San Mateo County Parks Department

Wildfire Fuel Management Program
2021-2026 Projects

San Mateo County Parks Department
455 County Center, 4th Floor
Redwood City, CA 94063

August 2021

Treatment Site Identification & Prioritization

The identification and prioritization of fuel reduction and fire preparedness projects will be determined using several key criteria, including, but not limited to, public safety, fire risk, site conditions, ecology, effort, and funding. Project identification should also consider the adopted Community Wildfire Protection Plans and/or Local Hazard Mitigation Plans. During the first 5-year period, the San Mateo County Parks Department will prioritize projects that can slow the spread of fire in order to allow residents to evacuate and first responders to access strategic segments of the parks to conduct fire containment and suppression activities.

A core component of preparing the 5-year Wildfire Fuel Management Program is identifying the suite of projects considered high priority to complete within the selected timeframe. This process involves direct collaboration between department field staff and natural resource management staff to identify the necessity and scope of various projects within park properties and completion of a systematic ranking process of projects to determine which are of the highest priority for the treatment plan timeframe. The determination of priority is based on a pre-defined suite of ranking criteria.

Table 1 below outlines the ranking criteria used when considering potential fuel reduction and fire preparedness projects. An Excel spreadsheet that applies a numeric score to the various criteria has been developed to aid in the ranking process. The Ranking Spreadsheet and criteria have been designed so that all projects are provided the same level of consideration and that projects are able to be compared against one another. This ranking process is one phase of the decision-making process for the department, and acts as a tool for assessing project benefits and allocating resources.

Table 1: Fuel Reduction Treatment Site Identification Criteria	
Unless otherwise specified, for all criteria listed below, a rank from 0-5 will be applied, where 0 = not applicable, 1 = low importance for consideration, and 5 = high importance for consideration.	
Criteria	Considerations & Intent
Presence of Private Homes and/or Ranger Residences.	Are private residences or structures within 200 feet of the project area? Are ranger residences within 200 feet of a project area? The intent is to maintain adequate fire clearance and defensible space around park boundaries and ranger residences. When completing the Ranking Spreadsheet, “Yes” is indicated if a structure on private property is within a 200-foot distance from the project boundary, and “No” if structures are farther than 200 feet away. However, a private property may still be considered in proximity if the private property boundary is immediately adjacent to the project area, even if the residence or structure is further than 200 feet away. Scoring is scaled when considering a single private residence versus 30+ residences. For Defensible Space: “Yes” is indicated if the project will create or maintain defensible space for the residential structure on private property. “No” is indicated if the project does not significantly increase the quality of defensible space due to the project distance from structures, boundaries with private

	property, or if current site conditions already provide adequate defensible space for structures within or adjacent to the project area according to CAL FIRE minimum recommended defensible space standards. “N/A” is indicated where structures are not located within 200 feet of the project boundary. This variable is scored on a scale of 1-10, rather than 1-5.
Presence of Park Buildings and Infrastructure	Are there park structures and facilities (i.e. restrooms, ranger stations, water tanks, treatment plants, etc.) within 200 feet of a project area? The intent is to maintain adequate fire clearance and defensible space around park structures and facilities For the Ranking Spreadsheet, “Yes” is indicated if a park structure is within a 200-foot distance from the project boundary, and “No” if structures are farther than 200 feet away. Additional scoring is scaled in consideration of whether there is a single park structure or facility versus 5+ park structures. For Defensible Space: “Yes” is indicated if the project will create or maintain defensible space for either department structure. “No” is indicated if the project does not significantly increase the quality of defensible space due to the project distance from structures or if current site conditions already provide adequate defensible space for structures within or adjacent to the project area according to CAL FIRE minimum recommended defensible space standards. “N/A” is indicated where structures are not located within 200 feet of project boundary.
Wildland-Urban Interface	Is the project location within an area mapped as or considered as the wildland-urban interface (WUI)? Is it immediately adjacent, or within 1 mile of an area mapped as the WUI? The intent is to reduce the risk and rate of fire spreading to adjacent communities within the WUI.
Fuel Type	Determination of fuel types and associated hazards within project areas are made using a combination of map data and field reconnaissance. For the Ranking Spreadsheet, the primary consideration is the dominant ‘Fuel Type’ as mapped in a detailed-resolution County-wide map dataset for Vegetative Fuels. This dataset takes into consideration canopy height, canopy density, ladder fuels, vegetation community type, and moisture availability. Fuel types are described based on how they are expected or anticipated to burn or behave in the event of a fire. Consideration for high-risk vegetation community types is incorporated into this category It is important to note that this preliminary map-based assessment of fuel risk may be modified as more focused field reconnaissance efforts occur. Because the map data and ranking consider the “predominant” fuel type within the project area,

	there may be smaller patches of high-risk fuels within the project area that are not fully accounted for. A higher score in this category indicates the predominant fuel type has characteristics that could pose a higher risk in the event of a wildfire.
Vegetation Treatment Considerations	Are there treatment or management challenges associated with the targeted vegetation community? Is the work location difficult to access due to terrain or existing infrastructure, and would significant modifications be needed in order to facilitate access? Does the treatment approach pose certain constraints that make the project more difficult? For instance, does the prescription involve full removal and hand-felling of a large number of large diameter trees, or is the focus primarily understory thinning? This scoring element considers the type of logistical challenges present when treating and managing the project area. A higher score in this category indicates that vegetation treatment considerations, level of difficulty, ease of access, and feasibility to conduct the work are more favorable and would pose fewer challenges for implementation.
Ecological Benefit	This criterion considers if the project fulfills both fuels management and resource stewardship objectives, and planning has been coordinated to meet those objectives. Ecological benefits of fuel reduction projects include promoting the restoration and development of late-seral forest communities, managing forest diseases such as Sudden Oak Death (SOD), controlling invasive species, promoting native diversity, improving wildlife habitat, and promoting carbon sequestration. This criterion also considers if there are potential impacts to sensitive species or habitats, depending on the location and known presence in these areas, and assesses if measures can be taken to avoid/minimize impacts to sensitive species. Are there recorded occurrences of rare, threatened, or endangered species near the project area, based on records in the California Natural Diversity Database (CNDDB)? Are there known “Environmentally Sensitive Habitat Areas” (i.e. wetlands, streams, rare or sensitive vegetation communities, etc.) ? Are there seasonal or biological considerations that may restrict work activities during certain times of the year? Is there an overall net benefit to the park ecology and ecosystem by performing this work? Can impacts be avoided through the implementation of Avoidance and Minimization Measures and Best Management Practices?

	A high score in this category indicates that concern for impact to sensitive resources is low, and that the net benefit for ecosystem health and ecology is high. The mission of the San Mateo County Parks Department to conserve and protect our natural resources places a higher weight for this criterion. This criterion is ranked on a scale of 1-10 instead of 1-5.
Ingress/Egress and Strategic Fire Routes	Does the project improve ingress/egress for fire response and evacuation? What type of evacuation or access route benefits from this work? What length of road in the access or evacuation route benefits from this project? The intent for some of the projects is to improve access and ability for safe and rapid fire response and/or evacuation along critical routes.
CAL FIRE's Fire Severity Map	How does this project align with CAL FIRE's assessment of the fire severity in the region (utilizing the CAL FIRE map for ranking)?
Longevity	What amount of work is required to maintain previously treated fuels treatment areas? To what extent is re-treatment needed after the initial treatment? What is the return interval in the long-term to maintain the site? Intent is to consider effectiveness of the project in providing fire risk reduction and ecological benefit for a long duration, with lower maintenance needs. For this category – a high score would be applied for a low maintenance/high longevity project.
Professional Judgement	This criterion considers direct input from CAL FIRE, based on their review of the project scope and treatment locations. Their determination of which projects are of high priority based on their professional opinions and familiarity with the region are taken into consideration for this score.
Joint Implementation	This considers if the project has been/or is being jointly planned in coordination with other local and adjacent jurisdictions.
Size of Project Area	Is the project larger scale, addressing >20 acres of treatment, or is it a smaller scale project? A larger acreage can have a greater benefit in the region as a whole. Points will be awarded for projects that either complement one another or that provide linkage to previously treated areas.
Funding & Capacity	Is adequate funding and staffing available for initial treatment and retreatment? Has funding been allocated; will it be lost if project is not implemented in a timely manner? If project is to be completed by department staff, capacity and workload are considered and ability to maintain other essential parks services without impact from the project.

Permits and Approvals	Has the project been previously permitted or is it authorized by the County's Routine Maintenance Manual? Can the CalVTP be utilized for CEQA compliance? Are there other permits that need to be obtained for this work?

Treatment Site Assessment

Qualified personnel must properly assess site conditions before finalizing specific treatment methods within the Wildfire Fuel Management Program.

Taking the criteria in Table 1 above into consideration, site assessments for fuel treatments will involve qualified personnel assessing site conditions before finalizing prescriptions for specific treatments in the Treatment Plan. Site assessments can involve desktop assessments of existing datasets (i.e. GIS data, CNDDB queries, other databases, prior biological resource assessments, other relevant plans or reports), and field reconnaissance and surveying. Verification of vegetation, habitat, and fuel conditions are required in order to prescribe the appropriate treatments and determine appropriate BMPs and protective measures for natural resources. Additionally, field verification is necessary as online databases or reports may not be entirely representative of current site conditions or changes over time.

The following factors should be considered and noted during the site assessment

- Fuel characteristics
- Plant species composition, including cover estimates of dominant, sub-dominant, invasive, and any special-status plant species
- General size class of trees
- Wildlife habitat features and any wildlife observations, including evidence of bird nesting
- Other site characteristics and resource parameters such as slope, aspect, soil conditions, hydrologic features
- Presence of structures or park facilities, and adjacent homes or properties.
- Presence of archaeological, scenic, and recreational resources
- Slope and topography
- Existing access routes

The treatment approach can also be further defined during the treatment site assessment process. Preliminary project plans may define the overarching goals and priorities for fuel reduction within the treatment areas, however the specifics on how to implement this work will be determined through detailed site assessments for each project. The factors listed above will all need to be considered when defining the appropriate treatment approach and what types of methods are suitable.

A resource for describing and defining a variety of fuel reduction treatment approaches that are in the toolbox for these projects is a published fuel reduction guide from CAL FIRE: https://www.fire.ca.gov/media/4jqerfjh/fuels-reduction-guide-final-2021-interactive.pdf

Follow-up surveys may be recommended to determine if the potential habitat is actually occupied by special-status species. If this is the case, best management practices and treatment guidelines or avoidance and protection measures should be prescribed and implemented. Onsite observations will

confirm the preliminary treatment recommendations for a specific treatment area or may indicate that different treatments should be implemented to best meet current fuel and resource management conditions and objectives. Slope steepness or obvious signs of mass wasting or surface soil erosion may dictate additional mitigation (such as using smaller ground-based equipment, cable or aerial material removal systems, or installation of more extensive post-treatment soil coverings) to protect onsite soil resources, water quality, and roads, trails, and other improvements.

Park: Wunderlich County Park
Project Name: Maintenance of Fuel Breaks and Fire Roads in Wunderlich Park

Rank ID #: 1
Size: 92 acres
New or Existing: Existing
Implementation Status: In progress, ongoing 2021

Project Description and Parameters: Enhance public safety by maintaining fuel breaks and shaded fuel breaks along service roads and fire roads within Wunderlich County Park. This will be achieved by reducing fuel loads and ladder fuels within 100 feet of the roadways, removing large diameter trees along fire roads that pose an obstruction to fire suppression equipment, and improving visibility. Fuel breaks and shaded fuel breaks can provide access for first responders to conduct fire containment and suppression activities and can slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels.

Location Specifics: Wunderlich County Park currently has an extensive network of service roads and fire roads with shaded fuel breaks and fuel breaks. These systems will be maintained through this project. Please see the map depicting project boundaries below.

Treatment Types: Remove dead trees that pose hazard to fire and service roads, and thin understory brush and trees under 10" in diameter to reduce the vertical and horizontal continuity of ladder fuels.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along fire roads within Wunderlich County Park to protect first responder's ability to access the interior of the park. Where feasible, vegetation will be masticated using heavy equipment. For areas that are in close proximity to sensitive resources or that are too steep for equipment, hand crews will remove vegetation and chippers will be used to process woody debris. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

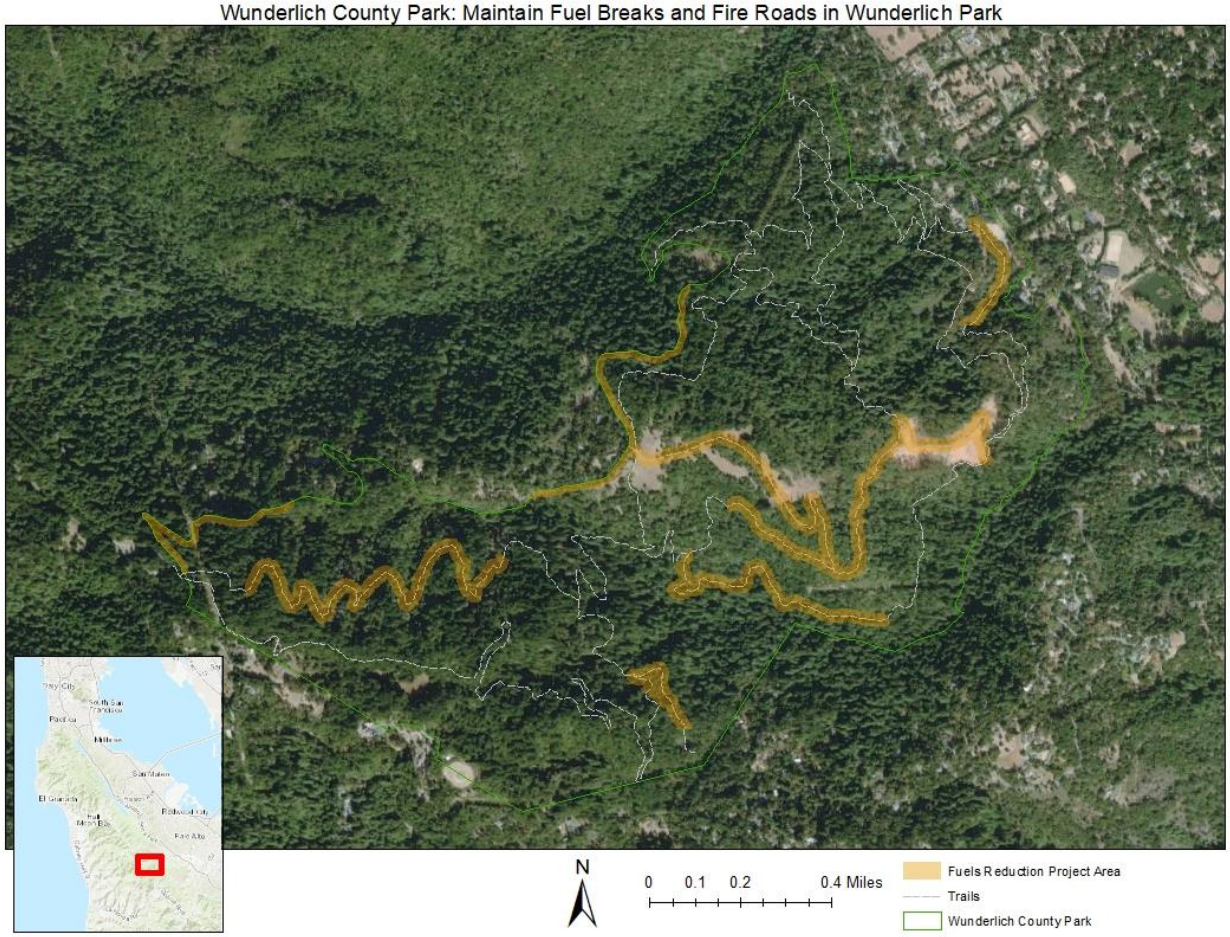
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities; and creating defensible space along road networks in a 'high fire severity' zone.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur every three years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete retreatment activities is $625,600. Maintenance costs are estimated to be $257,600 per maintenance interval. Budget to be funded through measure K and/or special funding sources.

Responsible Parties: Parks Department field staff will be responsible for overseeing and/or conducting maintenance activities and coordinating any trail closures. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas. Implementation and maintenance will be carried out by County staff, County contractor(s), or California Department of Corrections and Rehabilitation Crews.

Wunderlich County Park: Maintain Fuel Breaks and Fire Roads in Wunderlich Park



Park: Quarry County Park
Project Name: Maintenance of 2019 Governor's Emergency Fuels Reduction Project

Rank ID #: 2
Size: 83 acres
New or Existing: Existing
Implementation Status: 2021 maintenance completed; additional maintenance required in spring 2022

Project Description and Parameters: Improve public safety by maintaining nearly 100 acres of shaded fuel breaks and fuel breaks within Quarry County Park. The boundaries of this project are based on a fuels reduction project completed by CAL FIRE in 2019 (https://www.fire.ca.gov/media/5529/45-day-plan_18.pdf),in which mechanical, manual, and chemical treatments were used. Completion of this project is important as treatment areas can disturb fire behavior, prevent a ground fire from entering the canopy, and provide first responders access to conduct fire containment and suppression activities.

Location Specifics: During CAL FIRE's 2019 fuels reduction project, shaded fuel breaks were created along primary access routes and fire roads, and critical defensible spaces were expanded. This project will focus on maintaining these areas. Please see the map depicting project boundaries below.

Treatment Types: Maintenance to control incompatible vegetation within installed fuel breaks, including removal of Eucalyptus, broom, jubata grass, cape ivy, and other invasive species throughout the fuels reduction project area using manual, mechanical and chemical control methods.

Treatment Methods: Parks Department field staff and contractors will utilize mechanical, manual, and chemical treatment methods to maintain the Governor's 2019 fuels reduction project areas. Most work will be conducted by hand crews using spot-application of herbicide to control the regrowth of invasive species including eucalyptus, broom, cape ivy, and jubata grass. When practicable, heavy equipment will be used. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

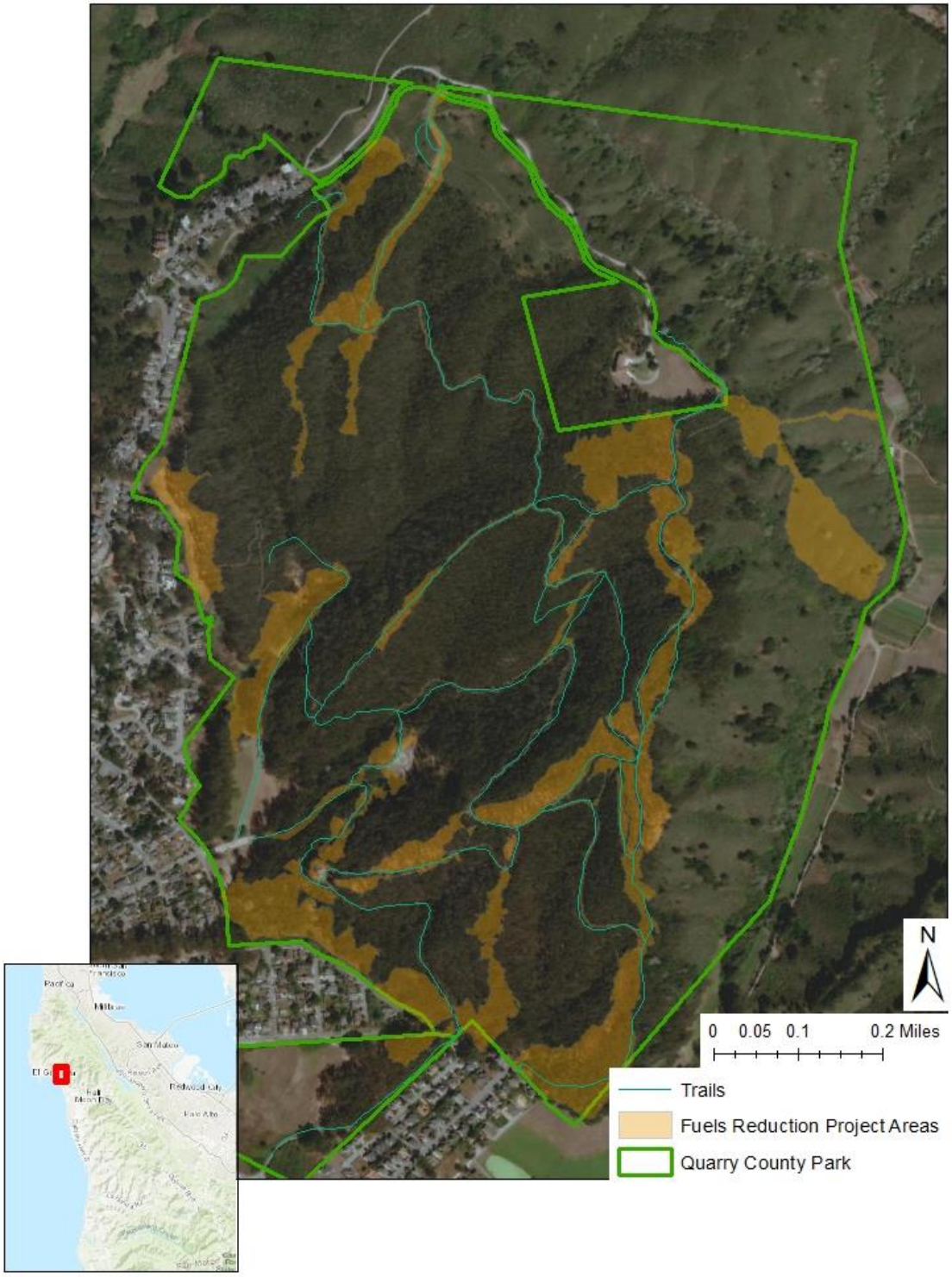
Project Benefits: Fuel breaks and shaded fuels breaks are effective at disrupting fire behavior, slowing the spread of fire, preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities, and preventing a ground fire from becoming a canopy fire. By maintaining the project areas, the Department will improve public safety for nearby communities.

