Comprehensive Ecologically Sensitive Vegetation Management Report

2024-2025

ANNUAL PROGRAM REPORTS TO THE BOARD OF DIRECTORS

CONSERVATION GRAZING

INTEGRATED PEST MANAGEMENT

WILDLAND FIRE RESILEINCY

FLEET & FACILITIES, LAND STEWARDSHIP & TRAILS, AND NATURAL RESOURCES

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MIDPENINSULA REGIONAL OPEN SPACE DISTRICT

CONSERVATION GRAZING PROGRAM

INTEGRATED PEST MANAGEMENT ANNUAL REPORT

WILDLAND FIRE RESILIENCY PROGRAM ANNUAL REPORT

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Acronyms and Abbreviations

Acronym/Abbreviation	Meaning
CEQA	California Environmental Quality Act
Board	Board of Directors
District or Midpen	Midpeninsula Regional Open Space District
FRA	Fuel Reduction Area
IPM	Integrated Pest Management
RMP	Resource Management Policies
VMA	Vegetation Management Area
WFRP	Wildland Fire Resiliency Program

EXECUTIVE SUMMARY

CONSERVATION GRAZING PROGRAM

During 2024 and 2025, Midpen's Conservation Grazing Program maintained all monitored grazing areas at or above minimum Residual Dry Matter targets. Forage production remained good despite lower precipitation in 2025, indicating that grazing intensity continued to support soil protection and overall rangeland condition.

Key program changes included new grazing operators at three units, the return of grazing to previously vacant areas, and temporary management of the Apple Orchard unit. New water systems and fencing improved livestock distribution and expanded opportunities for rotational and adaptive grazing.

Brush reduction maintained open grasslands and reduced fuel loads, while invasive plant treatments substantially reduced several infestations. Newly detected invasive plant populations were documented and added to future workplans. Monitoring also recorded rare plants and special-stats wildlife, and a virtual fencing pilot at Lone Madrone tested a new approach to managing cattle movement and protecting sensitive resources.

Ongoing challenges include invasive plant spread, operator transitions, uneven livestock use, and protection of sensitive biological resources. Continued monitoring and adaptive management will remain important to sustaining program success.

INTEGRATED PEST MANAGEMENT PROGRAM

Midpen's Integrated Pest Management Program continued to protect biodiversity, ecosystem function, and public health through science-based, integrated approaches to invasive species management across District lands. During 2024 and 2025, staff completed 142 pre-treatment surveys and 226 vegetation monitoring activities across 13 preserves, using monitoring data to prioritize treatments, evaluate effectiveness, and guide adaptive management. The program treated 56 invasive plant species, eight animal pest species, and maintained rodent control in District buildings.

Manual methods accounted for most of the treatment effort and herbicide use focused on targeted application where necessary to achieve ecological objectives. Volunteer participation and contractor support expanded program capacity, while monitoring documented stabilizing conditions at many treatment sites. At the same time, increasing demands associated with conservation grazing and wildland fire resiliency redirected resources from core IPM activities, highlighting the need for continued investment and early detection to sustain long-term treatment success and prevent new infestations from becoming established.

WILDLAND FIRE RESILIENCY PROGRAM

During 2024 and 2025, Midpen's Wildland Fire Resiliency Program advanced ecological resilience, wildfire risk reduction, and emergency-response readiness through approximately 760 acres of vegetation management across 18 major projects. Treatment included fuel reduction, fuelbreak construction, roadside vegetation management, eucalyptus removal, and pile burning using manual, mechanical, and limited herbicide methods.

Major accomplishments included beginning work on the Los Altos Hills Strategic community fuel break at Rancho San Antonio Open Space Preserve and expanding field capacity through the purchase of a midsized excavator with masticating and grapple attachments. Combined with previously acquired equipment, these investments increased the size, complexity, and accessibility of fuel-reduction projects that District crew can complete.

Monitoring and regional collaboration also continued, including Sudden Oak Death surveys that documented a more infectious pathogen lineage in 2024 and further defined areas of infection in 2025. These findings will help inform future forest-health and fuel-management priorities.

The primary challenge is the growing need to maintain previously treated areas. Under current staffing, equipment, and contract resources, maintenance is expected to exceed the program's capacity for new fuel-reduction work within the next two to three years. Continued investment in dedicated equipment and maintenance resources will be necessary to sustain existing treatments while advancing new priority projects.

INTRODUCTION

The Midpeninsula Regional Open Space District (District or Midpen) is a public agency that owns and manages 27 open space preserves, protecting nearly 73,000 acres of diverse landscapes across the San Francisco Peninsula. Established by a voter initiative in 1972, Midpen's mission is:

> To acquire and preserve a regional greenbelt of open space land in perpetuity; protect and restore the natural environment; and provide opportunities for ecologically sensitive public enjoyment and education.

On the Coastside, Midpen's mission expands to include the acquisition and preservation of agricultural lands of regional significance, the protection of rural character, and the encouragement of viable agricultural uses that help maintain the area's working landscapes:

> To acquire and preserve agricultural land of regional significance, protect and restore the natural environment, preserve rural character, encourage viable agricultural use of land resources and provide opportunities for ecologically sensitive public enjoyment and education.

Midpen's boundary spans approximately 227,900 acres across northern Santa Clara, San Mateo, and a small portion of Santa Cruz counties. From Montara's coastal headlands in the north to the Lexington Hills in the south, the District's open space network serves more than 25 communities and a combined population exceeding 760,000 residents. The preserves range in size from the 55-acre Stevens Creek Nature Study Area to the 19,000-acre Sierra Azul Open Space Preserve, with elevations stretching from sea level in the baylands to 3,486 feet atop Mount Umunhum in the Santa Cruz Mountains.

Midpen manages its lands primarily to maintain a regional greenbelt of open space, emphasizing natural resource protection and low-intensity recreation. Beyond unimproved trails, unpaved roads, trailheads, and informational kiosks, development is minimal. More than 265 miles of public trails provide opportunities for hiking, running, horseback riding, bicycling, and dog walking (where permitted). Open daily and free of charge, these preserves offer a nearby retreat for residents and visitors seeking nature, solitude, and renewal.

The landscapes under Midpen's care encompass a remarkable variety of ecosystems and support an abundance of native wildlife. Along the baylands, tidal salt marsh shelters endangered species such as the Ridgway's rail and salt marsh harvest mouse, along with other special-status wildlife, as well as thousands of migratory shorebirds and waterfowl. The heart of Midpen's preserves lies along the eastern and western slopes of the Santa Cruz Mountains, where oak woodlands, grasslands, chaparral, coastal scrub, and evergreen and coniferous forests form the scenic backdrop for the Bay Area and Central Coast. The creeks and streams that weave through these landscapes provide critical habitat for endangered coho salmon and threatened steelhead trout, sustaining both ecological diversity and watershed health.

Through its Vegetation Management Program, Midpen works to sustain and promote diverse, resilient native plant communities that reflect the natural character of the region. This stewardship helps safeguard biodiversity, reduce wildfire risk, and maintain the ecological integrity of the open space lands entrusted to public care.

MIDPEN PROGRAMS AND PROJECTS COVERED IN THIS REPORT

This report documents implementation outcomes, monitoring results, and adaptive management insights from calendar years 2024 and 2025. The scope includes Board-approved vegetation programs and selected non-programmatic projects that support the District's broader land stewardship goals. The following sections describe the programs and projects that guide and implement this work across District lands.

CONSERVATION GRAZING PROGRAM

Where appropriate, Midpen manages land through conservation grazing, using livestock as a natural tool to maintain and enhance the diversity of native plant and animal communities. Grazing operations are designed to be protective of natural resources and compatible with public access, while also contributing to vegetation fuel management for fire protection, supporting the local agricultural economy, and preserving the region's rural agricultural heritage.

The Conservation Grazing Program is included in this report because it represents an integral part of Midpen's broader work to manage and maintain grassland ecosystems and other open vegetation communities. California Environmental Quality Act (CEQA) compliance is completed on a case-by-case basis for each ranching operation under the program.

INTEGRATED PEST MANAGEMENT PROGRAM

Midpen manages pests using Integrated Pest Management (IPM) principles that prioritize ecological protection, human safety, and long-term environmental health across District lands.

The Board certified the Final Program Environmental Impact Report (FEIR) and approved the IPM Program on December 10, 2014 (Resolution R-14-148). An addendum to the FEIR and related minor program modifications were approved on February 27, 2019. A second addendum and minor program modifications were approved on March 25, 2026.

This report presents results from the tenth (10th) and eleventh (11th) years of pest management activities prescribed under the IPM Program. Prior to the adoption of the Wildland Fire Resiliency Program (WFRP) in 2021, all fire-related vegetation management was conducted under the IPM framework.

WILDLAND FIRE RESILIENCY PROGRAM

Midpen's Wildland Fire Resiliency Program (WFRP) applies the principles of ecological resiliency to reduce wildfire severity, mitigate the impacts of fire suppression, and support fire as a natural ecological process on the landscape. The program also seeks to maintain diverse and dynamic forest conditions, enhance forest and aquatic habitats, encourage late-seral conifer development, and provide for safe, high-quality visitor experiences within fire-adapted ecosystems.

The Board certified the Final Program Environmental Impact Report (FEIR) and approved the WFRP on May 12, 2021. An addendum and related program modifications were adopted on December 14, 2022.

This report presents the results from the third (3rd) and fourth (4th) years of implementation under the WFRP. Prior to its adoption, fire management activities were conducted within the IPM Program.

PROJECTS NOT COVERED UNDER MIDPEN APPROVED PROGRAMS

The three programs described above represent the majority of vegetation management activities conducted under Midpen's direction. However, certain vegetation-related projects fall outside of these program frameworks. For example, restoration or mitigation efforts associated with capital improvements or public access projects (such as the Mount Umunhum Summit Restoration).

These non-programmatic projects are discussed in this report at a high level for context, but are otherwise documented in project-specific monitoring reports prepared for each effort.

Together, these programs and projects form an integrated framework that supports Midpen's long-term goals for ecosystem resilience, wildfire safety, and biodiversity conservation.

RESOURCE MANAGEMENT POLICIES

The ecosystems that make up Midpen's open space preserves are complex, dynamic, and interdependent, encompassing a wide variety of natural resources that sometimes have competing needs for protection and management. Land managers must continually balance these priorities to sustain ecological integrity and public access.

Compounding these inherent challenges are the ongoing growth of Midpen's landholdings, evolving stewardship practices and priorities, and changes in public values, use patterns, and funding sources. Increasing visitation across the preserves can also place additional pressure on sensitive natural systems. In this context, a well-defined set of guiding policies is essential to ensure that resource management decisions remain consistent, transparent, and aligned with Midpen's mission.

Midpen's Board-adopted Resource Management Policies (RMPs) provide this framework. The RMPs form a living document that evolves as new science, data, and field experience emerge. The policies are reviewed and updated approximately every five to ten years, and individual chapters may be amended as needed to address changing resource conditions, such as insect or disease outbreaks, wildfires, or the effects of climate change. The Board may also adopt amendments for specific management needs at any time. The most recent update to the RMPs was completed in spring 2022.

The full Resource Management Policies document is available on Midpen's website: https://www.openspace.org/sites/default/files/Resource_Management_Policies.pdf

At this time, no changes to the adopted Resource Management Policies are recommended.

These guiding policies are applied through Midpen's day-to-day vegetation management practices, described below.

ECOLOGICALLY SENSITIVE VEGETATION MANAGEMENT PRACTICES

Midpen's vegetation management is guided by the principles of ecological sensitivity, adaptive management, and long-term biodiversity conservation. These practices are designed to maintain and enhance the ecological health of open space preserves while ensuring public safety, access, and wildfire resilience.

Vegetation management activities are implemented across a range of objectives, including improving native species habitat, maintaining patrol routes and recreational facilities such as parking lots and trails, and reducing wildland fire risk consistent with the goals of the District's approved programs.

Consistent with the Board-adopted Resource Management Policies (RMPs), staff evaluate each vegetation management project to minimize potential impacts and maximize ecological benefits. These practices are reviewed and refined regularly to incorporate emerging science, on-the-ground learning, and changing environmental conditions.

Per the Board of Directors' approved RMPs, Midpen staff consider the following practices at each project site to minimize impacts and maximize benefits to natural resources when performing vegetation management in Midpen preserves. At this time, **staff recommend two additional changes to the Ecologically Sensitive Vegetation Management Guidelines. These minor changes are shown below in underline**.

