AMERICAN RIVER PARKWAY COMMUNITY WILDFIRE PROTECTION PLAN

Prepared for
The American River Parkway Foundation
by
Deer Creek Resources

April 29, 2024

DISCLAIMER

This document analyzes wildfire hazard across the American River Parkway area, describes assets at risk, and recommends projects to reduce wildfire-caused impacts.

Areas are prioritized for hazard reduction based upon factors including potential wildfire behavior, proximity to wildland vegetation, and prevailing fire-season weather and winds. The fact that an area may be mapped as lower priority in this document does NOT mean that that area is safe from wildfires. Rather, it means that there were other areas where targeted wildfire hazard reduction projects or public education might benefit a greater number of residents.

Under typical summer wildfire burning conditions, any area with tall dead grass or un-mowed weeds has the potential to support rapid rates of wildfire spread and high-intensity burning. Areas adjacent to homes or high-value ecological assets are the highest priorities for annual weed abatement and fire hazard mitigation in the American River Parkway.

Wildfire behavior is the product of numerous factors, some of which are weather-dependent and difficult or impossible to quantify. The suggestions in this assessment are based upon field surveys, aerial photography, technical analysis, and the professional experience of the authors. Errors may exist in this analysis and could include improper recording of field data due to GPS accuracy or surveyor error, computational errors, data entry mistakes and any other conceivable cause. This data comprises a simplification of the physical environment intended to allow the authors to make general recommendations about reducing potential fire behavior at the community scale.

While this data is useful in assessing relative risk between the many micro-climates and vegetation-types present in the American River Parkway, site-specific changes in fuel hazard and wildfire risk (such as annual mowing, grazing, and weed clearance, the growth of flammable ornamental plants and native vegetation, and other changes in the physical environment) will quickly render this data inaccurate.

THIS DATA DESCRIBES VEGETATION AND WILDFIRE HAZARD CONDITIONS IN THE AMERICAN RIVER PARKWAY AREA DURING SPRING AND SUMMER OF 2023. ANY FUTURE USE OF THIS DATA FOR OTHER PLANNING, CODE ENFORCEMENT, OR HAZARD MITIGATION WORK IS NOT RECOMMENDED WITHOUT FIRST CHECKING PHYSICAL CONDITIONS ON THE GROUND.

EXECUTIVE SUMMARY

The following Community Wildfire Protection Plan (CWPP) is a map-based project and an overview of recommended actions in the American River Parkway (ARP) can be best understood by reviewing the maps included in Section 5.

The ARP is a greenbelt stretching 23-miles from the Nimbus Fish Hatchery near Lake Folsom to the American River's confluence with the Sacramento River. Much of the Parkway's 4,800 acres are covered with wildland vegetation. Over 5 million people visit the Parkway each year.

According to the 2022 Homeless Point-in-Time Count, Sacramento County's homeless population has grown to nearly 9,300 people—a 67% increase—since 2019. Due to easy access and available open space, that county-wide increase has led to more encampments in the Parkway. That growth correlates with more human-caused wildfires in the Parkway, demonstrated by ignition statistics from Sacramento Fire Department (SFD) and Sacramento Metropolitan Fire District (Metro Fire). According to both departments, nearly all wildfires in the Parkway are human-caused.

Wildfires damage dwindling riparian forest habitats in the Parkway, impact park infrastructure and utility assets, and pose a threat to the safety of the people in adjacent neighborhoods and unhoused people living within the Parkway, many of whom are very aware of the wildfire threat.

Following guidance from the Federal 2003 Healthy Forest Restoration Act, the American River Parkway Fire Safe Council has prepared this CWPP to assess wildfire threats, identify specific areas for targeted vegetation management, recommend improvements in public engagement, and other activities to improve community wildfire resilience. The primary administrative function of this CWPP is to act as a living project list. State and Federal agencies prioritize public funding of wildfire hazard mitigation projects which have been published in an adopted CWPP.

The recommendations in this document serve as an outline for elevating wildfire preparedness and response capabilities, enhancing the protection of people, property, and infrastructure, and educating the public on wildfire threats and issues, including fire's natural role and utility in maintaining the ecology of the Parkway. This document provides a comprehensive assessment of wildfire risk, preparedness, defensibility, and potential hazard mitigation measures for the city and surrounding areas. Developed via a collaborative and science-based process, this report provides a framework for increasing the wildfire resilience of the community in the face of rapidly accelerating risk.

1. INTRODUCTION

1.1 Background

The Sacramento County-owned portion of the American River Parkway (ARP) is a 23-mile, 4,800-acre open space greenbelt stretching from the Nimbus Fish Hatchery to the river's confluence with the Sacramento River. The Sacramento County Department of Regional Parks (Regional Parks) owns and manages the land downstream from the Hazel Avenue Bridge. Upstream from the bridge, the Parkway continues and is managed as a State Recreation Area. In this report, "Parkway" refers to the county-owned land.

The Nisenan Maidu were the earliest known humans to live in the Parkway and used fire to groom and maintain the area's abundant oak trees to maximize acorn production, a dietary staple. Now surrounded by urban areas, industrial development and suburban residential neighborhoods, the Parkway is used by over five million people annually. Recreational opportunities include city and county parks, swimming holes, boating, rafting, fishing and 82 miles of hiking and biking trails. The lower American River, which includes the Parkway, is classified as a "Recreational" river within the Wild and Scenic River System.

The Parkway runs through many administrative jurisdictions including: The City of Sacramento, the City of Rancho Cordova, unincorporated Sacramento County communities of Carmichael, Fair Oaks and Gold River, and the Lake Natoma portion of the Folsom Lake State Recreational Area. Sacramento County first adopted a master plan for the Parkway in 1962, when it was also incorporated into the County's general plan.

Since 1983, the American River Parkway Foundation (ARPF) has led conservation efforts within the Parkway through volunteerism, educational programs, invasive plant management and park clean-ups, infrastructure projects and through the organization of the American River Parkway Fire Safe Council. The Foundation's goal is to make the ARP into one of the nation's premier urban natural parks, accessible to all. By commissioning this CWPP, the Foundation and Fire Safe Council seek to develop a more nuanced understanding of wildfire hazards in the Parkway and prioritize projects which address reduce hazards.

1.2 Fire Issues

The Parkway has a history of wildfires, but ignitions and habitat losses have grown over the past several years. Sacramento City Fire Department (SFD) and the Sacramento Metropolitan Fire Department (Metro Fire) reported a combined 289 Parkway ignitions in 2018 and 590 ignitions in 2022, with a five-year peak of 691 in 2021. (More on ignitions in section 2.4). Many of these fires are contained before they become large, and therefore, their actual extent is rarely mapped. However, under windy conditions or heavy fuel loading, some become wildfires and spread over dozens of acres or more.

The American River Parkway Natural Resources Management Plan (NRMP) was approved by the Sacramento County Board of Supervisors in February 2023. It discusses the Parkway's recent wildland fire history and indicates that fires have primarily impacted wildland vegetation and that most have occurred in the Discovery Park, Woodlake, Cal Expo, Rossmoor Bar, Ancil Hoffman County Park and River Bend Park areas. The NRMP also reports that most wildland fires in the Parkway can be attributed to human activity, which is confirmed by all experts interviewed for this CWPP.

While only small number of the total wildfire ignitions cause significant environmental damage, the high impact of larger fires in rare and threatened riparian habitats, threats to human safety, and impacts to recreation and park aesthetics highlight the critical need to mitigate wildfire threats. Wildfires are accelerating the loss of mature cottonwood habitat which has already been impacted by land use and hydrology changes.

1.3 Wildfire-Related Planning & Organizing

The American River Parkway Fire Safe Council (Fire Safe Council) was founded in July 2021 to lead wildfire education and help communities protect themselves from wildfires. The Fire Safe Council is recognized by the California Fire Safe Council and consists of numerous Sacramento area agencies, including fire protection agencies, utilities, water, wastewater, and flood protection agencies, conservation organizations, and infrastructure owners, operators, and area nonprofits.

The founding goals of the Fire Safe Council are:

- Develop wildfire risk reduction plans for each section of the Parkway
- Protect the infrastructure that exists on the Parkway
- Address the safety concerns of Parkway users
- Develop a prescribed wildland fire hazard reduction plan
- Identify other high fire risk issues
- Engage the public in support of fire management activities

Integration with Existing Wildfire Plans

The Fire Safe Council adopted the 2015 Report of Wildfire Hazard Conditions commissioned by Regional Parks and developed by wildfire expert Carol Rice. Rice's report and an accompanying review of sheep and goat grazing outlined many project recommendations to increase fire safety in the Parkway. The Sacramento Metropolitan Fire District CWPP also includes several fire mitigation projects related to the Parkway, which are listed in Section 3.1.

In 2022, the Fire Safe Council commissioned Deer Creek Resources, a wildfire management consultancy, to develop this CWPP to update and expand on Rice's Wildfire Hazard Conditions.

This CWPP project reaffirms the need for previously proposed fuels management projects identified in the Metro Fire's CWPP, Rice's 2015 Fire Management Plan, the American River Parkway Plan (ARPP), and the newly approved NRMP, and builds on those documents to identify private and city-owned parcels which face elevated wildfire hazards. These areas are considered high priority for regular fuels reduction (grazing, prescribed fire, mowing, thinning, brush cutting, etc.) due to their capacity to allow wildfires to spread across them and deeper into the city under critical wildfire conditions. This report also identifies potential policy shifts and preparedness upgrades that can elevate the American River Parkway's ability to meet growing concerns and increasing risk of catastrophic wildfire.

Led by Deer Creek Resources, the CWPP project team is an informal group of technical experts and stakeholder representatives who were consulted on a case-by-case basis throughout the development of this document. Their role was advisory in nature. Many of the vegetation management objectives referenced here for city-owned lands were developed through a multi-year public process during the development of the ARPP and the NRMP.

Agency	Collaborators
American River Parkway Foundation	Dianna Poggetto – Executive Director Daniel Whitaker – Natural Resources Manager
Deer Creek Resources	Zeke Lunder – Hazard Assessment Team Lead, Report Editor Spencer Holmes – Cartography, Data Management Andrew Muller – Data Processing, Wildfire Behavior Models Nate Daly – Research, Field Crew, Report Preparation
Sacramento County Regional Parks	Liz Bellas – Director KC Sorgen – Senior Planner Mary Maret – Senior Natural Resource Specialist Christopher McGeorge – Park Ranger, Regional Parks
Sacramento County Homeless Services and Housing	Emily Halcon – Director
Sacramento Fire Department	Brhett Steppig – Battalion Chief Jason Lee – Fire Marshall
Sacramento Metropolitan Fire District	Barbara Law – Fire Marshal Diana Schmidt – Supervising Inspector
Folsom Fire Department	Ken Cusano – Chief
California State University, Sacramento (Bushy Lake)	Michelle Stevens – Professor, Environmental Studies Alexandra von Ehrenkrook – Research Assistant
Cal Expo	Jaclyn Zdanowski – Associate Governmental Program Analyst
American River Flood Control	Tim Kerr – General Manager Scott Webb – Superintendent
Sacramento Valley Conservancy	Kelly Hopkins – Executive Director Eric Kellegrew – Stewardship Director Tim Fiock – Camp Pollock Manager
California Native Plant Society	Dan Meier – Volunteer
Sacramento Municipal Utility District	Eric Brown – Vegetation Management Director
Western Area Power Administration	Ricardo Velarde – Vegetation and Access Road Manager
Sacramento Area Sewer District & Sacramento Regional County Sanitation District	Mike Huot – Director of Policy and Planning
Sacramento Steps Forward	Lisa Bates – CEO

1.4 CWPP Goals & Objectives

The intention of this CWPP is to develop an Action Plan for increasing the wildfire resilience of the ARP and surrounding communities. The project defines and prioritizes actions that will limit the damage associated with wildfire, and establishes a series of resiliency improvements.

Goals and Objectives	CWPP Section
Describe and assess the American River Parkway's general wildfire risk by characterizing fuel conditions, the nature of the region's wildland-urban interface, known weather and climate conditions, past wildfire activity, and existing wildfire policy and community preparedness	Sections 2 and 3
Simulate fire behavior in the study area based on the previously described fuel conditions, weather, climate, and land cover	Section 4
Identify areas of critical risk, where a wildfire could potentially spread into residential areas; model potential fire spread for these specific ignition scenarios	Section 4
Synthesize the intersection of wildfire risk related to human lives, property, critical infrastructure, and land and resource management.	Section 5
Identify specific fuel treatment projects and policy enforcement specifications that directly reduce the risk of wildfire in these critical areas	Section 5
Identify areas with critical, high-risk for wildfire and develop targeted outreach to residents, informing them of wildfire risks and encouraging them to undertake hazard-reduction activities like annual mowing and brush clearing.	Section 5
Recommend potential policy improvements and public outreach initiatives to effectively increase wildfire preparedness and elevate the community's relationship with wildfire risk	Section 5 and 6

2. STUDY AREA OVERVIEW

2.1 Geography & Topography

The American River is fed by North, Middle, and South forks, which originate in the Tahoe and Eldorado National Forests. The North and Middle Forks join near Auburn, and then converge with the South Fork in Folsom Lake. The section downstream from Nimbus Dam to the convergence with the Sacramento River is referred to as the Lower American River.

Historically, snowpack in the Sierra Nevada provides water throughout hot, dry summers. In warmer winters, precipitation may fall as rain instead, causing flooding and resulting in lower summer flows due to lack of snowmelt. Due to California's highly variable weather patterns, runoff volumes in the American River can rise and fall drastically from one year to the next. For example, spring 2023 saw record snowpack in the Sierra Nevada with soil moisture and streamflows above normal due to multiple atmospheric rivers during the winter.

Below Nimbus Dam, the river passes through urban and suburban areas buffered by the Parkway. The ARP incorporates historic Leidesdorff Ranch, and the Jedediah Smith Memorial Trail hugs the river bank from Folsom Reservoir to Discovery Park.