Implementation & Maintenance Interval: Maintenance is required annually for at least five years to adequately control the regrowth of invasive species.

Cost and Budget: Estimated 5-year cost to complete retreatment activities is $170,000, with an annual average cost of $34,000.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors and enforcing any trail closures.

Quarry County Park:
Maintain Governor's Fuel Reduction Project



Park: Memorial County Park
Project Name: Create and Maintain Shaded Fuel Break Along Pescadero Creek and Wurr Roads

Rank ID #: 3
Size: 45 acres
New or Existing: Existing
Implementation Status: Planned for 2022 or 2023

Project Description and Parameters: Create and maintain a shaded fuel break within 100 feet of Pescadero Creek Road and Wurr Road to mitigate the threat of wildfire to Memorial Park and the nearby community of Loma Mar. Since Pescadero Creek Road is a local evacuation route and a critical community fuel break, this project will enhance public safety for the greater-Pescadero area.

Location Specifics: The shaded fuel break will span approximately 1.3 miles along Pescadero Creek Road, and 1 mile along Wurr Road adjacent to the park's boundaries. Roadside clearance will vary from 5 feet and 100 feet depending on vegetation density, terrain, and access. Please see a map depicting the project boundaries below.

Treatment Types: Install shaded fuel break by removing ladder fuels and standing dead hazard trees which pose a strike potential to roadways.

Treatment Methods: Contractors will utilize manual and mechanical treatment methods to remove understory vegetation and hazard trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along a critical community evacuation route. Once larger trees and debris have been removed, mechanical treatment will be utilized to maintain the project areas. Where feasible, burn piles will be used. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; preserving emergency responder's ability to access a fire and conduct fire containment and suppression activities; and protecting a community evacuation route.

Implementation & Maintenance Interval: Initial treatment is estimated to take one year to complete. Maintenance should occur every five years thereafter, depending on observations made during monitoring. Specified patches of invasive species may require more frequent maintenance.

Cost and Budget: Total costs of $397,687.50 are expected for the initial 5-year maintenance period. Average annual cost $79,537.50

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management

Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Park: Junipero Serra County Park
Project Name: Create and Maintain a Shaded Fuel Break Along Crystal Springs Road Corridor – San Bruno

Rank ID #: 4
Size: 8 acres
New or Existing: New
Implementation Status: A portion of the project will be completed in Fall 2021. Project implementation will continue into 2022.

Project Description and Parameters: Following a recommendation from CAL FIRE, the Parks Department will install and maintain a shaded fuel break along Crystal Springs Road in the City of San Bruno to create and preserve a critical community evacuation route for local residents.

Location Specifics: The project will treat the area between the main park entrance and the San Bruno Senior Center, and between Crystal Springs Road and the live oak nature trail. Please see a map depicting the project boundaries below.

Treatment Types: Install and maintain a shaded fuel break between El Zanjon Creek and Crystal Springs Road. Remove invasive trees including acacia and eucalyptus from the El Zanjon Creek riparian corridor. Thin understory vegetation to create/re-establish shaded fuel breaks along the road to improve visibility for motorists.

Treatment Methods: Parks Department field staff and contractors will utilize manual treatment methods to remove understory vegetation and trees up to 10 inches in diameter, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along a critical community evacuation route. Large diameter hazard trees will also be removed. Where practicable, heavy equipment will be used to remove and masticate vegetation. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

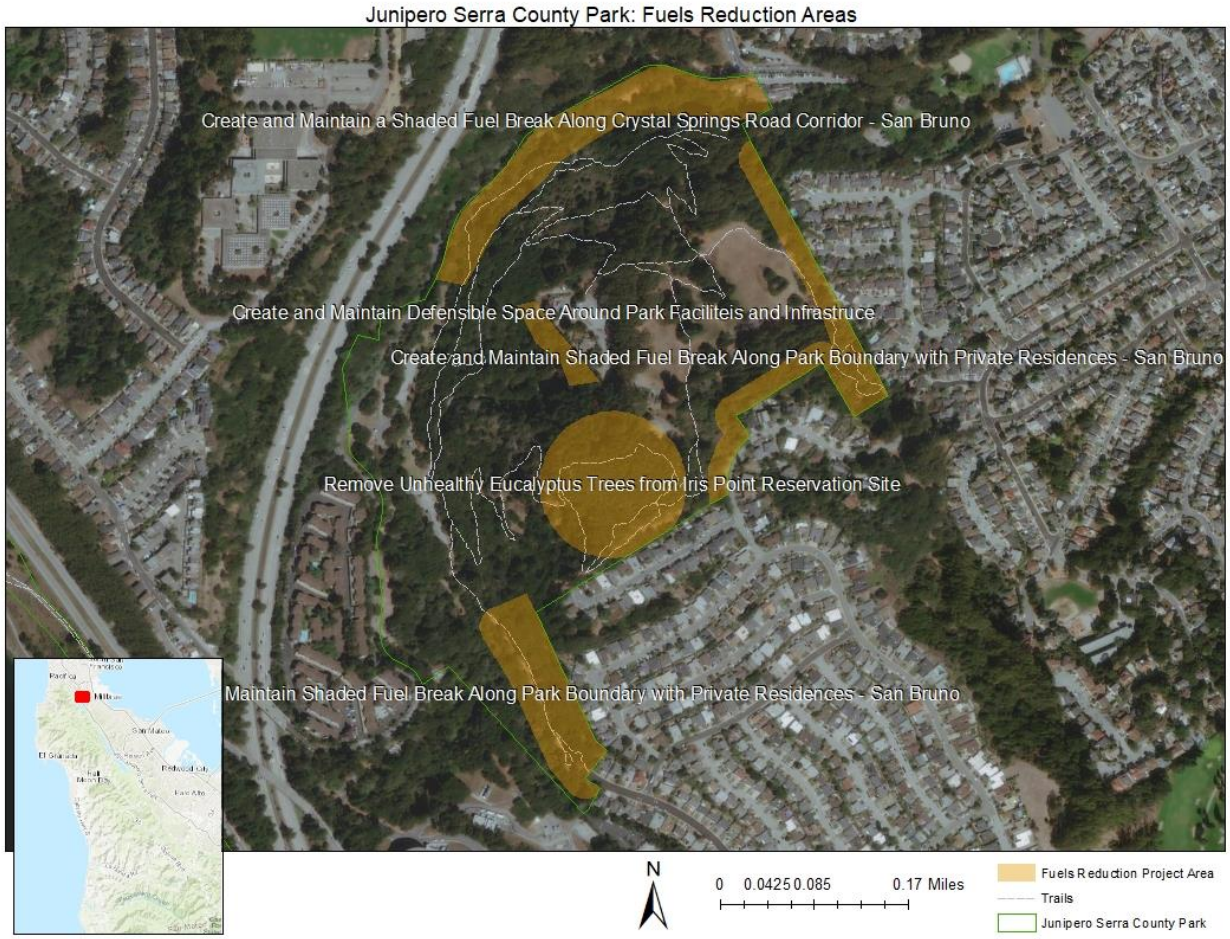
Project Benefits: Completion of this project will improve public safety: by preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities and by protecting a community evacuation route.

Implementation & Maintenance Interval: Initial treatment is estimated to take one year to complete following acquisition of required permits. Maintenance should occur every five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year project cost is $141,400. Initial treatment is estimated to cost $87,000, and maintenance is estimated to cost $54,400.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental

avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.



Park: San Bruno Mountain State and County Park
Project Name: Create and Maintain a Shaded Fuel Break Along Alta Vista and Crocker Avenues – Daly City

Rank ID #: 5
Size: 7 acres
New or Existing: New
Implementation Status: Likely to occur in 2023

Project Description and Parameters: Create and maintain a 100-foot-wide shaded fuel break along the park's northern border with private residences, and along the Saddle Loop Trail by removing small diameter trees and woody vegetation. Reducing fire fuels in close proximity to private residences will mitigate the threat of wildfire to nearby residents. The Parks Department will also work with neighboring landowners and North County Fire Department to encourage private property owners to supplement the work performed by the Department by clearing existing hazardous vegetation on private lands.

Location Specifics: The shaded fuel break will be installed along the park's northern border with private property owners on Alta Vista Avenue, and along the Saddle Loop Trail. Please see a map depicting the project boundaries below.

Treatment Types: Install a shaded fuel break by removing understory Tasmanian Blue gum, acacia, and other non-native invasive vegetation.

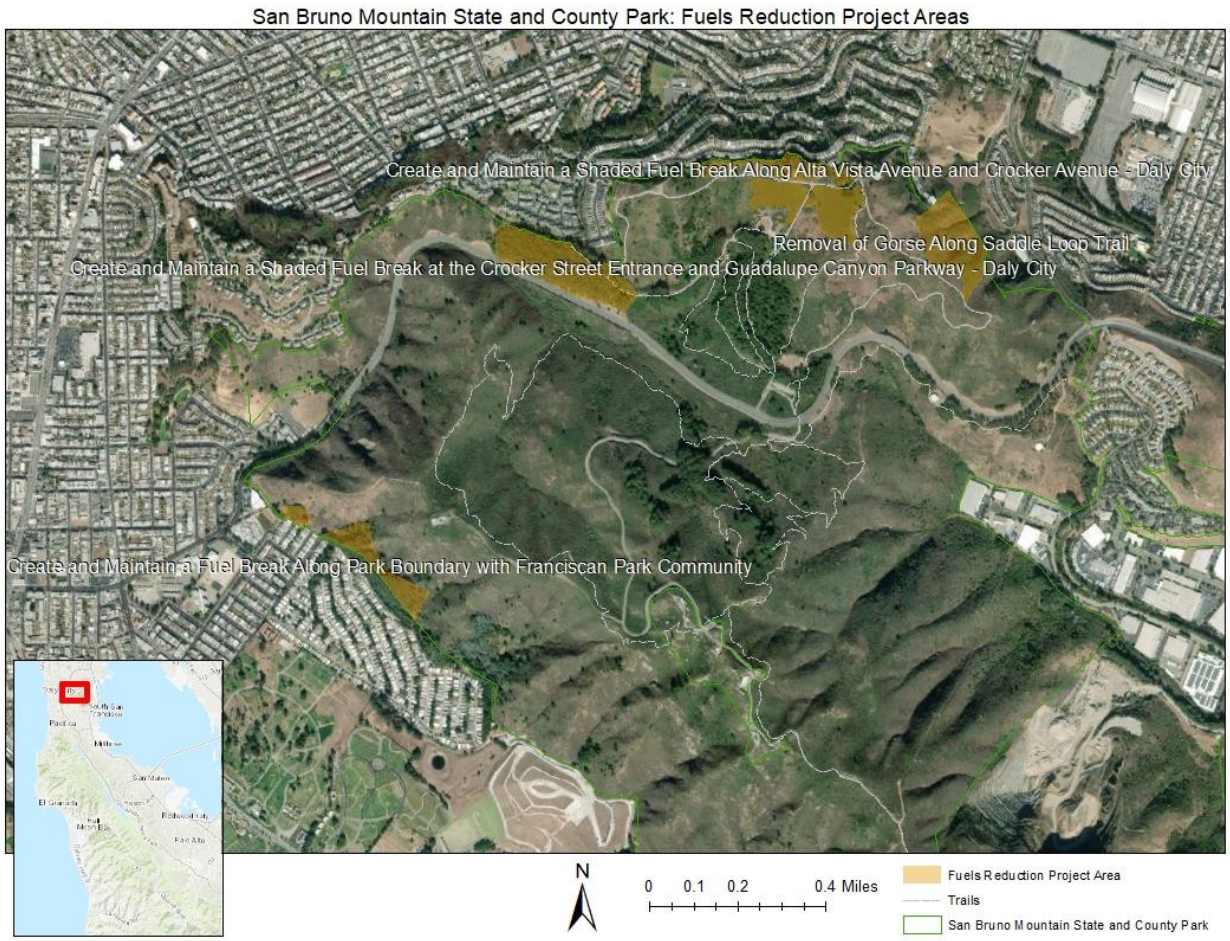
Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from a popular trail head located adjacent to private residences. Large diameter hazard trees will also be removed. Where practicable, heavy equipment will be used to remove and masticate vegetation. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur annually thereafter for five years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $584,500. Initial treatment is estimated to cost $438,375, and retreatment activities are estimated to cost $146,125.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.



Park: Junipero Serra County Park
Project Name: Create and Maintain Shaded Fuel Break Along Property Line with Private Residences – San Bruno

Rank ID #: 6
Size: 7 acres
New or Existing: New
Implementation Status: Planning, seeking funding through FEMA Hazard Mitigation Grant. Scoping and implementation tentatively planned for 2023.

Project Description and Parameters: Create and maintain a shaded fuel break along the southern and eastern border of Junipero Serra County Park to protect nearby private residences and enhance public safety. The shaded fuel break will slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels. Shaded fuel breaks are also effective at preventing a ground from entering tree canopies.

Location Specifics: The shaded fuel break will be installed along the southern and eastern border of Juniper Serra County Park from Helen Gate to the San Bruno City Park and Senior Center. Please see the map depicting the project boundaries below.

Treatment Types: Installing a shaded fuel break through removal of dead and dying vegetation, thinning or removal of over-dense understory fuels to reduce vertical and horizontal continuity of wildfire fuels. Removal of hazardous trees.

Treatment Methods: Parks Department field staff and contractors will utilize manual treatment methods to remove understory vegetation and trees up to 10 inches in diameter, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along the park's border with private residences. Large diameter hazard trees will also be removed. Where practicable, heavy equipment will be used to remove and masticate vegetation. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will be required to control the regrowth of eucalyptus. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

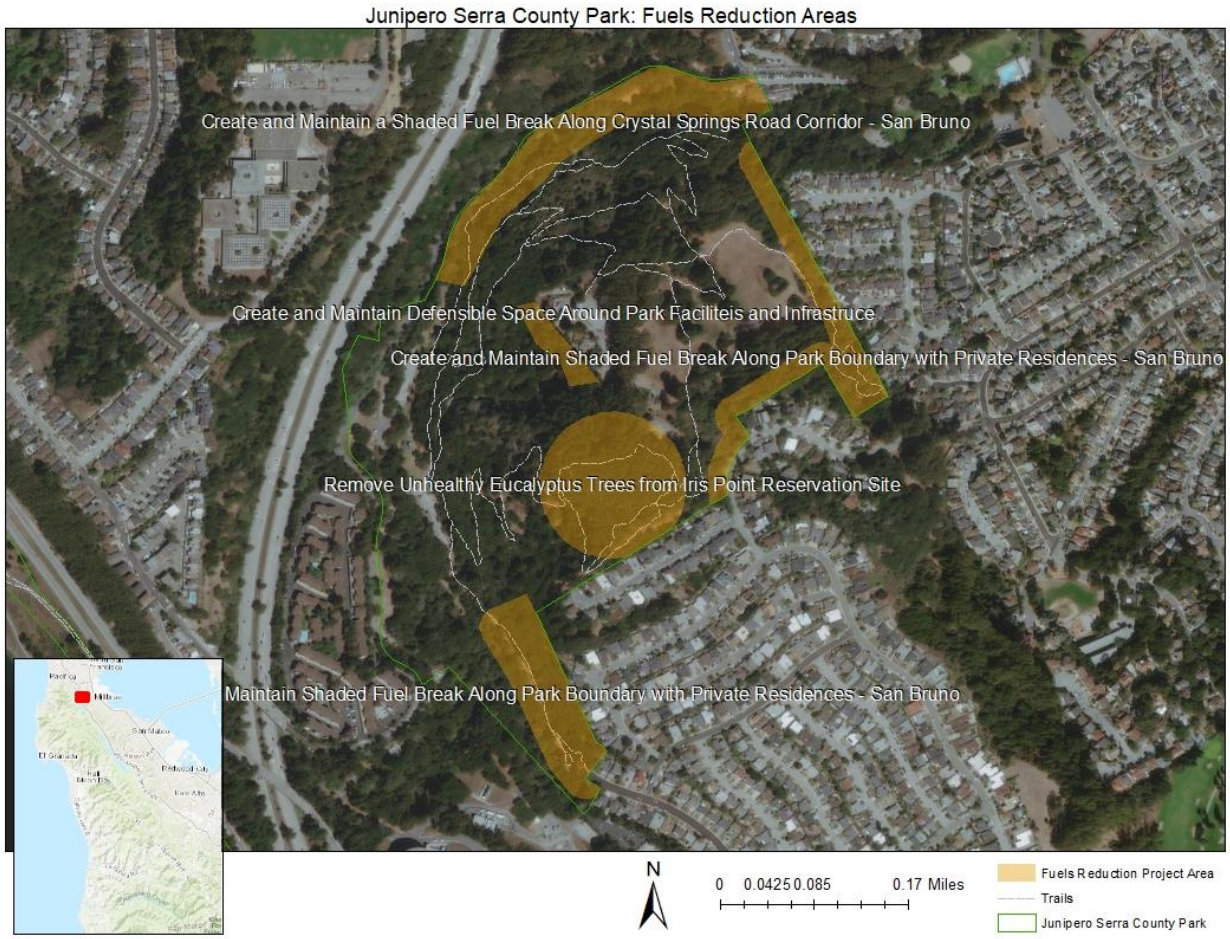
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities.

Implementation & Maintenance Interval: Initial treatment is estimated to take two years to complete. Maintenance should occur every three years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $400,000. Initial treatment is estimated to cost $300,000, and retreatment activities are estimated to cost $33,333

per occurrence. If received, FEMA Hazard Mitigation Grant funding would cover 75% of project costs, and the remaining project costs would be covered by Measure K.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.



Park: Edgewood County Park
Project Name: Create and Maintain Shaded Fuel Break along Eastern and Southeastern Boundary

Rank ID #: 7
Size: 10 acres
New or Existing: New
Implementation Status: Planned for Fall/Winter 2021-2022

Project Description and Parameters: Create and maintain a shaded fuel break along the east and southeast boundaries of Edgewood County Park and Natural Preserve to protect nearby residents and enhance public safety. The shaded fuel break will slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels. Understory thinning will also include the removal of California bay trees to reduce Sudden Oak Death (SOD) vectors.

Location Specifics: From Sylvan Trail (marker 3) south to the intersection of Sunset Way and Hillcrest Way, following the park boundary. The shaded fuel break will consist of understory thinning within 100 feet of the park boundary, and removal of dead standing trees within 200 feet of the park boundary. Please see the map depicting project boundaries below.

Treatment Types: Install shaded fuel break by removing ladder fuels and standing dead hazard trees. Understory thinning of California bay trees to reduce SOD vectors.