- Conducting pre-management surveys for special status species and nesting birds <u>as needed</u>
- Providing a biological monitor during work when needed

- Designating refugia for wildlife
- Leaving tree canopies at the landscape-level intact
- Leaving buffers around special-status species' habitat
- Leaving buffers around bodies of water
- Avoiding or minimizing work within riparian corridors unless the activity is necessary to achieve a greater ecological benefit
- Seasonally timing work when feasible to avoid or decrease potential impacts to birds, bats, other wildlife, and botanical resources
- Prioritizing the treatment of invasive species
- Minimizing ground disturbance
- Minimizing the presence of people and mechanized/motorized equipment in wildlands during vegetation management
- Matching source material for nursery plants and seed to the site-specific requirements for maintaining genetic diversity while taking climate change into account
- Considering the changing climate and its impact on habitats
- Mowing in patterns that allow any wildlife present to easily and safely move away
- Mimicking natural disturbance processes to maintain rare habitats
- Avoiding the spread of invasive non-native species and disease with cultural controls such as cleaning boots and equipment prior to and after work
- Trimming trees designated for retention using basic ANSI Standards to minimize disease infection and progression of decay thus decreasing their vulnerability to fire in long term

SUMMARY OF VEGETATION MANAGEMENT

MAJOR ACCOMPLISHMENTS

- Completed approximately 325.8 acres of Ecosystem Resiliency work.
- Completed approximately 480.4 acres of Enhanced Fire Management.
- Nine protocol level botanical surveys were completed in aid of all three programs.
- Person-hour in IPM treatment increased in both 2024 and 2025, driven by contractors and volunteers.
- Conservation grazing brush management and fuel management programs dramatically increased efforts.
- Residual dry matter targets were met across all monitored grazing properties in 2024 and 2025.

PUBLIC NOTIFICATIONS AND INQUIRIES

Midpen provides multiple avenues for public communication, transparency, and engagement regarding vegetation management activities. Public notification ensures that proposed projects are disclosed early in the decision-making process, while direct inquiries and feedback help inform adaptive management and community outreach.

The following subsections summarize public notifications and inquiries received during calendar years 2024 and 2025.

PUBLIC NOTIFICATIONS

Midpen notifies the public of plans for vegetation management projects as part of Board meeting notification processes. During these public meetings, staff describe the notices that were sent for each agenda item and any required California Environmental Quality Act (CEQA) compliance.

Table 1 and 2 summarizes public Board meetings held in 2024 and 2025 that included vegetation-related actions, authorizations, or informational items.

Table 1: Public Notification for 2024

Date	Agenda Item	Board Action	Scope
1/10/2024	Award of Contract to Blankinship & Associates for Technical Literature Review Services	Approved	Provide annual scientific and technical review services for the IPM Program. The work included review of the District's approved pesticide list and recommendations for program updates.
1/10/2024	Award of Contract to Buena Vista Services, LLC., for the La Honda Forest Health Project	Approved	Prepare the Timber Harvest Plan for the La Honda Forest Health Project and support stakeholder and public outreach. The contract included a base amount of $80,000 and a 15% contingency of $12,000, for a total not-to-exceed amount of $92,000.
3/13/2024	Mitigation Cooperative Agreement at Miramontes Ridge Open Space Preserve with the California Department of Transportation (Caltrans)	Approved	Third-party compensatory mitigation project with Caltrans for invasive plant removal and restoration along Madonna Creek at Miramontes Ridge Open Space Preserve.
7/10/2024	Proposed Third-Party Compensatory Mitigation Project at Bear Creek Redwoods Open Space Preserve	Approved	Third-party mitigation agreement with KM-ECR, LLC to fund a portion of wet meadow and riparian restoration work at

Date	Agenda Item	Board Action	Scope
			Bear Creek Redwoods Open Space Preserve. The developer-funded mitigation project covered design, peer review, implementation, monitoring, and District staff reimbursement, with an estimated value of $450,000 to $640,000 over ten years.
8/14/2024	Award of Contract to Mario's Tree Service for the Cathedral Oaks Non-Native Tree Removal Project at Sierra Azul Open Space Preserve	Approved	Restored approximately 2.5 acres of dense, non-native eucalyptus forest in the Cathedral Oaks area of Sierra Azul Open Space Preserve to improve native riparian habitat and wildland fire resiliency. The grant-funded project included removing eucalyptus trees, reusing logs and chips on site for erosion control where appropriate, and allowing for additional tree removal, hauling, and biomass disposal as needed.
8/14/2024	Amendment of Contract for Cultural Resources Services at Long Ridge Open Space Preserve	Approved	Provide additional cultural resources investigation, monitoring, and reporting at Long Ridge Open Space Preserve.
8/28/2024	Award of Contract to Ecological Concerns, Inc., for 2024 Conservation Grazing Vegetation Management and Brush Reduction	Approved	Four years of vegetation management work to reduce brush encroachment in coastal grasslands across seven District grazing units. The work supported the Conservation Grazing Program through mechanical brush removal and limited spot-spraying of brush regrowth to enhance coastal grasslands and improve forage resources.
11/13/2024	Award of Contract with Panorama Environmental, Inc., for Environmental Review Services for the Integrated Pest Management Program	Approved	Review and update the IPM Program, including additional CEQA analysis as needed.
12/11/2024	Approval of Rangeland Management Plans for Multiple Grazing Units: Johnston Ranch Grazing Unit in Miramontes Ridge Open Space Preserve, Cloverdale Ranch and Butano Farms Grazing Units in Cloverdale Ranch Open Space Preserve, and the South Cowell Addendum to the Elkus Lobitos Grazing Unit in Purisima Creek Redwoods Open Space Preserve.	Approved	The Board adopted Rangeland Management Plans for recently acquired District properties, including grazing units at Miramontes Ridge, Cloverdale Ranch, and Purisima Creek Redwoods Open Space Preserves. The plans established grazing parameters to support grassland biodiversity, manage vegetation fuels, and maintain local agricultural uses.

Table 2: Public Notification for 2025

Date	Agenda Item	Board Action	Scope
1/8/2025	Award of Contract for the Development of a Santa Cruz Kangaroo Rat Habitat and Population Management Plan	Approved	Create a Habitat and Population Management Plan to increase the population resiliency of Santa Cruz kangaroo rat within Sierra Azul Open Space Preserve.
1/22/2025	Award of On-Call Contracts for Inventory and Monitoring of Botanical Resources Services	Approved	Create five on-call botanical services contracts.
3/12/2025	Award of Contract for Construction Services for the Drilling of an Agricultural Water Well in La Honda Creek Open Space Preserve	Approved	Drill a water well for agricultural use in the Harrington (former Driscoll Ranch) Grazing Unit of La Honda Creek Open Space Preserve.
3/12/2025	Amend the Contract with Ecological Concerns, Inc., for Grant-Funded Forest Health and Ecosystem Resiliency Work	Approved	Increase the scope and budget of fire resiliency work.
3/26/2025	Award of On-Call Contract for Botanical Resources Services – Inventories and Monitoring	Approved	Create an on-call botanical services contract.
3/26/2025	Partnership agreement with UC Santa Cruz Arboretum & Botanic Garden	Approved	Expand partnership with UC Santa Cruz through botanical research.
4/9/2025	Contract Amendment with Sicular Environmental Consulting and Natural Lands Management to provide additional technical support for the La Honda Forest Health Project	Approved	Complete a forest assessment.
6/11/2025	Award of Grazing Leases for five Conservation Grazing Units: Johnston Ranch (Miramontes Ridge Open Space Preserve); Lobitos (Purisima Creek Redwoods Open Space Preserve); Harrington (La Honda Creek Open Space Preserve); Cloverdale Ranch (Cloverdale Ranch Open Space Preserve); and Butano Farms (Cloverdale Ranch Open Space Preserve)	Approved	Continue conservation grazing on six ranches.
6/25/2025	Partnership Agreement with San Jose Conservation Corps and Charter School to Complete Resource Management, Vegetation Management, and Maintenance Projects	Approved	Solidify partnership with SJCC to implement fuel reduction projects, debris removal, and invasive species management.
7/9/2025	Award of Contract for Lone Madrone Corrals Project at the La Honda Creek Open Space Preserve	Approved	Repair the Lone Madrone Corral.
7/23/2025	Award of Contract for Construction Services to Install Wildlife-friendly Livestock Fencing and Self-closing Pedestrian Gates within the Central Area of La Honda Creek Open Space	Approved	Install wildlife-friendly livestock fencing at La Honda Creek Open Space Preserve.

Date	Agenda Item	Board Action	Scope
	Preserve as part of the Phase II Trails Project to Prepare for the Fall 2025 Public Opening of New Trails		
8/20/2025	Award of Contract for Conservation Grazing Wildlife-friendly Livestock Fencing at Purisima Creek Redwoods, Cloverdale Ranch, and Skyline Ridge Open Space Preserves	Approved	Install wildlife-friendly livestock fencing at multiple preserves.
10/22/2025	Partnership Agreement with Grassroots Ecology to Complete the Bear Creek Stables Hillside Restoration	Approved	Implement Hillside Restoration at the Bear Creek Stables site in Bear Creek Redwoods Open Space Preserve.
11/12/2025	Award of Contract with Oregon State University for Consultation on Plant Pathogens	Approved	Test remediation activities on plant pathogens.
11/12/2025	Reject All Bids for the La Honda Creek Agricultural Water Development Project in La Honda Creek Open Space Preserve	Approved	Install solar well pumps, a solar power array, 1,500 feet of water distribution lines with connections and valves, and a wireless water monitoring and pump control system.

NOTIFICATIONS OF PESTICIDE APPLICATIONS

In addition to formal Board notifications, Midpen provides operational notifications for specific vegetation management activities conducted under the Integrated Pest Management (IPM) Program.

Per the IPM Best Management Practices (BMPs), Midpen employees and/or contractors post signs at treatment areas notifying the public, employees, and contractors of a planned use of a pesticide (including herbicides, insecticides, or other types of pesticides) prior to, during, and after the application on District preserves.

The posting periods described below are the minimum requirements; signs may be posted earlier and left in place longer if they serve a public purpose or provide staff flexibility in accessing remote locations.

BMP#	Best Management Practice
8	Notification of Pesticide Application Signs shall be posted notifying the public, employees, and contractors of the District's use of pesticides. The signs shall consist of the following information: product name, signal word, and manufacturer, active ingredient, and EPA registration number; target pest; preserve name; treatment location in preserve; date and time of application; date which notification sign may be removed; and contact person with telephone number. Signs shall generally be posted 24 hours before the start of treatment and notification shall remain in place for 72 hours after treatment ceases. In no event shall a sign be in place longer than 14 days without dates being updated. See the IPM Guidance Manual for details on posting locations, posting for pesticide use in buildings, and for exceptions.

NOTIFICATIONS OF PROJECTS USING OTHER COMMUNICATION CHANNELS

Midpen also provides public notifications for vegetation management projects through external regulatory and communication platforms when required.

Los Gatos Creek Watershed Collaboration Forest Health Grant: In collaboration with San Jose Water, Santa Clara County FireSafe Council, and Santa Clara County Parks, and with funding from Cal Fire, Midpen took on a holistic, landscape-level approach to vegetation management across 1,000 acres (Phase I) around Lexington Reservoir and the surrounding Santa Cruz Mountains area. The forest health grant supported 1) restoring healthy forests ecosystems, 2)

reducing the severity of potential wildfires while enhancing the safety of surrounding communities, and 3) protecting watersheds that provide regional drinking water. Phase II received more funding to manually and mechanically treat an additional 840 acres and began work in April 2025 and is expected to finish in fall 2027, bringing the Collaboration's total areas treated to more than 1,800 acres.

PUBLIC INQUIRIES

In addition to formal public notices, the District receives questions, comments, and requests from community members through email, phone calls, and direct correspondence. Table 3 summarizes inquiries received during 2024 and 2025 related to the Integrated Pest Management and Wildland Fire Resiliency Programs.

