is established by assigning points for each of the following factors. The areas with the most points (up to XX) receive the highest priority ranking. Prioritization of vegetation management areas that are currently in the Conservation Grazing Program will be reduced by 1 point recognizing the beneficial reduction of fuel loads that results from grazing activities.

- Within 300 feet of vulnerable populations (schools, hospitals, nursing homes);
- Within 300 feet of designated Midpen evacuation routes;
- Within 100 feet of designated occupied Midpen buildings;
- Within 300 feet of critical emergency response infrastructure (communications tower, fire station, police station, medivac location, pre-planned Incident Command Post, evacuation center);

- Within 300 feet of Midpen designated fire response/fire monitoring clear zones (safety zone, parking area, staging area, helicopter landing zones, Lookout);
- Vegetation treatments identified in the field by professional fire staff;
- Within 300 feet of sensitive resources that would benefit from and/or respond favorably to treatment;
- Within 500 feet or adjacent to current and planned fuel management treatments;
- Within high fire risk areas - CALFIRE Very High, Santa Cruz High C-Fire M-Fire;
- Within 1,000 feet or adjacent to current and planned fuel management treatments;
- Within 300 feet of other high value assets or potential treatment areas identified by Midpen staff (including strategic regional fuelbreaks and cooperative efforts with neighboring property owners); and
- Within 200 feet of sites designated as having SOD Midpen data.

ECOSYSTEM RESILIENCY VMP

Methodology for Locating Potential Fuel Reduction Areas for Ecosystem Resiliency

The location of new FRAs on Midpen lands are confined to native forests or woodland areas of at least 100 acres in size. Areas classified as “water” or “wetland” are excluded from treatment.

Methodology for Prioritizing Fuel Reduction Areas for Ecosystem Resiliency

Prioritization is established by assigning points for each of the following factors. The areas with the most points (up to X) receive the highest priority ranking.

- Within 300 feet of sensitive resources that would benefit from and/or respond favorably to treatment;
- Within high fire risk areas (Priority zones: CALFIRE Very High, Santa Cruz High C-Fire M-Fire);
- Within 500 feet of points designated as having mortality due to forest disease, such as SOD;
- Identified by Midpen or vegetation management professional staff as important areas for fuels treatment for ecosystem resiliency;
- Where past land use history has increased the number of trees per acre to unnatural conditions;
- Identified as an area for prescribed fire for natural resource benefits;
- Promotes late-seral habitat conditions; and
- Site is experiencing vegetation encroachment that is changing the fuel regime or converting the vegetation type.

From: [FD-David Pucci](#)
To: [Coty Sifuentes-Winter](#)
Subject: FW: Request for Comments for Partners and Stakeholders - Vegetation Management Plan for Public Safety and Ecosystem Resiliency
Date: Tuesday, October 22, 2019 9:14:42 AM
Attachments: [image001.png](#)
[image003.png](#)
[image004.png](#)
[image006.png](#)
[image007.png](#)

EXTERNAL

Fire Prevention staff feel that you have a good plan in place and they don't have any additional suggestions. Thanks for letting us review this!

DAVE PUCCI
Acting Fire Chief

Redwood City and San Carlos Fire Departments
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Redwood City, CA 94063
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