Throughout the Parkway, levees act as fuel breaks along with massive amounts of dredger tailings from hydraulic mining operations. These tailings consist of large cobble that limits vegetation growth, and are more prevalent in the upper sections of the Parkway.

Topography in the Parkway is generally flat, though portions are bordered by high bluffs. Flat and gently sloping areas generally have a lower risk of rapid spread. The potential for slope-driven wildfire spread increases the threat to homes in the neighborhoods on the steeper north bank upstream of Arden Bar. Steep bluff areas where terrain is almost vertical may allow for increased flame lengths and uphill spread. These steeps bluffs exist in the upper Parkway adjacent to Fair Oaks and near Sailor Bar.

2.2 Vegetation, Soils & Land Cover

There are six distinct vegetation units throughout the ARP: riparian, freshwater marsh, oak woodland, grassland, oak grassland, and shrub grassland. In wet years like 2023, heavy grass crops are possible in all vegetation types except the densest live oak. Grass is the main carrier of wildfires and mowing and grazing are the most effective vegetation modifications to reduce wildfire hazards in the Parkway.

Cottonwoods and willows are the main vegetation type within the riparian forests of the Parkway, covering about 660 acres. Cottonwoods are fast-growing, dominate the forest canopy and define the habitat and structure and quality for other plants and wildlife species. Cottonwoods are sensitive to fire and the large number of cottonwoods in the ARP are likely a relic of a previous water table and unlikely to be replaceable. (Rice, 2015) Protecting the

remaining stands of cottonwoods has been identified as a fire mitigation objective. Riparian shrubs include various types of willows, alder, mugwort and herbaceous weedy species.

Freshwater marsh vegetation is mainly cattails, rush and sedge at the river margins and water primrose in deeper water.

Oak woodlands are covered by valley oak, blue oak, and interior live oak, with California black walnut and cottonwood in wetter areas. These areas act as a buffer between urban areas and riparian habitats, and are of ecological importance due to their relative scarcity in the region and high values to wildlife. Grasses are often found under the tree canopy, as well as dense California grape, California rose, Dutchman's pipevine and other shrubs and small trees including buckeye, black walnut, elderberry, toyon, coffeeberry and poison oak. The threatened Valley Elderberry Longhorn Beetle lives exclusively on elderberry, and protecting elderberry is another fire mitigation objective.

Grasslands cover about 1,200 acres of the Parkway and nearly half of that acreage is dominated by aggressive and invasive yellow starthistle (YST). Grasslands are comprised of non-native annual grasses which dry every year, scattered coyote brush and California brickellia (on sandy beaches).

In the lower American River, vegetation patterns and density have been affected by deposits of hydraulic mining debris, removal of soils for infrastructure and recreational development, wildland fire, invasion by non-native species, thinning and clearing for maintenance of engineered structures, and re-vegetation/habitat restoration projects.

The following vegetation maps were created with data from the California Department of Fish and Game's vegetation mapping project for the state.

American River Parkway

Vegetation - West

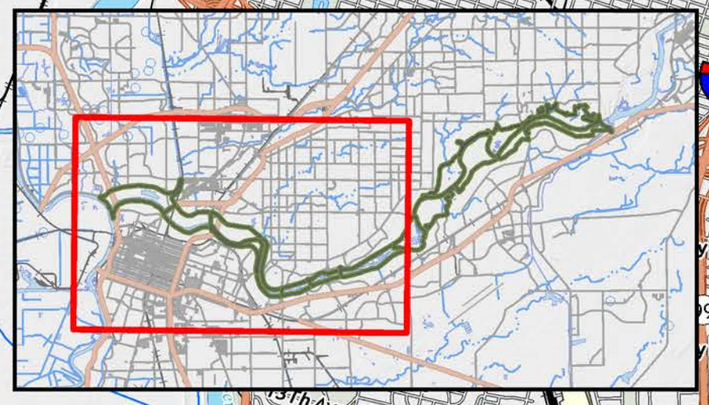
Vegetation

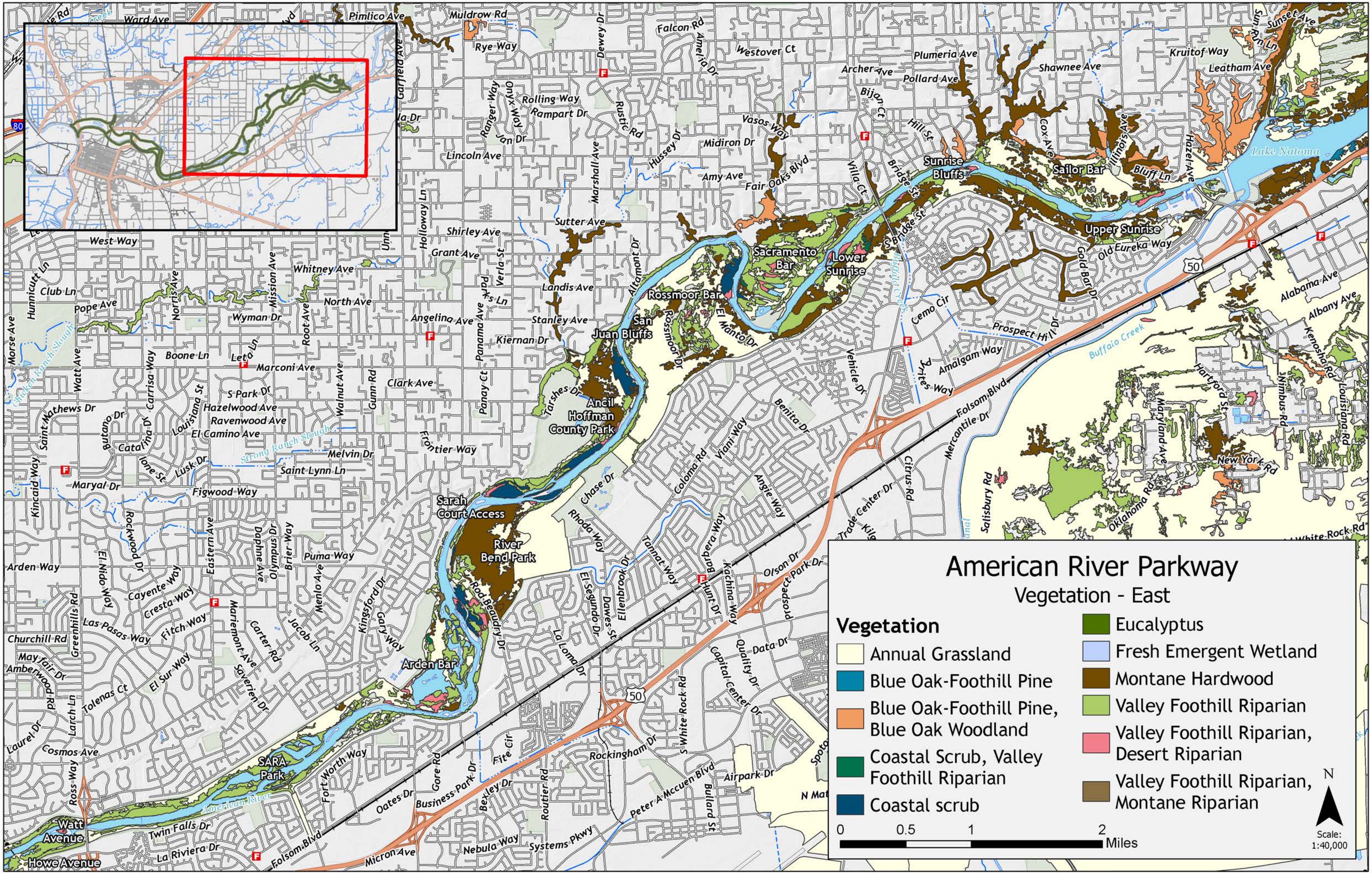
- Annual Grassland
- Blue Oak-Foothill Pine, Blue Oak Woodland
- Coastal Scrub, Valley Foothill Riparian
- Eucalyptus
- Fresh Emergent Wetland
- Fresh Emergent Wetland, Urban
- Montane Hardwood
- Valley Foothill Riparian
- Valley Foothill Riparian, Desert Riparian
- Valley Foothill Riparian, Montane Riparian
- Wet Meadow

0 0.5 1 2 Miles

N

Scale: 1:40,000




American River Parkway
Vegetation - East
Vegetation
Annual Grassland
Blue Oak-Foothill Pine
Blue Oak-Foothill Pine, Blue Oak Woodland
Coastal Scrub, Valley Foothill Riparian
Coastal scrub
Eucalyptus
Fresh Emergent Wetland
Montane Hardwood
Valley Foothill Riparian
Valley Foothill Riparian, Desert Riparian
Valley Foothill Riparian, Montane Riparian
0 0.5 1 2 Miles
N
Scale: 1:40,000
Lake Natoma
Sunrise Bluffs
Sailor Bar
Upper Sunrise
Sacramento Bar
Lower Sunrise
Rossmoor Bar
San Juan Bluffs
Ancil Hoffman County Park
Sarah Court Access
River Bend Park
Arden Bar
SARA Park
Watt Avenue
Howe Avenue
American River
Buffalo Creek

Invasive Plants

Invasive plant species that increase wildland risk during fire season include pampas grass, Spanish, French and Scotch broom, stinkwort, and yellow starthistle. These invasive plants are of particular concern during summer and fall due to their significant fuel loads, height, density, and flammability in comparison to native riparian plants. The role of invasive species in increasing wildland fire risk in the Parkway highlights the need for continued and strategic management of non-native invasive plants, both to improve overall ecosystem health and for wildland fire hazard mitigation.

Firefighting can spread noxious weeds, especially using bulldozers. It is good practice for heavy firefighting equipment like dozers to be pressure-washed after each assignment to remove weeds and seed sources, but sometimes equipment comes straight from another assignment and there isn't time for this to happen. Post-burn landscapes can be very receptive to new infestations. If non-emergency vehicles are driving in recently burned areas for utility or other management work, they should avoid transecting areas of heavy weeds on their way into the burn.

Arundo Donax (giant reed) and pampas grass both have the potential to significantly increase the dry biomass and fuel loads in native vegetation communities without ongoing maintenance. Arundo can grow up to 30-feet tall along forested riparian areas. It has largely been brought under control through Sacramento County's Invasive Plant Management Program (IPMP), implemented by the ARPF. Arundo now only appears in small patches. Pampas grass can reach 13 feet in height and is found throughout the Parkway's riparian and floodplain areas. It has also been significantly reduced as part of the IPMP.

The three broom species can grow to 15 feet in height in riparian areas and sandbars. These species ignite easily, act as ladder fuels and may allow the spread of surface fires into tree crowns. Broom also accumulates significant amounts of organic material at its base, which creates a deep seedbed which makes eradication more difficult. Broom of all species have been treated through the IPMP, but form dense stands if unmaintained. (NRMP, 2022)

Stinkwort (*Dittrichia graveolens*) is an increasing problem in the Parkway. Large mature plants dry out each fall and stinkwort also can form dense monocultures rapidly. Although not addressed in the ARPP or NRMP, the rise of stinkwort as a fuel source should be monitored.

Regional Parks currently uses strategically timed mowing to control the spread of yellow starthistle seed. Areas dominated by YST have higher fuel loadings than areas of only grass, as the thatch from the previous years of growth persists for over a year. After yellow starthistle is cured in mid-summer these areas can burn with great intensity, especially on windy days. Fire hazard drops in YST after fall rains, but heavy areas of YST thatch dry out quickly and can burn into the winter. YST can be treated with repeated entries of prescribed fire as described in section 5.2.

The American River Parkway Foundation coordinates volunteers to remove invasive plants, following the IPMP. ARPF volunteers removed 36,331 invasive plants in the Parkway in 2021 and 45,242 in 2022.

2.3 Weather & Climate

The Sacramento area has a Mediterranean climate. Summers are hot and extremely dry, while winters are mild. The average rainfall is 18.14 inches of precipitation per year, with the city's wettest months starting in November and ending in April. Average high temperatures from June through September are typically over 90° F. In 2022, the record was set for most days recorded over 100° F and a heat record of 116° F in Downtown Sacramento was set on September 6. Long hot and dry conditions result in a higher risk of fire ignitions, and higher burn intensity for fires which become established.

According to Metro Fire and SFD staff, the most dangerous fire conditions for the region occur when strong winds blow from the north and northeast. These winds tend to be dry, with a powerful desiccating effect and most often occur in the fall, but can also be common in late spring. The springtime winds are not of concern from a fire perspective because annual grasses and other herbaceous fuels are still green when they occur.

National Weather Service offices issue Fire Weather Watches and Red Flag Warnings for critical fire weather patterns that contribute to extreme fire danger or fire behavior. A Red Flag Warning means warm temperatures, very low humidities, and stronger winds are expected to combine to produce an increased risk of fire danger. Red Flag Warnings are generally well publicized in local media and social media, and are available on the NWS website. Adding additional park ranger patrols on days with a Red Flag Warning may prevent ignitions from spreading.

Climate change may dramatically alter riparian ecosystems. 75 to 80 percent of California's freshwater supply comes from the Sierra Nevada snowpack. This normally melts at a gradual rate, but rising temperatures may cause the snowpack to melt earlier. Combined with less, earlier, or infrequent winter precipitation, this could result in increased flooding or drought scenarios that affect vegetation moisture. Spring water flows may increase on the Lower American River as Folsom Dam releases water earlier to ensure adequate flood-control capacity. Minimal flows by late summer are to be expected during low-precipitation or early snowpack melt years.

Although it is impossible to predict future conditions in the Parkway, scientific studies indicate that there will be an increase in extreme weather events, with warmer summers and winters.

2.4 Fire Ecology

The Sacramento County Local Hazard Mitigation Plan (LHMP) identifies areas along the American River Parkway as susceptible to fire and indicates that aggressive fire suppression policy has given way to better understanding of the importance fire plays in the natural cycle of

certain vegetation types. It is now widely recognized that the suppression of cultural burning and natural wildfires—coupled with drought and climate change—is a primary factor in California's wildfire crisis. Fire can play a major role in the maintenance of wildlands throughout the state, and using prescribed fire to mimic historical burn cycles can be beneficial to portions of the landscape.