Table 3: Public Inquiries into the IPM and Wildland Fire Resiliency Program

Inquirer	Contact Method	Request/Comment	Response
Craig Dremann	email	Expressed concerns for native grasslands species and fuel loads	Shared concern with the Board of Directors
		Invited Midpen staff and the Board to visit Kite Hill.	Sent a thank you for the invitation.
		Requested the District employee his land management technique.	Acknowledged the request.
		Invited Midpen staff and the Board to visit Kite Hill.	Sent a thank you for the invitation.
		Requested the board consider creating a "Monarch-Milkweed Ecological Restoration Preserve"	Forwarded the request to the Board.
		Requested the District employee his land management technique.	Acknowledged the request.
Alane Gray	email	Expressed concern regarding the treatment of coyote brush	Provide context on California grasslands and the District's resource management policies.
Sheryl Johnson	email	Garden Cosmos at RSAOSP	Explained they were not planted by Midpen and we would handle accordingly.
Rick Lanman	Email	Request for the District to consider introducing tule elk to District lands.	Explained that CDFW is the lead agency.
		Request that the District consider planting blue oaks.	The District currently only considers planting native species that are already know to exist within the greater watershed of a restoration area.
Mari Pfeifer	email	Expressed gratitude for the Wildfire Resiliency Work at RSAOSP	Sent a thank you for the feedback.
Martin Schneider	email	Requesting information regarding the defensible space permit program	Sent a link to the permit form as well as the Wildfire Resiliency page on the website.

In summary: Public engagement and notification remain central to Midpen's transparent approach to vegetation management. Staff will continue to refine outreach tools and explore opportunities to improve the clarity and accessibility of project information in future reporting cycles.

CONSERVATION GRAZING PROGRAM

Midpen's Conservation Grazing Program manages approximately 15,500 acres of coastal property as leased rangeland (Table 4). On these lands, grazing is used as a broad land-management tool to achieve outcomes for both biodiversity conservation and wildfire fuel reduction, while also supporting local sustainable agriculture.

Grazing reduces the height and thatch buildup of non-native annual grasses, benefiting native bunchgrasses and forbs. Because grasslands generally support more plant diversity than adjacent wooded or shrubby habitats, controlling non-native annual grasses remains one of the most effective actions for promoting native plant diversity. Several special-status wildlife species also benefit from the vegetation structure created by well-managed grazing. As the program continues to evolve, Midpen works closely with grazing tenants to develop and refine site-specific strategies that target priority invasive plant species.

Grazing is also an effective tool for fuel load reduction. Mechanical fuel management at comparable scales can be prohibitively expensive, whereas grazing achieves fuel reduction across large areas in a cost-efficient and ecologically compatible manner. Brush removal for rangeland improvement likewise contributes to District-wide fuel management objectives.

Table 4: Properties currently in the Conservation Grazing Program as of December 31, 2025

Preserve	Grazing Unit	Total Leased Acres[1]
Cloverdale	Cloverdale Ranch	3,375
	Butano Farms	783
La Honda Creek	Apple Orchard	298
	Harrington	3,595
	Event Center	6
	Lone Madrone	1,076
Miramontes Ridge	Johnston Ranch	412
Purisima Creek Redwoods	Bluebrush Canyon	273
	Lobitos	1,210
	October Farm	280
Russian Ridge/Skyline Ridge	Big Dipper-Mindego	2,027
	Gordon Ridge	545
Tunitas Creek	Toto Ranch	903
	Tunitas Creek	703
Total		**15,486**

SUMMARY OF PARAMETERS MONITORED

Each year, staff survey Midpen rangelands to document conditions and detect changes in natural resource status. Monitoring tracks general attributes such as livestock use patterns, native and non-native species presence, soil and

[1] The acreage accounts for grazing leases, and may include ungrazed land (e.g., drainages, brush patches, etc.).

surface-water conditions, infrastructure integrity, and human use impacts. Emphasis is placed on identifying trends or changes that inform future management decisions.

Monitoring occurs through several site visits across the grazing season and concludes each fall with Residual Dry Matter (RDM) surveys that assess forage utilization and fuel levels.

MONITORING RESULTS AND QUALITATIVE ASSESSMENT FOR 2024 AND 2025

District rangeland monitoring in 2024 and 2025 continued to document conditions and changes across conservation grazing properties, with staff tracking livestock use and distribution, native and non-native plant and animal observations, soil and surface water conditions, infrastructure condition, and human-related impacts. Monitoring occurred through multiple site visits during the year and concluded with fall residual dry matter surveys, which provide an important indicator of grazing intensity, forage use, soil protection, and overall rangeland condition.

In 2024, the rain year leading up to fall monitoring totaled approximately 34 inches in the La Honda region, which is geographically central to the District's grazing lands. Although this was a significant decrease from the prior year's approximately 50 inches, it was considered typical for the region. Forage production was good across District rangelands during the 2023–2024 growing season, and many sites that had reduced stocking rates during the dry years of 2021 and 2022 were able to return to more typical stocking rates in 2023. All monitored sites were maintained within or above the minimum recommended residual dry matter target range in fall 2024.

The 2024 residual dry matter results showed that many sites remained substantially above minimum thresholds, reflecting the combined effects of improved forage production following the 2022–2023 rain year and prior drought-related stocking reductions. The 2024 monitoring summary noted several site-specific trends: Mindego South Pasture experienced a distinct drop in residual dry matter following its first year of grazing during the monitoring period; South Cowell area of Lobitos Grazing Unit and Gordon Ridge Grazing Unit continued to recover from below-target averages recorded in 2022; and Apple Orchard Grazing Unit showed an increase in residual dry matter corresponding with removal of grazing after the tenant voluntarily gave up the lease in 2023. The monitoring summary also noted that variation within individual sites remained substantial and would require site-specific interpretation.

In 2025, the rain year leading up to fall monitoring totaled approximately 28 inches in the La Honda region, representing a slight decrease from 2024 and approximately 82 percent of the regional average. Despite the lower precipitation, forage production remained good across District rangelands during the 2024–2025 growing season. All conservation grazing areas were at or above minimum residual dry matter thresholds during fall 2025 surveys. This indicates that, at the program scale, grazing use remained within a range that maintained adequate residual forage and ground cover for soil protection and rangeland function.

Several operational changes occurred during the 2024 and 2025 monitoring period. The District conducted competitive requests for proposals for grazing leases on several conservation grazing properties, with an emphasis on operators experienced in ecologically sensitive grazing management. This resulted in new operators at Big Dipper-Mindego, Lone Madrone, and Lobitos Creek Grazing Units. The 2025 monitoring period captured the first active grazing at Big Dipper area after approximately five years of vacancy and the first active grazing at Mindego area after approximately one year of vacancy, both part of the Big Dipper-Mindego Grazing Unit. Apple Orchard Grazing Unit was also vacant for several months spanning 2024 and 2025, after which the District negotiated temporary grazing management with the operator on the adjacent Harrington Grazing Unit.

The 2025 monitoring summary also documented several important infrastructure improvements that increased the District's ability to manage grazing for conservation outcomes. These included new water storage tanks, distribution lines, and troughs at Lobitos Grazing Unit; new cross fencing and troughs at Gordon Ridge Grazing Unit; new cross fencing at Big Dipper-Mindego Grazing Unit; and new boundary fencing at October Farm Grazing Unit. These

improvements are important because they improve livestock distribution, increase operational flexibility, and support rest-rotation or adaptive grazing strategies.

Vegetation management continued to be an important component of rangeland stewardship in both years. In 2024, extensive brush reduction was accomplished across multiple conservation grazing sites. In 2025, the District worked with contractors and grazing tenants to conduct targeted brush management across multiple properties to maintain open grassland habitat, improve grazing capacity and operational flexibility, and reduce wildland fuel loads. Site selection emphasized areas with known native herbaceous plant communities threatened by woody succession, as well as areas supporting grassland birds and other wildlife.

Invasive plant monitoring and treatment remained a major focus. In 2024, one new occurrence of medusahead was located at Harrington Grazing Unit, and one new occurrence of cheatgrass was observed in the Mindego Hill area of the Big Dipper-Mindego Grazing Unit. These occurrences were documented in Calflora and identified for integration into the District's IPM Plan. Treatment of invasive plant occurrences noted in 2023 resulted in substantial reductions in 2024. In 2025, the District continued cheatgrass eradication work at Tunitas Creek Grazing Unit and observed substantial reductions since spring 2024. The District also continued work on several other invasive plant infestations and documented new occurrences of barbed goatgrass and cheatgrass at Big Dipper-Mindego Grazing Unit, and medusahead at Lone Madrone Grazing Unit, all of which were documented in Calflora and identified for inclusion in 2026 workplans.

The 2025 monitoring summary also documented important biological observations. Rare plant observations included a new occurrence of San Francisco popcorn flower (*Plagiobothrys diffuses*) at Cloverdale Ranch Grazing Unit, observations of Hoffman's sanicle (*Sanicula hoffmannii*) and San Francisco gumplant (*Grindelia hirsutula* var. *maritima*) at Big Dipper-Mindego Grazing Unit, and a robust flowering and seed-production year for the known pappose tarplant (*Cenromadia parryi*) occurrence at Lone Madrone Grazing Unit. No observations were made of the locally rare clustered tarweed (*Deinandra fasciculata*) previously documented at Tunitas Creek Grazing Unit. Special-status wildlife observations included loggerhead shrikes (*Lanius ludovicianus*), ferruginous hawk (*Buteo regalis*), golden eagles (*Aquila chrysaetos*), western burrowing owls (*Athene cunicularia* ssp. *hypugaea***)**, northern harriers (*Circus hudsonius*), and extensive American badger (*Taxidea taxus*) digging sign across multiple grazing properties.

Overall, the 2024 and 2025 monitoring results indicate that the conservation grazing program continued to maintain rangeland conditions within desired program-level thresholds while supporting adaptive management. Residual dry matter targets were met across all monitored grazing properties in both years, forage production remained good despite reduced precipitation in 2025, and the District continued to document and respond to invasive plant occurrences, vegetation succession, infrastructure needs, and sensitive biological resources.

SUCCESSES AND DIFFICULTIES IN REACHING TREATMENT OBJECTIVES

The primary success documented across both monitoring years was the District's ability to maintain all conservation grazing sites within or above minimum residual dry matter thresholds. This indicates that grazing levels were generally compatible with maintaining adequate residual forage, soil cover, and rangeland condition. The result is especially notable given the variability in precipitation between years, recent drought effects, changes in operators, and several grazing vacancies or transitions across the program.

A second major success was the continued use of adaptive grazing management and operator selection to support conservation objectives. The District's competitive lease process emphasized ecologically sensitive grazing experience, resulting in new operators at Big Dipper-Mindego, Lone Madrone, and Lobitos Grazing Units. Bringing the Big Dipper and Mindego areas back into active grazing (now Big Dipper-Mindego Grazing Unit) after periods of vacancy was an important step toward restoring management capacity at those sites. Temporary management at Apple Orchard Grazing Unit also demonstrated the District's ability to respond to short-term operational gaps while maintaining stewardship of the grazing area.

Infrastructure improvements were another important success. New water infrastructure and fencing improved the District's ability to distribute livestock use, manage grazing pressure, and implement rest and rotation cycles. These improvements directly support treatment objectives related to conservation-oriented grazing, because effective livestock distribution is often necessary to avoid both overuse and underuse within large or topographically complex grazing areas.

Vegetation management also showed meaningful progress. Brush reduction conducted in 2024 and 2025 helped maintain open grassland conditions, improve grazing capacity, increase operational flexibility, reduce wildland fuel loads, and protect native herbaceous plant communities threatened by woody succession. This work was especially successful because it was prioritized in areas with known native herbaceous communities and wildlife values, including grassland bird habitat.

Invasive plant management produced both successes and continuing challenges. Treatment of invasive plant occurrences documented in 2023 resulted in substantial reductions by 2024, and cheatgrass eradication work at Tunitas Creek Grazing Unit continued to show substantial reductions by 2025. These results suggest that early detection, documentation, and follow-up treatment are producing measurable benefits. However, newly documented occurrences of medusahead, cheatgrass, and barbed goatgrass demonstrate that invasive plants remain a persistent program challenge. These species will require continued monitoring, rapid response, and integration into future workplans to prevent expansion and reduce long-term treatment burden.

The program also faced difficulties related to grazing continuity and site-specific operational constraints. Vacancies at Big Dipper-Mindego Grazing Unit, and Apple Orchard Grazing Unit reduced the District's ability to consistently apply grazing as a management tool during portions of the reporting period. At the Mindego portion of the Big Dipper-Mindego Grazing Unit, the presence of feral cattle during the tenant vacancy created an additional management issue requiring contractor support for removal. These examples show that achieving treatment objectives depends not only on ecological planning, but also on reliable operators, functional infrastructure, and the ability to resolve unexpected livestock management issues.