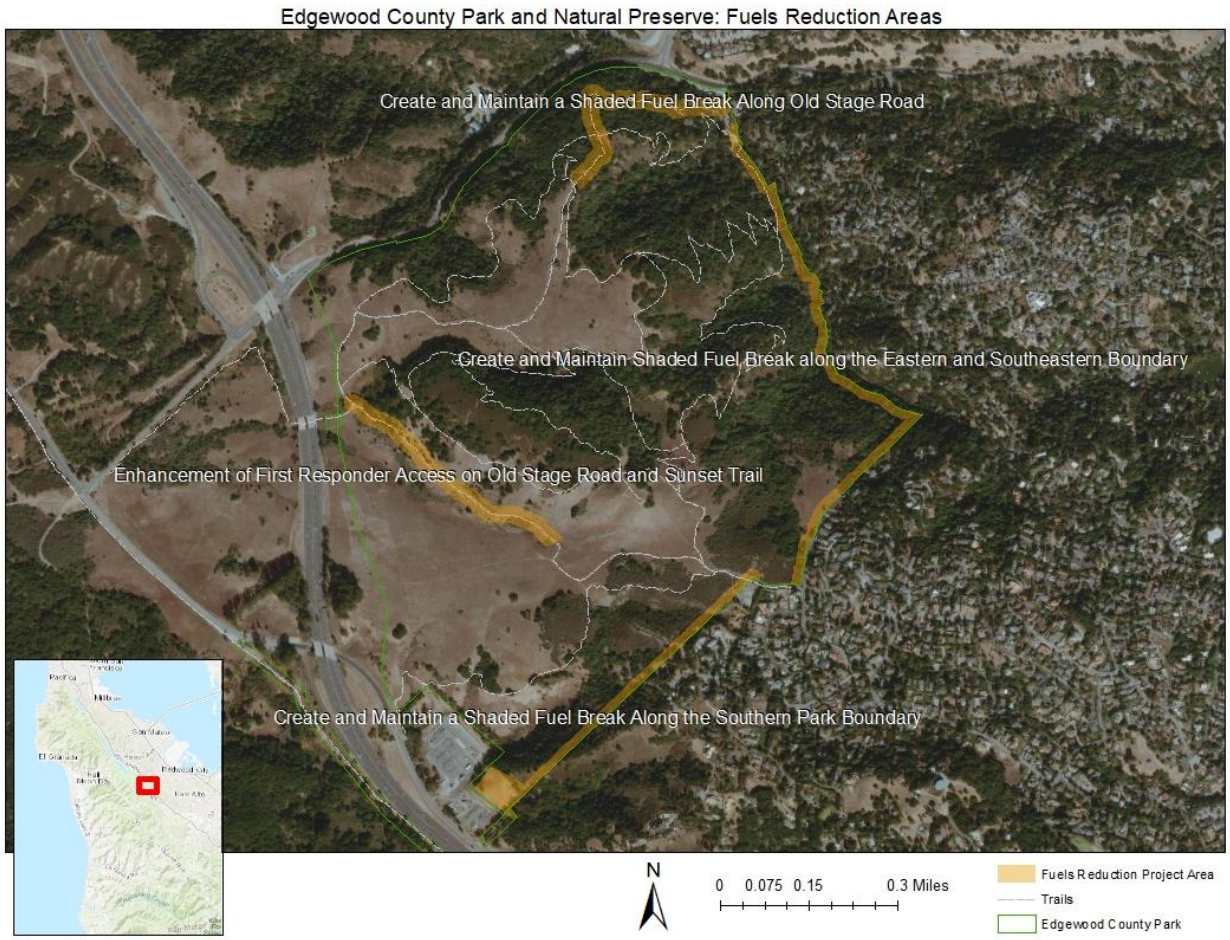
Treatment Methods: Contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels, from along the park's border with private residences. Where feasible, vegetation will be masticated using heavy equipment. For areas that are in close proximity to sensitive resources or that are too steep for equipment, hand crews will remove vegetation and chippers will be used to process woody debris. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological significance will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels. This project will also preserve community evacuation routes; and reducing hazards to infrastructure. By removing California Bay trees, this project will also lessen the impact and spread of SOD.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur every three to five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $491,300. Initial treatment is estimated to cost $368,475, and retreatment activities are estimated to cost $27,500 per occurrence.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing trail closures, and maintaining treated areas. Implementation & maintenance to be carried out by County contractor(s).



Park: Quarry Park and Mirada East
Project Name: Create and Maintain a Fuel Break Along Western Quarry Park Boundary

Rank ID #: 8
Size: 5 acres
New or Existing: New
Implementation Status: Planned for 2023, pending award of grant funding from the State Coastal Conservancy. May require acquisition of a Coastal Development Permit for vegetation clearing.

Project Description and Parameters: Re-create a 200-foot-wide fuel break along the south-west border of Quarry County Park by removing all trees and non-native woody vegetation. Fuel breaks are effective at protecting nearby communities by disturbing fire behavior, slowing the spread of a fire, and creating a safe space for first responders to conduct fire containment and suppression activities.

Location Specifics: The fuel break will span from the park's main entrance on Columbus Street south along the parks' boundary with Moro Ave., Santiago Ave., Magellan Ave., and Coronado Ave. Please see the map depicting project boundaries below.

Treatment Types: Understory thinning of Tasmanian Blue gum, acacia, Monterey Pine and other non-native invasive vegetation and large diameter standing dead tree hazards. Felling and chipping of tree debris on site.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove trees and non-native woody vegetation to re-establish a fuel break along the western border of Quarry County Park. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will likely be required to control the regrowth of non-native species, including eucalyptus. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by installing a 200-foot wide fuel break that will disturb fire behavior; preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities; and protecting a community evacuation route.

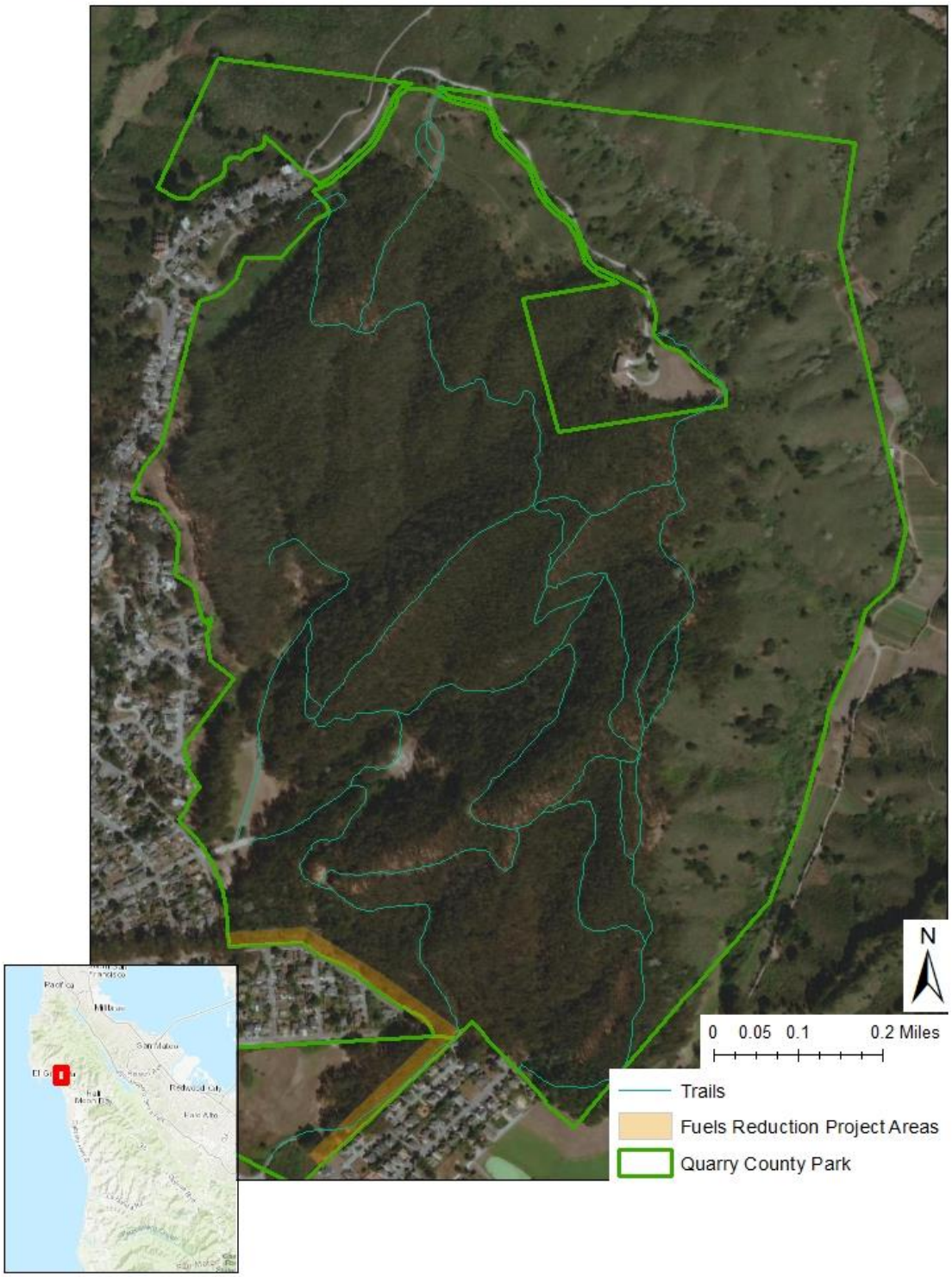
Implementation & Maintenance Interval: Initial treatment is estimated to take three to five years to complete. Maintenance should occur annually thereafter for five years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $125,750. Initial treatment is estimated to cost $71,375, and retreatment activities are estimated to cost $54,375.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management

Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project area.

Quarry County Park:
Create and Maintain a Shaded Fuel Break Along Western Park Boundary



Park: Huddart County Park
Project Name: Maintenance of Governor's King's Mountain Road Fuel Reduction Project

Rank ID #: 9
Size: 82 acres
New or Existing: Existing
Implementation Status: Monitoring and annual maintenance

Project Description and Parameters: Improve public safety by maintaining over 80 acres of shaded fuel breaks along Kings Mountain Road and in Huddart County Park. The boundaries of this project are based on a fuels reduction project completed by CAL FIRE in 2019 (https://www.fire.ca.gov/media/5515/45-day-plan_19.pdf). Completion of this project is important as Kings Mountain Road is a critical community evacuation route and treatment areas can disturb fire behavior, prevent a ground fire from entering the canopy, and provide first responders access to conduct fire containment and suppression activities.

Location Specifics: This project will maintain existing shaded fuel breaks located along Kings Mountain Road and Archery Fire Road in Huddart County Park. The shaded fuel breaks range between 50 and 200 feet wide, based on topography and proximity to sensitive resources. Please see the map depicting project boundaries below.

Treatment Types: Continue understory thinning, woody vegetation removal, and invasive species removal throughout the project area as vegetation regrows.

Treatment Methods: Parks Department field staff will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels to protect a critical community evacuation route. Where feasible, vegetation will be masticated using heavy equipment. For areas that are in close proximity to sensitive resources or that are too steep for equipment, hand crews will remove vegetation and chippers will be used to process woody debris. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

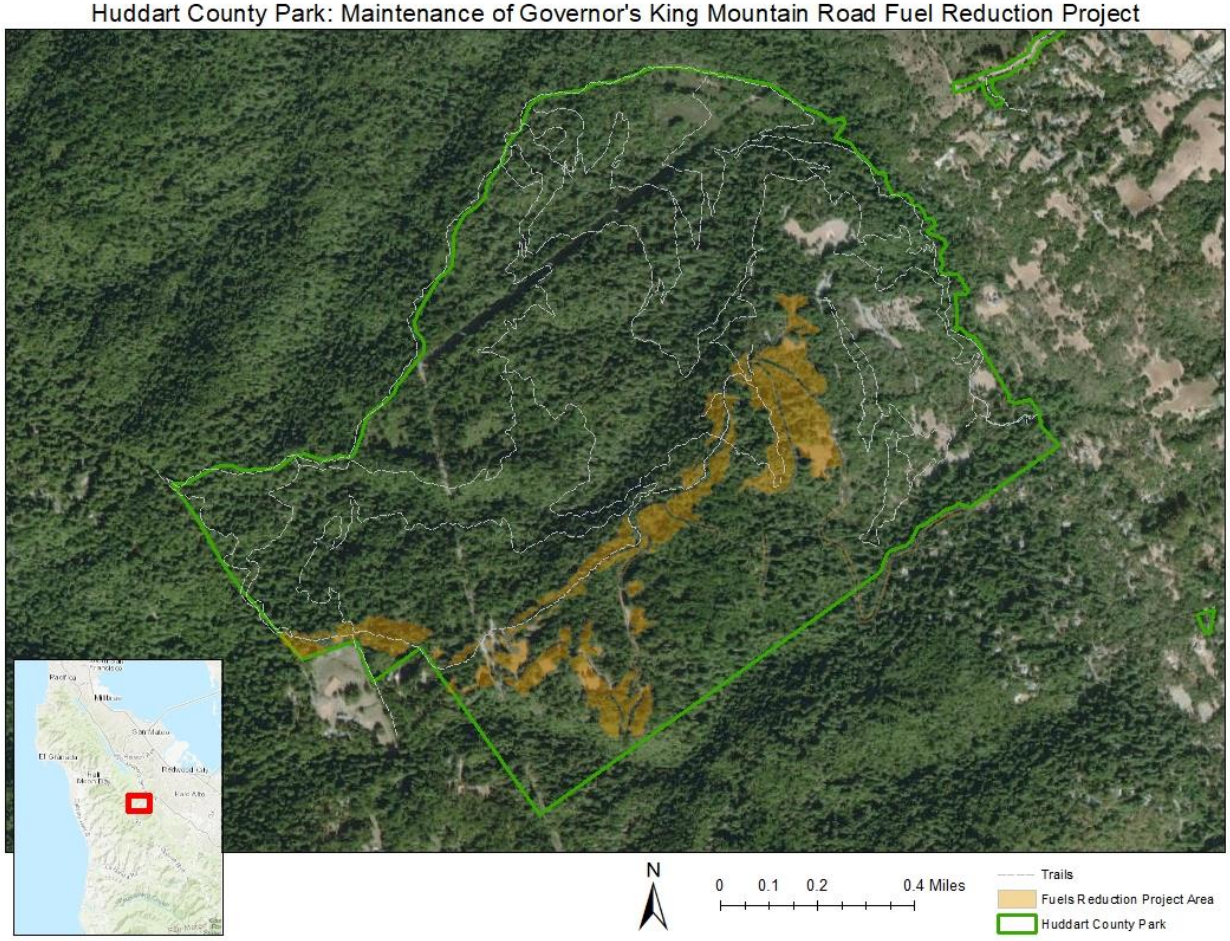
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities; and protecting a community evacuation route.

Implementation & Maintenance Interval: Maintenance on this project should occur every two years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to maintain project areas is $362,337. Funding source is Measure K.

Responsible Parties: Parks Department field staff will be responsible for overseeing and/or conducting maintenance activities and coordinating any trail closures. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Huddart County Park: Maintenance of Governor's King Mountain Road Fuel Reduction Project



Park: San Pedro Valley County Park
Project Name: Create and Maintain Defensible Space Along Park Boundary with Private Residences - Pacifica

Rank ID #: 10
Size: 14 acres
New or Existing: New
Implementation Status: Initial treatment completed in 2021; shifting to monitoring and maintenance phase.

Project Description and Parameters: Enhance public safety by creating defensible space between San Pedro Valley County Park and neighboring private residences. The project will also convert Weiler Ranch Road into a fuel break between the Corporation Yard and Water Department Facilities to protect critical infrastructure. Defensible space is an area that has been modified to reduce wildfire threat by clearing and separating highly flammable material so there are no paths for fire to travel.

Location Specifics: Defensible space will be created within 100 feet of the park's border with private residences on Park Pacifica Ave, as well as around ranger residence in Park. Further, Weiler Ranch Road will be cleared of vegetation so it may serve as a fuel break to protect critical infrastructure. Please see the map depicting project boundaries below.

Treatment Types: Thinning of understory and select large diameter Tasmanian Blue gum, and management of over-dense wildfire fuels.

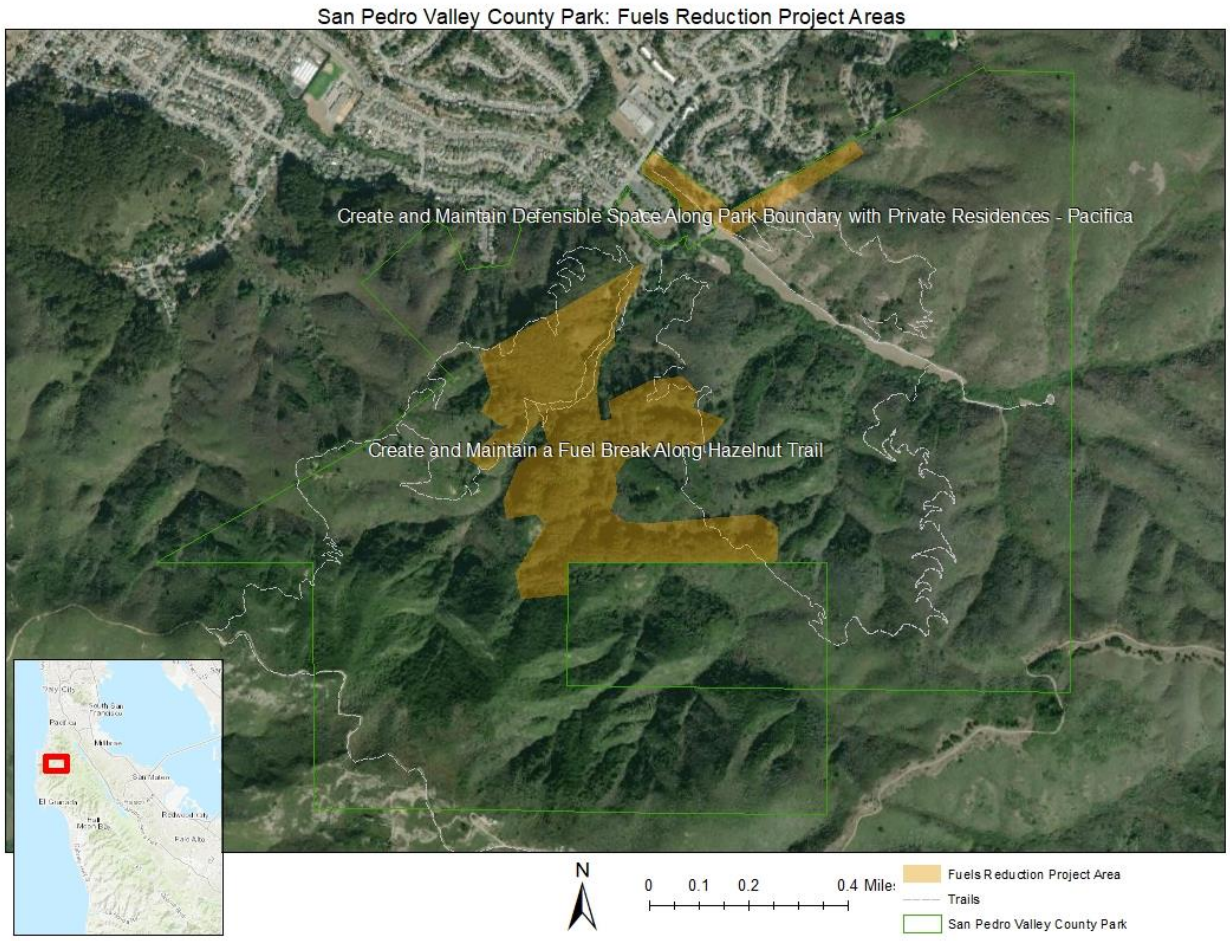
Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove small diameter trees, select large diameter eucalyptus trees, and understory vegetation from along the park's border with private residences to mitigate the threat of wildfire to nearby residents. Vegetation will be processed using a chipper, and, if feasible, burn piles. Spot application of herbicide will be used to manage the regrowth of invasive species, including eucalyptus. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. This project will also improve defensible space for park facilities and residences.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur every three to five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $123,725. Initial treatment is estimated to cost $92,793, and retreatment activities are estimated to cost $30,9931.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.



Park: San Bruno Mountain State and County Park
Project Name: Create and Maintain a Shaded Fuel Break from Crocker Entrance and Guadalupe Canyon Parkway – Daly City

Rank ID #: 11
Size: 18 acres
New or Existing: New
Implementation Status: Implementation planned for Fall 2021

Project Description and Parameters: Mitigate the threat of wildfire to nearby residents by creating and maintaining a shaded fuel break throughout the eucalyptus grove at the Crocker Street Entrance by removing small diameter trees, select large diameter trees, understory vegetation, and woody debris. The Parks Department will also work with neighboring landowners and North County Fire Department to encourage private property owners to supplement the work performed by the Department by clearing existing hazardous vegetation on private lands.

Location Specifics: The shaded fuel break will be installed throughout the eucalyptus grove located between the Crocker Street Entrance, Guadalupe Canyon Parkway, and Old Guadalupe Trail. Please see the map depicting the project boundaries below.

Treatment Types: Removal of invasive vegetation, over-dense understory fuels, and select large diameter trees by hand and mechanical means where feasible.