Levees, hydraulic mining, changes to groundwater hydrology, and urban development have reduced and fragmented the historically vast riparian forests of the Central Valley. Fires in these remaining vegetation types have negative effects on these dwindling habitat types, and high-severity fire threatens the remaining cottonwood forests of the Parkway.

Recent Ignition History

SFD and Metro Fire provided logs of their dispatch calls within and adjacent to the ARP for 2017-2022. While not all of these ignitions took place within the ARP, this data shows where an ignition has the potential to spread into the Parkway from a surrounding urban area.

After eliminating non-fire related calls (EMS/rescue, police assistance, dispatched/cancelled, false alarm, etc.), uncategorized service calls or ambiguous entries, the agencies' records show the following ignitions by year:

Year	Number of Ignitions Within or Adjacent to Parkway Boundary
2017	264
2018	289
2019	313
2020	525
2021	691
2022	590

When mapped, this ignition data reveals that the Lower Parkway has a significantly higher number of annual ignitions. Near downtown Sacramento, many ignitions occur just outside the Parkway boundary, near heavily trafficked encampments. See figure, below.

Please note that while the available ignition data is helpful for showing general trends in the locations of fire-related emergency response calls, the overall data quality (inconsistent use of attributes and lack of information on fire behavior or specific fire cause) limits its utility for better understanding more nuanced aspects of human-caused fires in the Parkway. For example, how many ignitions are caused by unextinguished heating fires versus accidents with propane heaters? How many fires start inside of tents or RVs?

Changes to the structure of the current incident reports, or the development of a Parkway-specific fire report could be useful in better answering these questions. This could help improve fire prevention messaging which targets unhoused people.

American River Parkway
Ignition Locations - West

2022
2021
2020
2019
2018
2017

0 0.5 1 Miles

Scale: 1:40,000

N

American River Parkway
Ignition Locations - East

2022
2021
2020
2019
2018
2017

0 0.5 1 Miles

N

Scale: 1:40,000

2.5 Demographics & Socioeconomics

Large special events are only allowed in Discovery Park (Aftershock Festival, GoldenSky, and other festivals), and bring in large numbers of people to the Parkway. Smaller events may be held in Ancil Hoffman, River Bend Park, the William B. Pond Recreation Area, and the Effie Yeaw Nature Center. (County of Sacramento, 2008)

Outside of a handful of on-site facility caretakers, the Parkway does not officially have any residents. However, the Parkway is inhabited by many unhoused people, and borders residential, commercial, and industrial population centers.

Wildfire Hazard is Related to Unhoused Population Within the Parkway

Metro Fire and SFD officials indicate that most of the fires started within the Parkway are human-caused, primarily from escaped cooking and warming fires, accidental ignitions, and arson. Both fire departments and Regional Parks correlate the increase in Parkway ignitions with the increase in homelessness over the past five years.

In California, the number of people without a stable place to call home increased to 173,800 in 2022, an increase of 22,500 since the previous count in 2019. Homelessness experts primarily attribute the rise to a drop in earnings during the COVID-19 pandemic among people who were already struggling to maintain an income and afford housing.

In Sacramento County, there are approximately 9,300 homeless people, a 67% increase since 2019, according to the 2022 Homeless Point-in-Time Count (PIT). (Division of Social Work and The Center for Health Practice, Policy & Research at the California State University, Sacramento, 2022).

The homeless population within the Parkway has increased over the last several years as have the number and size of encampments. The 2022 PIT indicates that 594 individuals were living within four surveyed zones between Bannon Island and the railroad tracks in the Woodlake section at approximately Mile 3. While this represents a small portion of the total Parkway, this was the first attempt to count the number of people living in the Parkway. Professional outreach teams (as opposed to volunteers used in other areas) were used to target approximately 20 known encampments and surrounding areas. Sacramento Steps Forward indicates that the 2024 PIT coverage of the Parkway will be more significant and will include collaboration with Park Rangers and professional outreach staff from Community Health Works who are regularly assigned to the Parkway

Counting homeless populations is inherently difficult for many reasons, and the total number of people living in the Parkway is unknown and undercounted. Stakeholders interviewed for this CWPP estimated that the true number of people living throughout the Parkway could be in the wide range of 700-3000.

To represent the scale of the problem, The California Homeless Housing Needs Assessment estimates that it will cost $8.1 billion per year over 12 years to solve statewide homelessness,

approximately 3% of California's budget. The city and county of Sacramento, along with the state of California, have dedicated millions toward addressing homelessness within the Sacramento region. Experts at Sacramento Steps Forward believe this will lead to a decline in the number of people living within the Parkway.

In January 2022, the ARPF and concerned community members and businesses sent a demand letter to the City of Sacramento and Sacramento County about their concerns of how encampments were negatively impacting public safety in the Parkway, including the increased risk of fire danger.

The official policy of Regional Parks is that camping in the Parkway is illegal and a Sacramento County ordinance specifically banning homeless encampments in the Parkway went into effect in September 2022. Both the Sacramento Police Department and the Sacramento County Sheriff's Office have indicated that they would prefer voluntary compliance with the ordinance and that charges will only be issued as a last resort.

There is a definite concern for fire safety among the homeless population living within the Parkway. As Sacramento Steps Forward performed COVID-19 outreach programs, many homeless people living in the Parkway requested fire extinguishers for their camps. Field surveys conducted for this project observed fire extinguishers adjacent to barbeques and tents at several camps. Please note that this is an observation and distributing fire extinguishers is not a recommendation of this CWPP based on conflicting

Areas adjacent to established and dispersed camps are a high priority for annual weed abatement, either through mowing or grazing. These projects are intended to both reduce the danger of wildfires originating in camps spreading to the rest of the Parkway, and to protect unhoused people from wildfires.

2.6 Critical Infrastructure & Developed Areas

Sacramento County, the City of Sacramento and other Parkway-bordering cities, flood control agencies, public utility companies and other organizations maintain a variety of infrastructure with the ARP. When considering future wildfire risk, it's important to evaluate the distribution of this infrastructure, its vulnerability to wildfire and their potential to ignite a fire.

Engineered structures in the Parkway include the levee system, power lines, bridge abutments and piers for highway, railroad and pedestrian bridges, buried or armored utility crossings, and recreation or urban developments, including buildings, irrigated playing fields or park lands, hardened roadbeds, and retaining walls.

Electrical power infrastructure in and near the Parkway is owned and maintained by the Pacific Gas and Electric Company (PG&E), Sacramento Municipal Utility District (SMUD), and the Western Area Power Administration (WAPA). Over 150 electrical power transmission towers and poles are located throughout the Parkway, with the highest density within Discovery Park, Woodlake, and Cal Expo areas. The California Public Utilities Commission (CPUC) maintains a

Fire-Threat Map and the Parkway is in a Tier 1 Zone, meaning that it is in direct proximity to communities, roads, and utility lines, but not at elevated risk of wildfire.

The NRMP's Goal 4.4 is to "Maximize environmentally beneficial opportunities within transmission line corridors." This CWPP agrees that County coordination with PG&E, SMUD, and WAPA to encourage low-growing environmentally beneficial vegetation in these corridors would improve fire safety while also reducing maintenance returns.

Figure 1: Vegetation maintenance under power transmission tower in Campus Commons section. (Image ©2023 Deer Creek Resources)

Pacific Gas & Electric

Pacific Gas & Electric (PG&E) transmission lines run through Discovery Park to Campus Commons before crossing the Parkway and American River at the Howe Ave. bridge. PG&E runs a vegetation management program for its right of way in the ARP. The goal of the program is to create low-growing, stable, native plant communities under power lines to minimize wildfire threats to their conductors (wires). According to their website, PG&E maintains 10-foot radius around the base of poles or towers, as well as a border zone to prevent a fall-in hazard to the power lines. This right of way vegetation management consists of herbicide treatments, hand-cutting of vegetation, regular inspections, and the removal of danger trees.

In 2021, PG&E announced that they would bury more than 10,000 miles of power lines in high-risk areas in order to reduce both fire ignitions and the need for vegetation management

around lines. This work will be focused in CPUC Tier 3 high wildfire hazard areas and is not scheduled to happen in the Parkway.

Regional Parks indicates that they would prefer PG&E perform more regular maintenance on their easements as opposed to large vegetation removal every few years. Establishing low vegetation under power lines is addressed in the NRMP.

Sacramento Municipal Utility District
SMUD has infrastructure throughout the length of the Parkway, but the largest concentration is within the area behind Cal Expo where they have transmission and distribution voltage assets. Vegetation management in and around SMUD infrastructure follows a two-year cycle (one-year cycle for higher risk areas). SMUD assets in the Parkway are damaged annually by wildfire, often in multiple areas during a typical fire season. After a fire in the Parkway, SMUD will perform additional checks and follow up with tree or vegetation work when needed.

SMUD inspections are conducted by their internal staff. Physical vegetation management work is handled by contractors. In accordance with county, state, and federal rules, advanced notice, signage, and other safety protocols are followed when this work is performed.

Western Area Power Administration
WAPA's transmission lines run through the Parkway from the Camp Pollock area through Cal Expo and exit south through the Parkway. WAPA linemen conduct four aerial patrols and one ground patrol annually. As part of their patrols, they look for potential tree-to-conductor encroachments, tower access issues due to vegetation growth on towers footings, and fuel concerns. WAPA contracts foresters to assess the Parkway annually to ensure work requirements are completed and to develop work specifications for the following year in coordination with a WAPA Vegetation Specialist. WAPA vegetation management contractors mow and apply herbicides to most of WAPA's right of way to remove woody/thick brush species (coyote brush, black berry, etc.) and hopefully promote grasses. Where appropriate, they thin brush to reduce fuel concerns, leaving natural habitat intact. In accordance with county rules, advanced notice, signage, and other safety protocols are followed when this work is performed.

Over the past decade, fires have burned through WAPA's right of way, creating enough smoke or heat to cause transmission lines to arc and temporarily interrupt service. None of these fires have been caused by WAPA equipment. WAPA has minimally discussed moving lines underground, but that is currently cost prohibitive within the Parkway.

WAPA's fire concerns are highest in areas where their crews cannot safely access and maintain equipment due to the houseless situation. WAPA crews do their best to access, survey, and manage equipment without compromising crew safety and seek assistance from Sacramento County to clear encampment areas for vegetation management. That typically results in a temporary fix, as those areas tend to be quickly reoccupied or a nearby area of the WAPA right of way or tower becomes a new encampment.

Cellular & Radio Transmission Towers
In the Discovery Park section of the Parkway, there is a cellular transmitter located at Camp Pollock, and there are three radio transmission towers located in the Woodlake section. Camp Pollock is a maintained area, and the grass is mowed around the radio towers.

American River Flood Control District
The American River Flood Control District's (ARFCD) sole responsibility is to maintain levees within the Parkway. These levees play a major role as fuel breaks between swaths of vegetation and neighboring structures on the edge of the Parkway. (See Figure 11.) Neighborhoods bordering the Parkway in areas protected by levees generally have a lower risk of wildfire spreading to them from the Parkway than do areas without levees.

The ARFCD has an extensive maintenance schedule to control vegetation growth on their levees, including regular mowing that begins in March of each year and continues throughout the growing season. ARFCD maintenance crews mow in groups so that any ignitions caused by equipment will be seen by another crew member. All mowers carry fire extinguishers. Existing trees on levees are limbed up to CAL FIRE standards, and shrubs and trees on access roads are cut to the same clearance. Fires that do start on levees generally burn with low intensity due to the relative lack of fuel.

County Parks & Recreation Areas
Regional Parks maintains several parks and recreation areas within the Parkway, each with different amenities and varying levels of traffic or use.

Ancil Hoffman
Discovery Park
Effie Yeaw Nature Center
Gristmill Access
Howe Ave River Access
Jedediah Smith Memorial Trail
Paradise Beach
River Bend Park
Rossmoor Bar
Sacramento Bar
Sailor Bar
Sarah Court
Sunrise Recreation Area, Upper & Lower
Waterton & S.A.R.A. Access
Watt Avenue Access
William B. Pond Recreation Area

Nature Study Areas

The American River Parkway Plan describes the six Nature Study Areas (NSA) as "the most environmentally sensitive areas of the Parkway" and feature special flora, fauna, topography, available surface water or other characteristics appropriate for study of the natural environment. NSA activities are limited to Nature Appreciation, as defined in the ARPP as passive and requiring little, if any, improvements.

The ARPP defines has six Nature Study Areas:

Discovery Park NSA
Bannon Island is a natural wildlife area and is located at the northwest corner of the park and is separated from the main body of the park by Bannon Slough.

Bushy Lake NSA
A constructed lake located south of Cal Expo and described in detail below.

River Bend NSA
The River Bend section of the Parkway includes a large Nature Study area and an additional Protected Area that is ideal for restoration and mitigation uses. The ARPP calls for an arrangement that includes a system of trails and an outdoor classroom for educational purposes.

Ancil Hoffman NSA
Bordering the Effie Yeaw Nature Center, this NSA features 103 acres of riparian woodland, grassland, oak woodland and a gravel beach that is accessible via trails.

Sacramento Bar NSA
The heavily wooded NSA along the western border of Sacramento Bar consists of riparian woodland and grassland vegetation. Efforts should be made to maintain this area in its natural state.

Sailor Bar NSA
North of the parking lot and constructed pond are 37 acres designated as Nature Study Area.

2.7 Sites Managed by Entities Other Than Regional Parks

Urrutia Site

The Urrutia Site is the former Gardenland Sand and Gravel Mine, a 123-acre site that ceased operations because continued excavation would compromise the American River's flood control system. The ground is mostly cleared and maintained, and there is a large, open mining pit that fills with water, matching the river elevation. If purchased from the current owner, the NRMP calls for the county to naturalize the property in accordance with the American River Parkway Plan.