Another difficulty is the inherent variability of rangeland systems. Residual dry matter results varied substantially within individual sites, and site-level trends differed depending on grazing history, precipitation, stocking rates, and vacancy status. While all sites met minimum thresholds in 2024 and 2025, the observed variation indicates that continued site-specific review is needed to ensure that some areas are not being overused while others are underutilized or accumulating excess thatch and woody vegetation.

The biological monitoring observations from 2025 also highlight both success and complexity. The presence of rare plants, grassland-associated birds, burrowing owls, northern harriers, other raptors, and signs of badger activity demonstrates the ecological importance of District rangelands. However, these same resources require careful timing, site selection, and implementation of grazing, brush management, and invasive plant treatments to avoid unintended impacts. The absence of clustered tarweed observations at Tunitas Creek Grazing Unit also indicates that some sensitive plant occurrences may fluctuate or require additional follow-up to understand their status.

In summary, the District made substantial progress toward treatment objectives in 2024 and 2025 by maintaining residual dry matter targets, improving grazing infrastructure, reestablishing active grazing at previously vacant sites, reducing brush encroachment, and achieving measurable reductions in some invasive plant infestations. The primary difficulties were associated with invasive plant spread, operator transitions and vacancies, feral cattle management, within-site variability in grazing outcomes, and the need to balance vegetation management with sensitive biological resources. Continued adaptive management, early detection and rapid response, infrastructure investment, and site-specific monitoring will remain important for meeting conservation grazing and rangeland treatment objectives in future years.

EXPERIMENTAL VEGETATION MANAGEMENT PROJECTS

During the 2024-2025 reporting period, District grazing tenants Willow Creek collaborated with researchers from University of Nevada Reno to pilot the use of virtual fencing in management of rangelands at the Lone Madone conservation grazing lease within La Honda Creek Open Space Preserve. The technology uses a system of collars and communication base stations to manage cattle distribution and movement and allows for more nuanced pasture management and resource protection with less reliance on costly interior fencing that can inhibit wildlife movement.

Increased pest surveys enable Midpen staff and contractors to identify and prevent infestations before establishment, thereby reducing the need for large-scale treatments over time. While the IPM Guidance Manual includes EDRR strategies and response procedures, current staffing levels and resource commitments limit the District's ability to fully implement a comprehensive EDRR program.

Midpen is actively evaluating the long-term resource and funding needs—including staff capacity, volunteer participation, and contractor support—necessary to implement EDRR strategies, which include:

- Identifying potential threats early to enable timely control or mitigation measures.
- Detecting new invasive species while still feasible for safe and effective eradication or containment.
- Taking preventive actions, such as providing facilities to clean vehicles and tools, to prevent the spread of invasive plant seeds.
- Responding to invasions rapidly and efficiently to prevent permanent establishment.
- Providing timely information to decision-makers, the public, and partner agencies about the status of invasive species across District lands.
- Adaptively refining detection and response strategies based on monitoring results and evolving best practices.

In summary, EDRR serves as a cornerstone of Midpen's proactive IPM approach, ensuring that new pest introductions are detected early and addressed efficiently. The following subsections present the 2024–2025 IPM results and analyses, which include monitoring data, treatment summaries, and program effectiveness assessments.

SUMMARY OF PEST PROBLEMS

PRE-TREATMENT SURVEYS

Midpen's Best Management Practices (BMPs), established under the Final Environmental Impact Report (FEIR) for the Integrated Pest Management (IPM) Program (Board-certified and approved in December 2014, with an addendum in February 2019, and March 2026), outline the use of pre-treatment biological surveys prior to vegetation management.

Specifically, the FEIR states:

A District-approved biologist shall survey all selected treatment sites shortly before work to determine site conditions and develop any necessary site-specific measures. Treatment sites are defined as areas where IPM activity, including manual, mechanical, and chemical treatment, is expected to occur. In addition, on a repeating basis, grassland treatment sites shall be surveyed by a District-approved biologist once every five years and brushy and wooded sites shall be surveyed once every five years. Brush removal on rangelands will require biological surveys before work is conducted in any year. Site inspections shall evaluate existing conditions at a given treatment site including the presence, population size, growth stage, and percent cover of target weeds and pests relative to native plant cover and the presence of special-status species and their habitat, or sensitive natural communities.

Survey results are entered into Calflora, an online database used for statewide tracking of plant observations and management activities.

In 2024 and 2025, Midpen-approved biologists conducted 142 pre-treatment site surveys across District preserves (Table 5).

Table 5: Number of Pre-Treatment Site Surveys Per Preserve

Preserve	Surveys Completed
Bear Creek Redwoods	5
Cloverdale Ranch	21
Coal Creek	18
El Sereno	11
La Honda Creek	23
Long Ridge	6
Miramontes Ridge	1
Picchetti Ranch	1
Purisima Creek Redwoods	14
Ravenswood	2
Russian Ridge	1
Sierra Azul	36
Tunitas Creek	3
Grand Total	**142**

ONGOING AND GENERAL MAINTENANCE

PLANT PEST SPECIES

Midpen manages 174 plant pest species on an ongoing basis to protect natural resource assets and maintain ecological function. These species have the potential to invade natural areas, displace native plant and wildlife species, and reduce biodiversity.

Of these, 18 species treated in recent years are classified as noxious weeds by the California Department of Food and Agriculture (CDFA) (Table 6).

Table 6: Species Treated

Year	Species Treated	Cal-IPC Rating				CDFA Rated	Alert	State Noxious Weed
		Watch	Limited	Moderate	High			
Since 2015*	174	5	17	30	14	6	4	21
2024	56	1	11	15	12	4	3	18
2025	56	4	13	18	9	4	2	18

* Summary line identifies total number of individual plant species that apply to each category listed in this table. Note – this is not a total of all lines below since the same species is often treated or monitored over many years.

Since the inception of the IPM Program, Midpen has treated a total of 174 different plant species, representing approximately 4.8% of all plant species known from the Santa Cruz Mountains region.

FAUNA PEST SPECIES

In 2024 and 2025, Midpen monitored or treated eight (8) animal species across multiple preserves (Table 7). These species include mammals, reptiles, and amphibians that threaten native wildlife, habitat integrity, or human health and safety. While most of these species are introduced or invasive, in some instances, native species are deemed a pest due to their direct and indirect impacts to the built environment.

Table 7: Fauna Pest Species Monitored or Treated in 2024 and 2025

Scientific Name	Common Name	Preserve	Location	Activity
Felis catus	Cat, feral	Rancho San Antonio, Stevens Creek Nature Study Area	Preserve-wide	Monitoring
Lithobates catesbeianus	Bullfrog	Russian Ridge	Mindego Lake, Knuedler Pond, Upper Springs pond	Monitoring (all sites) and removal (Rodeo Pond, Butano pond)
		Bear Creek Redwoods	Upper Lake	
		La Honda Creek	Preserve-wide, including Rodeo Pond	
		Skyline Ridge	Alpine Lake	
		Cloverdale Ranch	Preserve-wide	
Mus musculus	House mouse	Multiple (Table 8)	Deer Hollow Farm; Residential	Monitoring, Trapping
Otospermophilus beecheyi	California ground squirrel	Rancho San Antonio	Deer Hollow Farm	Exclusion
		Bear Creek Redwoods	Bear Creek Stables	Monitoring
Rattus norvegicus	Norway rat	Multiple (Table 8)	Deer Hollow Farm; Residential	Monitoring, Trapping
Rattus rattus	Black rat	Multiple (Table 8)	Deer Hollow Farm; Residential	Monitoring, Trapping
Sus scrofa	Pig, feral	Russian Ridge	Big Dipper-Mindego Grazing Unit	Monitoring (all sites), Trapping, and removal (Sierra Azul)
		Sierra Azul	Preserve wide	
Trachemys scripta elegans	Red-eared slider	Bear Creek Redwoods	Mud Lake, Upper Lake	Monitoring
		Windy Hill	Sausal Pond	

PEST CONTROL IN BUILDINGS

Midpen also manages structural pest issues within District facilities to ensure safe working and residential conditions while adhering to IPM principles.

In 2024 and 2025, the District contracted with Complete Pest Control to perform rodent control at selected Open Space Preserve facilities, including 18 residences and three additional structures (Table 8).

All rodent control since 2013 has been conducted without rodenticides, using trapping and exclusion methods only, in compliance with Midpen's commitment to non-toxic and ecologically sensitive pest management.

Table 8: Pest Control in Buildings

Preserve	# of Buildings in 2024	# of Buildings in 2025
Cloverdale	1	2
El Corte de Madera	4 + 1 (garage)	4 + 1 (garage)
Fremont Older	1	1
La Honda	2	2
Purisima Creek Redwoods	1	1
Rancho San Antonio	2	2
Russian Ridge	3 + 1 (garage/laundry room)	3 + 1 (garage/laundry room)
Saratoga Gap	1	1
Skyline Ridge	1	1
Thornewood	1 + 1 (water cistern)	1 + 1 (water cistern)
Total	**17 + 3 (other)**	**18 + 3 (other)**

NEW PEST CONTROL PROJECTS

Potential pest control projects are submitted to the IPM Coordinator using Midpen's standardized New Pest Control Project Form. Each proposal is evaluated by the IPM Coordination Team using a Project Ranking System that scores projects across five categories:

- **Safety:** Human health and environmental protection.
- **Ecological Benefit:** Prevention or control of the most destructive pest species.
- **Biodiversity Protection:** Direct contribution to the conservation of native habitats and species.
- **Public Engagement:** Opportunities for outreach, volunteer participation, or community benefit.
- **Feasibility and Effectiveness:** Likelihood of success given available tools, resources, and site conditions.

In 2025, one new pest control project was determined to have high treatment priority under the IPM Program (Table 9).

Table 9: New Pest Control Project for 2024 and 2025

Scientific Name	Common Name	Preserve	Cal-IPC Rating	CDFA Rating	Alert	Gross Acres	Person Hours
Geranium lucidum	Shining geranium	Windy Hill	Watch	A	N/A	2.4	312

CDFA Rating:

A – A pest of known economic or environmental detriment and is either not known to be established in California or it is present in a limited distribution that allows for the possibility of eradication or successful containment.

B – A pest of known economic or environmental detriment and, if present in California, it is of limited distribution.

C – A pest of known economic or environmental detriment and, if present in California, it is usually widespread.

D – An organism known to be of little or no economic or environmental detriment, to have an extremely low likelihood of weediness, or is known to be a parasite or predator.

Scientific Name	Common Name	Preserve	Cal-IPC Rating	CDFA Rating	Alert	Gross Acres	Person Hours

Q – An organism or disorder suspected to be of economic or environmental detriment, but whose status is uncertain because of incomplete identification or inadequate information.

*** – An asterisk next to the rating indicates that a plant is included in the CCR Section 4500 list of California State Noxious Weeds.**

-* – This plant is included in the CCR Section 4500 list of California State Noxious Weeds, but is otherwise not rated.

The following sections summarize treatment results, pesticide use metrics, and program effectiveness assessments for 2024 and 2025, including both quantitative outcomes and qualitative evaluations of IPM implementation across Midpen preserves.

SUMMARY OF PEST CONTROL TREATMENTS

INVASIVE PLANT CONTROL

The following data reflect natural area vegetation management and do not include regular brushing or mowing of roads, trails, defensible space, or emergency landing zones. These activities are not presented here because they occur annually with minimal variation.

Manual weed pulling remains the most common treatment method, accounting for approximately 64% of all labor hours in 2024–2025 (Figure 1). Mechanical application represented 15% of total hours over the same period. Whereas herbicide application represented about 21% due to the expansion of the conservation grazing brush management and the fuel management programs. In 2024, herbicide treatments increased from targeted herbicide use combined with mowing regimes to control brush encroachment of grasslands under the conservation grazing program.

Each year, during development of the IPM Annual Plan, treatment methods are evaluated using the best available science in weed management. The Annual Plan—finalized each January—establishes the work program for the new calendar year and integrates lessons learned from prior monitoring and treatment results.

Over the lifetime of the IPM Program (since 2015), treatment methods have shifted substantially. The most significant change has been a reduction in herbicide use, which has declined from 61% to 21% of total treatment hours, paired with a corresponding increase in manual hand-pulling, which has risen from 36% to 64%.