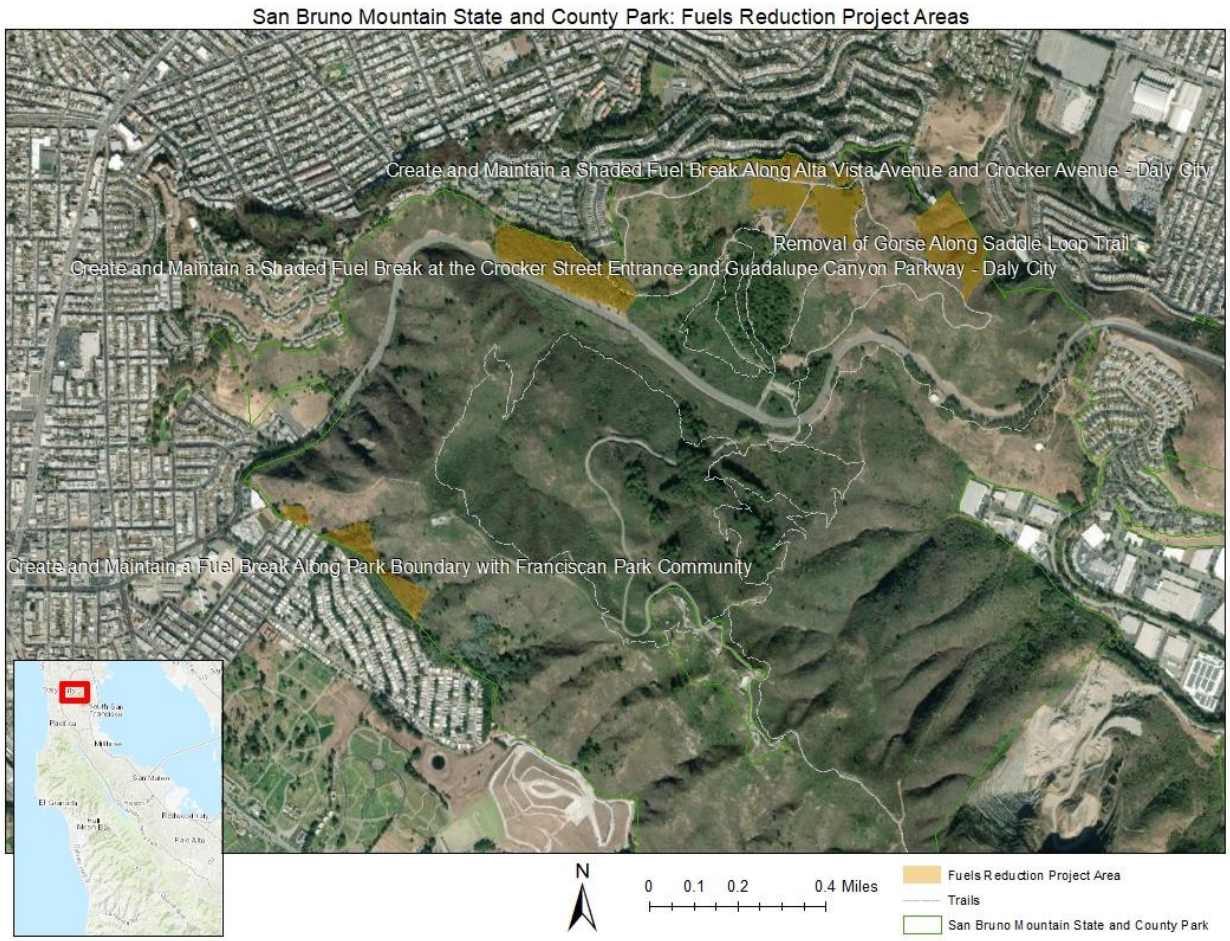
Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation, small diameter trees, and select large diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from a eucalyptus grove located immediately adjacent to private residences and a major thoroughfare. Where feasible, vegetation will be masticated using heavy equipment. For areas in close proximity to sensitive resources or that are too steep for equipment, hand crews will remove vegetation and chippers will be used to process woody debris. The stumps of eucalyptus, acacia, and other invasive vegetation will likely require chemical treatment to control root sprouting. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. Native habitat improvement.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur annually thereafter for three to five years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $297,750. Initial treatment is estimated to cost $222,750, and retreatment activities are estimated to cost $75,000.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.



Park: Wunderlich County Park

Project Name: Treat and Maintain Cal Fire Climate Change Initiative Forest Health Grant Project - Wunderlich

Rank ID #: 12
Size: 207 acres
New or Existing: Existing
Implementation Status: Implementation is underway and will continue through 2023.

Project Description and Parameters: The Parks Department and the San Mateo Resource Conservation District have partnered to implement this project, which will mitigate the threat of catastrophic wildfires by creating shaded fuel breaks and reducing fuel loads; lessen the spread and impacts of Sudden Oak Death (SOD); and reduce invasive species presence.

Location Specifics: This project targets strategic high-vulnerability areas throughout Wunderlich County Park, primarily in the upper reaches of the park along residential borders and Bear Gulch Road. Please see the map depicting project boundaries below.

Treatment Types: Thinning of understory using manual, mechanical, and chemical means. Re-treatment of incompatible resprouting vegetation throughout the CCI Grant acreage to maintain benefit of initial project.

Treatment Methods: Contractors will utilize manual and mechanical treatment methods to remove understory vegetation and trees up to 8 inches in diameter, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels. Desired native species will be retained in patches to promote ongoing native diversity. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and patches of desirable native vegetation will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

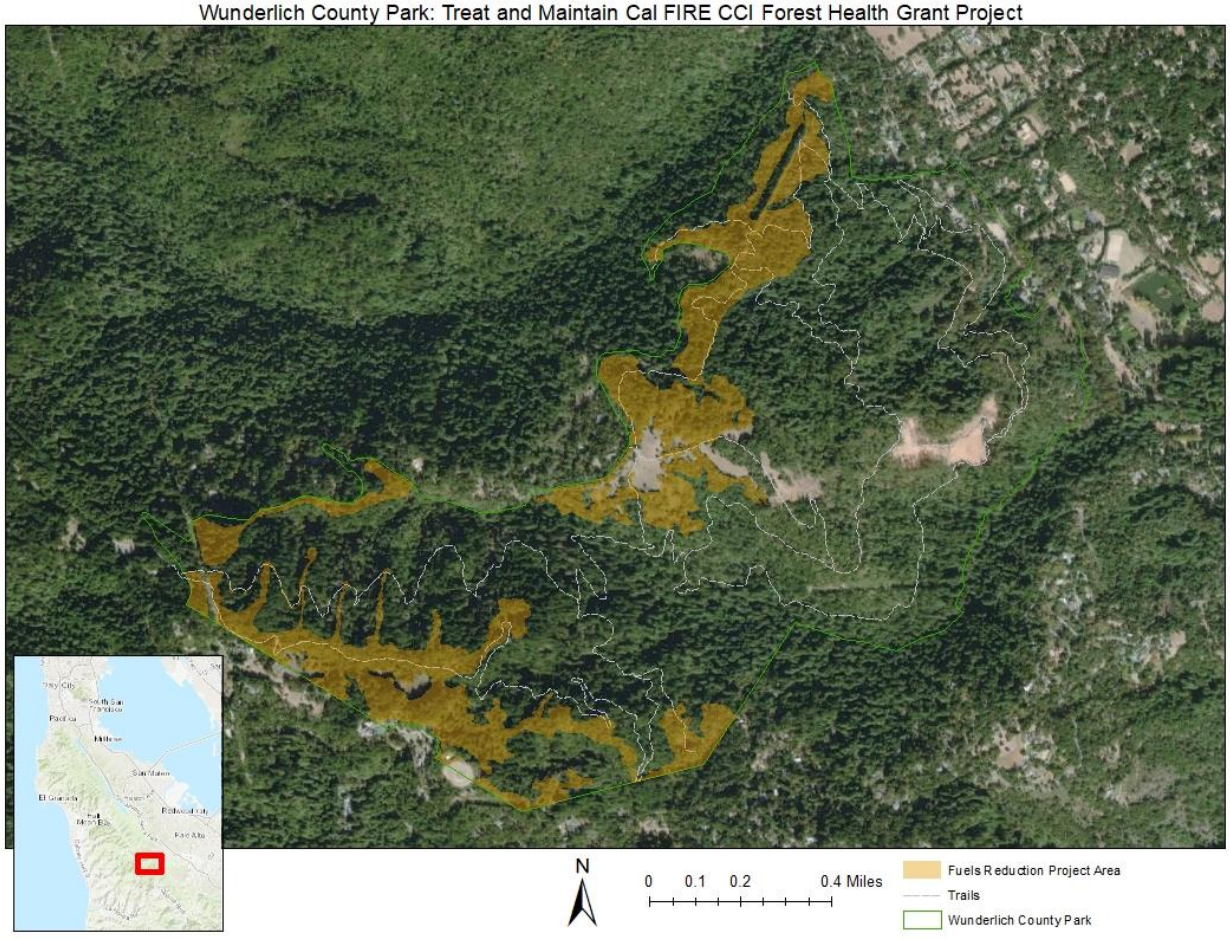
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. The project will also improve the forest's ability to sequester carbon and lessen the spread and impact of SOD.

Implementation & Maintenance Interval: Initial treatment is estimated to take two years to complete. Maintenance should occur every three to five years thereafter, depending on observations made during monitoring.

Cost and Budget: Initial treatment is estimated to cost $1,191,453.49 and is funded by the CCI Grant through 2022. Retreatment costs during the first maintenance interval is estimated to cost $450,225.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project implementation and environmental avoidance and minimization measures with the San Mateo Resource Conservation District. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.

Wunderlich County Park: Treat and Maintain Cal FIRE CCI Forest Health Grant Project



Park: Edgewood County Park
Project Name: Create and Maintain a Shaded Fuel Break Along the Southern Park Boundary

Rank ID #: 13
Size: 8 acres
New or Existing: New
Implementation Status: Planning 2021/2022

Project Description and Parameters: Mitigate the threat of wildfire to nearby residents by widening the existing shaded fuel break along the southern border of Edgewood County Park and Natural Preserve. By widening the existing shaded fuel break, it can more effectively disrupt a fire's behavior and provide first responders time to evacuate residents and conduct wildfire containment and suppression activities.

Location Specifics: The shaded fuel break, which will be widened to 100 feet, is located along the park's southern boundary between the Jefferson Substation on Canada Road and the Emerald Hills Substation on Sunset Trail. Please see the map depicting project boundaries below.

Treatment Types: Remove understory vegetation and small diameter trees within 100 feet of property boundary. Remove California bay trees to reduce vectors for Sudden Oak Death (SOD).

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from an area between PG&E substations and private residences. Where feasible, vegetation will be masticated using heavy equipment. For areas that are in close proximity to sensitive resources or that are too steep for equipment, hand crews will remove vegetation and chippers will be used to process woody debris. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas.

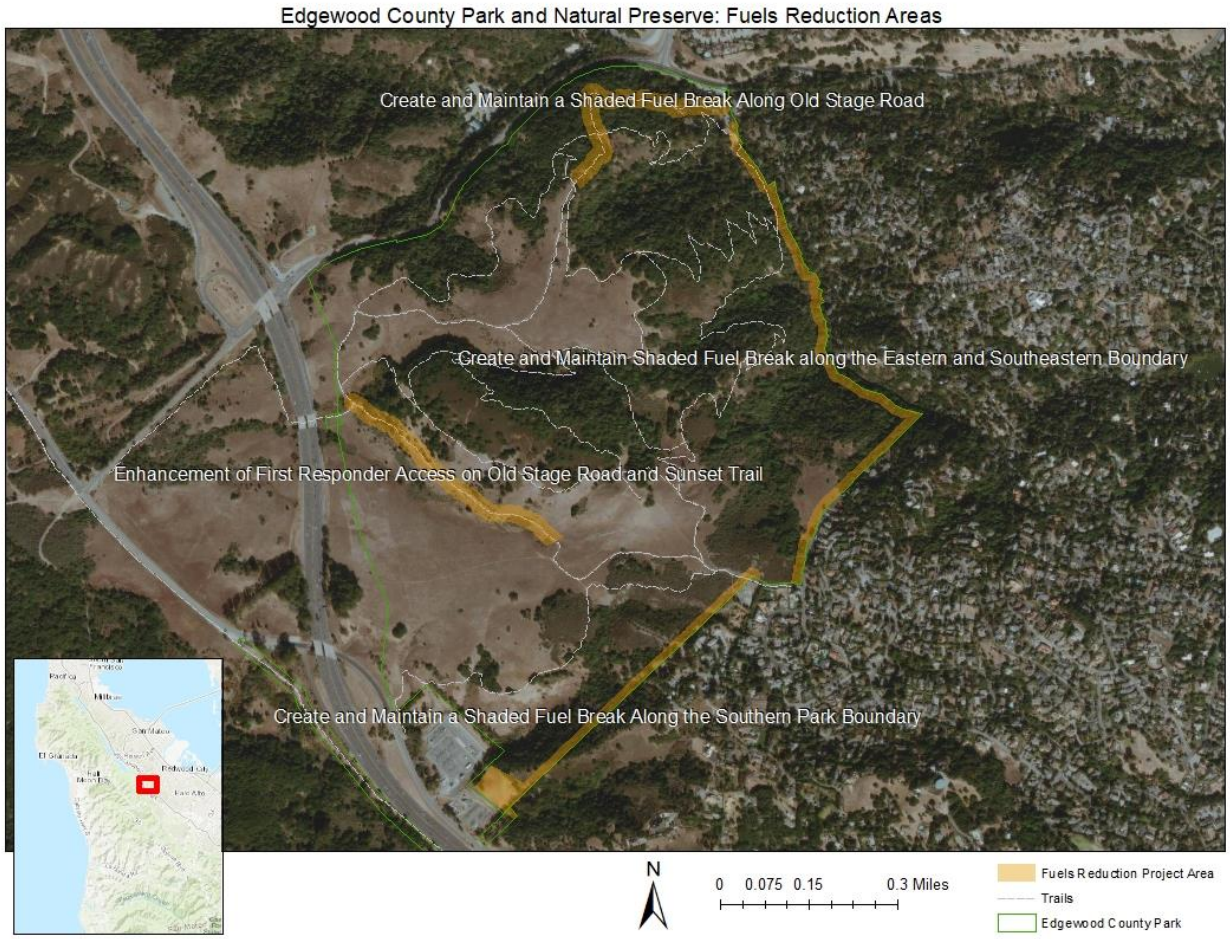
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. This project will also decrease vectors for SOD.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur every five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $70,700. Initial treatment is estimated to cost $53,025, and retreatment activities are estimated to cost $17,675.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks

Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.



Park: Huddart County Park
Project Name: Maintain Shaded Fuel Breaks and Fire Roads – Huddart Park

Rank ID #: 14
Size: 45 acres
New or Existing: Existing
Implementation Status: Ongoing annual maintenance on rotational cycle.

Project Description and Parameters: Enhance public safety by maintaining fuel breaks and shaded fuel breaks located along fire roads within Huddart County Park. This will be achieved by reducing fuel loads and ladder fuels within 100 feet of the roadways and by removing standing dead trees and large diameter trees along fire roads that pose an obstruction to fire suppression equipment. The fuel breaks and shaded fuel breaks can provide access for first responders to conduct fire containment and suppression activities and can slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels.

Location Specifics: Location Specifics: Huddart County Park currently has an extensive network of fire roads with shaded fuel breaks and fuel breaks. The following areas will be maintained through this project: Richards Road between trail markers 6 and 32; Richards Road between markers 40 and 26; East Meadow along park boundary; all throughout Toyon campground; sections of Campground Road between trail markers 24 and 16; Archery Fire Road between trail markers 36 and 51; and Park Entrance service road between the gate and gatehouse. Please see the map depicting project boundaries below.

Treatment Types: Understory thinning of small diameter trees and shrubs. Removal of California bay trees, a vector for Sudden Oak Death (SOD), and removal of standing dead hazard trees with strike potential for trails and fire roads.

Treatment Methods: Hand and mechanical methods. Chipper to process woody debris, masticator where feasible. Burn Piles may be used.

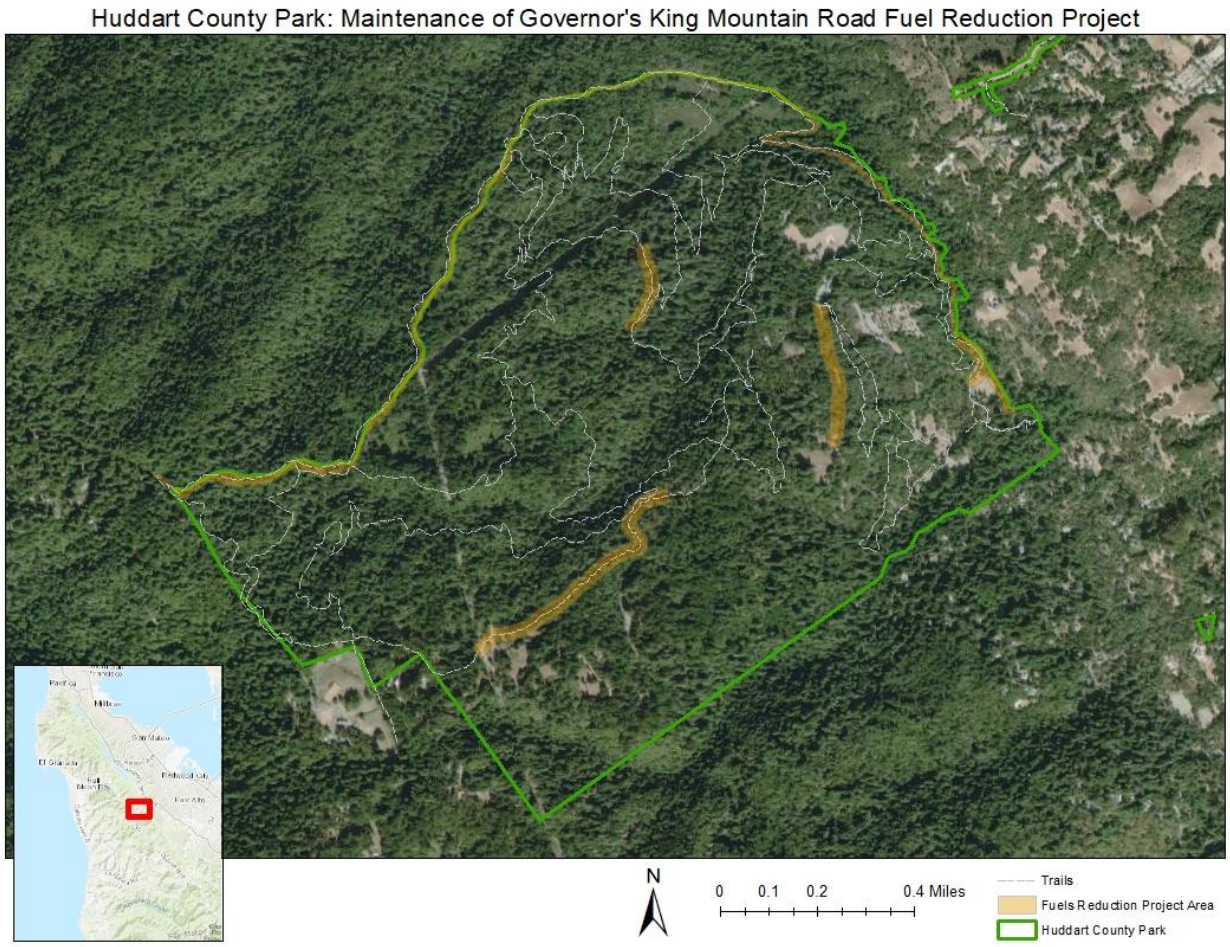
Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along fire roads to protect first responder's ability to access the interior of the park. Large diameter hazard trees and standing dead trees will also be removed. Where feasible, vegetation will be masticated using heavy equipment. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Burn piles may be used. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. This project will also reduce vectors for SOD.

Implementation & Maintenance Interval: Due to the extensive fire road network in Huddart County Park, the project will be divided into segments and maintenance activities will be conducted annually. Each treatment area will be maintained on a 5-year cycle.

Cost and Budget: Estimated 5-year cost to maintain project areas is $397,687.

Responsible Parties: Parks Department field staff will be responsible for overseeing and/or conducting maintenance activities and coordinating any trail closures. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.



Park: San Bruno Mountain State and County Park
Project Name: Create and Maintain Fuel Break Along Boundary with Franciscan Park Community

Rank ID #: 15
Size: 9 acres
New or Existing: New
Implementation Status: Planning, project implementation 2022/2023

Project Description and Parameters: Create a 200-foot-wide fuel break along San Bruno Mountain State and County Park's western border with the Franciscan Park community by removing all trees and woody vegetation. Fuel breaks are effective at protecting nearby communities by disturbing fire behavior, slowing the spread of a fire, and creating a safe space for first responders to conduct fire containment and suppression activities.

Location Specifics: The fuel break will be installed along the park's western border with the Franciscan Park manufactured home community. Please see the map depicting project boundaries below.