Figure 2: Urrutia Site
(Map Imagery ©2023 Google, 2022 CNES / Airbus, Maxar Technologies, U.S. Geological Survey)

Camp Pollock

A former Boy Scout camp, Camp Pollock has been leased, managed and maintained by the Sacramento Valley Conservancy (SVC) since 2013. The 11-acre site sits on the river between the Urrutia property and the abandoned Riverdale RV Park, the latter of which is an area that attracts illegal activities. Access is through the old RV park road to a parking lot, owned by the county. The SVC does not receive city or county funding to manage the property, relying on donations and rental fees. The site hosts weddings, events and sees about 1000 campers each year through ongoing Boy Scout programs. Camp Pollock's lodge was built in 1920 and is the oldest building on the Parkway, and there are also a few outbuildings. A project to build a viewing dock onto the river is scheduled to begin in 2025.

Figure 3: Camp Pollock
(Map Imagery ©2023 Google, 2022 CNES / Airbus, Maxar Technologies, U.S. Geological Survey)

The perimeter of Camp Pollock has been grazed one time by the County program since the SVC began managing the property and the organization would like to see more frequent grazing as it helps reduce encampments and makes the area more accessible for volunteer trash programs. California's Wildlife Conservation Board funded the one grazing and a grape vine removal. The grounds are currently maintained through mowing. There is thick vegetation to the north of the property and along the riverbank. Power transmission lines also run nearby and are regularly maintained, creating a fuel break. The camp has a full-time, on-site caretaker.

There have been recent fires near the property, but none have prompted an evacuation. Fire concerns include illegal camping at the abandoned RV park, vegetation growing near the lodge and lattice surrounding the lodge, unreliable electricity and phone service, no system to know how many people are on site at any given time, and a lack of an evacuation plan.

Bushy Lake

Bushy Lake is a constructed lake located within the ARP, between the river and Cal Expo. The lake is not hydraulically connected to the American River, and does not rise and fall with river flows and is fed with pumped groundwater from Cal Expo. The ARPP designates Bushy Lake as a Nature Study Area.

The 1976 Bushy Lake Preservation Act requires Cal Expo to maintain the 86-acre Bushy Lake site consistent with the features of a State Nature Preserve. To accomplish this, the Act requires that Cal Expo manage or provide for the management of the Bushy Lake area in accordance with land use designations and policies of the Parkway Plan, pursuant to an agreement with the Parkway manager. As a result, the Cal Expo floodplain and Bushy Lake area are owned by the California Exposition and State Fair, but managed by Regional Parks.

Bushy Lake provides key habitat for a Northwestern Pond Turtle restoration project run by CSUS Environmental Studies Professor Michelle Stevens and research students. A population of beavers has also established itself in recent years. In June 2021, a wildfire burned the area and Stevens and her team have been clearing burned areas and re-planting native vegetation.

Fire mitigation efforts in the Bushy Lake area should be designed to protect wildlife and ecological resources, differentiating between dangerous fuel loading and wildlife habitat, in accordance with NRMP goals. The CSUS team is also interested in developing a traditional/cultural burning program within their restoration project area to help manage their native vegetation restoration efforts. Additionally, the CSUS team would like to see the Bushy Lake area managed as wildlife habitat and not as an expendable fuel break for Cal Expo.

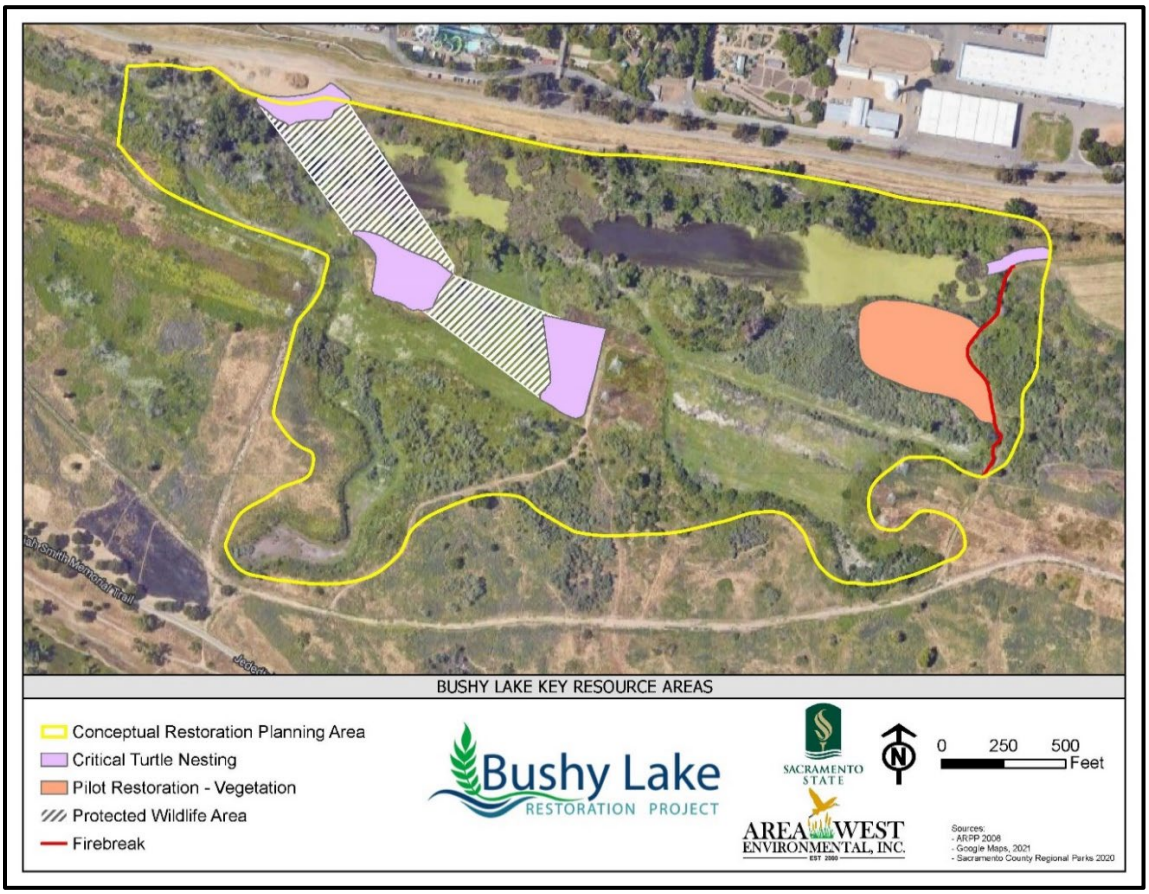


Figure 4: Bushy Lake key resource areas.
(Map: Bushy Lake Restoration Project)

3. COMMUNITY PREPAREDNESS

3.1 Current Wildfire Mitigation Policies & Projects

Emergency medical and fire protection is provided by the SFD and Metro Fire, with occasional assistance from Folsom Fire Department (FFD). According to both departments, almost all wildfires in the Parkway are human-caused, and mapped ignition points show that most fires originate near areas with long-term encampments.

While a true wildland urban interface (WUI) does not exist in the Parkway, there are areas where fuel continuity could allow fire to carry between the Parkway and bordering neighborhoods, mainly in the upper sections of Parkway. The Metro Fire CWPP states that areas located within their designated WUI are "targeted for increased levels of fire prevention, preparedness, response, and recovery plans. Parcels in this designation are typically subject to more stringent regulations regarding ignition-resistant construction, defensible space creation and maintenance, and heightened levels of education regarding fire prevention" (Wildland Res Mgt et al. 2014, p. 4-1). Metro Fire's CWPP also identifies and maps planned fuel and fire risk reduction projects within their Parkway jurisdiction.

Sacramento Fire Department (SFD) is responsible for fire response and fire-related vegetation management activities in the Parkway from the confluence of the Sacramento River and American River to Watt Avenue. Though SFD does not have a CWPP, its Fire Prevention Division conducts fire prevention activities, including some vegetation management, in the Parkway.

Regional Parks enlists outside expertise to identify wildfire hazards and recommend mitigation techniques. Resulting actions have emphasized prevention (signage, education, enforcement), fuel management (trimming, grazing, fuel break maintenance), preparedness and response. (Parks, 2022)

Regional Parks also recommends vegetation clearance around city-owned buildings in parks, greenways, and open spaces that meet the requirements of the State's Public Resource Code (PRC 4291) regulations for vegetation management, summarized here:

> *Maintain defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line. The amount of fuel modification necessary shall consider the flammability of the structure as affected by building material, building standards, location, and type of vegetation.*
>
> *Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. Trees and shrubs should be pruned to a crown base height of 8 feet and maintained to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation.*

The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure. Where possible, the first 2 feet out from a structure should be bare dirt, gravel, concrete, or lawn, and free of wood chips or mulch. Maintain any tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood. Maintain the roof of a structure free of leaves, needles, or other vegetative materials. (California Public Resource Code Sec 4291)

Maps designating high-priority natural resources are provided to fire department personnel annually by Regional Parks in the form of a grazing map. Brush clearing, mowing, fuel break construction and similar activities shall be permitted where necessary to protect the public's health, safety, or for the purposes of habitat restoration. Structures shall be fire resistant and designed and located in a manner such that adequate emergency services and facilities can be provided. (County of Sacramento, 2008)

The current (July 2021) draft of the Sacramento County Local Hazard Mitigation Plan Update indicates that fuels reduction on the American River Parkway has not progressed due to unavailable funding and resources.

On their website, Regional Parks provides an overview of their fire risk reduction strategies including prescribed fire, grazing, and maintain fuel breaks and fire roads. Guidance is provided for property owners who border Regional Parks properties, as well as regulations for visitors. Plans for fire and fuels reduction were identical in 2023 and 2024:

2023 and 2024 American River Parkway Fire Fuel Reduction Action Plan

Action	Desired Completion Date
Lower Reach: Cal Expo and Woodlake areas – Fuel breaks with mowing, string-trimming, and/or herbicide (approximately 30 feet wide)	July 4
Lower Reach: Cal Expo and Woodlake areas – Fuel reduction utilizing hand crews to address ladder fuels & dead wood less than 6 inches in diameter in higher-risk areas including trails, roads, and areas within 100 feet of development.	Ongoing
Lower Reach: Discovery to Cal Expo - Grazing by sheep/goats to reduce fuel loads	June 30
Middle Reach: Campus Commons – Grazing by sheep/goats to reduce fuel loads	June 30
Middle Reach: Campus Commons up to Arden Bar - Fuel breaks provided via mowed levees (conducted by levee maintaining agencies)	July 4
Upper Reach: Arden to Nimbus - Grazing by sheep/goats to reduce fuel loads	June 30

Upper Reach: Arden to Nimbus - Fuel breaks with mowing, disking, string-trimming, and/or herbicide (approximately 30 feet wide)	July 4
Upper Reach: Arden to Nimbus - Fuel reduction/ladder fuel removal with hand crews along designated trails, maintenance/fire roads, and within 100-feet of adjacent neighborhoods	Ongoing

In past years, Regional Parks has worked with ARFCD to control YST near restoration areas in River Bend Park. The agencies used timed mowing in June, attempting to catch a 10% bloom. While these strategically timed mows have helped, the timing assumes dry soil and late spring rains reduce the efficiency of this program. Prescribed fire was used in 2018 in the Rossmoor Bar section of the Parkway with the goal of reducing YST. As described in section 5.2, successful YST reduction typically requires three consecutive years of burning.

The Metro Fire CWPP also includes some Parkway-specific mitigation projects:

- Support targeted compatible vegetation management in the ARP that reduces fire hazards through funding and cooperative operations. Work to minimize impacts to sensitive habitats through establishment of best management practices and be consistent with the 2008 American River Parkway Plan.
    - Manage vegetative fuels for fire hazard reduction through maintenance of existing fuel reduction areas (i.e., 100-feet of mowed area within Defensible Space Zone) located around structures adjacent to WUI areas within the ARP. CDCR crews or SCC crews may be utilized to reduce fuel loading in areas with heavy vegetation. Seek grant funding for this work.
- Expand area of fuel treatment adjacent to equestrian trails by 10 feet in selected locations and rehabilitate burn areas in Rossmoor to protect sensitive resources from the spread of fire. CDCR crews or SCC crews may be utilized to reduce fuel loading in heavy vegetation. Metro Fire would seek grant funding for this work. Activities under this fuel reduction project would include:
    - Expand the area of fuel treatment along horse trails near Bannister Park. Treatments would include mowing or discing a strip to prevent fire spread and pruning of lower branches of trees to prevent torching and remove understory shrubs to minimize fire intensity.
    - Use SCC crews to rehabilitate the fire area in Rossmoor Bar. This would include pruning lower dead branches of oak trees, removal and piling of dead material away from trees, and weed-whip/mow the grass under the trees so fire cannot carry and create further damage.
    - Increase the fuel break width (mow or blade an area up to 30-feet wide, including the disced width) outside areas where mitigation trees were planted.
- Encourage [homeowners groups] to establish a volunteer program to focus on activities that remove or prune vegetation in the area behind residences within the ARP, especially those residences south of the river.

- Renew and update the fuel reduction work done in 2010 and 2012 in Ed Levy area and elsewhere in the ARP. (Ascent Environmental, Inc., Interra Group and Wildland Res. Mgt., 2014)

While Metro Fire indicated that action has not been taken on any of these CWPP recommendations as of December 2022, Regional Parks confirmed that they have performed fuel treatment in areas recommended by the CWPP.

Grazing

Most grazing takes place in between the Discovery Park and Campus Commons sections, in addition to planned grazing strips along the edges of neighborhoods in Sacramento Bar, the north end of the Fair Oaks Bridge, Sailor Bar and Upper Sunrise in the upper reaches of the Parkway. The current grazing program effectively reduces fuel loads.

The Regional Parks 2023 Fire Fuel Management Plan aims to use goats and sheep to reduce fuel loads across approximately 573 acres, primarily in the lower reach of the Parkway between Discovery Park and Paradise Beach. Prior grazing years targeted similar acreages. This occurs between May and July, and some areas may get a second pass, particularly during wetter years.