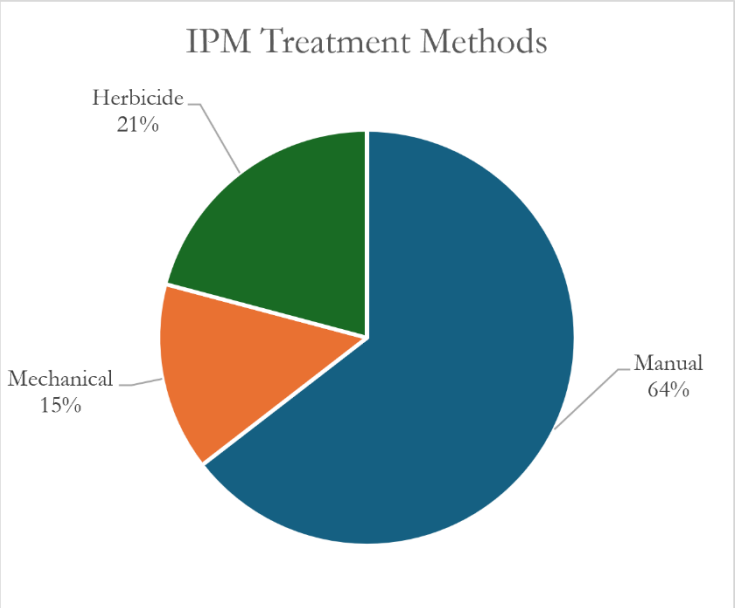

Figure 1. Percent hours of IPM treatment methods for 2024 and 2025 combined.

The total number of hours for IPM-related work (Table 10; Figure 2) increased by approximately 44% in 2024 and 103% in 2025 compared to 2015 levels. Field staff hours have fluctuated from year to year depending on competing operational priorities, including the number of active Measure AA capital improvement projects under construction. However, the predominant driver for the increase in hours in 2024 and 2025 was brush management under the conservation grazing program. For example, when comparing treatment hours of coyote brush over time, earlier years recorded fewer than 250 total hours, with most work associated with Weed Treatment (Figure 3). However, labor increased to approximately 800 hours in 2022, declined somewhat in 2023, and then rose sharply in 2024 (~1,200 hours) and 2025 (~4,300 hours). The 2024-2025 hour increase was driven primarily by Conservation Grazing brush management, whereas Fuel Reduction, Restoration Site Maintenance, and Weed Treatment contributed comparatively few hours over the same timeframe. Volunteer and contractor hours have risen substantially since 2015. The addition of a second Volunteer Program Lead in 2018 expanded volunteer capacity for IPM projects. Although volunteer activities declined during the COVID-19 pandemic, participation rebounded after restrictions were lifted in 2021.

Increased contractor involvement reflects a growing number of large-scale Measure AA restoration and mitigation projects, such as the Mount Umunhum Summit Restoration, Bear Creek Redwoods Parking Lot Mitigation, and Madonna Creek Landfill Removal. In addition, a five-year Memorandum of Understanding (MOU) with the Santa Clara Valley Water District (Valley Water) has provided substantial funding for IPM-related work at Bear Creek Redwoods Open Space Preserve since 2017.

Table 10: Annual IPM-related field work hours by crew type

Year	Staff	Contractor	Volunteer	Total
2015	5,431	2,132	1,736	**9,299**
2016	Unknown[2]	1,659	2,883	**4,542**
2017	623	2,907	2,559	**6,089**
2018	1,767	5,197	3,520	**10,484**
2019	1,502	6,421	4,261	**12,184**
2020[3]	667	5,082	2,203	**7,952**
2021	960	5,999	3,722	**10,681**
2022	1,630	6,526	4,431	**12,587**
2023	989	4,455	4,683	**10,127**
2024	1,343 ↓	5,317 ≈	6,703 ↑	**13,364 ↑**
2025	1,682 ≈	10,289 ↑	6,888 ↑	**18,561 ↑**
Average per Year	**1,659**	**5,089**	**3,963**	**10,561**

(↑ = Above average ↓ = Below average ≈ = Approximately equal to average (±5%)

Compared to the eleven-year average, 2024 and 2025 show above-average total IPM labor, driven primarily by increased contractor and volunteer hours. Staff hours were below average in 2024, reflecting ongoing workload distribution across capital improvement and fire-resiliency projects.

[2] Staff hours were not recorded into the Weed Database or Calflora as this was a transitional year from one database to another.

[3] The COVID-19 emergency declaration in 2020 caused a severe and prolonged disruption in vegetation management activities across Midpen's preserves. Fieldwork was largely suspended for much of the year, with only limited essential operations continuing under public health restrictions

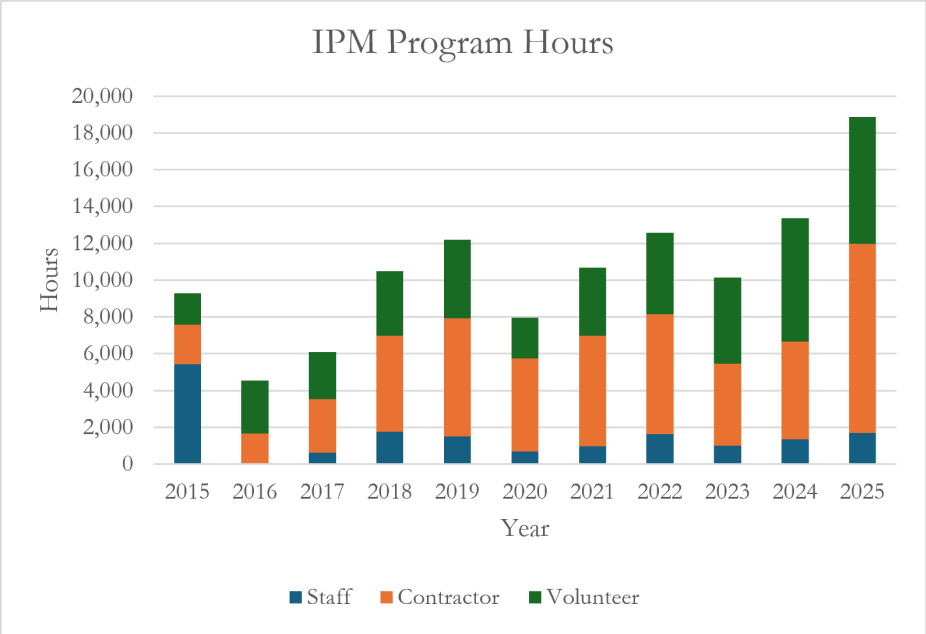

Figure 2. IPM program hours (staff, contractor, volunteer) since 2015.

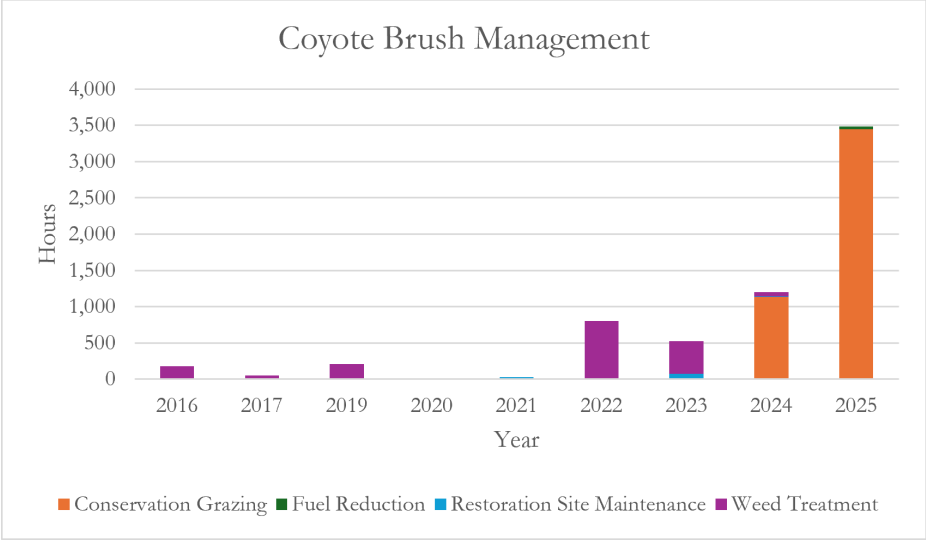

Figure 3. Coyote brush management hours by program (Conservation Grazing, Fuel Reduction, Restoration Site Maintenance, and Weed Treatment) since 2016.

TREATMENT

Table 11 and 12 (below) shows the comparative hours for different crews for 2024 and 2025.

Table 11: 2024 Hours by Treatment Method

Method	Staff	Contractor	Volunteer	Total Hours
Manual	1,027	2,681	5,135	8,843
Mechanical	316	1,228	1,569	3,113
Herbicide	0	1,408	0	1,408
Grand Total	1,343	5,317	6,703	13,364

Table 12: 2025 Hours by Treatment Method

Method	Staff	Contractor	Volunteer	Total Hours
Manual	1,528	3,369	6,384	11,280
Mechanical	108	951	504	1,562
Herbicide	47	5,969	0	6,016
Grand Total	1,682	10,289	6,888	18,859

Table 13 and 14 (below) shows the comparative cost for different crews for 2024 and 2025. Midpen uses the following hourly costs estimates for comparative cost analysis purposes only:

Table 13: Hourly Average Costs Per Labor Type

Crew Type	2024	2025
Contractor[4]	$61.85	$71.80[5]
Staff[6]	$63.04	$69.27
Volunteers[7]	$40.14	$41.75

Table 14: Total "Costs" Per Labor Type

Crew Type	2024	2025
Contractor	$328,856	$318,002
Staff	$84,663	$116,512
Volunteer	$269,058	$194,138
Total	**$682,578**	**$628,652**

[4] Average hourly costs are derived from a selection of invoices from work performed by contractors.

EFFECTIVENESS OF PEST CONTROL PROGRAM

The IPM Program identifies the following criteria for assessing the effectiveness of the Program every year:

- Work health/exposure in buildings;
- Reduction of pesticide use in buildings;
- Per-acre herbicide use;
- Preservation of biodiversity and natural resource values;
- Public participation in pest control (e.g., volunteer invasive weed pulling projects); and
- Staff training, public outreach, and educational activities.

WORKER HEALTH/EXPOSURE IN BUILDINGS

Midpen remains committed to minimizing worker exposure and health risks associated with pesticide use in and around District facilities. Only specific low-toxicity pesticides approved in the 2014 Integrated Pest Management Program Environmental Impact Report (EIR) are authorized for use in building environments (Table 15).

All approved products carry a "Caution" signal word, indicating a reduced risk classification for workers and occupants of treated buildings. These products are used only as necessary and in accordance with Integrated Pest Management (IPM) principles that emphasize prevention, exclusion, and non-chemical control methods first.

A restricted rodenticide bait formulation containing cholecalciferol is technically approved for use under strict, limited conditions; however, it was not used during 2024 or 2025. Instead, all rodent management relied exclusively on prevention measures and trapping, consistent with Midpen's ongoing goal of maintaining pesticide-free rodent control in District buildings.

Table 15: Approved pesticides used in buildings

Pesticide Category	Active Ingredient	Product Formulation	Purpose	Signal Word
Rodenticide	Cholecalciferol	Cholecalciferol baits	Rodent control	Caution
Insecticide[8]	Diatomaceous earth	Diatomaceous earth	Structural pest control	Caution
	Hydroprene	Gentrol Point Source	Structural pest control	Caution
	Indoxacarb	Advion Gel baits	Structural pest control	Caution
	Sodium tetraborate	Terro Ant Killer II	Structural pest control	Caution
	Fipronil	Maxforce Bait Station	Structural pest control	Caution

REDUCTION OF PESTICIDE USE IN BUILDINGS

[5] Brush management done by contractor are a lump sum contract. Staff are unable to assign a per hour rate and those contracts have been excluded.
[6] Average hourly costs were provided by the Finance Department.
[7] Signifies the estimated value of volunteer work and not true cost, as this is pro bono, volunteer work. This value is used for analysis purposes only. Refer to: https://independentsector.org/research/value-of-volunteer-time/.

[8] Employees, contractors, and tenants may install approved ant and roach bait stations inside buildings in tamperproof containers without review by a Qualified Applicator License/Certificate holder.

Midpen is committed to comprehensively overseeing all pesticide use in and around District buildings, including applications by tenants. This oversight is intended to achieve a continued reduction in overall pesticide use within built environments and to eliminate applications in areas occupied by people or visitors and prevent unintended chemical drift or runoff into adjacent wildland habitats.