Treatment Types: Removal of Tasmanian blue gum eucalyptus, Monterey pine, and other non-native tree species.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove all trees and woody vegetation from along the park's border with the Franciscan Park community. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will likely be required to control the regrowth of non-native species, including eucalyptus. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

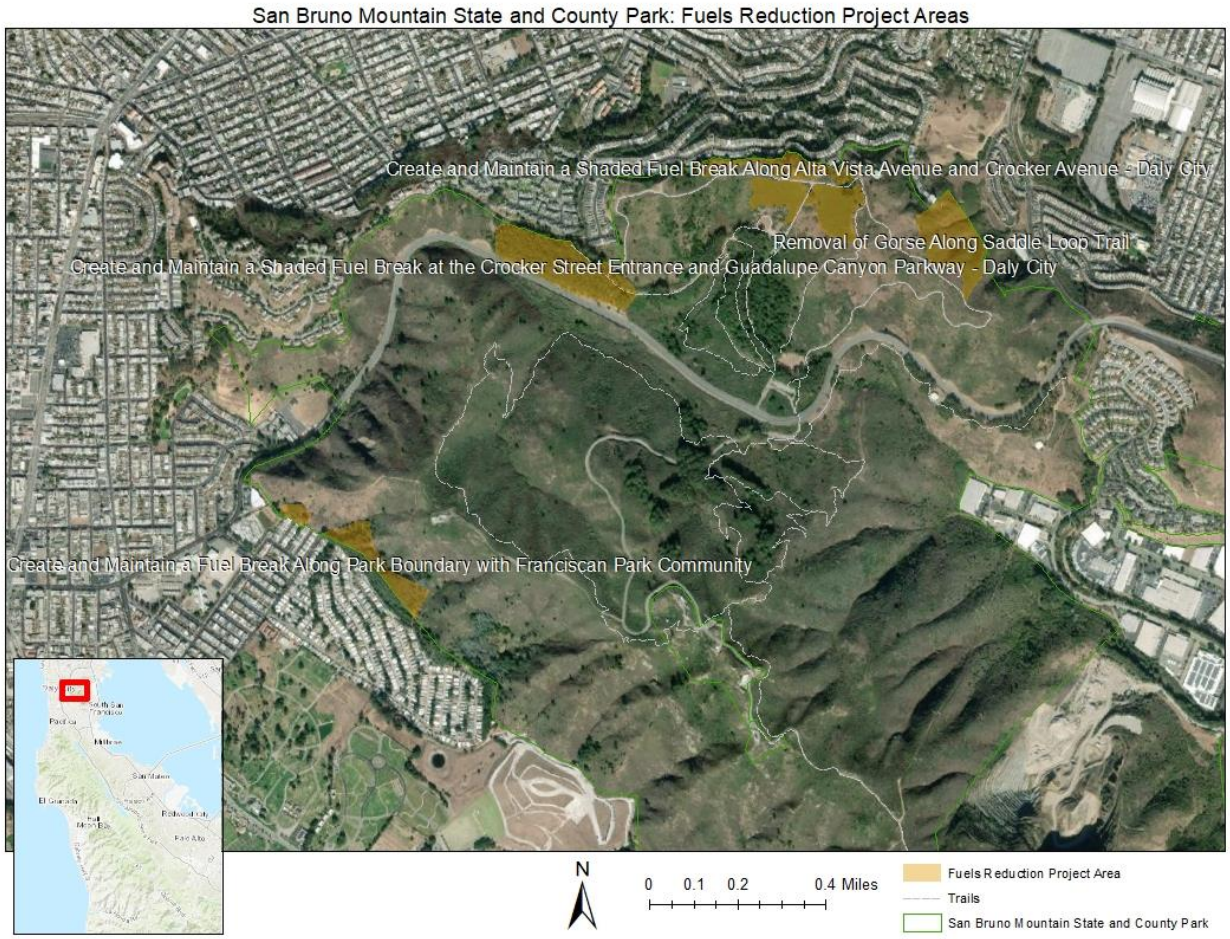
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by installing a 200-foot wide fuel break that will disturb fire behavior; preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities; and reducing tree-related hazards for the Franciscan Park community.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur annually thereafter for three to five years, depending on observations made during monitoring on the establishment of native species and the need to control invasive vegetation.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $202,500. Initial treatment is estimated to cost $151,875, and retreatment activities are estimated to cost $50,625.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks

Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.



Park: Quarry County Park
Project Name: Create and Maintain a Shaded Fuel Break Along Fire Roads in Quarry Park and Mirada East

Rank ID #: 16
Size: 100 acres
New or Existing: Existing
Implementation Status: Part of this project will be completed in fall 2021. Implementation will continue through 2022 and 2023.

Project Description and Parameters: Mitigate the threat of wildfire to nearby residents by strategically removing large diameter trees along fire roads within Quarry County Park to satisfy CAL FIRE's minimum clearance requirements for emergency access roads and to protect first responder's ability to access a fire and conduct fire containment and suppression activities. Expand shaded fuel breaks within 100-feet of fire roads in areas not completed through the Governor's 2019 fuel reduction project.

Location Specifics: Large diameter tree removal will occur throughout the park along all vehicle-accessible trails and roads. Current mapped areas show a buffer of up to 200-feet from either side of a fire road where shaded fuel breaks and hazard tree removals could occur, as well as a 100-foot-wide area where understory vegetation thinning would occur. These polygons are subject to change following ongoing field reconnaissance and project scoping.

Treatment Types: Removal of Tasmanian blue gum eucalyptus and other species located immediately along road.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove large diameter trees from along fire roads within Quarry County Park to protect first responder's ability to access the interior of the park. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Once larger trees and debris have been removed, mechanical treatment will be utilized to maintain the project areas. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by reducing fuel loads; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities.

Implementation & Maintenance Interval: Initial treatment is estimated to take two to three years to complete. Maintenance should occur every five years thereafter, depending on observations made during monitoring.

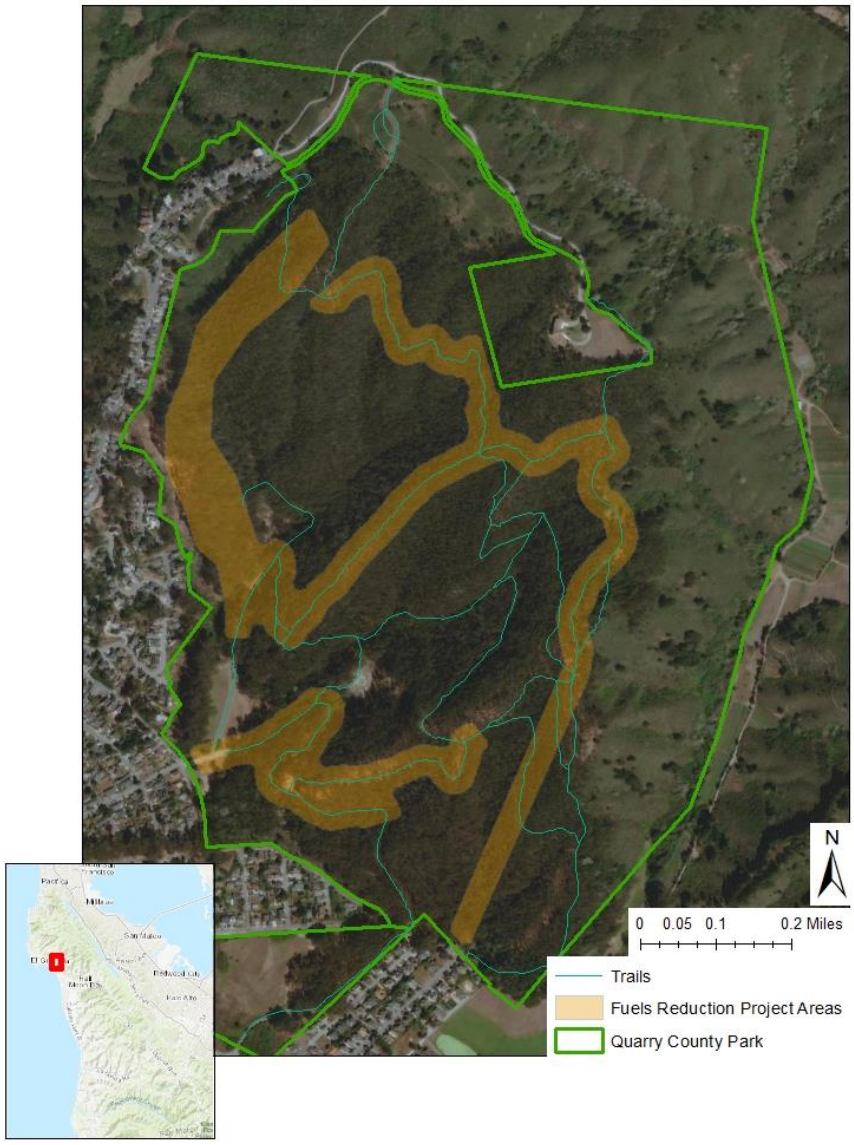
Cost and Budget: Estimated cost to remove large diameter trees and expand shaded fuel breaks along fire roads in Quarry Park is $1,142,000, in alignment with the existing funds awarded by the State Coastal Conservancy.

Responsible Parties: Parks Department natural resource staff and the San Mateo County Resource Conservation District will be responsible for managing contractors during initial treatment activities and

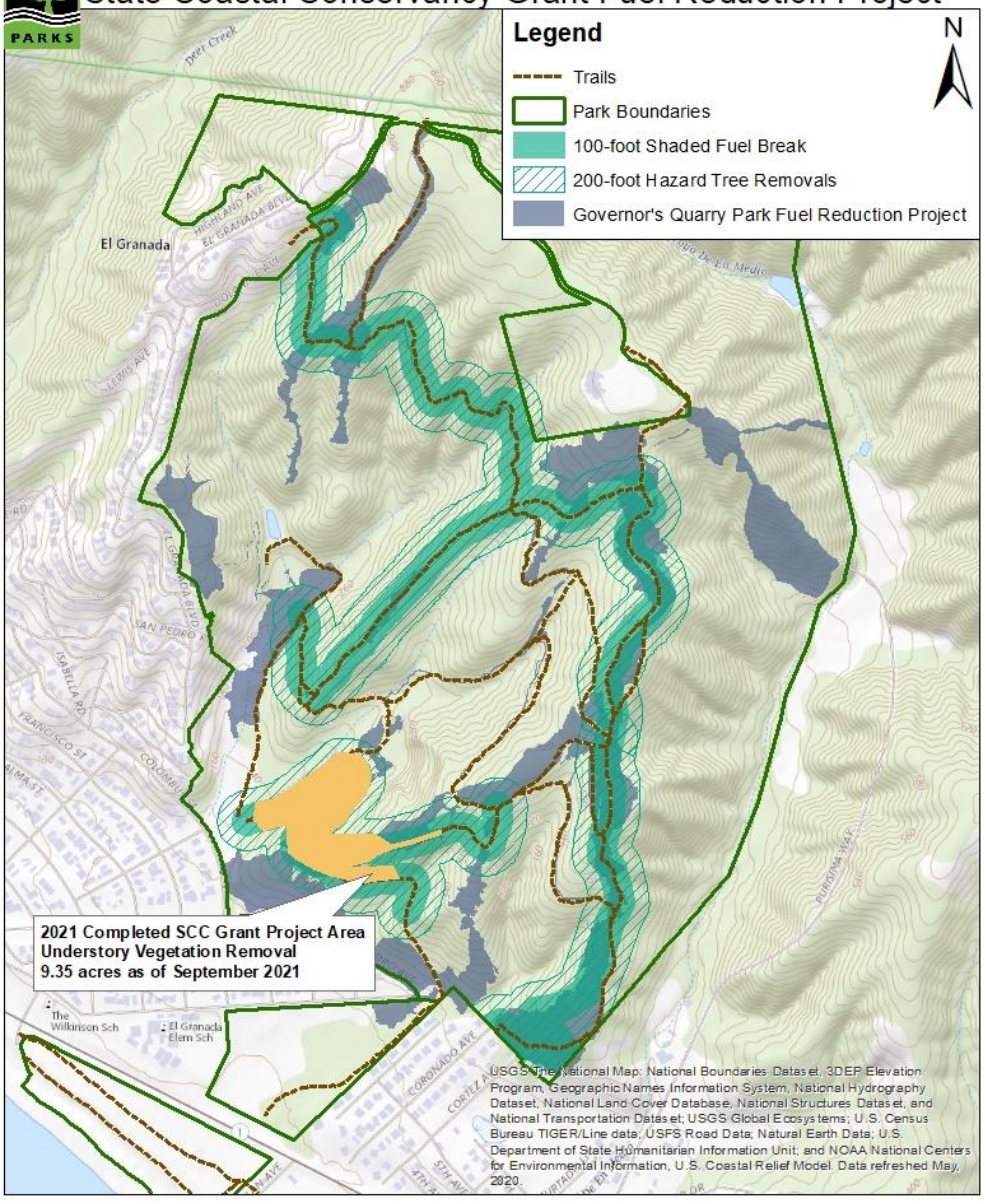
field staff will be responsible for coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Project Maps: The first map below displays the project boundaries as originally scoped for within the Wildfire Fuel Management Program. The second map displays the planned treatment areas that are being worked on by the San Mateo Resource Conservation District and San Mateo County Parks Department with funding from the State Coastal Conservancy. Areas that are not included the San Mateo RCD and Parks Department's project but scoped in Project #16 will be completed at a date to be determined when necessary permits are obtained, and funding has been secured.

Quarry County Park: Create and Maintain a Shaded Fuel Break Along Fire Roads in Quarry Park and Mirada East



Quarry County Park
State Coastal Conservancy Grant Fuel Reduction Project



Park: Sawyer Camp Trail – Crystal Springs Regional Trail
Project Name: Wildfire Fuel and Hazard Tree Reduction Along Sawyer Camp Trail

Rank ID #: 17
Size: 19 acres
New or Existing: Existing
Implementation Status: Coordinating project with San Mateo RCD and SFPUC

Project Description and Parameters: Enhance regional safety by reducing hazard trees and fuel loads along the 6-mile-long Sawyer Camp Trail easement in the Peninsula Watershed. Thinning understory vegetation and lifting trees to CAL FIRE specifications will create defensible space and preserve emergency responder access to conduct fire containment and suppression activities.

Location Specifics: Hazard trees and understory vegetation within 25 feet of the Sawyer Camp Trail will be reduced. Please see the map depicting project boundaries below.

Treatment Types: Clearing dead, diseased, and downed trees as well as removal of small diameter trees (less than 6") to reduce horizontal and vertical ladder fuels. This work will be performed along both sides of the trail to achieve a minimum of 15' vertical clearance and 10 ' on either side.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove hazard trees and understory vegetation from along the 6-mile-long trail located within the Peninsula Watershed. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

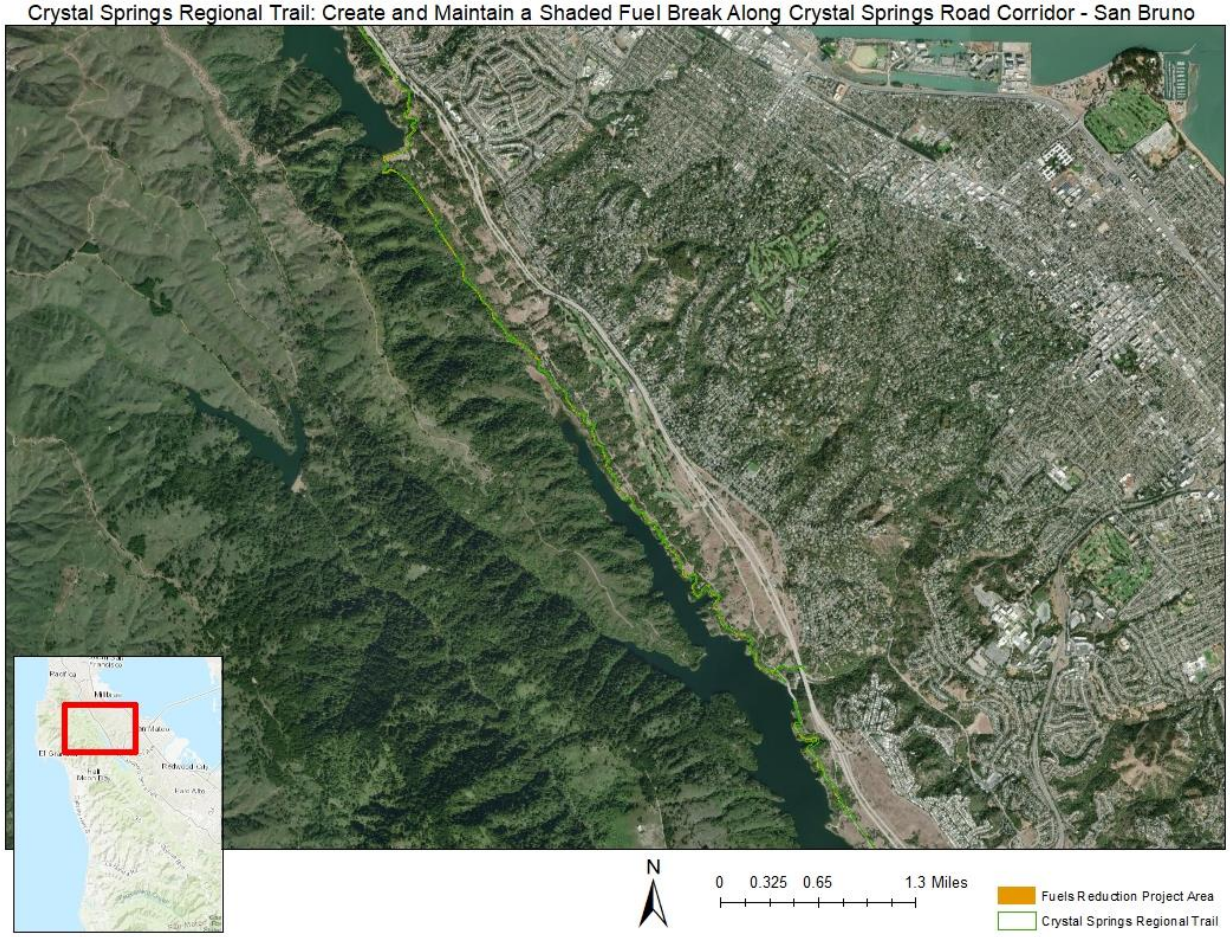
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire by reducing fuel loads; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. This project will also improve ingress/egress for Park Staff, reduce hazards to park users and infrastructure, and help reduce Sudden Oak Death (SOD) infection rate.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur every five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to remove hazard trees and reduce fuel loads along the 6-mile-long Sawyer Camp Trail is $398,500, or $79,700 per year.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will assist the San Mateo Resource Conservation District with permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring of project areas.

Crystal Springs Regional Trail: Create and Maintain a Shaded Fuel Break Along Crystal Springs Road Corridor - San Bruno



Park: Junipero Serra County Park

Project Name: Create and Maintain a Shaded Fuel Break Between Oak Cove Trail and Adjacent Private Residences – San Bruno

Rank ID #: 18
Size: 3 acres
New or Existing: New
Implementation Status: Planning – may be covered financially as part of FEMA Local Hazard Mitigation Grant, which is currently under review. Implementation tentatively scheduled for 2023.

Project Description and Parameters: Create and maintain a 200-foot-wide shaded fuel break between the Oak Cove Trail and private residences in San Bruno to protect nearby residents and enhance public safety. The shaded fuel break will slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels.

Location Specifics: The 200-foot-wide shaded fuel break will be located along the Oak Cove Trail west of Redwood Road and Terrace Drive. Please see the map depicting project boundaries below.

Treatment Types: Removal of dead and declining vegetation, including oaks and pines. Selective thinning of exotic trees with a diameter of ten inches and under. Select removal of California bay laurel to control spread of Sudden Oak Death (SOD). Removal of understory brush, dead limbs and low hanging branches to permit six to eight feet of vertical clearance over natural grade.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and trees up to ten inches in diameter, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along a secondary evacuation route located adjacent to private residences. Where practicable, heavy equipment will be used to remove and masticate vegetation. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to two years to complete. Maintenance should occur every three years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $39,768. Initial treatment is estimated to cost $26,512, and retreatment activities are estimated to cost $13,256.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Park: Memorial County Park
Project Name: Maintain Shaded Fuel Breaks Along Fire Roads in Memorial Park

Rank ID #: 19
Size: 35 acres
New or Existing: Existing
Implementation Status: Tentatively scheduled for FY 2023/2024

Project Description and Parameters: Enhance public safety by maintaining existing shaded fuel breaks located along fire roads within Memorial County Park. This will be achieved by maintaining a minimum of 5 feet of clearance from the edge of roadway, thinning understory vegetation, and removing dead and dying vegetation and small diameter trees. The shaded fuel breaks can provide access for first responders to conduct fire containment and suppression activities and can slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels.

Location Specifics: Memorial County Park has a network of fire roads strategically located throughout the park. Please see the map depicting project boundaries below.

Treatment Types: Maintain a minimum five feet of vegetation clearance from either side of roadway. Thin dense understory fuels and remove dead and dying vegetation and small trees under eight inches in diameter. Remove large hazard trees within striking distance of roadway where necessary.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees and live trees serving as ladder fuels from along fire roads in Memorial County Park to protect first responder's ability to access the interior of the park. Select large trees within striking distance of the fire roads may also require removal. Where feasible, vegetation will be masticated using heavy equipment. For areas that are in close proximity to sensitive resources or that are too steep for equipment, hand crews will remove vegetation and chippers will be used to process woody debris. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities.

Implementation & Maintenance Interval: Maintenance activities should occur every five years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to maintain existing shaded fuel breaks located along fire roads within Memorial County Park is $309,312.50.

Responsible Parties: Parks Department field staff will be responsible for overseeing and/or conducting maintenance activities and coordinating any trail closures. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Park: San Bruno Mountain State and County Park
Project Name: Removal of Gorse Along Saddle Loop Trail

Rank ID #: 20
Size: 13 acres
New or Existing: New
Implementation Status: Project planning occurring in 2021; Implementation planned for 2022

Project Description and Parameters: Mitigate the threat of wildfire to nearby residents by removing 13 acres of Gorse, a highly flammable invasive species, from a northern segment of the park. Removal of the highly combustible vegetation will protect nearby residences and remove a non-native, invasive species from the park.

Location Specifics: The area to be treated is located north of Saddle Loop Trail, west of Carter Avenue and Oakridge Avenue, and south of Alta Vista Way. Please see the map depicting project boundaries below.