American River Parkway

2023 Grazing Locations - West

Grazing Area

Project Area

0 0.5 1 Miles

N

Scale: 1:40,000

American River Parkway

2023 Grazing Locations - East

Grazing Area

Project Area

0 0.5 1 Miles

N

Scale: 1:40,000

The American River Parkway Plan (ARPP) identifies several land use goals and policies related to fire. Notably, many of these policies are related to fuel breaks, prescribed burning, and emergency vehicle access.

Fuel Breaks

Fuel breaks are strategically-placed linear strips where fuel has been removed or substantially reduced. Strategically placed fuel breaks can slow the spread of wildfires, buying time for responders to make access and extinguish the fire, they are constructed with the goal of reducing fire spreading from and to neighboring properties and to protect resources within the Parkway. Fuel breaks are typically constructed by removing all vegetation or disking soil to reduce fuels.

Old growth oak groves, stands of cottonwoods, native flora, elderberry and other restoration projects, and habitat mitigation areas all offer significant ecological value in the ARP. Fuel breaks can help protect these areas, in addition to neighborhoods and commercial properties immediately outside the Parkway boundaries.

The ARPP indicates that fuel breaks should be combined with roads and trails to eliminate unnecessary removal of vegetation, and that hanging branches and accumulated dry materials should be trimmed and removed only as necessary, by determination of a fire agency or qualified Regional Parks staff. Wherever practical, new trails should be combined with fuel breaks.

Throughout the NRMP, land management plans for established parks within the Parkway call to develop a wildfire strategy for vulnerable mature vegetation to ensure response that minimizes wildfire impacts. If adopted by the county, this CWPP would meet the requirements of that wildfire strategy. Additionally, the Plan recommends “evaluating the effectiveness of existing fuel breaks and if necessary, designating new and/or improved fuel breaks.” (Parks, 2022)

Within the lower reaches of the Parkway mowed levees topped with gravel access roads serve as fuel breaks, as do some large areas of mine tailings (fields of cobble with minimal vegetation). When fuel breaks are bare soil or rock, they can often stop low-intensity grass fires without firefighters present. Mowed areas are helpful in slowing fires, but do not necessarily stop their spread altogether.

Figure 5: Flood control levees serve as substantial, permanent fuel breaks throughout much of the Parkway. (Image ©2023 Deer Creek Resources)

Figure 6: Hydraulic mining tailings serve as fuel breaks between Gold River and the Nimbus Fish Hatchery. (Map Imagery ©2023 Google, 2022 CNES / Airbus, Maxar Technologies, U.S. Geological Survey)

American River Parkway
Levee Locations

Levee

Project Area

0 1 2 Miles

N

Scale: 1:55,000

Prescribed Fire

Prescribed burns are a tool to manage both invasive non-native plants and fuel loads, and can be used to lessen the threat of a large vegetation fire. Regional Parks, Metro Fire and SFD have an interest in using prescribed burning as a tool to improve fire resiliency within the Parkway. Both fire agencies also welcome prescribed fire opportunities to train staff in wildland firefighting situations.

Regional Parks' Fire Fuel Reduction Action Plan includes prescribed burns, although these activities have not taken place since 2018 when burns were used to thin fuels in the Cal Expo, Woodlake and Rossmoor Bar sections. Prescribed burns were planned for 2020 and subsequently cancelled due to COVID restrictions that remained in place for 2022. The Regional Parks Fire Fuel Management Plan for 2023 did not include any prescribed fire or training burns, primarily due to complications from the amount of rain received that winter and spring.

Maps in Section 5.1 of this CWPP identify potential sites for prescribed burning, and reimplementing prescribed fire is addressed in Section 5.2.

Emergency Vehicle Access & Water Supply

Effective fire protection in the Parkway requires rapid response times, which is dependent upon adequate access. The Parkway's roads are designed to discourage motor vehicle use and emergency routes are closed to public vehicles.

The American River Parkway Plan calls for emergency vehicle access roads to have a clear width of 20 feet and a vertical clearance of 13.5 feet. Trails designated for water access are maintained with a minimum of four-foot clearance to accommodate hose line extensions. The ARPP also indicates that all public vehicle access points (parks, boat launches, etc.) should also accommodate emergency vehicle access and that other access routes may be approved by the County and Fire District having jurisdiction over the site. The ARPP recommends service roads be interconnected where possible to permit through travel. Similarly, levee roads are required to have access to lower levels (toe-slope) at regular intervals to facilitate emergency vehicle access.

The Sacramento County LHMP identifies the Parkway as a major firefighting concern due to lack of access. Parts of the Parkway are only accessible by helicopter, boat, or foot.

Both SFD and Metro Fire would welcome additional vehicle access to the Parkway. Two new access points have been created due to construction in the Parkway, a bridge at the southwest corner of Cal Expo and another near the Campus Commons golf course. A third access at the end of Emperor Drive was discussed with Metro Fire during a site visit to Sailor Bar.

This CWPP recommends contracting with a California State Fire Marshal-certified burn boss to develop detailed prescriptions and burn objectives.

American River Parkway

Access Locations - West

American River Parkway
Access Locations - East

- Equestrian
- Pedestrian
- Bicycle/ Ped
- Car/Ped
- Car/Bike/Ped
- Car/Bike/Ped/Equestrian
- Car/Equestrian/Ped
- Potential New Fire Access

0 0.75 1.5 Miles

N

Scale: 1:40,000

Roseville Rd
Winona Way
Ward Ave
Magpie Creek
Jackson St
Longview Dr
Auburn Blvd
Pasadena Ave
Orange Grove Ave
I-80 LI
Bus 80
Arcade Creek
Park Rd
Winding Way
Zephyr Way
Unnamed Rd
Lerwick Rd
Annadale Ln
Edison Ave
West Way
Humicutt Ln
Club Ln
Pope Ave
Morse Ave
Chicken Ranch Slough
Watt Ave
Norris Ave
Mission Ave
Whitney Ave
North Ave
Wyman Dr
Root Ave
Boone Ln
Leta Ln
Marconi Ave
Carrisa Way
Louisiana St
S Park Dr
Hazelwood Ave
Ravenwood Ave
El Camino Ave
Saint Mathews Dr
Butano Dr
Catalina Dr
Walnut Ave
Gunn Rd
Clark Ave
Strong Ranch Slough
Melvin Dr
Saint Lynn Ln
Maryal Dr
Figwood Way
Lusk Dr
Ione St
Kincaid Way
Rockwood Dr
El Nido Way
Arden Way
Eastern Ave
Daphne Ave
Olympus Dr
Brier Way
Puma Way
Menlo Ave
Greenhills Rd
Cayente Way
Cresta Way
Las Pasas Way
Fitch Way
Churchill Rd
May Fair Dr
Amberwood Rd
El Sur Way
Tolenas Ct
Larch Ln
Laurel Dr
Cosmos Ave
Ross Way
Watt Avenue
American River
Howe Avenue
La Riviera Dr
Folsom Blvd
Micron Ave
Nebula Way
Systems Pkwy
Oates Dr
Core Rd
Business Park Dr
Bexley Dr
Fite Cir
Routier Rd
Rockingham Dr
Peter A Mccuen Blvd
Bullard St
Airpark Dr
N Mather Blvd
Mather Blvd
Zinfandel Dr
Omec Cir
Elks Cir
Sunrise Blvd
Pimlico Ave
Muldrow Rd
Tonolo Way
Garfield Ave
Rye Way
Dewey Dr
Falcon Rd
Amelia Dr
Westover Ct
Ranger Way
Onyx Way
Jon Dr
Rolling Way
Rampart Dr
Rustic Rd
Valhalla Dr
Hope Ln
Cypress Ave
Lincoln Ave
Unnamed Aly
Holloway Ln
Shirley Ave
Grant Ave
Verla St
Panama Ave
Park Ln
Panay Ct
Kiernan Dr
Angelina Ave
Stanley Ave
Landis Ave
Sutter Ave
Marshall Ave
Hussey Dr
Midiron Dr
Amy Ave
Vasos Way
Altamont Dr
San Juan Bluffs
Rossmoor Bar
El Manto Dr
Rossmoor Dr
Tarshes Dr
Ancil Hoffman County Park
Frontier Way
Saint Lynn Ln
Sarah Court Access
River Bend Park
Arden Bar
SARA Park
Chase Dr
Rhoda Way
El Segundo Dr
Dawes St
Ellenbrook Dr
La Loma Dr
Gary Way
Kingsford Dr
Jacob Ln
Carter Rd
Sycamore Dr
Mariemont Ave
Eastern Ave
Sacramento Bar
Lower Sunrise
Sunrise Bluffs
Archer Ave
Plumeria Ave
Pollard Ave
Bijan Ct
Hill St
Vasos Way
Fair Oaks Blvd
Buffalo Creek
Cemo Cir
Vehicle Dr
Benita Dr
Amalgam Way
Prospect Hill Dr
Sailor Bar
Upper Sunrise
Gold Bar Dr
Kenneth Ave
Illinois Ave
Cox Ave
Hazel Ave
Bluff Ln
Kruitof Way
Leatham Ave
Sunset Ave
Sun Run Ln
Lake Natoma
Alabama Ave
Albany Ave
Kenosha Rd
Nimbus Rd
Louisiana Rd
Hartford St
Maryland Ave
New York Rd
Oklahoma Rd
Old White Rock Rd
Folsom South Canal
Salisbury Rd
Citrus Rd
Gold Canal Dr
Trade Center Dr
Kilgore Rd
Mercantile Dr
Coloma Rd
Angle Way
Vian Way
Barbera Way
Tannat Way
Kachina Way
Olson Dr
Prospect Park Dr
Hunt Dr
Sanders Dr
Data Dr
Quality Dr
Capital Center Dr
International Dr
Kiewner Way
Muscat Way
Spoto Dr
S White Rock Rd
Fitzgerald Rd
Irazu Way
Gold Dredge Way
Recycle Rd
Luyung Dr
50

Barbecue facilities, fire rings and permanent camp sites can only be located where an adequate water supply is available, as determined by Metro Fire or SFD. In the Woodlake and Cal Expo areas, the ARPP recommends redesigning and renovating unsurfaced maintenance and emergency roadways to reduce habitat fragmentation and degradation from new roads, and creating an interconnected system of roads to improve access for fire suppression equipment. (County of Sacramento, 2008)

During the development of this CWPP, a cross-country running track was being designed and funded for the area just south of Bushy Lake, at Cal Expo. This proposed project would improve fire access in the area and create new potential control lines for prescribed burns and is consistent with ARPP policy 10.24.

The availability of water for fire suppression is important in limiting the size and severity of fires on the Parkway. The ARPP recommends restoration projects that include bringing in a water supply should be designed so that overhead irrigation is available in case of a fire. (In the opinion of the CWPP authors, maintaining overhead irrigation is not practical outside of existing developed park sites, and is unlikely to change wildfire outcomes.)

3.2 Local Preparedness & Response Capabilities

As it weaves through the greater Sacramento area, the Parkway runs through wildfire response jurisdictions of both the Sacramento Fire Department (SFD) and the Sacramento Metropolitan Fire District (Metro Fire). While the Watt Ave. bridge delineates the border between the two fire departments, there is no boundary for fire operations. SFD and Metro Fire collaborate extensively when fires break out within the ARP. The far eastern edge of the Parkway boundary borders Folsom Fire Department's response area and they coordinate with SFD and Metro Fire.

Sacramento Fire Department Capabilities

SFD is a full-service fire department, responding to and mitigating incidents involving fires, medical emergencies, hazardous materials, technical and water rescues. 24 fire stations are strategically located throughout SFD's service area. Six of these stations include the American River Parkway within their immediate response zones. The department operates:

- 24 engine companies
- Nine ladder truck companies
- 15 advanced life support ambulances
- One rescue company
- Three swiftwater rescue teams
- Two hazmat response teams

Each company is staffed with a Captain, an Engineer, and two Firefighters. The SFD Marine Program can deploy boats from four stations. Boat 5 is on standby at Miller Park Marina on the Sacramento River and has firefighting capabilities.

Department personnel respond to approximately 80,000 calls each year and provide services to approximately 480,000 residents and over 20,000 businesses located in the City of Sacramento. The Department also is contracted by the Pacific/Fruitridge and Natomas Fire Districts, to provide fire protection service to an additional 50,000 residents. The contracted areas add approximately 46 square miles to the City's incorporated area for a total service of 146 square miles.

The department maintains automatic aid agreements with all neighboring agencies, supporting a boundary drop system. SFD also participates in California's mutual aid response system which provides Type I and Type III engine companies for 'out-of-County' wildfire or disaster response upon request of the California Emergency Management Agency.

Sacramento Metropolitan Fire District Capabilities
Metro Fire provides fire protection and emergency medical services to all unincorporated areas of Sacramento County, as well as 14 contract cities and McClellan Airfield. As a California Special District, Metro Fire is governed by a board of directors.

Metro Fire was formed through the merger of 16 smaller fire departments. It serves a population of over 738,000 in a 358 square mile service area and is the seventh largest fire agency in California. About 155 Metro Fire personnel are on duty at any given time, managed by five Battalion Chiefs and an Assistant Chief. Metro Fire operates 40 fire stations throughout its service area, with daily shift staffing of 192 personnel. 12 of these stations include the American River Parkway within their immediate response zones.

Metro Fire has 27 wildland units, supported by six water tenders, 36 engines, seven trucks, and one dozer. Air support is provided by two helicopters, each with sling/bucket capabilities. EMS response currently deploys 20, 24-hour advanced life support (ALS) ambulances, six reserve ambulances and 36 ALS engine companies. Metro Fire employs over 499 paramedics and 100 EMTS. Metro Fire can also cross staff four ambulances during a surge in call volume. Additional statistics can be found in Metro Fire's Standards of Cover document.

Folsom Fire Department Capabilities
The Folsom Fire Department (FFD) is a full-service fire department with 77 staff members. FFD serves a population of approximately 82,000 in an area covering 30 square miles in eastern Sacramento County. FFD's service area is not directly adjacent to the Parkway, but their proximity to the eastern reach of the ARP may come into play in the event of a fire.