PEST CONTROL NOT COVERED BY IPM PROGRAM

During the 2024-2025 reporting period, structural pests that inhabit soil or wood components of buildings—such as termites, wood-boring beetles, and wood-decaying fungi—are not included in Midpen's Integrated Pest Management (IPM) Program. Occurrences of these species are addressed on a case-by-case basis, following consultation with qualified professionals and in accordance with applicable building maintenance and safety protocols.

In 2026, the IPM Program was updated to allow management of these structural pests under the Program.

WASP CONTROL FOR PUBLIC SAFETY

Many social wasps, such as yellowjackets, are native species that play important ecological roles and are only considered pests when their nests conflict with human use of an area. For example, nests built under building eaves, near trailheads, or along frequently used paths can lead to defensive behavior that poses a risk of painful stings, which may trigger allergic reactions in sensitive individuals.

When multiple stinging incidents occur or when public safety is at risk, Midpen staff manage these nests using physical removal or targeted chemical control methods, balancing visitor safety with the ecological value of native wasp populations. All treatments are conducted in accordance with Integrated Pest Management principles, emphasizing least-toxic methods and avoiding intervention unless necessary to protect human health.

PER-ACRE HERBICIDE USE

Midpen aims to reduce herbicide use per acre over time at individual treatment sites, recognizing that short-term increases may occur when new infestations are first addressed. In many cases, an initial period of intensive chemical or mechanical control is required to suppress well-established pest populations. Once infestations are reduced and the seedbank depleted, treatments typically transition to low-intensity manual methods, resulting in a long-term decline in herbicide use.

Most projects employ an integrated treatment approach, combining multiple methods—such as hand removal, mowing, targeted herbicide applications, and revegetation with native species—to achieve lasting ecological restoration. Temporary pulses of increased herbicide use are anticipated in future years as Midpen acquires new lands with priority infestations or initiates management at previously untreated sites.

This adaptive management approach enables the District to respond efficiently to changing site conditions while maintaining its commitment to minimizing chemical inputs and protecting ecological integrity across the preserve system.

PRESERVATION OF BIODIVERSITY AND NATURAL RESOURCE VALUES

As part of this section, Midpen staff provides an annual qualitative assessment of natural resource conditions within Integrated Pest Management (IPM) projects across the District's natural areas. These lands include grasslands, woodlands, and riparian corridors where vegetation management supports the preservation of biodiversity, sensitive habitats, and ecosystem resilience.

Monitoring Summary and Scope

Between 2024 and 2025, staff conducted 226 vegetation monitoring activities across 13 open space preserves. Most activity occurred in Sierra Azul, Cloverdale, Purisima Creek Redwoods, La Honda Creek, Tunitas Creek, and Bear Creek Redwoods Preserves.

Efforts primarily targeted high-priority invasive plant species such as French broom (*Genista monspessulana*), Spanish broom (*Spartium junceum*), Italian thistle (*Carduus pycnocephalus*), and stinkwort (*Dittrichia graveolens*). These species continue to pose threats to native grasslands, oak woodlands, and riparian zones by outcompeting native vegetation and altering habitat structure.

Treatment and Methods

Manual removal remains the primary management method across natural areas, complemented by targeted mowing and selective herbicide application when required for initial control. Many projects have now transitioned to low-intensity maintenance phases, reflecting the District's long-term success in suppressing established infestations.

The reduction in chemical use during the tenure of the IPM Program reflects a deliberate management strategy rather than a decline in treatment effort. The shift toward manual, volunteer-supported control—particularly at Bear Creek Redwoods, Skyline Ridge, and Windy Hill—has allowed continued coverage without increasing staff workload. Although the 2024-2025 reporting period saw an increase in hours of herbicide use, this increase was primarily associated with the implementation of the conservation grazing brush removal and fuel reduction programs, which expanded vegetation management in 2024.

Resource Conditions and Trends

Overall, monitoring indicates that vegetation structure and species composition have stabilized in most treated areas. Sites with repeated manual control show increasing native herbaceous cover and decreasing densities of invasive woody shrubs. In a few localized areas—particularly in coastal grasslands—recolonization by broom and thistle was observed, indicating a need for continued cyclical maintenance every 2–4 years.

The breadth of activity across preserves demonstrates systemwide implementation of IPM principles. Continued volunteer participation remains essential to maintaining gains and preventing reestablishment of invasive species across such a large and diverse landscape.

Successes and Difficulties in Reaching Treatment Objectives

Across the 2024–2025 reporting period, natural area management continued to make progress toward District treatment objectives. The expansion of manual control and volunteer-based projects allowed Midpen to maintain or improve habitat conditions across open space preserves, despite continued challenges associated with terrain, species persistence, and climatic variability.

Successes included the effective suppression of broom species (*Genista monspessulana* and *Spartium junceum*) in several long-standing treatment areas, where infestations have now transitioned into maintenance phases requiring only limited follow-up work. Enhanced volunteer coordination through the Land and Community Group Steward Program provided a significant labor force for hand-pulling and monitoring, particularly at Bear Creek Redwoods, Windy Hill, and Sierra Azul, where community participation greatly contributed to invasive plant removal efforts. Additionally, early detection of isolated infestations—such as *Dittrichia graveolens* (stinkwort) and *Foeniculum vulgare* (fennel)—prevented broader spread into adjacent sensitive habitats.

The reporting period also included several personnel changes and reductions in IPM capacity that limited the amount and location of work that could be completed. Renewed emphasis on conservation grazing brush management and fuels management resulted in resources being redirected away from IPM activities, creating additional challenges in maintaining treatment schedules and responding to emerging invasive plant threats. Continued investment in IPM staffing and resources will be essential to sustain progress, support early detection and cyclic maintenance efforts, and meet vegetation management goals as the District continues to expand.

RANGELAND

Within rangeland areas, Midpen used a combination of herbicide and non-herbicide methods to control high-priority invasive plants with the dual goals of enhancing native biodiversity and maintaining wildfire resilience. Management actions also support the local agricultural economy and the region's rural heritage by sustaining open, functional rangeland landscapes. For additional information, refer to the Conservation Grazing Program section of this report.

Across all conservation grazing units monitored in 2024 and 2025, vegetation data indicate a continued positive ecological response to integrated management.

Several important vegetation management projects were conducted during the 2024-2025 monitoring period. The District worked with contractors and grazing tenants to carry out targeted brush management across multiple conservation grazing properties with the aim of maintaining open grassland habitat, improving grazing capacity and operational flexibility, and reducing wildland fuel loads. Site selection emphasized areas with known occurrences of native herbaceous plant communities that are threatened by woody succession and known occurrences of grassland birds and other wildlife. Approximately 800 acres of brush were treated cumulatively over the two years. Several non-native invasive plant species were also targeted during this work including jubata grass (*Cortaderia jubata*), French broom (*Genista monspessulana*), bull thistle (*Cirsium vulgare*), and poison hemlock (*Conium maculatum*). The District continued work on eradication of cheat grass (*Bromus tectorum*) from Tunitas Creek Grazing Unit and observed substantial reductions since Spring of 2024. The District has continued work on infestations of several other non-native invasive plants across the conservation grazing properties. There were a few notable new occurrences of invasive plants documented in 2025 including two previously undocumented occurrences of barbed goat grass (*Aegilops triuncialis*) and one previously undocumented occurrence of cheatgrass (*Bromus tectorum*) at Big Dipper-Mindego Grazing Unit, and one new occurrence of medusahead (*Elymus caput-medusae*) at Lone Madrone Grazing Unit. These occurrences have been documented in Calflora and added to the 2026 workplan. Monitoring results indicate that coordinated grazing and vegetation management are maintaining low to moderate invasive cover, enhancing native herbaceous composition, and sustaining the fire-resilient grassland structure that underpins Midpen's rangeland stewardship goals.

PUBLIC PARTICIPATION AND VOLUNTEER CONTRIBUTIONS

The public continues to play an integral role in the success of Midpen's Integrated Pest Management (IPM) Program. Volunteers contribute significantly to invasive plant control, early detection, and overall resource stewardship. Their efforts extend the District's capacity to manage vegetation effectively while fostering community involvement in open space preservation.

Land and Community Group Steward Volunteers

In 2024 and 2025, Land and Community Group Steward volunteers contributed a combined 6,515 hours to resource management through 244 organized group projects. These projects supported IPM objectives across multiple preserves, focusing on the removal and monitoring of 23 invasive plant species, including several of regional ecological concern (Table 16).

Table 16: Invasive species treated by volunteers

Scientific Name	Common Name
Aegilops cylindrica	Jointed goatgrass
Aegilops triuncialis	Barbed goatgrass
Baccharis pilularis	Coyote brush
Brachypodium sylvaticum	False brome
Carduus pycnocephalus	Italian thistle
Carduus tenuiflorus	Slender-flowered thistle
Centaurea melitensis	Maltese starthistle
Centaurea solstitialis	Yellow starthistle
Cirsium vulgare	Bull thistle
Conium maculum	Poison hemlock
Cortaderia jubata	Jubata grass
Cytisus scoparius	Scotch broom
Dipsacus fullonum	Common teasel / Wild teasel
Dittrichia graveolens	Stinkwort
Euphorbia characias	Mediterranean spurge
Foeniculum vulgare	Fennel
Genista monspessulana	French broom
Hirschfeldia incana	Shortpod mustard / Hoary mustard
Hypericum perforatum	St. John's wort
Myosotis latifolia	Broadleaf forget-me-not
Silybum marianum	Milk thistle
Spartium junceum	Spanish broom
Vinca major	Greater periwinkle

These volunteer-driven projects provide measurable benefits by reducing invasive cover, supporting native plant regeneration, and enhancing wildlife habitat. Many Land Steward teams also assist with data collection to support early detection/rapid response (EDRR) monitoring, improving the District's ability to address emerging invasive species efficiently.

Advanced Resource Management Stewards (ARMS)

In addition to group-based projects, Midpen supported 26 active Advanced Resource Management Stewards (ARMS) during 2024 and 2025. These volunteers work independently on resource management activities within designated preserves, conducting site-specific invasive control, habitat restoration, and monitoring on their own time under District guidance.

Over the two-year reporting period, ARMS volunteers contributed 2,295 hours across 17 open space preserves, providing consistent stewardship presence and on-the-ground ecological monitoring. Their efforts are a vital extension of the IPM Program's capacity and contribute directly to maintaining ecological resilience across Midpen lands.

Together, stewardship volunteers contributed over 8,810 hours to vegetation management in 2024 and 2025, representing an essential component of Midpen's integrated approach to invasive species control, biodiversity protection, and community-supported land stewardship.

STAFF TRAINING, PUBLIC OUTREACH, AND EDUCATIONAL ACTIVITIES

STAFF TRAINING

Ongoing training is a critical component of Midpen's Integrated Pest Management (IPM) Program and ensures that all field operations are conducted safely, effectively, and in full compliance with environmental regulations.

Pesticide Safety Training

The mandatory annual Pesticide Safety Training was conducted for all field staff, biological monitors, and contractors in June 2024 and again in April 2025. These sessions provided instruction on safe handling, application, storage, and disposal of pesticides, as well as requirements under state and federal law.

Rangers whose duties are limited to wasp control using Wasp Freeze participated in an abbreviated training module focused specifically on wasp identification, nest management, and product safety.

Botanical Identification and Habitat Awareness Training

Due to restrictions and scheduling impacts related to the COVID-19 pandemic, the traditional annual wildflower training sessions were suspended through the end of 2023. These field-based trainings (typically led by qualified botanists) are designed to familiarize District staff with native and non-native plant identification in grasslands with high biodiversity. The District resumed these annual trainings in 2024 once normal operations allowed, as they are an important opportunity for field staff to build practical botanical knowledge.

Special Status Species and Habitat Awareness Training

In-person Special Status Species and Habitat Awareness trainings were conducted in 2024 and 2025. These sessions provided staff with an overview of state and federally listed species, their habitat requirements, and regulatory protections, including updates on laws, best management practices, and field identification protocols. A dedicated section focused on the California red-legged frog (*Rana draytonii*) and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), emphasizing species-specific avoidance measures for staff working in areas where these species occur.

Together, these trainings ensure that Midpen's staff and contractors remain knowledgeable, compliant, and equipped to implement ecologically sensitive land management practices that support both public safety and biodiversity conservation.