Treatment Types: Strategic removal of remaining Gorse on the north side of San Bruno Mountain.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove large swaths of gorse from areas adjacent to private residences. Where feasible, vegetation will be masticated using heavy equipment. For areas that are in close proximity to sensitive resources or that are too steep for equipment, hand crews will remove vegetation and chippers will be used to process debris. Chemical treatment may be required to prevent gorse re-growth. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

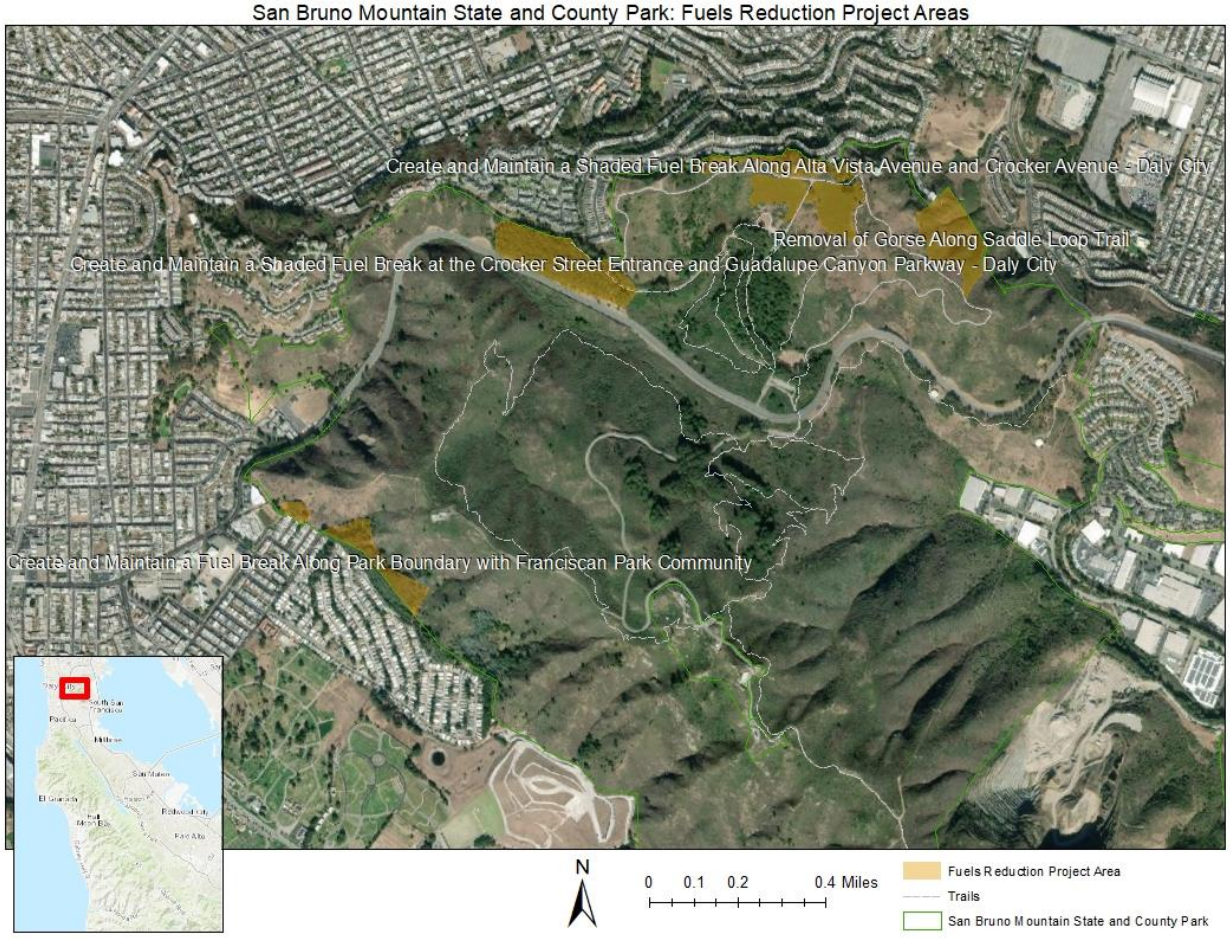
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by removing 13 acres of gorse, a highly flammable vegetation. It will also restore native habitat for endangered butterfly species.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to two years to complete. Maintenance should occur annually thereafter for three years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to remove the 13 acres of gorse and maintain the project area is $219,375.00.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.

San Bruno Mountain State and County Park: Fuels Reduction Project Areas



Park: Huddart County Park

Project Name: Treat and Maintain Cal Fire CCI Forest Health Grant Project – Huddart Park

Rank ID #: 21
Size: 185 acres
New or Existing: Existing
Implementation Status: Project initiation scheduled for October 2021; Implementation through 2023.

Project Description and Parameters: The Parks Department and the San Mateo Resource Conservation District have partnered to implement this project, which will mitigate the threat of catastrophic wildfires by creating shaded fuel breaks and reducing fuel loads; lessen the spread and impacts of Sudden Oak Death (SOD); and reduce invasive species.

Location Specifics: This project targets strategic high-vulnerability areas throughout Huddart County Park, primarily in the upper (western) portions of the park along HWY 35 and Kings Mountain Road, as well as in the portion of the park adjacent to the property border with Phleger Estate. Please see the map depicting project boundaries below.

Treatment Types: Manual, mechanical, and chemical treatment of incompatible resprouting vegetation throughout the CCI Grant acreage to maintain benefit of initial project.

Treatment Methods: Contractors will utilize manual and mechanical treatment methods to remove understory vegetation and trees up to 8 inches in diameter, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels. Felled trees and other vegetation will be processed using a chipper and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Herbicide will be used where necessary to control invasive species. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

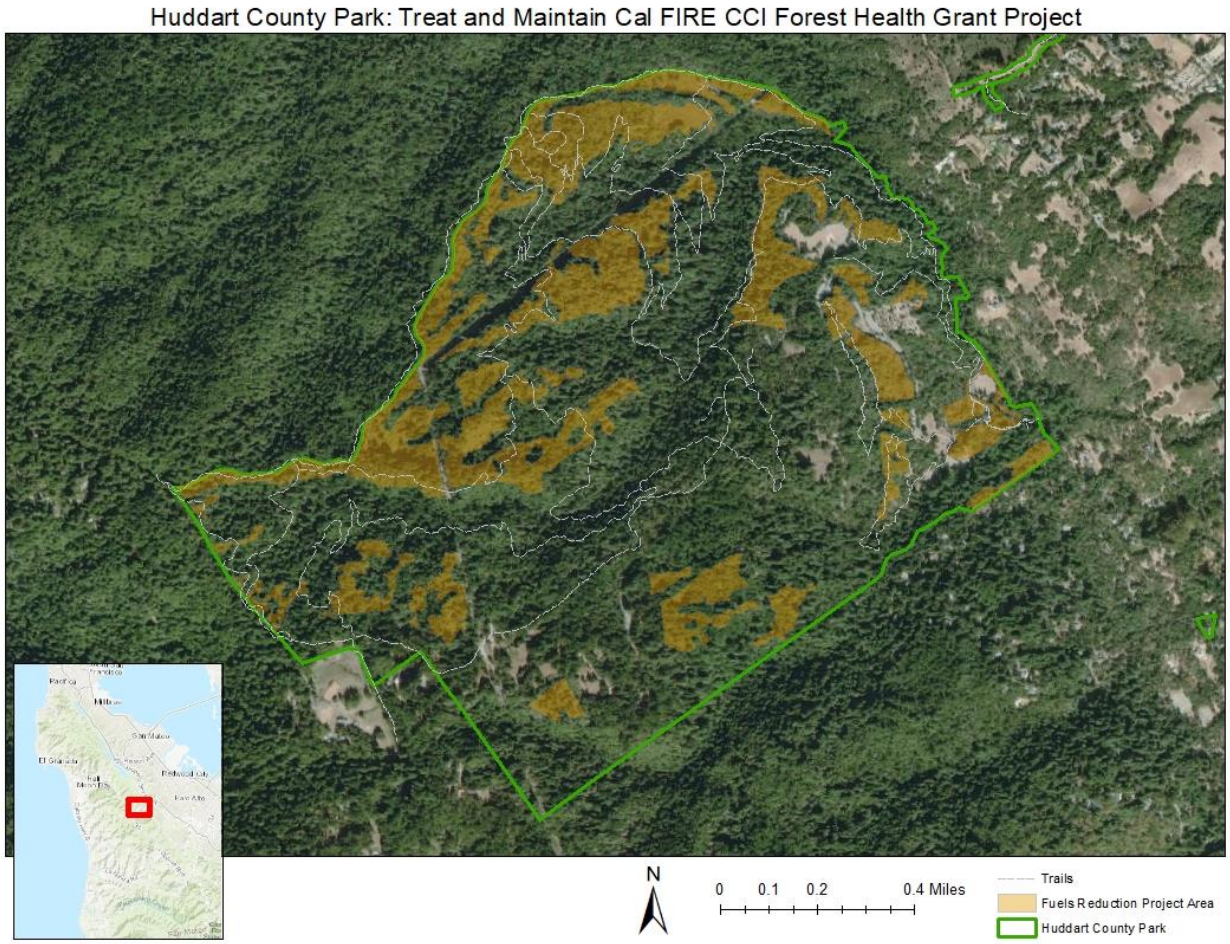
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. The project will also improve the forest's ability to sequester carbon and lessen the spread and impact of SOD.

Implementation & Maintenance Interval: Initial treatment is estimated to take two years to complete. Maintenance should occur every three years thereafter, depending on observations made during monitoring.

Cost and Budget: Initial treatment is estimated to cost $1,191,453.49, and is funded by the CCI Grant through 2023. Retreatment costs during the first maintenance interval is estimated to cost $450,225.

Responsible Parties: County Parks' Natural Resource Management staff will manage project implementation and environmental avoidance measures with the San Mateo Resource Conservation

District. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.



Park: Pillar Point Bluff
Project Name: Removal of Invasive Species Along Park Boundary with Pillar Ridge

Rank ID #: 22
Size: 18 acres
New or Existing: New
Implementation Status: Planning 2021, permitting 2022, implementation 2023

Project Description and Parameters: Mitigate the threat of wildfire to the Pillar Ridge community by removing the 18-acre grove located between the Jean Lauer Trail and the park's eastern boundary. Due to the unhealthy Monterey Pine and non-native species present in the grove, it presents a direct threat to local residents.

Location Specifics: The 18-acre grove to be removed is located between Jean Lauer Trail and the Pillar Ridge Manufactured Home Community. Please see the map depicting the project boundaries below.

Treatment Types: Removal of Monterey pine and other non-native trees and invasive vegetation.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove all trees, invasive species, and woody vegetation from along the park's border with the Pillar Ridge community. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be processed using a horizontal grinder. Chemical treatment will likely be required to control the regrowth of non-native species. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

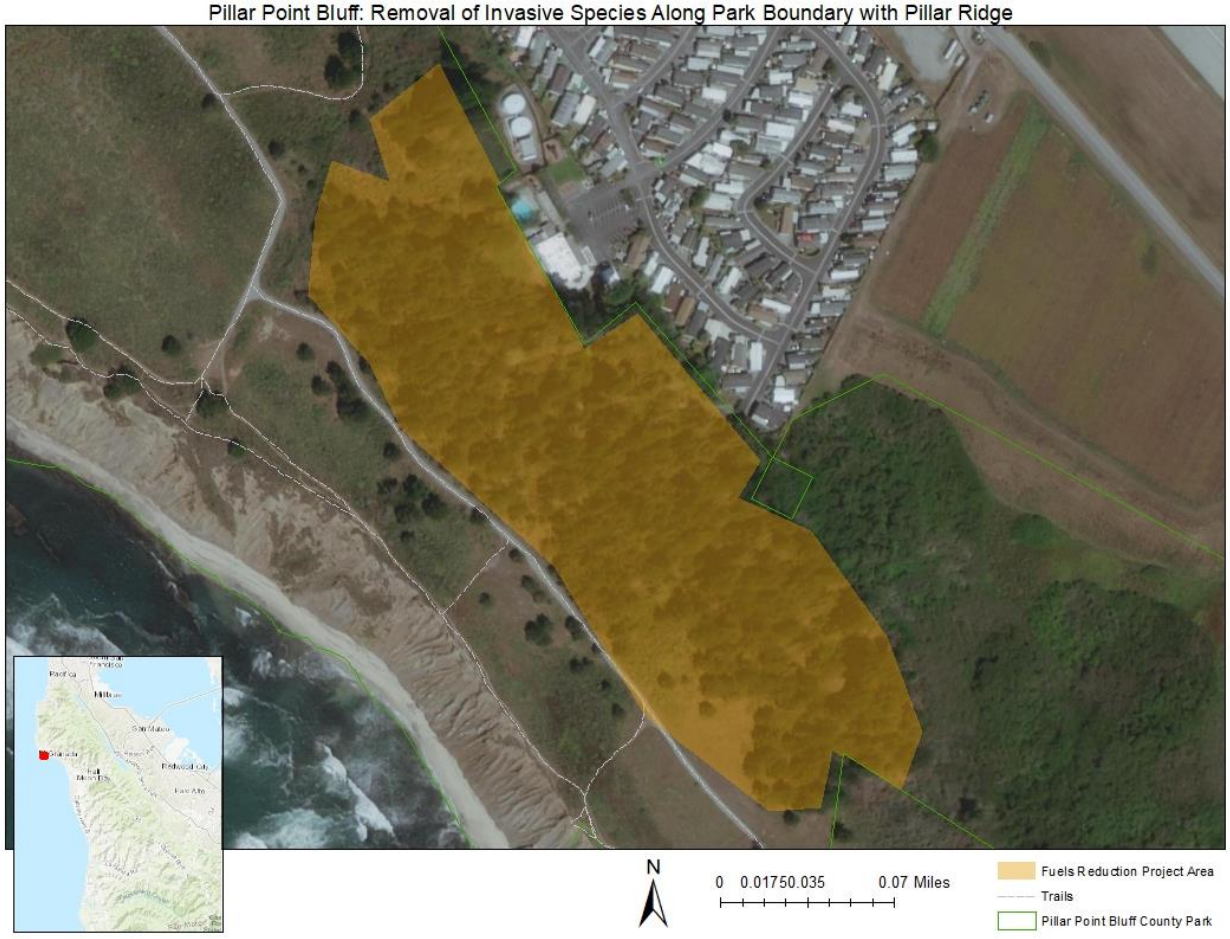
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by removing dead, dying, and hazardous trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. This project will also provide ecological benefits by serving as a step toward converting the stand to native coastal prairie.

Implementation & Maintenance Interval: Initial treatment is estimated to take two to three years to complete. Maintenance should occur every three years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $1,476,000. Initial treatment is estimated to cost $1,107,000, and retreatment activities are estimated to cost $369,000.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.

Pillar Point Bluff: Removal of Invasive Species Along Park Boundary with Pillar Ridge



Park: Junipero Serra County Park
Project Name: Remove Unhealthy Eucalyptus Trees from Iris Point Reservation Site

Rank ID #: 23
Size: 9 acres
New or Existing: New
Implementation Status: Planning 2022

Project Description and Parameters: Improve public safety and enhance the ecological value of Junipero Serra County Park by removing unhealthy Tasmanian blue gum eucalyptus and Monterey pine trees from the Iris Point Reservation Site. The dense stand contains a significant amount of fire fuel and hazard trees making it a wildfire threat to nearby residents.

Location Specifics: Treatment activities will occur in the Iris Point Youth Camp area, which is located north of Terrace Drive, south of the upper parking lot, and west of the Bay View Picnic Shelter. Please see the map depicting the project boundaries below.

Treatment Types: Removal of unhealthy/declining Tasmanian blue gum and Monterey pine; replanting with oak woodland species.

Treatment Methods: Parks Department field staff and contractors will utilize manual treatment methods to remove understory vegetation and specified trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from the Iris Point Youth camp site. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will likely be required to control the regrowth of non-native species, including eucalyptus. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

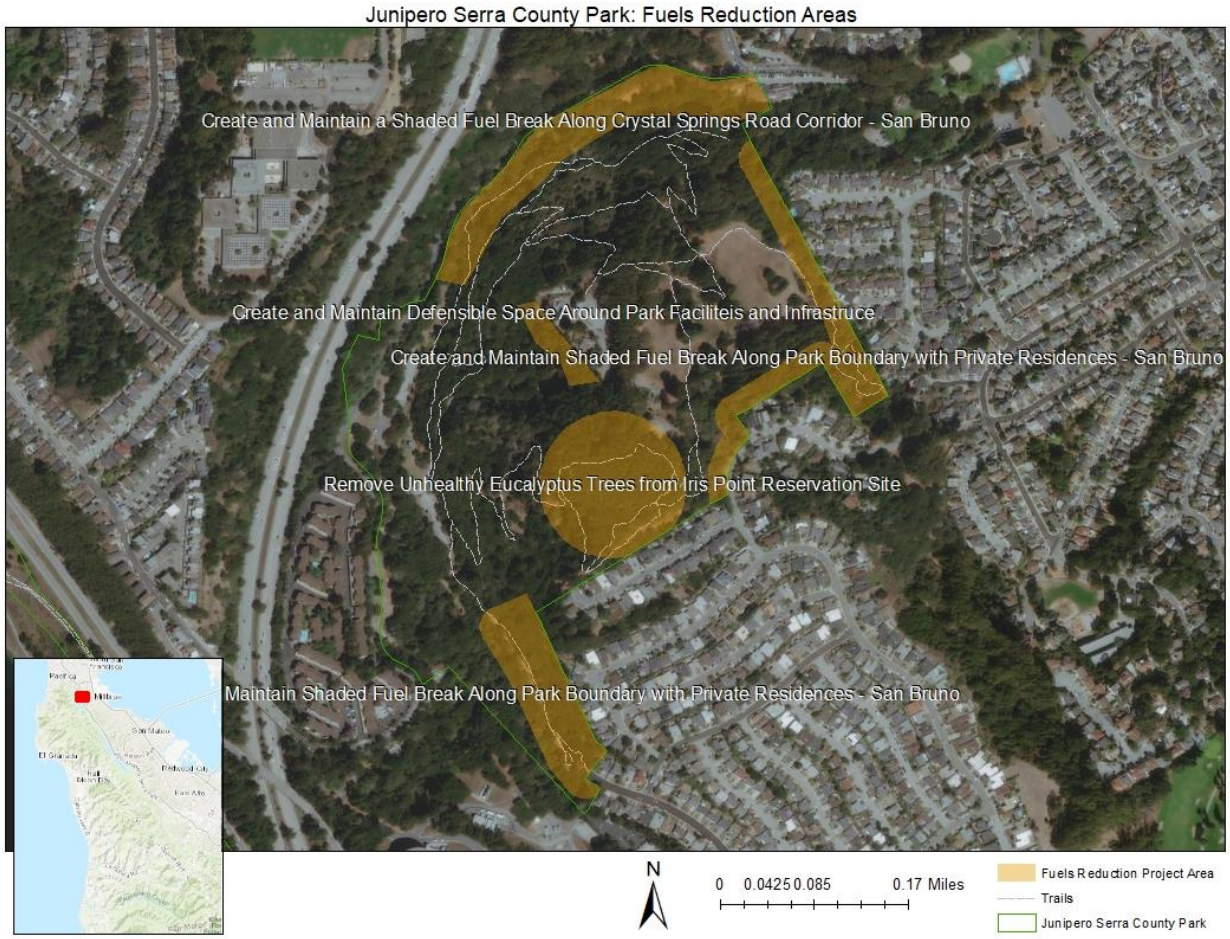
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. The project will also enhance the ecological value of the park by restoring oak woodland and native habitat.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to three years to complete. Maintenance should occur annually thereafter for three years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $111,375. Initial treatment is estimated to cost $83,531, and retreatment activities are estimated to cost $27,843.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management

Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.



Park: Edgewood County Park
Project Name: Create and Maintain a Shaded Fuel Break Along Old Stage Road

Rank ID #: 24
Size: 8 acres
New or Existing: New
Implementation Status: Planning and permitting 2022; implementation 2023

Project Description and Parameters: Enhance public safety by creating and maintaining a shaded fuel break along Old Stage Road at Edgewood County Park and Natural Preserve. This will be achieved by thinning understory vegetation and removing select trees within 100 feet of the road. Shaded fuel breaks can protect access routes for first responders to conduct fire containment and suppression activities and can slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels. As a primary vector for Sudden Oak Death (SOD), California bay trees will also be removed as part of this project to protect high-value California oaks.

Location Specifics: Old Stage Road is located along the northern edge of Edgewood County Park and Natural Preserve and provides critical access to the interior of the preserve. The shaded fuel break will be cut within 100 feet of both sides of the roadway. Please see the map depicting the project boundaries below.

Treatment Types: Remove ladder fuels and standing dead hazard trees. Understory thinning including removal of California bay in areas surrounding high value California oaks to help control spread of SOD.