Department Equipment:

- Four engine companies
- One ladder truck company
- Three advanced life support ambulances
- One rescue boat
- One command vehicle

Emergency Notification System
The Sacramento County Office of Emergency Services, in partnership with Yolo and Placer County emergency agencies, cooperatively manage a DHS-funded emergency alert system called Sacramento Alert. Sacramento Alert uses the 'Everbridge Mass Notifications' platform to disseminate information to civilians who have volunteered their contact information.

Residents are encouraged to log onto the Sacramento Alert Citizen Opt-In portal and provide their contact information to receive notifications on time-critical topics including: flooding, levee failures, severe weather, disaster events, unexpected road closures, missing persons, and evacuation notices. Additional information is available at www.SacramentoReady.org

Evacuation Planning
The City of Sacramento has prepared detailed maps in the event of a 200-year flood event. While these maps are drawn up to estimate inundation levels and the time it would take for waters to rise in affected neighborhoods, they also display evacuation routes away from the American River, which can be repurposed in the event of a major fire within the Parkway. Those evacuation maps are available at https://www.cityofsacramento.org/Utilities/Drainage/Flood-Ready/Flood-Depth-and-Evacuation-Maps

Sacramento County's Office of Emergency Services develops and maintains emergency plans. In the event of a fire emergency requiring evacuation, there are sufficient plans in place to ensure the process is handled as smoothly and effectively as possible, providing a framework to guide a response. That information is available at https://sacoes.saccounty.gov/EmergencyManagement/Pages/Planning.aspx

Citizens are encouraged to create their own preparedness plans with the help of SacramentoReady.org.

4. POTENTIAL WILDFIRE BEHAVIOR & COMMUNITY RISK ANALYSIS

Context for Community Risk Analysis
Wildfire risk in the western United States has been steadily increasing over the past several decades. Prolonged drought, climate change and the later arrival of autumn rains are lengthening fire seasons. This is significant because a lack of precipitation during critical autumn weather periods increases the likelihood the American River Parkway will have fires when strong east winds are affecting the area in September, October, and November.

Recent, large, wind-driven California wildfires including the Valley, Tubbs, Camp, and Bear have overwhelmed firefighting forces, destroying communities in their path. During each of these wildland urban interface disasters, firefighters have had to fall back and refocus on rescue and evacuations, as the fires have burned freely from house to house.

Because of the extreme difficulty in combating urban conflagrations once they are actively burning, it is critical to focus weed abatement and other wildfire hazard mitigation work throughout the ARP in places where wildland vegetation extends into neighborhoods and intermixes with flammable landscaping plants and dense urban vegetation. Toward this end, the CWPP project team surveyed the Parkway and then used detailed vegetation mapping and predictive wildfire spread computer models to map areas of continuity between wildland vegetation and neighborhoods adjacent to the Parkway.

Goals of the community risk analysis:

- Identify areas of high wildfire-hazard areas adjacent to neighborhoods
- Identify critical locations where Parkway fires could spread into the city
- Develop potential hazard reduction projects to mitigate wildfire threats

Fire behavior modeling outputs can be difficult to interpret by non-technical audiences, and hence are not generally included in CWPP documents. The original data inputs and simulation results of Deer Creek Resources' fire modeling and risk analysis are available on request from DCR.

4.1 Fire Behavior Potential

Fire behavior potential was modeled for moderate and extreme weather scenarios based on past weather patterns and fuel moisture conditions. Surface and aerial fuels (vegetation) were mapped using aerial photography and LiDAR analysis, as well as ground surveys. The fuel and terrain parameters used for this analysis are summarized in the graphic below. The model outputs were interpreted by the project fire behavior specialists to identify areas for more detailed mapping during on-the-ground field surveys and used to map priority areas for wildfire hazard mitigation.

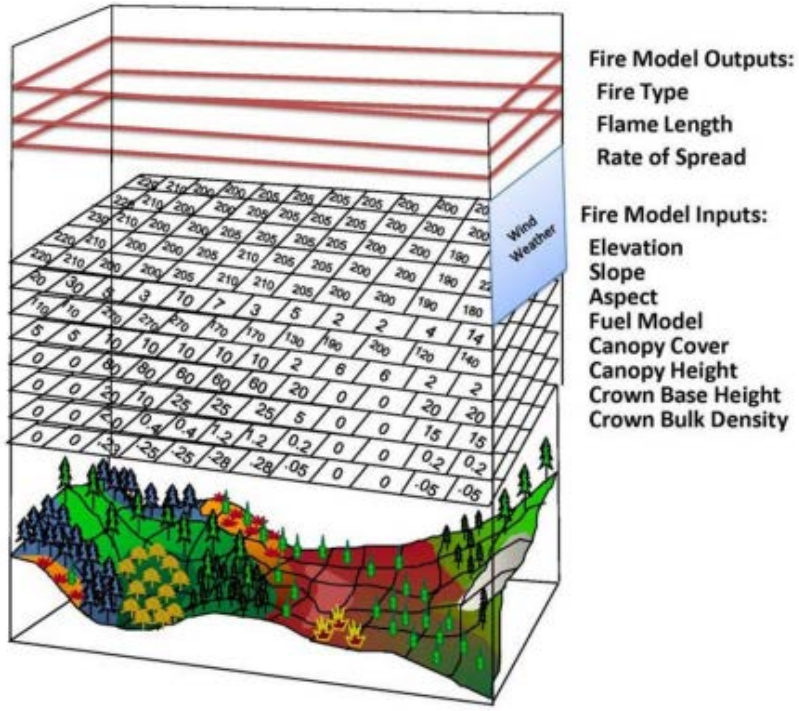


Figure 7: Example terrain, vegetation and canopy inputs used for fire behavior modeling

4.2 Results of Community Risk Assessment

Field surveys and modeling found generally lower risk of wildland fire to urbanized areas in the downstream portions of the Parkway where well-maintained levees act as fuelbreaks, reducing rates of fire spread and decreasing the likelihood of fire moving from the Parkway into neighborhoods. The wildfire risks to adjacent communities generally increase above William Pond Park, as the floodplain widens above the levees, and more flammable wildland vegetation including live oak and gray pine become more prevalent. Residential areas with the greatest wildfire exposure are shown in the community outreach and education areas on the CWPP map book.

4.3 Risk Potential from Outside Study Area

Areas where fires could originate outside the Parkway and move into the area are generally the same places where fires starting in the Parkway could move into adjacent neighborhoods. As such, projects which increase wildfire awareness and reduce hazards in neighborhoods will also reduce the likelihood of a residential fire becoming a major wildfire.

5. SOLUTIONS & PROPOSED PROJECTS

The following section recommends a variety of projects to mitigate wildfire hazards throughout the Parkway. As such, it is the 'meat' of this document, as the overall purpose of a CWPP is generally to prioritize projects for funding and implementation. The authors note that while previous planning efforts have recommended wildfire hazard mitigation projects, without timelines or accountabilities, including ongoing project advocacy from invested stakeholders, it is easy for planning documents such as this CWPP to fade quickly from memory. Refer to the Master Project Table in Appendix E and section project tables and maps below, which provide granular detail on individual project recommendations.

General Recommendations

The NRMP calls to "suppress fire in mature vegetation stands" to minimize impacts throughout its Management, Implementation and Monitoring chapter. This is especially important for mature stands of cottonwood trees, which are dwindling in the Parkway and not reestablishing due to drought years. Protecting the remaining cottonwoods from wildfire should be prioritized, as their lifeform is not as resilient to wildfire to other large trees such as mature Valley Oak. The ARPF would also like to prioritize Nature Study Areas for fire suppression as they contain mature, high-quality vegetation and habitat, and this CWPP also recommends that prioritization.

Encampments

Encampments are a Parkway-wide fire safety concern. Sacramento County's official policy is that camping in the Parkway is illegal, but until that is fully enforced, this CWPP recommends targeted weed-eating, mowing, grazing, and vegetation thinning between heavily-used encampment areas and values-at-risk, including mature riparian forests. Additional ranger patrols are recommended on days with a Red Flag Warning to reduce the spread of ignitions.

Grazing

Regional Parks manages an annual grazing program, which should be continued. The following project maps recommend that grazing continue in existing locations, which do not change much from year to year, and that grazing or mowing be expanded to other target locations to minimize the Parkway's fire threat.

Access Clearance

Regional Parks deploys hand crews to conduct ongoing removal of ladder fuels along trails and roads. In 2023, Regional Parks reinforced fuel breaks in River Bend Park, Rossmoor Bar,

Sacramento Bar, Lower Sunrise and Sailor Bar. Excessive dead woody material under six inches in diameter is also targeted for removal. This access work should continue. This CWPP recommends that roads and trails in high fire hazard areas be maintained by limbing adjacent trees and removing brush within 5-10 feet to increase their utility as fuel breaks.

Management of Large Dead Wood

Large down woody material does not contribute significantly to rates of wildfire spread, but the radiant heat from burning large wood can kill nearby large trees. Large down wood should be retained, when possible, unless it is adjacent to other large mature trees or Parkway infrastructure which could be damaged by radiant heat. In general, removing down woody material under 4-6" in diameter is sufficient to reduce wildfire intensity. The lower threshold of 4" should be used in areas which already have heavy fuel loading, or which are within 20 feet of a major trail or access road. A large down Valley Oak, sited away from any other brush or woody vegetation does not pose a significant wildfire hazard, and does not need to be chopped into small pieces unless the land manager is trying to mitigate other, non-wildfire, hazards.

Public Safety Vegetation Management Safety Clearance Guidelines from ARPP

ARPP public safety clearance guidelines should be followed throughout the Parkway:

- Emergency vehicle access routes shall be capable of supporting the imposed load of emergency vehicles. The routes shall have an unencumbered clear width of 20 feet, have turnarounds at intervals to the satisfaction of the local fire agency, and shall have a vertical clearance of 13 feet, 6 inches.
- Certain non-vehicular water access trails shall be maintained with a minimum of four feet clear width to accommodate hose line extensions in a rapid manner. These designated trails shall be mapped and distributed to fire service agencies as part of an emergency access plan of those agencies.

Powerline Corridors

Vegetation below power lines receives annual maintenance by utility companies with right of way. All plants are cut as low as possible and regular surveying takes place throughout the year with additional fuels reduction work when needed. The NRMP seeks to establish low growing native vegetation under power lines to provide fuel breaks that protect wildlife habitat, improve natural resources and control invasive species. Upon approval of the NRMP, it was announced that low-growing native vegetation under power lines in the Discovery, Woodlake, Cal Expo, and Watt areas would be among the initial 12 projects to be implemented in the next ten years.

Mile Markers

Among stakeholders interviewed for this CWPP, there was a repeated request for accurate mile markers throughout the Jedediah Smith Memorial Trail as these are important for identifying the location of a fire and sending resources to the right location. Regional Parks confirmed that all mile markers had been replaced or updated as of December 2022.

Yellow Starthistle
The Regional Parks and ARFCD yellow starthistle control program has found limited success with strategic mowing. This CWPP recommends using prescribed fire to control YST. Mid-summer opportunities exist to burn infested areas of land and three consecutive years of prescribed fire has been shown to reduce the YST seed bank. Additional information on controlling YST can be found in section 5.2.

5.1 Projects by Parkway Section

The following narratives, tables, and maps detail and prioritize specific projects within the American River Parkway. Maps match management areas delineated in the NRMP with some of the smaller, adjacent areas combined onto a single map. Regional Parks has indicated that projects listed in the NRMP will cover all their fire safety needs. The project recommendations below reiterate the need for some of those NRMP projects and build on them. Regional Parks has expressed the need to emphasize that all fire management activities in the ARP should be completed with natural resources in mind.

Discovery Park

Discovery Park is a highly-developed and heavily-used area of the Parkway. NRMP desired conditions for the area include the conservation of existing native vegetation, preservation of the mature London Plain trees that shade parking and picnic areas, reducing wildfires to control the loss of riparian woodlands, controlling and reducing invasive species, and naturalizing areas that have been altered in the past that could provide habitat for native woodlands.

Continuous levees border the north and south side of the Discovery Park section, serving as a fuel break between the Parkway and surrounding neighborhoods.

There are many camps or abandoned camps on the eastern end of Discovery Park. Continuous levees border the north and south side of the Discovery Park section, serving as a fuel break between the Parkway and surrounding neighborhoods and commercial areas.

Mature riparian forest with large cottonwood trees is scattered across areas upstream of Interstate 5. Wildfires have destroyed some of these forests. Cottonwoods are not expected to regenerate in many areas of the Lower American River due to altered hydrology in this portion of the Parkway. Preserving the existing cottonwoods throughout the Parkway is a high priority.

Figure 8: Fire scar in mature cottonwood forest in Discovery Park.
(Map Imagery ©2023 Google, Landsat/Copernicus)

Areas under power lines within the utility right-of-way on the north side of Discovery Park receive annual maintenance by their respective owners. All plants are cut as low as possible and regular surveying takes place throughout the year with additional fuels reduction work when needed.

Regional Parks manages annual grazing east of Discovery Park, along the bike path and border with the Urrutia Site, with additional grazing along the north and east edges of Camp Pollock. Annual fuel break mowing occurs in a strip along the south side of the river, along Township 9 Park. This CWPP recommends expanding grazing in the eastern end of Discovery Park to protect important cottonwood habitat and mowing a strip east of Northgate Boulevard, along the Arden Garden Connector.

Around the Camp Pollock property, regular grazing is recommended to both discourage encampments and reduce fuels. Within the camp's property, it is recommended that wooden lattice be removed from under the lodge as it may carry fire to the decks or building. Powerlines at the property need rehabilitation. Camp Pollock should also develop an evacuation plan as it sees large groups on the property.