REGIONAL COOPERATION

Invasive species do not recognize jurisdictional boundaries, making regional coordination essential to effective management. Midpen actively collaborates with neighboring land management agencies to target invasive species at a landscape scale, ensuring treatments are ecologically meaningful and mutually reinforcing across property lines.

Midpen participates in several regional cooperatives, including the San Mateo and Santa Clara County Weed Management Areas (WMAs). These groups, coordinated through the County Agricultural Commissioners' offices, foster interagency communication and cooperation on high-priority invasive species. Participation in WMAs also provides opportunities for joint grant applications, enabling Midpen to secure funding for cross-jurisdictional weed control and restoration projects.

In addition, Midpen is an active member of the Santa Cruz Mountains Stewardship Network (SCMSN), a coalition of organizations working to align land stewardship efforts across San Mateo, Santa Clara, and Santa Cruz counties. Through this partnership, Midpen is collaborating with Cal-IPC and Calflora to develop a regional Invasive Species Atlas—a shared GIS platform designed to improve data exchange and coordination of management actions across agency boundaries.

These cooperative efforts strengthen the collective capacity of regional partners to detect, control, and prevent the spread of invasive species, supporting a more resilient and interconnected Santa Cruz Mountains ecosystem.

SUMMARY OF PESTICIDE USE

Table 17 summarizes the combined use of pesticides on Midpen lands. This data excludes Pacific Gas and Electric (PG&E), which is not covered under Midpen's Integrated Pest Management Program. PG&E is required to report pesticide use to each County Agricultural Department separately.

Table 17: Pesticide Use on Midpen Lands in 2024 and 2025

Pesticide Type	Trade Name	Active Ingredient	Amount Used (ounces)	Gross Acre Treated (acres)	Ounces/Acre
Fungicide	Reliant	Potassium salts of phosphorus acid	0.0	0.0	-
Herbicide	Capstone	Triclopyr + aminopyralid	3,425.25	17	201.49
	Garlon 4 Ultra	Triclopyr	929.18	5	185.84
	Milestone	Aminopyralid	233.08	18	12.95
	Polaris	Imazapyr	12	2	6
	Roundup Custom	Glyphosate	4,975	17	292.71
	Roundup ProMax	Glyphosate	218	13	16.77
Insecticide	Wasp Freeze II	Prallethrin[9]	63	-	N/A
Rodenticide		Cholecalciferol	0.0	0.0	-
Virucide	Virex II 256	Didecyl dimethyl ammonium chloride	203	-	N/A

[9] Prallethrin is used only to treat stinging insects when they pose a direct threat to public safety (i.e. nests adjacent to trails, restrooms, and parking lots).

CHANGES TO GUIDANCE MANUAL

UPDATING THE LIST OF APPROVED PESTICIDES

The List of Approved Pesticides is intended to change over time as the science of pest control advances and more effective, safer, and less harmful pesticides are developed; as manufacturers update, discontinue, or substitute products; and as target pests change.

In instances where new products with new active ingredients are found to be safer, more effective, and/or less costly than products on the List of Approved Pesticides, Midpen may elect to add new pesticides. This type of change typically requires additional toxicological review, and depending on the results, may also require additional environmental review.

During the 2024–2025 reporting period, the Approved Pesticide List was evaluated as part of the 10-Year Review of the IPM Program. The review was completed in 2026 and resulting changes to the Program and List of Approved Pesticides were subsequently adopted for implementation.

10-YEAR REVIEW OF IPM PROGRAM

The IPM Program, adopted in December 2014, was intended to undergo a detailed review after 10 years of implementation. Midpen began the 10-Year Review in 2023 to assess the Program's strengths and weaknesses and identify potential changes to improve its effectiveness.

During 2024 and 2025, Midpen continued evaluating potential updates to the Program, including a greater emphasis on restoring and maintaining healthy ecosystems rather than focusing solely on the control of individual pest species. This approach was intended to support more holistic habitat management and allow work to be prioritized around ecosystems and sites in need of restoration or enhancement.

The 10-Year Review was completed in 2026, and the resulting updates to the IPM Program were approved by the Board on March 25, 2026.

WILDLAND FIRE RESILIENCY PROGRAM REPORT

The WFRP specifies that Midpen will prepare an Annual Program Report each year that describes actions conducted in the previous year. The report is presented to the General Manager for initial approval. The report is then forwarded to the Board of Directors for review and acceptance/approval. Annual reports, including this one (which is prepared as a two-year report covering 2024 and 2025), include the following basic information:

1. Introduction
2. Projects Implemented During Calendar Year
3. Summary of On-Going or Cyclical Monitoring Activities and Results
4. Successes in Reaching Treatment Objectives and Meeting Requirements
5. Difficulties in Reaching Treatment Objectives and Meeting Requirements
6. Recommendations for Changes in Future Efforts to Increase Success

INTRODUCTION

The Wildland Fire Resiliency Program (WFRP), adopted in 2021 and first implemented in 2022, provides a comprehensive framework for reducing wildfire risk while restoring ecological processes and enhancing the resilience of Midpen's forest and chaparral ecosystems. The program emphasizes ecologically sensitive fuel management, integration of forest health and habitat objectives, and regional collaboration with partner fire agencies.

Vegetation management under the WFRP includes the removal or modification of live and dead vegetation to reduce potential fire spread, flame lengths, and severity, while also addressing ecological stressors such as forest disease and invasive species. These activities further Midpen's mission to protect the natural environment through proactive stewardship and adaptive management.

Vegetation management may also achieve the following:

- Reduction of ecological resource impacts from forest disease, invasive species, and wildland fire;
- Maintenance of emergency response and evacuation access roads;
- Minimization of rehabilitation needs following fire suppression; and
- Strategic support for safe, effective firefighting operations.

Since its adoption, the WFRP has focused on identifying, prioritizing, and implementing Vegetation Management Areas (VMAs) that provide the greatest ecological and safety benefits. Each new area is designed through a science-based methodology approved by the Board of Directors, integrating resource conditions, fire behavior modeling, and input from partner agencies.

METHOD OF PRIORITIZING THE ESTABLISHMENT OF NEW VEGETATION MANAGEMENT AREAS

The creation of new Vegetation Management Areas is based on the prioritization of selected locations within District-managed lands. The methodology for locating and prioritizing areas for management was developed by staff with extensive outreach to partner fire agencies and approved by the Board.

ECOSYSTEM RESILIENCY (FOREST HEALTH/FUEL REDUCTION AREAS)

Fuel Reduction Area (FRA) treatments are typically implemented to achieve a combination of habitat enhancement and wildland fire risk reduction. Fuel ladders and surface fuels are greatly reduced in FRAs, 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.

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 1 acre in size. Areas classified as "water" or "wetland" are excluded from treatment. Ecosystem health and condition factor into the location of new FRAs. FRAs are identified by Midpen or other professional fire management or vegetation management staff as important areas for ecosystem health and resiliency.

METHODOLOGY FOR PRIORITIZING FUEL REDUCTION AREAS

To determine where fuel reduction treatments will provide the greatest ecological and safety benefits, Midpen uses a point-based prioritization system that considers a range of environmental and management factors. Areas earning the highest cumulative scores are given top priority for implementation.

In practice, priority is given to locations near sensitive natural resources—such as habitats supporting rare, threatened, or endangered species—or areas degraded by invasive plants that would respond favorably to treatment. Sites located within zones of elevated wildfire risk or near forest stands affected by disease, such as sudden oak death (SOD), are also ranked highly.

Midpen staff and partner agency professionals further identify areas that contribute to overall ecosystem resiliency, including forested slopes, box canyons, and areas with dense road networks where fuelbreaks can improve both habitat health and fire management access. Forests that have grown unnaturally dense due to historic land use, such as former timber harvest areas, also receive emphasis, as treatments here can help restore natural structure and reduce competition among trees.

Other high-priority sites include those proposed for prescribed fire to enhance ecological function, habitats that support the development of late-seral forest conditions, and grasslands or scrublands where brush encroachment is altering the fuel regime or leading to type conversion. Finally, areas within or adjacent to identified climate refugia—zones expected to provide ecological stability amid climate change—are prioritized to maintain habitat integrity and adaptive capacity across the landscape.

ENHANCED FIRE MANAGEMENT

Enhanced fire management treatment allows for the safer passage of the public out of and responding emergency agency into active emergency areas. Treatment is done at a higher level of fuel reduction than that of natural area treatment for forest health.

Fuelbreaks are linear strips of land where trees, vegetation, and dead material have been reduced or removed. These areas can slow the spread of a wildland fire. Fuelbreaks also provide firefighters with zones to take a stand against or control the spread of a wildland fire, or retreat from fire if the need arises. Typically, fuelbreaks are strategically located based on many factors including terrain, existing roads, at risk communities, critical infrastructure, presence of potential ignition sources, fire management logistics areas, evacuation routes, target hazards, and sensitive resources.

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. It should be noted that fuelbreaks typically do not stop fires without fire department response and fires may still jump a fuelbreak regardless of fuelbreak size during extreme fire weather, intense fire behavior, or other confounding scenarios.

METHODOLOGY FOR LOCATING POTENTIAL VMAS FOR ENHANCED FIRE MANAGEMENT

To strategically reduce wildfire risk and improve firefighter safety, Midpen identifies Vegetation Management Areas (VMAs) for enhanced fire management using a set of spatial and operational criteria. These areas are designed to strengthen ecosystem resiliency while providing defensible zones that support emergency response and protect critical infrastructure.

Priority locations are those that enhance and facilitate fire suppression activities—such as providing safe ingress and egress routes, access for fire engines, or operational space for firefighting personnel and equipment. VMAs are often situated adjacent to or near existing or planned fuel treatment zones, creating continuous areas of reduced fuel where firefighters can more effectively manage fire behavior.

In coordination with state and local fire agencies, professional fire management staff help identify additional sites where vegetation treatments would most improve suppression capacity or protect key assets. Typical VMA locations include areas within 10 to 25 feet of primary emergency access roads used by Wildland Type 3 fire engines, within 100 feet of Midpen structures, and within 200 feet of essential emergency infrastructure such as communications towers, fire stations, medivac sites, or water tanks.

VMAs may also be established near designated fire response zones—such as parking areas, staging sites, or landing zones—to ensure operational readiness and safety during wildfire events. Similarly, areas within 200 feet of known evacuation routes or sensitive natural resources that would benefit from fuel reduction may be prioritized. Finally, sites within 300 feet of high-value community assets, including schools, hospitals, and nursing homes, are identified to reduce risk to life and property during wildfire emergencies.

METHODOLOGY FOR PRIORITIZING VMAS

Once potential Vegetation Management Areas (VMAs) are identified, Midpen prioritizes them using a point-based ranking system designed to focus resources where vegetation management will most effectively reduce wildfire risk and protect both ecological and human assets. Areas that meet multiple criteria receive higher scores and are scheduled earlier for treatment.

Highest priority is given to locations that directly reduce risk to people and property—such as those within 100 feet of Midpen structures, or within 300 feet of critical emergency response infrastructure like communication towers, water tanks, medivac sites, or fire stations. Areas adjacent to schools, hospitals, or nursing homes are also weighted heavily to enhance community safety and provide buffer zones around vulnerable populations.

Sites within 300 feet of designated evacuation routes or fire response zones—such as parking areas, staging zones, and helicopter landing sites—are prioritized for their role in improving firefighter access and public evacuation safety. Similarly, areas identified as high fire-risk zones (including those mapped by CAL FIRE as "Very High Fire Hazard Severity Zones") receive additional emphasis.

From an ecological perspective, priority is also given to areas near forest disease outbreaks, particularly those within 200 feet of stands affected by sudden oak death, and to locations where sensitive natural resources could benefit from treatment. Proximity to existing or planned fuel treatments, both within Midpen lands and on adjacent properties, further increases a site's ranking by supporting landscape-scale continuity in fuel reduction efforts.

Finally, professional fire management staff may elevate sites based on field observations and operational experience, ensuring that local knowledge and changing environmental conditions are incorporated into the prioritization process. This integrated approach allows Midpen to strategically align fire resilience, ecological restoration, and public safety objectives across the preserve system.

PROJECTS IMPLEMENTED DURING THE CALENDAR YEAR

This section identifies the projects under the Wildland Fire Resiliency Program that were implemented in 2024 and 2025, including location, open space preserve, methods used, work force, equipment used, herbicide used, acreage treated, etc.