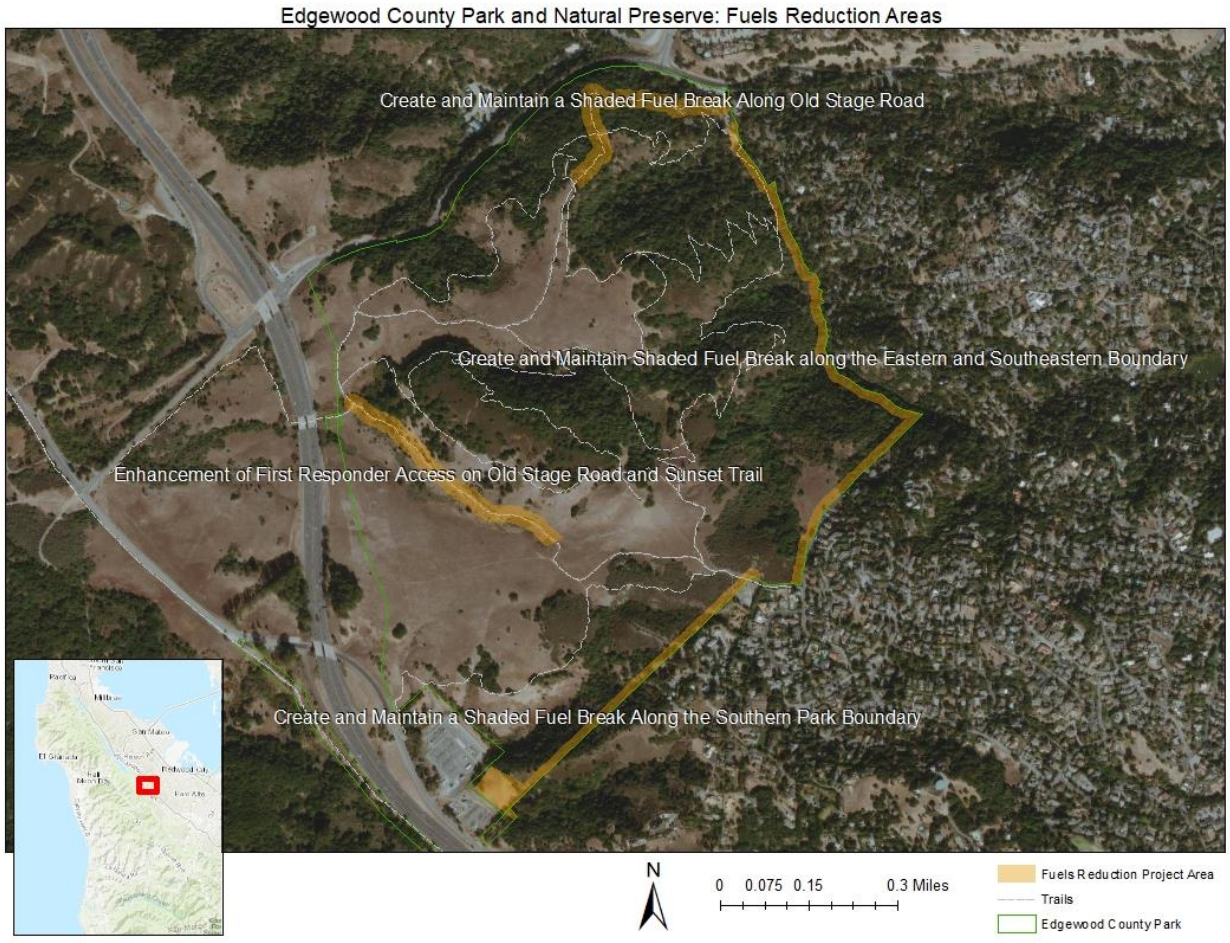
Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along Old Stage Road to protect first responders' ability to access the interior of the park. Large diameter hazard trees, California bay trees, and standing dead trees will also be removed. Where feasible, vegetation will be masticated using heavy equipment. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will likely be required to control the regrowth of non-native species. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responder's ability to access a fire and conduct fire containment and suppression activities. The project will also lessen the spread and impact of SOD.

Implementation & Maintenance Interval: Initial treatment is estimated to take one to two years to complete. Maintenance should occur every five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $70,700. Initial treatment is estimated to cost $53,025, and retreatment activities are estimated to cost $17,675.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring of project areas.



Park: Junipero Serra County Park
Project Name: Create and Maintain Defensible Space Around Park Facilities and Infrastructure

Rank ID #: 25
Size: 1 acre
New or Existing: New
Implementation Status: Planning 2022, implementation 2023

Project Description and Parameters: Protect critical park infrastructure by creating and maintaining defensible space around the Ranger Station and Ranger Residence in Junipero Serra County Park. This will be accomplished by thinning understory vegetation and removing dead and dying trees, including oak, pine, and eucalyptus.

Location Specifics: Defensible space will be created within 150 feet of the Ranger Station and Ranger Residence. Please see the map depicting project boundaries below.

Treatment Types: Removal of dead and declining vegetation, including eucalyptus and pine trees.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels to create defensible space around critical park infrastructure. Large diameter hazard trees and standing dead trees will also be removed. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will likely be required to control the regrowth of non-native species. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

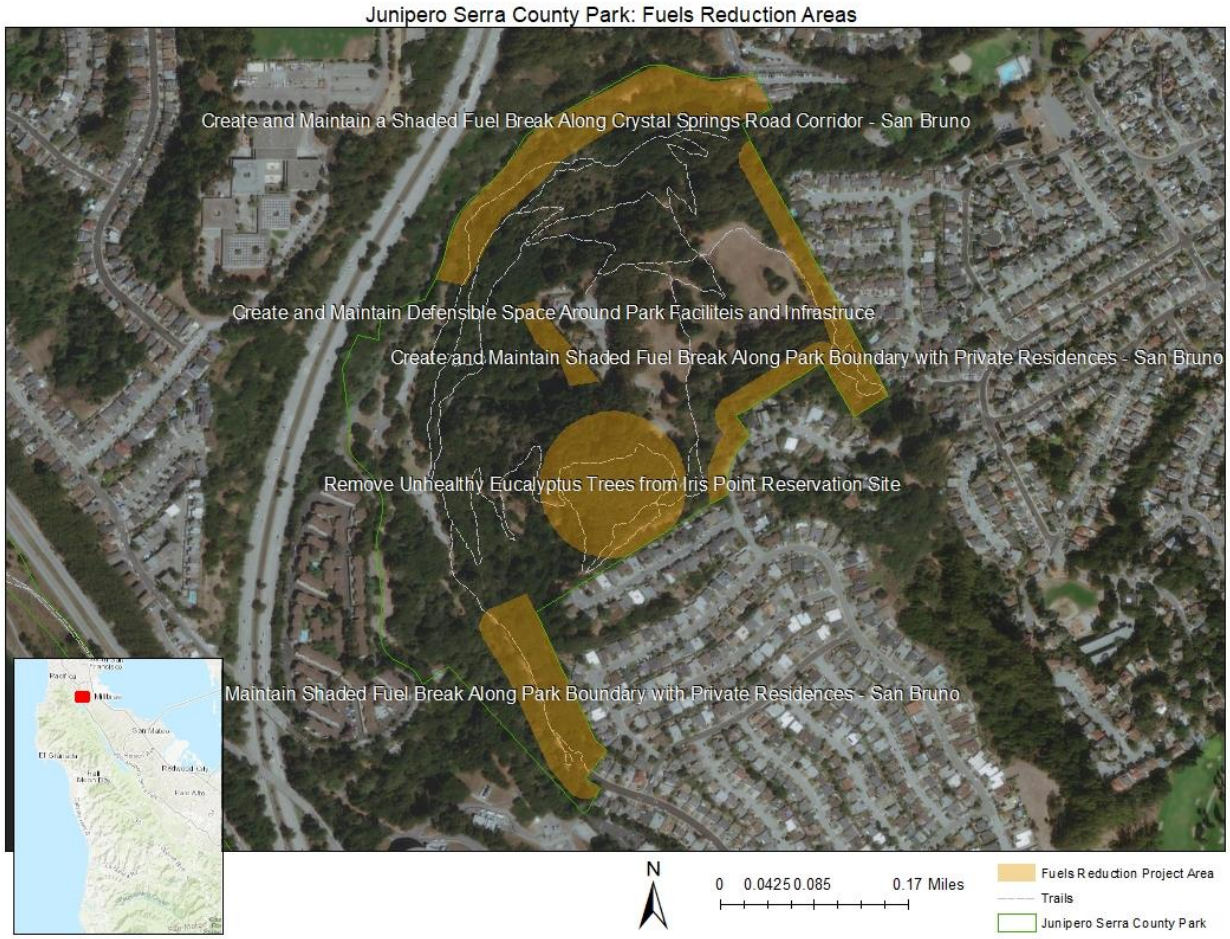
Project Benefits: Completion of this project will protect critical park infrastructure by creating defensible space.

Implementation & Maintenance Interval: Initial treatment is estimated to take one year to complete. Maintenance should occur every five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $13,600. Initial treatment is estimated to cost $6,800, and retreatment activities are estimated to cost $6,800. No funding source has been identified at present.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management

Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.



Park: Huddart County Park
Project Name: Create and Maintain Defensible Space Around Park Structures and Infrastructure in Huddart Park

Rank ID #: 26
Size: 18 acres
New or Existing: New
Implementation Status: Implementation beginning 2022

Project Description and Parameters: Protect critical park infrastructure in Huddart County Park by creating and maintaining defensible space around park utilities and facilities, including pressure release valves, water tanks, maintenance shops, reservation shelters, restrooms, and Ranger Residence. This will be accomplished by thinning understory vegetation and removing dead, dying, and hazardous trees. All defensible space will satisfy applicable CAL FIRE standards.

Location Specifics: This project entails creating defensible space around all park facilities and utilities in Huddart County Park. Please see the map depicting project locations below.

Treatment Types: Manual, mechanical, and chemical treatment of incompatible resprouting vegetation.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove all trees and woody vegetation from around park facilities and utilities to create defensible space around critical park infrastructure. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will likely be required to control the regrowth of non-native species. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

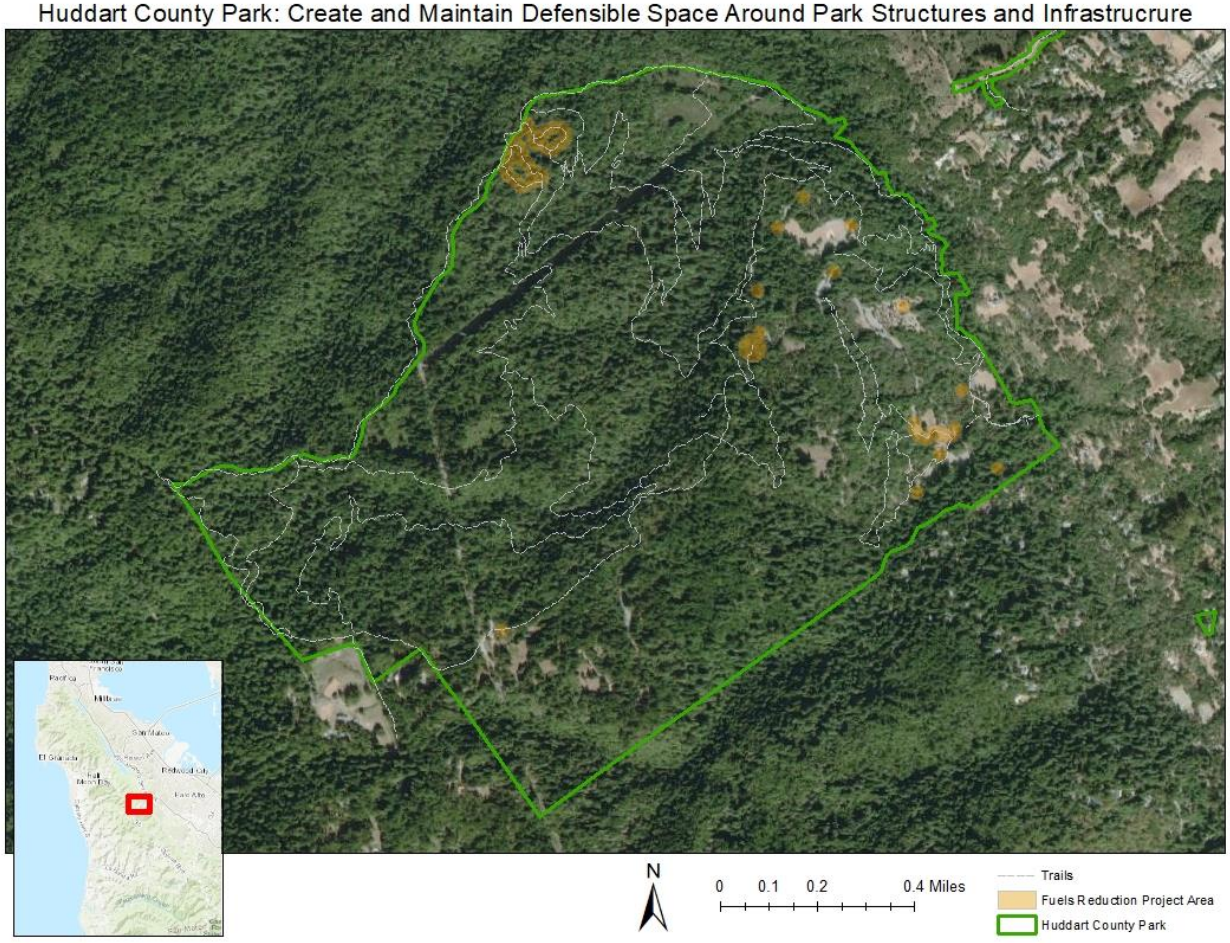
Project Benefits: Completion of this project will protect critical park infrastructure by creating defensible space.

Implementation & Maintenance Interval: Initial treatment is estimated to take two years to complete. Maintenance should occur every two years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $222,750. Initial treatment is estimated to cost $167,062, and retreatment activities are estimated to cost $55,687.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Huddart County Park: Create and Maintain Defensible Space Around Park Structures and Infrastrucrure



Park: Pescadero Creek County Park
Project Name: Maintain Shaded Fuel Breaks Along Fire Roads Throughout Pescadero Creek County Park

Rank ID #: 27
Size: 191 acres
New or Existing: Existing
Implementation Status: Maintenance activities to occur annually

Project Description and Parameters: Enhance public safety by maintaining shaded fuel breaks that are located along fire roads within Pescadero Creek County Park. This will be achieved by thinning understory vegetation and removing ladder fuels within 50 to 100 feet of the roadways, and by removing standing dead trees and large diameter trees along fire roads that pose an obstruction to fire suppression equipment. The shaded fuel breaks can protect access for first responders to conduct fire containment and suppression activities, and can slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels. This was displayed during the CZU Lightning Complex Fires.

Location Specifics: Pescadero Creek County Park has an extensive 23.5-mile network of fire roads. This project will maintain shaded fuel breaks along the entire network to preserve access for first responders. Please see the map depicting project boundaries below.

Treatment Types: Maintain a minimum 5' vegetation clearance from either edge of roadway. Thin dense understory fuels and remove dead and dying vegetation which pose hazard to the roadway. Thin understory vegetation and small trees under 8" in diameter.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along fire roads in Pescadero Creek County Park to protect first responders' ability to access the interior of the park. Large diameter hazard trees and standing dead trees will also be removed. Where feasible, vegetation will be masticated using heavy equipment. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

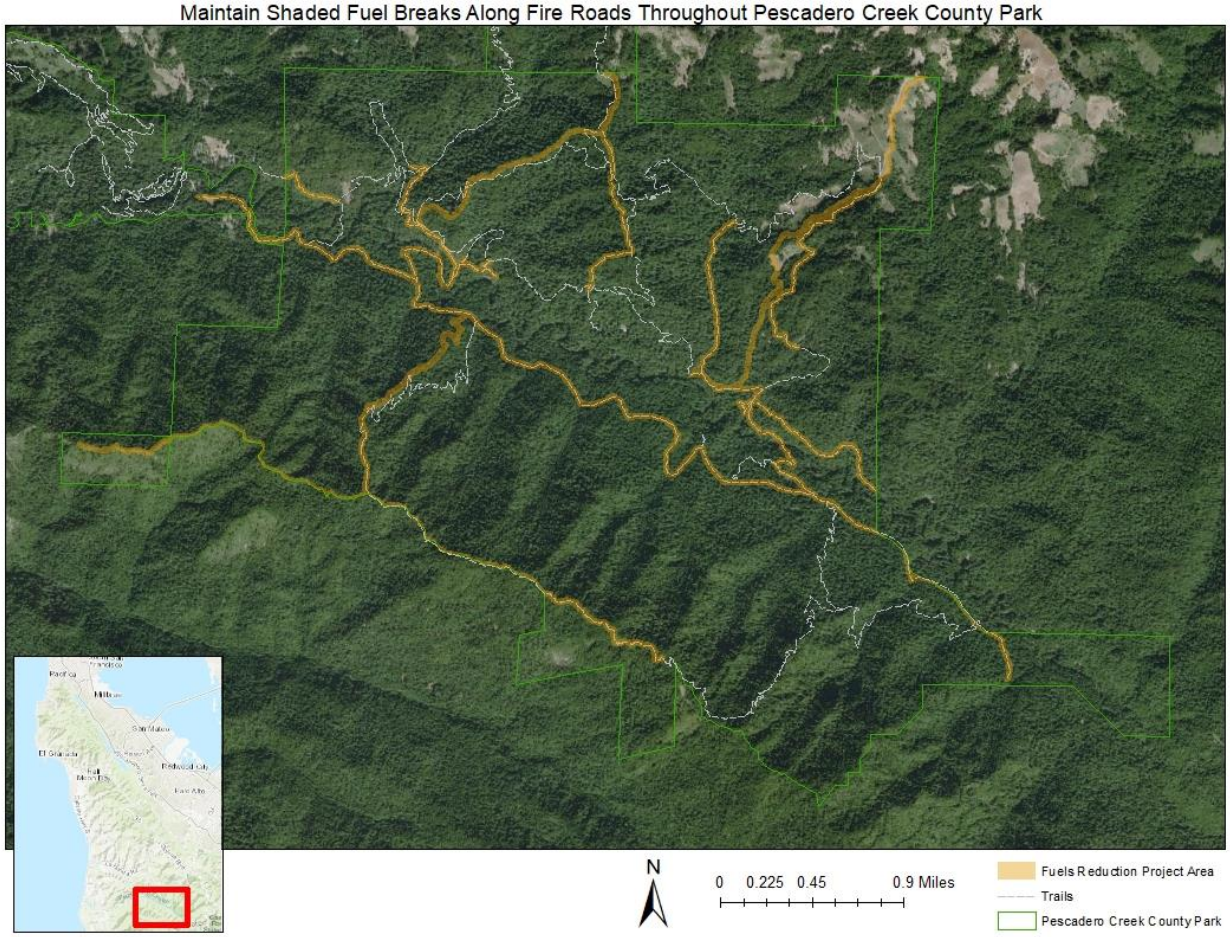
Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities.

Implementation & Maintenance Interval: Due to the extensive nature of the fire road network in Pescadero Creek County Park, the project will be divided into segments and maintenance activities will be conducted annually, with a return interval of five years for each segment.

Cost and Budget: Estimated 5-year cost to maintain project areas is $1,687,962. Subsequent treatment cycles should prove less costly.

Responsible Parties: Parks Department field staff will be responsible for overseeing and/or conducting maintenance activities and coordinating any trail closures. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Maintain Shaded Fuel Breaks Along Fire Roads Throughout Pescadero Creek County Park



Park: Memorial Park, Sam McDonald Park, Pescadero Creek Park
Project Name: Create and Maintain Defensible Space Around All Park Facilities and Infrastructure

Rank ID #: 28
Size: 100 acres
New or Existing: New
Implementation Status: Begin project planning in 2021, implementation to begin in 2022

Project Description and Parameters: Protect critical park infrastructure in Memorial, Sam McDonald, and Pescadero Creek County Parks by creating and maintaining defensible space around park utilities and facilities. This will be accomplished by thinning understory vegetation and removing dead, dying, and hazardous trees. Defensible space shall be created to Cal FIRE standards where possible by implementing a 3-tier defensible space program.

Location Specifics: Defensible space will be created around all critical park infrastructure and facilities at Memorial, Sam McDonald, and Pescadero Creek County Parks. Please see the map depicting project boundaries below.