Bannon Island

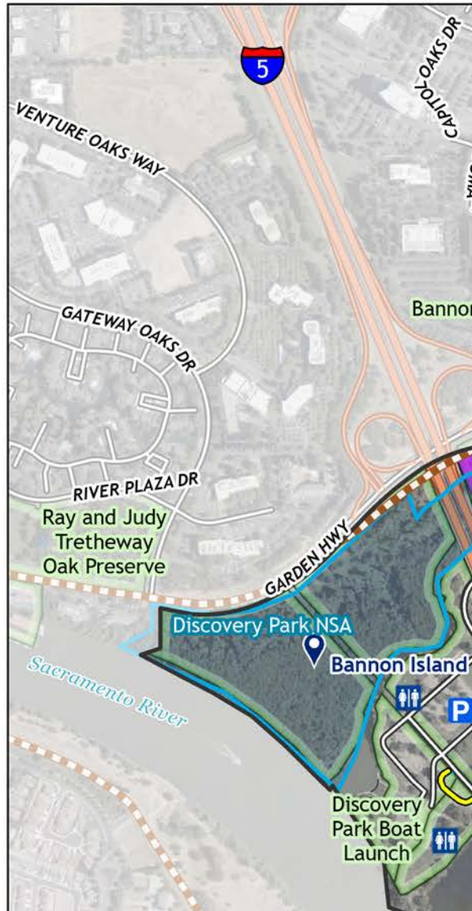
West of the I-5 corridor, to the north of Discovery Park boat launch on Bannon Slough and south of Garden Highway, is Bannon Island. At the time of spring 2023 field surveys the area contained extensive, semi-permanent homeless encampments. Despite the number of people living in this area in long-term encampments, it received minimal fire department calls for ignitions and a park ranger indicated that Regional Parks receives very few calls for assistance in the area. In mid-May 2023, following severe flooding, Sacramento County officials cleared out encampments and roughly 45 people who were living in the area.

Bannon Island is designated as a Nature Study Area in the ARPP, an area limited to passive recreation with limited development. The area remains closed at the time of this CWPP publication.

Figure 9: Bannon Island and Discovery Park
(Map Imagery ©2023 Google, Landsat/Copernicus)

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
1	Discovery Park	Targeted Fuels Reduction	Reduce grapevine thickets adjacent to areas with a high ignition hazard along Garden Highway; important to target areas with evidence of unauthorized camping or frequent use.	30.1	High	3-5 Years
2	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit adjacent to high-traffic area to reduce surface fuels, raise sightlines, and discourage illegal camping.	6.3	Moderate	Annual
3	Discovery Park	New Grazing Unit	Graze flat areas adjacent to large cottonwoods. Goal is to reduce surface fuels, raise sightlines and canopy base height, and discourage illegal camping.	45.0	Moderate	2-3 Years
4	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit adjacent to high-traffic area. Goal is to reduce surface fuels, raise sightlines, and discourage illegal camping.	13.0	Moderate	Annual
5	Discovery Park	New Grazing Unit	Graze flat areas adjacent to large cottonwoods. Goal is to reduce surface fuels, raise sightlines and canopy base height, and discourage illegal camping.	22.3	Moderate	2-3 Years

6	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit around Camp Pollock and Riverdale RV Park. Goal is to reduce surface fuels, raise sightlines, and discourage illegal camping.	19.2	Moderate	Annual
7	Discovery Park	Mowing	Weed eat and mow a 50-foot buffer off Arden Garden Connector to reduce surface fuel continuity.	4.8	High	Annual
8	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit around Riverdale RV Park. Goal is to reduce surface fuels and discourage illegal camping	4.1	Moderate	Annual



Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Pedestrian Trail
Park
Nature Study Area
Bicycle/Ped Access
Car/Bike/Ped Access
Transmission Line
Levee
Railroad

Recomended Treatments

- 1 Prescribed Fire
- 1 Continue Existing Grazing
- 1 Education
- 1 Existing Fuelbreaks
- 1 Mowing
- 1 New Grazing
- 1 Targeted Fuels Reduction

American River Parkway

Proposed Projects

Discovery Park

N

0 500 1,000 2,000 Feet

Map Scale: 1:11,000

Woodlake

The Woodlake section of the Parkway is heavily developed with infrastructure including four electric transmission lines, several radio towers, the Highway 160 crossing, and three rail bridges (one has been converted and now serves as a pedestrian bridge). On the south side of the American River, Sutter's Landing Park and a concrete recycling facility border the river. The area has been impacted by encampments on both sides of the river. Fire ignition data shows frequent human-caused fire ignitions in this area. Hazard mitigation efforts here should focus on creating a buffer between encampments and areas of high ecological value including mature cottonwood forests.

Continuous levees border the north and south side of the Woodlake section, serving as a fuel break between the Parkway and surrounding neighborhoods and commercial areas.

Regional Parks manages an extensive fuels treatment program on the north bank of the Woodlake section of the Parkway and this CWPP recommends continuing that program. There are opportunities to use prescribed fire to reduce fuels and control yellow starthistle on the large open areas currently being grazed. Star thistle burning is generally seen as a three-year commitment, and successive burns are necessary to kill seeds in the soil. Burns should take place in mid-summer. Grass under the star thistle needs to be fully-cured before burning occurs.

Prescribed fire for YST control should be conducted in concert with training for the fire departments. While it is necessary to budget funds to pay the overtime necessary to bring firefighters on to do the burning, this is generally much cheaper than paying for grazing. The flat ground and easy access make burning here fairly low-complexity. The proposed burning areas include portions under high-voltage transmission lines. This is not necessarily disqualifying—grass fires do not generally cause problems for transmission lines, and utilities have been maintaining low fuel loads in their right of ways.

Figure 10: Woodlake Section
(Map Imagery ©2023 Google, Landsat/Copernicus)

North of the levee on the northwest corner of the Woodlake section, between Highway 160 and Lathrop Way is a large open space, outside of the Parkway. While not Regional Parks' responsibility, mowing or grazing is recommended here as the area provides fuel continuity between riparian forests and a large commercial area with large amounts of on-street RV camping. SFD has reported that RV fires are common in this area.

Figure 11: Thinning and mowing recommended for this section of non-Parkway land on Lathrop Way. (Map Imagery ©2023 Google, Landsat/Copernicus)

On the south bank of the river, the area immediately south of Pipe Bridge on the City of Sacramento Northern Bikeway has extensive encampments, surrounded by tall weeds and grasses. While fires starting in this area are confined by roads, levees, the river, and industrial areas, they can pose a threat to people living in encampments directly adjacent to areas of heavy grass and weeds. Wildfire safety outreach within these communities is recommended. An annual weed-eating program could mow a buffer right up against camps in the most heavily-vegetated areas.

Figure 22: Encampments at southern end of Sacramento Northern Bike/Pedestrian Bridge. (Map Imagery ©2023 Google, Landsat/Copernicus)

Grazing is recommended on the south side of the river, north of Sutter's Landing Regional Park. Areas under power lines are maintained by utility companies within their right of way and grass is mowed near the radio transmitters in the center of the Woodlake section.

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
9	Woodlake	Existing Grazing Unit	Continue grazing program in this unit to reduce surface fuels, maintain sightlines, maintain canopy base height, and discourage illegal camping.	3.7	Moderate	Annual
10	Woodlake	Existing Grazing Unit	Continue grazing program in this unit to reduce surface fuels, maintain sightlines, and discourage illegal camping.	2.2	Moderate	Annual
11	Woodlake	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	13.5	Very High	Annual
12	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	10.3	Moderate	Annually
13	Woodlake	Existing Grazing Unit	Continue grazing program in this unit.	5.2	Moderate	Annual

14	Woodlake	Prescribed Fire	Potential ecological burns to maintain oak woodland and wetland habitats. Consider working with CSU, Chico Ecological Reserves to develop ecological objectives and burning prescriptions. Protect any cottonwoods.	5.9	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
15	Woodlake	Education	Wildfire safety outreach to unauthorized campers. Provide fire extinguishers to campers, patrol during high-risk wildfire hazard weather conditions.	8.9	High	Annual/Seasonal
16	Woodlake	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring. Also consider grazing.	1.2	High	Annual
17	Woodlake	Existing Grazing Unit	Continue grazing program in this unit.	0.7	Moderate	Annual
18	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	3.1	Moderate	2-4 Years

19	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	3.7	Moderate	2-4 Years
20	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping. Unit comprises entire green polygon on map.	51.0	Moderate	Annual
21	Woodlake	Mowing	Area is outside of the Parkway boundary, but contains heavily impacted, high value habitat that would benefit from mowing, especially along Lathrop Way and the bike trail.	30.4	High	Annual
22	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	4.0	Moderate	2-4 Years
23	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	18.6	Very High	Annual

24	Woodlake	Prescribed Fire	Potential training burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	4.0	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
25	Woodlake	Prescribed Fire	Potential training burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	44.9	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
26	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	58.6	Moderate	Annual
27	Woodlake	Prescribed Fire	Potential ecological burns to maintain riparian ecosystem and reduce fuels along the river. Advise talking with CSU, Chico Ecological Reserves about prescriptions, techniques, and operational considerations.	57.2	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
28	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	3.9	High	Annual
29	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	21.8	High	Annual

30	Woodlake	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks	51.0	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
31	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	22.1	Very High	Annual
32-35	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	2.3	Moderate	Annual

Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Pedestrian Trail
Park
Pedestrian Access
Bicycle/Ped Access
Car/Bike/Ped Access
Transmission Line
Levee
Railroad

Recomended Treatments

- 1 Prescribed Fire
- 1 Continue Existing Grazing
- 1 Education
- 1 Existing Fuelbreaks
- 1 Mowing
- 1 New Grazing
- 1 Targeted Fuels Reduction

American River Parkway

Proposed Projects

Woodlake

N

0 500 1,000 2,000 Feet

Map Scale: 1:7,000

Cal Expo

The Cal Expo area has been heavily altered by hydraulic mining, cleared for farming, and graded for a never-completed golf course. Electric transmission lines cut through the entirety of the area from east to west. The area has been impacted by encampments on both sides of the river, which correlate with frequent fire ignitions. Fires have played a role in the destruction of mature cottonwoods here, as well.

Continuous levees border the area on the north and south sides, serving as a fuel break between the Parkway and Cal Expo and neighborhoods on the south side of the river.

Bushy Lake is an important shallow water habitat supporting many species including the western pond turtle. The water levels are maintained by Cal Expo through pumping groundwater, a stipulation of the Bushy Lake Preservation Act. A CSUS restoration project has reintroduced culturally significant plants in the area and is working to restore the western pond turtle and pollinator populations. The Bushy Lake Conceptual Restoration Plan calls for the reintroduction of fire resilient vegetation.

Figure 13: Cal Expo Section
(Map Imagery ©2023 Google, Landsat/Copernicus)

Continuous levees border the north and south side of the Cal Expo section, serving as a fuel break between the Parkway and surrounding neighborhoods and commercial areas.

As in Woodlake, Regional Parks manages an extensive fuels treatment program throughout the Cal Expo section. This CWPP recommends continuing that program. Prescribed fire is recommended on the east side of the section, which provides easy access for fire equipment

and the opportunity for members of the public to observe how fire can be used to manage vegetation in the Parkway. If prescribed fire will be used to control YST in areas which are also grazed, we recommend resting the area from grazing for a full growing season before burning, to allow accumulation of sufficient thatch and biomass to generate heat to kill seeds in the soil.

If fire is used in the riparian areas adjacent to the river here, it should be ignited in a pattern which allows fire to back downslope toward the river, moderating fire intensities. We recommend involving fire practitioners from the CSU, Chico Ecological Reserves, who have extensive experience using fire to manage grasslands, weeds, and riparian areas.

The proposed cross-country running tracks would help break up fuel continuity. At the far eastern edge of the Cal Expo section, strips of mowing are recommended along bike paths in an area that sees annual fires, leading into the Campus Commons section.

Figure 14: Wildfire-killed vegetation in Cal Expo Section.
(Image ©2023 Deer Creek Resources)

North of the levee a new bridge was installed to provide access for the Business I-80 construction project. SFD would like to see this bridge remain in place for fire access after the construction process is completed and this CWPP also recommends that action.

Figure 15: Coyote bush in a recent burn area and the Business I-80 construction bridge that SFD would like to keep intact for fire access.
(Image ©2023 Deer Creek Resources)

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
36	Cal Expo	Prescribed Fire	Potential burns to reduce fuels within the boundaries of existing trails and fuel breaks. Potential grassland restoration site. Proximity to freeway makes smoke management important and may constrain use of fire.	6.2	Moderate	2-4 Years

37	Cal Expo	Prescribed Fire	Potential burns to reduce invasives and maintain riparian/wetland habitats while reducing fuels. Consider involving CSU, Chico Ecological Reserves in planning and implementation. Proximity to freeway makes smoke management important and may constrain use of fire.	14.2	Moderate	2-4 Years
38	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	14.2	Moderate	Annual
39	Cal Expo	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	6.4	High	Annual
40	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	68.6	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
41	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	68.6	Moderate	Annual

42	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	19.8	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
43	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	19.8	Moderate	Annual
45	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit	14.0	Moderate	Annual
46	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	14.0	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
47	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	34.9	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
48	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	34.9	Moderate	Annual
49	Cal Expo	Prescribed Fire	Potential for cultural burns in cooperation with CSUS.	17.3	Moderate	2-4 Years
50	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	27.5	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST

51	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit.	27.5	Moderate	Annual
52	Cal Expo	Prescribed Fire	Potential for cultural burns in cooperation with CSUS.	10.6	Moderate	2-4 Years
53	Cal Expo	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	9.5	High	Annual
54	Cal Expo	Prescribed Fire	Potential burns within the boundaries of existing trails and fuel breaks.	8.3	Moderate	3 Consecutive Years for YST
55	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit.	8.3	Moderate	Annual
56	Cal Expo	Prescribed Fire	Potential fuel reduction burns within the boundaries of existing trails and fuel breaks.	4.8	Moderate	Annual
57	Cal Expo	Prescribed Fire	Potential burns within the boundaries of existing trails and fuel breaks.	1.3	Moderate	3 Consecutive Years for YST
58	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit Goal is to reduce surface fuels and discourage illegal camping.	1.3	Moderate	Annual
59	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	1.3	Moderate	Annual