Table 18: Major Projects Implemented

Preserve	Location	Methods Used	Work Force	Equipment Used	Herbicides Used	Acreage Treated
Sierra Azul	Cathedral Oaks	Manual, Mechanical, and Herbicide	Contractors	Track chipper, excavator, feller-buncher, bucket truck, pole saw, chainsaw, herbicide	Roundup Pro Max	2.5
Rancho San Antonio	Chamise Trail	Manual and Mechanical	Crew	Remote Slope Mower, Tractor with mower attachment, Chain Saw, pole saw, chipper	NA	50
Bear Creek Redwoods, Sierra Azul	Los Gatos Creek Watershed	Manual and Mechanical	Crew and Contractor	Skid steer mounted masticator, chainsaw, pole saw	NA	369
El Sereno, Felton Station, Sierra Azul	Los Gatos Creek Watershed	Manual and Mechanical	Contractor	Remote Slope Mower, excavator with masticator, Chain Saw, pole saw, chipper	NA	150
Sierra Azul	Rancho De Guadalupe	Mechanical and Manual + Pile Burns	Crew	Remote Slope Mower, Chain Saw, pole saw	NA	8
Windy Hill	Willowbrok / Meadow Trail	Manual and Mechanical	Contractor	Masticator, chain saw, pole saw, chipper	N/A	12.5
Windy Hill	Hwy 35 old discline /Razorback	Manual and Mechanical	Crew & Contractor	Masticator, chain saw, pole saw, chipper	N/A	10
Russian Ridge	Hwy 35 - parking lot to Bergman driveway	Manual and Mechanical	Crew & Contractor	Masticator, chain saw, pole saw, chipper	NA	33
Russian Ridge	Hwy 35 – Rapley Ranch Rd.	Manual and Mechanical	Crew	Masticator, chain saw, pole saw, chipper	N/A	10.5
El Corte Madera	Hwy 35 – CalWater tanks/LZ	Manual and Mechanical	Crew	Masticator, chain saw, pole saw, chipper	N/A	5
Thornewood	Hwy 84	Manual and Mechanical	Crew	Masticator, chain saw, pole saw, chipper	N/A	6.5
Skyline Ridge	Hwy 35 – Parking Lot North	Manual and Mechanical	Contractor	Masticator, chain saw, pole saw, chipper	N/A	10

Preserve	Location	Methods Used	Work Force	Equipment Used	Herbicides Used	Acreage Treated
Montebello	Hwy 35 – Sherril House	Manual and Mechanical	Crew	Masticator, chain saw, pole saw, chipper	N/A	12
La Honda	Old La Honda Rd	Pile Burn and Manual	Contractor/ Crew	Pile burn, chainsaw	N/A	1.5
La Honda	Hwy 84 Eucalyptus Removal	Manual	Contractor	chain saw, pole saw, chipper, crane, aerial lift	N/A	2
La Honda	Sears Ranch Rd – Apple Orchard	Manual and Mechanical	Contractor	Masticator, chain saw, pole saw, chipper	N/A	41
Foothill, Los Trancos	Page Mill Rd	Manual and Mechanical	Crew/ Contractor	Masticator, chain saw, pole saw, chipper	N/A	27
Ling Ridge	Hwy 35 – Charcoal Rd to Saratoga Gap	Manual	Contractor	Chain saw, pole saw	N/A	8.5

SUMMARY OF ON-GOING OR CYCLICAL MONITORING ACTIVITIES AND RESULTS

This section describes any additional long-term, regional, district-wide, or other monitoring effort or program not related to a specific activity or project.

SUDDEN OAK DEATH

Midpen's work to address Sudden Oak Death (SOD) is completed through collaborations with the SODMAP Project, which is a partnership of scientists and citizens, working together to create the most complete distribution map of a forest disease ever produced in North America. SODMAP incorporates laboratory-confirmed collections of plant and water samples from 2005 to the present. It includes both SOD-positive and SOD-negative specimens, as well as genetic testing for various pathogen lineages, to better illustrate the range and distribution of the disease.

SODMAP is the result of a collaboration between hundreds of community scientists participating each year in the SOD Blitzes organized by the U.C. Berkeley Forest Pathology and Mycology Laboratory, other research organizations, and government facilities. A new, more infectious and virulent lineage of the pathogen was detected in 2024 through the SOD Blitz Survey Project. Additional surveying in 2025 has helped further delineate the zone of infection for the three major pathogen lineages and characterize the status of the disease as a high severity epidemic.

SUCCESSES IN REACHING TREATMENT OBJECTIVES AND MEETING REQUIREMENTS

On-the-ground fuel reduction work on the portion of the Los Altos Hills Strategic Community FuelBreak that crosses through the Rancho San Antonio Preserve commenced in 2025 after the completion of botanical reports and biological surveys. This work consisted of removing vegetation along the Chamise and Black Mountain trails. The utilization of mechanical equipment has significantly increased capacity of District field crew performing enhanced fire management work. A midsized excavator with masticating and grapple attachments was purchased in 2025, which was in addition to the grant funded equipment purchased in 2023 (track mounted mid-sized chipper and Robomax remote controlled

masticator). The excavator increases the capacity of the size of woody material that can be treated and enables work to be performed from existing roads and trails while reaching up to 30 feet into treatment areas. The excavator has also allowed for greater application of existing District equipment. Namely, a large "whole tree" track chipper that was previously limited in its application on fuel reduction projects. Many of these pieces of equipment complement one another at various project sites. For example, the Robomax excels on steep slopes where there is heavy brush, and both track chippers do well on moderate slopes reaching material in wooded areas where a tow behind chipper cannot access. In contrast, the excavator does well in both brush and wooded areas on moderate slopes and can directly feed large brush and logs into the whole tree chipper.

Additional equipment will be necessary to address the high demands to retreat and maintain fuel reduction areas created under the WFRP over the last 5 years and into the future. Equipment such as masticating skid steers specifically designed and outfitted to better withstand the extreme demands placed upon it during wildland fire fuel treatment work is critical for meeting future needs. Current skid steers utilized for fuel treatment work are shared pieces of equipment, which are also frequently used for general maintenance operations. Efficiently run enhanced fire management projects typically require that the equipment be available for use at the job site for the duration of the project, which is often for several weeks or months during the construction season, necessitating dedicated equipment for these types of projects.

DIFFICULTIES IN REACHING TREATMENT OBJECTIVES AND MEETING REQUIREMENTS

The maintenance of previously treated fuel reduction areas is critical to ensuring sustainable resilience of District lands to severe and catastrophic wildfire. The time spent maintaining sites reduces the amount of resources that can be directed toward untreated acres. Conversely, every acre of new treatment area requires additional future resources to be allocated for maintenance. With the current staff, equipment and contract budget resources available, it is anticipated that fuel treatment area maintenance demands will eclipse new fuel reduction work within the next 2-3 years.

MISCELLANEOUS PROJECTS NOT COVERED UNDER PROGRAMS

The three programs discussed above account for most of the vegetation work District-wide. Other projects that require vegetation work are scoped and approved by other plans and require separate CEQA documentation. They are discussed here to provide a fuller picture of the District's work to protect and restore the natural environment.

MITIGATION FOR CAPITAL PROJECTS (PUBLIC ACCESS)

BEAR CREEK PHASE II TRAILS MITIGATION SITES, BEAR CREEK REDWOODS, 2023

Nursery grown trees, shrubs, perennials, and direct-seeded tree basins were planted at four locations at Bear Creek Redwoods Preserve to mitigate impacts to vegetation associated with the Bear Creek Phase II Trail Improvements Project. Performance criteria for permit mitigation requirements were ongoing and slated to be completed by 2033.

ALPINE ROAD MITIGATION SITE, COAL CREEK, 2023

Nursery grown trees, shrubs, perennials, and direct-seeded tree basins were planted at one location along the Alpine Road Trail to mitigate impacts to vegetation associated with the Alpine Road Regional Trail Improvement Project. Performance criteria for permit mitigation requirements were ongoing and slated to be completed by 2028.

BEAR CREEK REDWOODS TREE FARM MITIGATION SITE, BEAR CREEK REDWOODS, 2019

Direct-seeded tree basins were planted to mitigate tree removals associated with the Bear Creek Redwoods parking lot. Performance criteria for the county mitigation requirements have been met. Performance criteria for CDFW mitigation requirements for the Mud Lake Improvements Project offsite mitigation were ongoing and completed by 2024.

MUD LAKE MITIGATION SITE, BEAR CREEK REDWOODS, 2019-2020

Nursery grown shrubs, vines, and direct-seeded tree basins were planted at two locations adjacent to Upper Lake at Bear Creek Redwoods Preserve to mitigate impacts to vegetation associated with the Mud Lake Improvements Project. Additional direct-seeded tree basins were installed offsite at the Bear Creek Redwoods Tree Farm Mitigation Site. Performance criteria for on-site invasive species permit mitigation requirements were not achieved in Year 5, 2024, therefore mitigation monitoring and reporting was extended for the on-site mitigation areas for 1 additional year through 2025.

UPPER LAKE MITIGATION SITE, BEAR CREEK REDWOODS, 2022

Nursery grown vines and wetland plugs were planted at Upper Lake to mitigate impacts to vegetation associated with the Upper Lake Enhancement Project. Performance criteria for permit mitigation requirements are ongoing and were slated to be completed by 2027 but due to replacement planting in 2024, mitigation monitoring and reporting is extended through 2029.

WEBB CREEK BRIDGE REPLACEMENT MITIGATION SITE, BEAR CREEK REDWOODS, 2018

Nursery grown perennials, shrubs, and trees were planted at the Webb Creek Bridge Replacement Project Site and trees were installed at an offsite mitigation site at Upper Lake to mitigate impacts to vegetation associated with the project. Performance criteria for permit mitigation requirements were not achieved at the offsite tree planting area at Upper Lake in Year 5, 2023, therefore mitigation monitoring and reporting was extended until invasive species cover was achieved.

The RWQCB signed off on project completion in October 2025. A site visit with CDFW will be scheduled in 2026 for sign off on project completion.

STEVENS CREEK NATURE TRAIL BRIDGES MITIGATION SITE, MONTE BELLO, 2020

Nursery grown perennials, shrubs, and trees were planted to mitigate impacts to vegetation that occurred during the construction of two bridges along the Stevens Creek Nature Trail. Performance criteria for permit mitigation requirements are ongoing and were slated to be completed by 2028. Due to replacement planting in 2023, mitigation monitoring and reporting is extended through 2028 for understory species and 2031for tree species.

HARKINS BRIDGE MITIGATION SITE, PURISIMA CREEK REDWOODS, 2019

Willow stakes and nursery grown perennials, shrubs, and trees were planted at the Harkins Bridge Replacement Project Site to mitigate impacts to vegetation that occurred during bridge removal and replacement activities. Performance criteria for permit mitigation requirements were completed in 2023

RAVENSWOOD BAY TRAIL CONNECTION PROJECT MITIGATION SITE, RAVENSWOOD, 2019

Nursery grown grasses, perennials, and shrubs were planted along the Ravenswood Bay Trail to mitigate impacts that occurred during implementation of the Ravenswood Bay Trail Connection Project. Performance criteria for permit mitigation requirements were completed in 2024.

MINDEGO PONDS ENHANCEMENT MITIGATION SITE, RUSSIAN RIDGE, 2020

Salvaged wetland plugs were planted to restore vegetation at the Mindego Ponds Enhancement Project at Knuedler Lake. Performance criteria for permit mitigation requirements were not completed by Year 3, 2023, therefore mitigation monitoring and reporting was extended until the performance criteria are achieved.

MT. UMUNHUM TRAIL BRIDGES MITIGATION, SIERRA AZUL, 2016-2017

Direct-seeded tree basins and nursery grown perennials and shrubs were planted along the Mt. Umunhum Trail and at an offsite mitigation site along the Woods Trail to mitigate the removal of trees during the installation of three bridges along the Mt. Umunhum Trail. Performance criteria for permit mitigation requirements were not achieved in Year 5, 2022, therefore mitigation monitoring and reporting was extended for 3 additional years through 2025.

MT. UMUNHUM SUMMIT, SIERRA AZUL, 2017-2020

Nursery grown perennials, shrubs, and trees were planted to restore the vegetation at Mt. Umunhum Summit. Performance criteria outlined in the Mt. Umunhum Summit Vegetation Restoration Plan is ongoing and is slated to be completed by 2027.

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