Treatment Types:

- Tier 1: Within 5' of structures, clear all vegetation and dead-down debris where feasible. Large healthy trees which are managed over structures are exempt from removal.
- Tier 2: Within 5 to 30' of structures, remove standing dead and unhealthy vegetation and thin understory fuels to reduce likelihood of ground fire spreading to tree crowns. Selectively remove suppressed or co-dominant trees to increase space between canopies to reduce likelihood of ground fire spreading to tree crowns.
- Tier 3: Within 30 to 100' of structures, remove standing dead and unhealthy vegetation and managing understory fuels.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove targeted trees and woody vegetation from around park facilities and utilities to create defensible space around critical park infrastructure. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

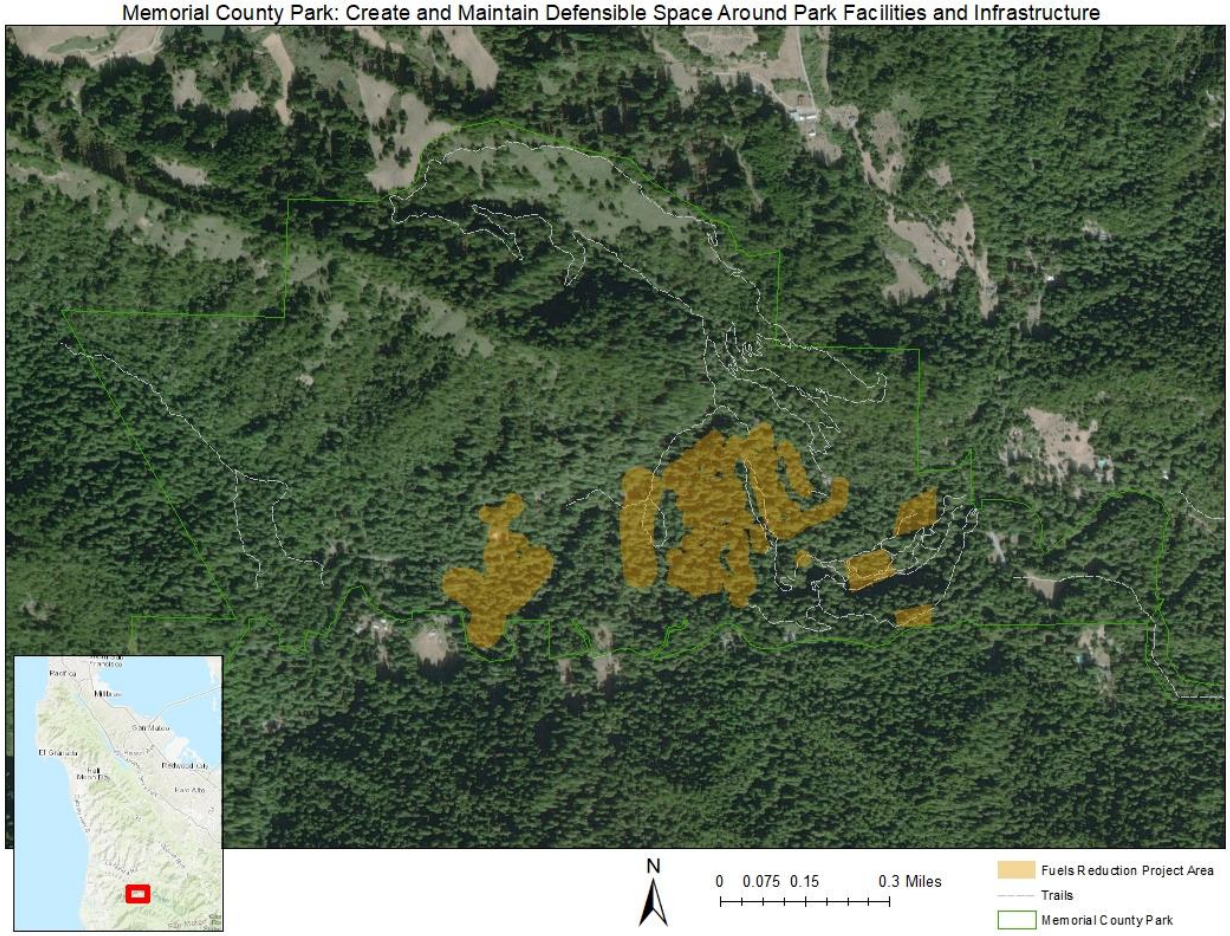
Project Benefits: Completion of this project will protect critical park infrastructure by creating defensible space. This project will also lessen tree-related hazards within the parks.

Implementation & Maintenance Interval: Initial treatment is estimated to take three to five years to complete and will be completed on a rotational basis. Maintenance should occur every three years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $883,750. No Funding source has been identified at present. Future maintenance is expected to be less costly.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Memorial County Park: Create and Maintain Defensible Space Around Park Facilities and Infrastructure



Park: Sam McDonald County Park
Project Name: Create and Maintain Fuel Breaks to Preserve First Responder Access

Rank ID #: 29
Size: 119 acres
New or Existing: Existing
Implementation Status: Planning 2021; project implementation 2022

Project Description and Parameters: Enhance public safety by maintaining fuel breaks and shaded fuel breaks located along fire roads within Sam McDonald County Park. This will be achieved by thinning understory vegetation and removing ladder fuels within 50 feet of the roadways, and by removing standing dead trees and large diameter trees along fire roads that pose an obstruction to fire suppression equipment. Fuel breaks and shaded fuel breaks can protect access for first responders to conduct fire containment and suppression activities, and can slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels.

Location Specifics: Sam McDonald County Park has a 4.3-mile-long network of fire roads. This project will maintain fuel breaks and shaded fuel breaks along the entire network to preserve access abilities for fire responders. Please see the map depicting project boundaries below.

Treatment Types: Maintain a minimum 5' vegetation clearance from either edge of roadway. Thin dense understory fuels and remove dead and dying vegetation and small trees under 8" in diameter. Remove large hazard trees within striking distance of roadway where necessary.

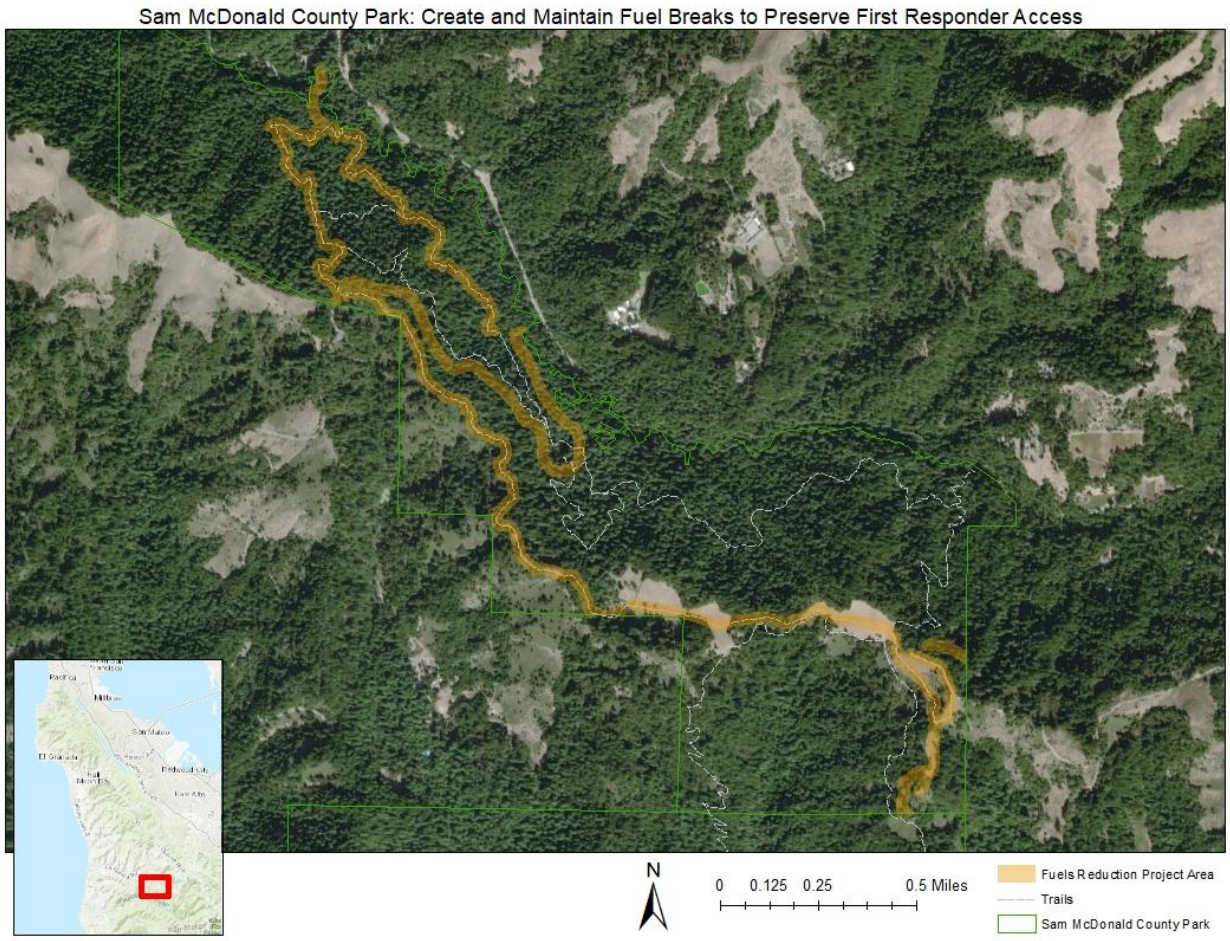
Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along fire roads in Sam McDonald County Park to protect first responders' ability to access the interior of the park. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities.

Implementation & Maintenance Interval: Initial treatment is estimated to take two to three years to complete. Maintenance should occur every five years thereafter, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to treat the project areas is $1,051,662.50. Future costs are anticipated to be lower with consistent maintenance prescriptions. Grant submittal in progress.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.



Park: Edgewood County Park

Project Name: Enhancement of First Responder Access on Old Stage Road and Sunset Trail

Rank ID #: 30
Size: 2 acres
New or Existing: New
Implementation Status: Planning 2021; Implementation not yet funded

Project Description and Parameters: To ensure first responders are able to access the interior of Edgewood County Park and Natural Preserve, the Parks Department will pave Old Stage Road from the Ranger Residence to the Edgewood Trail and re-establish the fire road to CAL FIRE standards from Edgewood Trail. The Department will also install a series of turnouts to enhance maneuverability and replace a culvert between trail markers 13 and 14.

Location Specifics: The Department will pave approximately 1,100 feet of Old Stage Road trail from the Ranger Residence to Edgewood Trail; the paved area will be 10 feet wide. Turnouts will be located along length of Old Stage Road and Sunset Trail at intermittent intervals. Culvert to be replaced is located between trail markers 13 and 14. Please see the map depicting the project boundaries below.

Treatment Types: Complete fire road and infrastructure improvements.

Treatment Methods: This project entails grading the existing road, laying base rock, and paving the surface. The Department will also need to replace a culvert. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species.

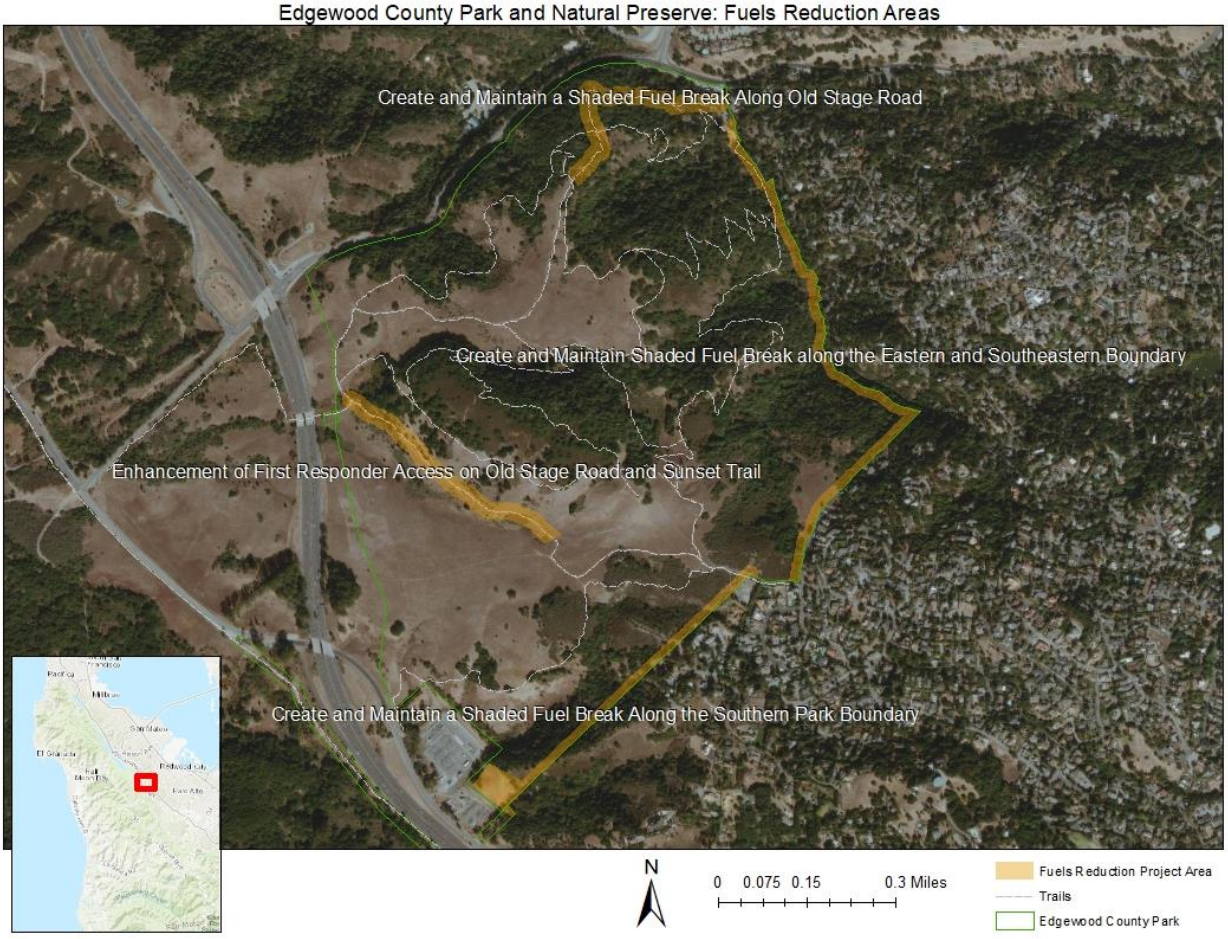
Project Benefits: Completion of this project will ensure first responders are able to access the interior of Edgewood County Park and Natural Preserve to conduct rescues and fire containment and suppression activities.

Implementation & Maintenance Interval: N/A

Cost and Budget: This project is estimated to cost $21,700.00

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.

Edgewood County Park and Natural Preserve: Fuels Reduction Areas



Park: Wunderlich County Park
Project Name: Loop Fire Road Eucalyptus and Acacia Removal Project

Rank ID #: 31
Size: 20 acres
New or Existing: New
Implementation Status: Planning 2022, implementation 2023

Project Description and Parameters: Enhance public safety by creating a shaded fuel break along the Loop Fire Road in Wunderlich County Park. This will be achieved by thinning understory vegetation and reducing ladder fuels within 100 feet of the roadway, and by removing standing dead trees and large diameter trees that pose an obstruction to fire suppression equipment. The fuel breaks and shaded fuel breaks can provide access for first responders to conduct fire containment and suppression activities, and can slow the spread of a fire by reducing fire fuels and breaking the continuity of vertical and horizontal fuels. Removal of eucalyptus trees along the side of the Loop Fire Road, and acacia patch uphill.

Location Specifics: The shaded fuel break will begin at the new access road between Alambique Trail and the Loop Fire Road and continue uphill to the Loop Fire Road's intersection with Alambique Trail (marker 16). Please see the map depicting project boundaries below.

Treatment Types: Removal of all acacia trees. Removal of eucalyptus up to 10" in diameter, and other tree species to establish shaded fuel break.

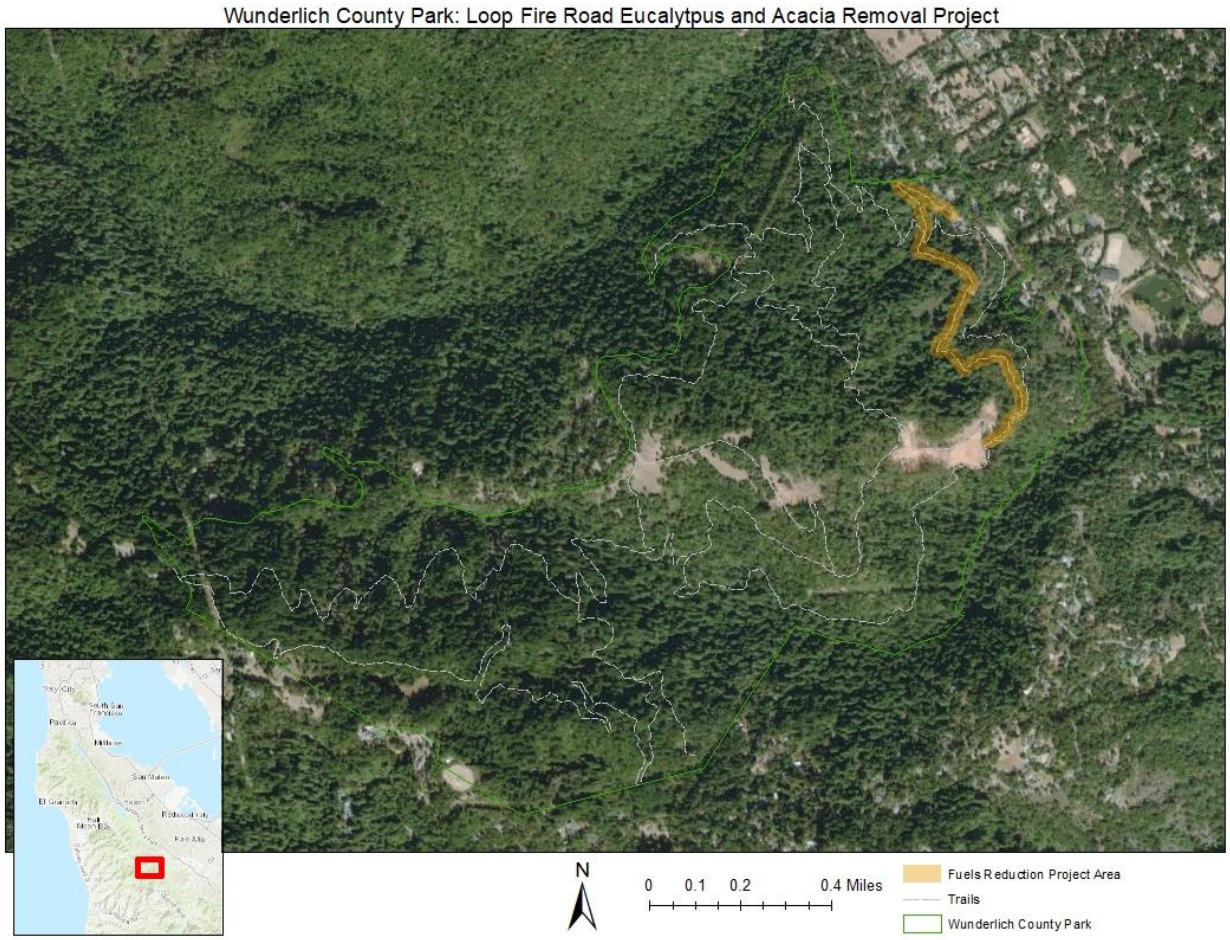
Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along the Loop Fire Road to protect first responders' ability to access the interior of the park. Where practicable, heavy equipment will be used to remove and masticate vegetation. Felled trees and other vegetation will be processed using a chipper, and wood chips will be retained on site to assist with erosion control and weed suppression. Trees too large to be processed by the chipper will be bucked and left on site. Chemical treatment will likely be required to control the regrowth of non-native species. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. This project will also provide ecological benefits by reducing the encroachment of non-native species.

Implementation & Maintenance Interval: Initial treatment is estimated to take two to three years to complete. Maintenance should occur annually thereafter for three to five years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete treatment and retreatment activities is $277,500. Initial treatment is estimated to cost $208,125, and retreatment activities are estimated to cost $69,375.

Responsible Parties: Parks Department field staff will be responsible for managing contractors during initial treatment activities and coordinating any trail closures. Field staff will also be responsible for overseeing and/or conducting subsequent maintenance activities. Parks' Natural Resource Management Division will oversee permitting, environmental avoidance and minimization measures, flagging of sensitive resources, and monitoring project areas.



Park: San Pedro Valley Park
Project Name: Create and Maintain a Fuel Break Along Hazelnut Trail

Rank ID #: 32
Size: 111 acres
New or Existing: New
Implementation Status: Planning 2022.

Project Description and Parameters: Improve public safety by removing eucalyptus trees and other non-native species from along the Hazelnut Trail in San Pedro Valley Park. Removal of eucalyptus trees and other highly flammable vegetation will mitigate the threat of wildfire to nearby residents and protect first responders' ability to access specified areas of the park to conduct fire containment and suppression activities. Further, Hazelnut Trail serves as an access point to SFPUC property.

Location Specifics: Treatment activities will occur along the Hazelnut Trail. Please see the map depicting project boundaries below

Treatment Types: Removal of Tasmanian blue gum eucalyptus and other non-native tree species.

Treatment Methods: Parks Department field staff and contractors will utilize manual and mechanical treatment methods to remove understory vegetation and small diameter trees, including dead, dying, and diseased trees, invasive species, and live trees serving as ladder fuels from along the Hazelnut Trail to reduce fuel loads and preserve access to the interior of the park. Where feasible, vegetation will be masticated using heavy equipment. For areas that are too steep or narrow for equipment, hand crews will remove vegetation and chippers will be used to process woody debris. Chemical treatment will likely be required to control the regrowth of non-native species. All appropriate protocols will be implemented to protect and avoid rare, threatened, endangered, and/or sensitive species and plant species of ecological concern will be retained in the project areas. Appropriate erosion control measures will be put in place to avoid sedimentation of nearby waterways.

Project Benefits: Completion of this project will improve public safety by: mitigating the threat of wildfire to nearby residents by thinning understory vegetation, removing dead and dying trees, and breaking the continuity of vertical and horizontal fuels; and preserving emergency responders' ability to access a fire and conduct fire containment and suppression activities. This project will also enhance native habitat.

Implementation & Maintenance Interval: Initial treatment is estimated to take five years to complete. Maintenance should occur annually thereafter for three to five years, depending on observations made during monitoring.

Cost and Budget: Estimated 5-year cost to complete initial treatment and retreatment activities is $3,413,250.00.

Responsible Parties: Parks Department's Natural Resource Management Division will manage project planning, permitting, and implementation. The division will also be responsible for environmental avoidance and minimization measures, flagging sensitive resources, and monitoring project areas. Parks

Department field staff will be responsible for on-site coordination with contractors, enforcing any trail closures, and maintaining treated areas.