Regrowth on Mowed Levee
American River Parkway - Woodlake Area
Mile 4
TRIBUTE RD
PARK DR
HERITAGE LN
EXPOSITION BLVD
CHALLENGE WAY
RESPONSE RD
ARDEN WAY
11
31
30
Sprayed Under Trestle
Bus 80
29
Burn Scar
36
California Expo Fairground & Horsetrack
HALLMARK DR
ETHAN WAY
27
26
New Bridge (Fire Access)
37
38
Mile 4.5
Sheep Grazing
American River
Bushy Lake
49
HURLEY WAY
35
Bushy Lake NSA
52
P
53
Chicken Ranch Slough
45
46
55
54
American River Parkway Cal Expo Area
50
51
56
Sutter's Landing Regional Park
42
43
Mile 5
39
Mile 6
ERLEWINE CIR
40
41
59
57
58
47
48
61
BREUNER AVE
MCKINLEY VILLAGE WAY
PRIMROSE WAY
MCKINLEY BLVD
MODDISON AVE
TAYLOR WAY
44
36TH WAY
TEICHERT AVE
Mile 5.5
60
ENTERPRISE DR
Paradise Beach
Heavy Riparian Vegetation Up to Cleared Levee
American River Parkway - Paradise Beach Area
American River Parkway - Campus Commons Area North
62

- Mapping Point
- Mile Point
- American River Parkway Trail
- Bike Trail
- Horse Trail
- Park
- Nature Study Area
- Equestrian Access
- Bicycle/Ped Access
- Transmission Line
- Levee
- Railroad

Recomended Treatments

- 1 Prescribed Fire
- 1 Continue Existing Grazing
- 1 Education
- 1 Existing Fuelbreaks
- 1 Mowing
- 1 New Grazing
- 1 Targeted Fuels Reduction

American River Parkway
Proposed Projects
Cal Expo

N

0 500 1,000 2,000 Feet

Map Scale: 1:8,000

Paradise Beach & Campus Commons

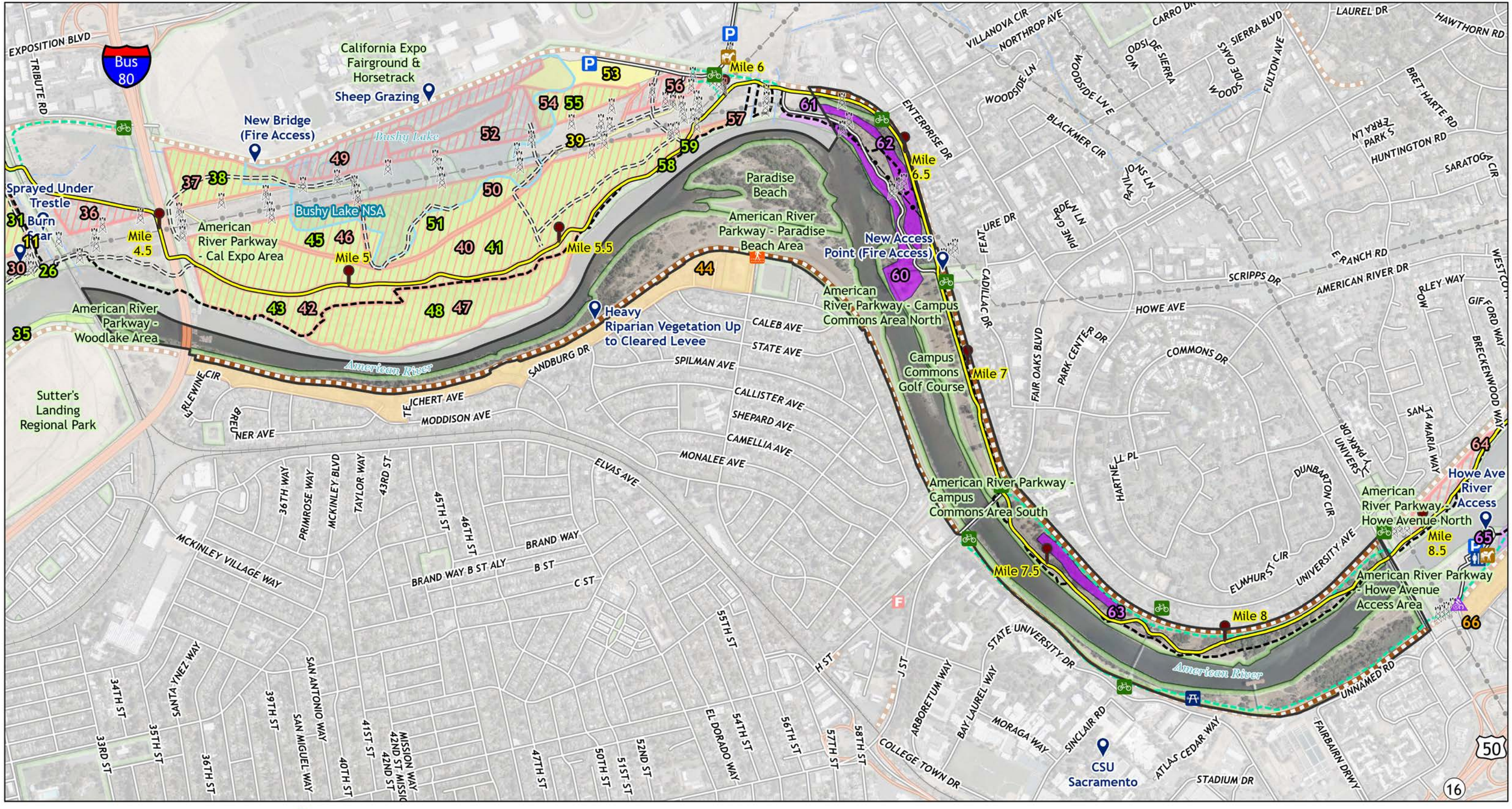
The Paradise Beach section is on the south side of the American River, extending from Sutter's Landing Park to the H Street Bridge at Sac State. It is comprised of narrow bands of riparian vegetation bounded by levees and one large bar, Paradise Beach itself. The area receives heavy recreation traffic and has many scattered encampments. The riparian forest from H Street to Paradise Beach is very narrow, with few mature cottonwood trees. Recent levee upgrade projects here have removed much of the natural vegetation. West of Paradise Beach, the riparian strip between levee and river is wider, more large trees exist, and the density of encampments is higher.

Campus Commons is on the north bank of the river and runs from the southeast corner of Cal Expo to the pedestrian footbridge at Sacramento State. Electric transmission lines bisect a portion of the western section, and the right of way receives annual vegetation maintenance cutting all plants as low as possible. This CWPP project recommends establishing an annual weed-eating program for areas adjacent to major encampments in the low-lying areas between the levee bike path and the bike path closer to the river.

Continuous levees border the north and south side of the Paradise Beach and Campus Commons sections, serving as a fuel break between the Parkway and surrounding neighborhoods and commercial areas. Extensive bank protection construction is underway by the U.S. Army Corps of Engineers from H Street to Howe Avenue. Much of the vegetation of the construction areas was substantially reduced at the time of the writing of this CWPP. Elderberry mitigation for the levee project is being conducted at many offsite locations up and down the Parkway, and the new stands of elderberry are high-value ecological assets which should receive consideration for enhanced wildfire protection.

Regional Parks manages grazing in the upper reaches of Campus Commons, on the border with the Cal Expo section. This CWPP also recommends strips of mowing in this same Campus Commons area, at the edge of the Cal Expo section. Additional mowing is recommended on the edge of the golf course, inside the levee. These areas see numerous fires each summer and mowing will reduce fuels.

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
44	Paradise Beach	Education	Community outreach on structure hardening, defensible space.	40.8	Moderate	5-10 Years
60	Campus Commons	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	8.7	Very High	Annual
61	Campus Commons	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	1.9	Very High	Annual
62	Campus Commons	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	4.4	Very High	Annual
63	Campus Commons	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	3.4	High	Annual



Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Park
Nature Study Area
Equestrian Access
Pedestrian Access
Bicycle/Ped Access
Car/ Equestrian/Ped Access
Transmission Line
Levee
Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

Paradise Beach and Campus Commons

N

0 500 1,000 2,000 Feet

Map Scale: 1:13,000

Howe Avenue

Stretching from Howe Ave. to Watt Avenue, on both sides of the river, this section of the Parkway supports a mix of riparian vegetation and oak savanna. Electric transmission lines cross upstream of Howe Ave. and are maintained to limit vegetation growth. Encampments are scattered throughout the area and a high number of ignitions have been reported in recent years.

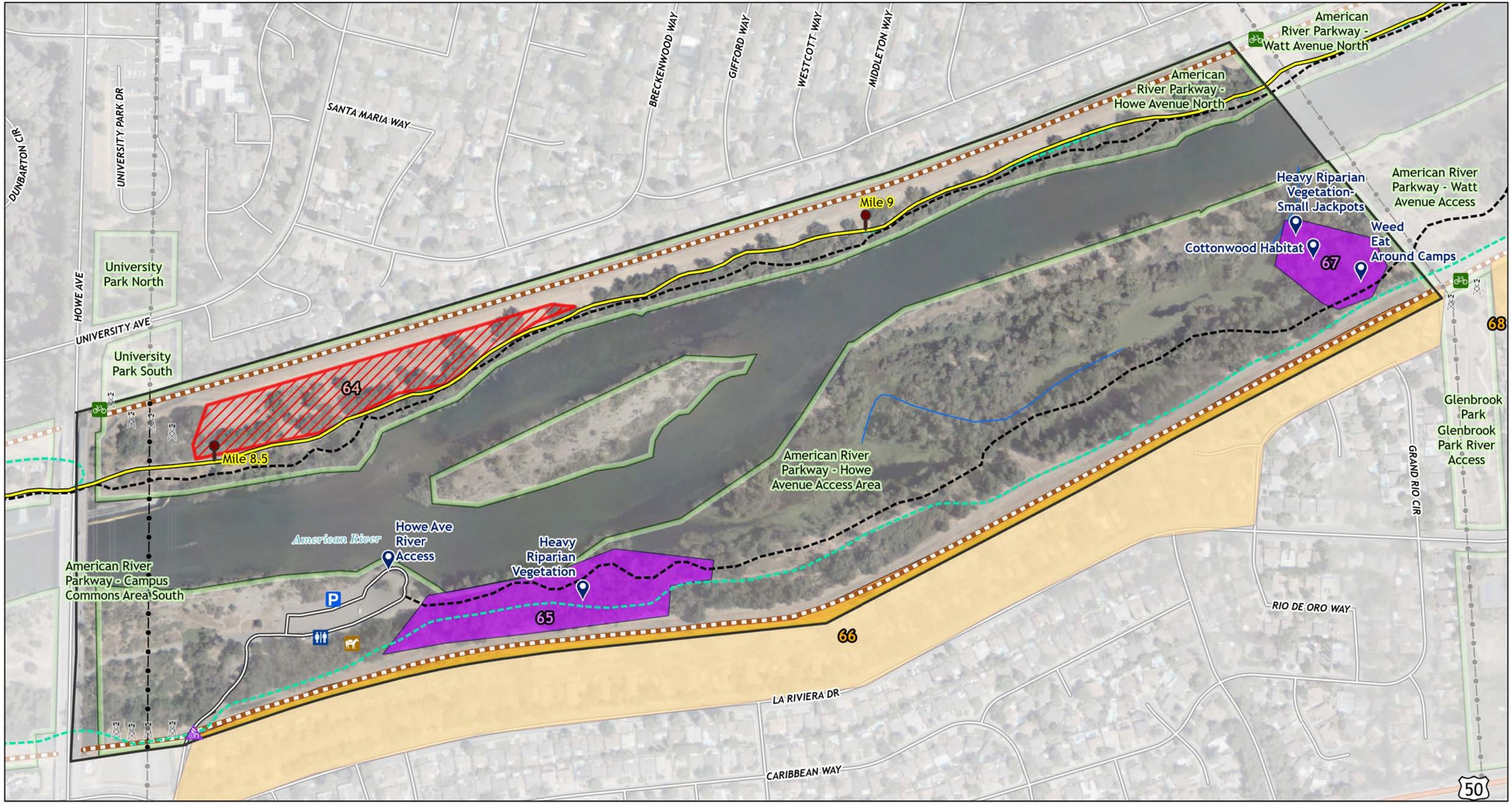
Continuous levees border the north and south side of the Howe Avenue section, serving as a fuel break between the Parkway and surrounding neighborhoods and commercial areas.

Regional Parks does not currently perform grazing, thinning, or mowing in this section. Targeted weed eating and thinning around major encampment areas are recommended in two pockets south of the river, east of the Howe River Access parking area and north of the Glenbrook Park River Access. Heavy riparian vegetation and small jackpots of fuels prone to flare up in the event of fire exist in both areas.

Eliminating the excess fuels will protect cottonwood habitat from human-caused fires. North of the River, east of the Howe Avenue bridge, prescribed fire is recommended to reduce yellow starthistle in grasslands on flat terrace areas. This is a high-traffic area and good access to the site would facilitate the low-complexity application of prescribed fire. As in other areas or the Parkway, this should happen in mid-summer, and be repeated for three consecutive years. Burning here should be conducted as demonstration project, with corresponding media campaigns and public access for observation during the burning. Smoke from burning this fuel type is not generally significant, and can be managed by burning with at least 3 mph sustained upriver winds.

Figure 16: Targeted weed-eating along bike path and around encampment areas east of Howe Ave. River Access could protect mature riparian forest. Adjacent neighborhood needs wildfire education outreach.
(Map Imagery ©2023 Google, Landsat/Copernicus)

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
64	Howe Avenue	Prescribed Fire	Potential grassland restoration/YST burns.	5.0	High	3 Consecutive Years for YST
65	Howe Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	5.1	High	Annual
66	Howe Avenue	Education	Community outreach on structure hardening, defensible space, zone zero.	33.1	Moderate	5-10 Years
67	Howe Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	2.1	High	Annual



Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Park
Equestrian Access
Bicycle/Ped Access
Car/ Equestrian/Ped Access
Transmission Line
Levee
Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

Howe Avenue

N

0 500 1,000 2,000 Feet

Map Scale: 1:4,000

Watt Avenue

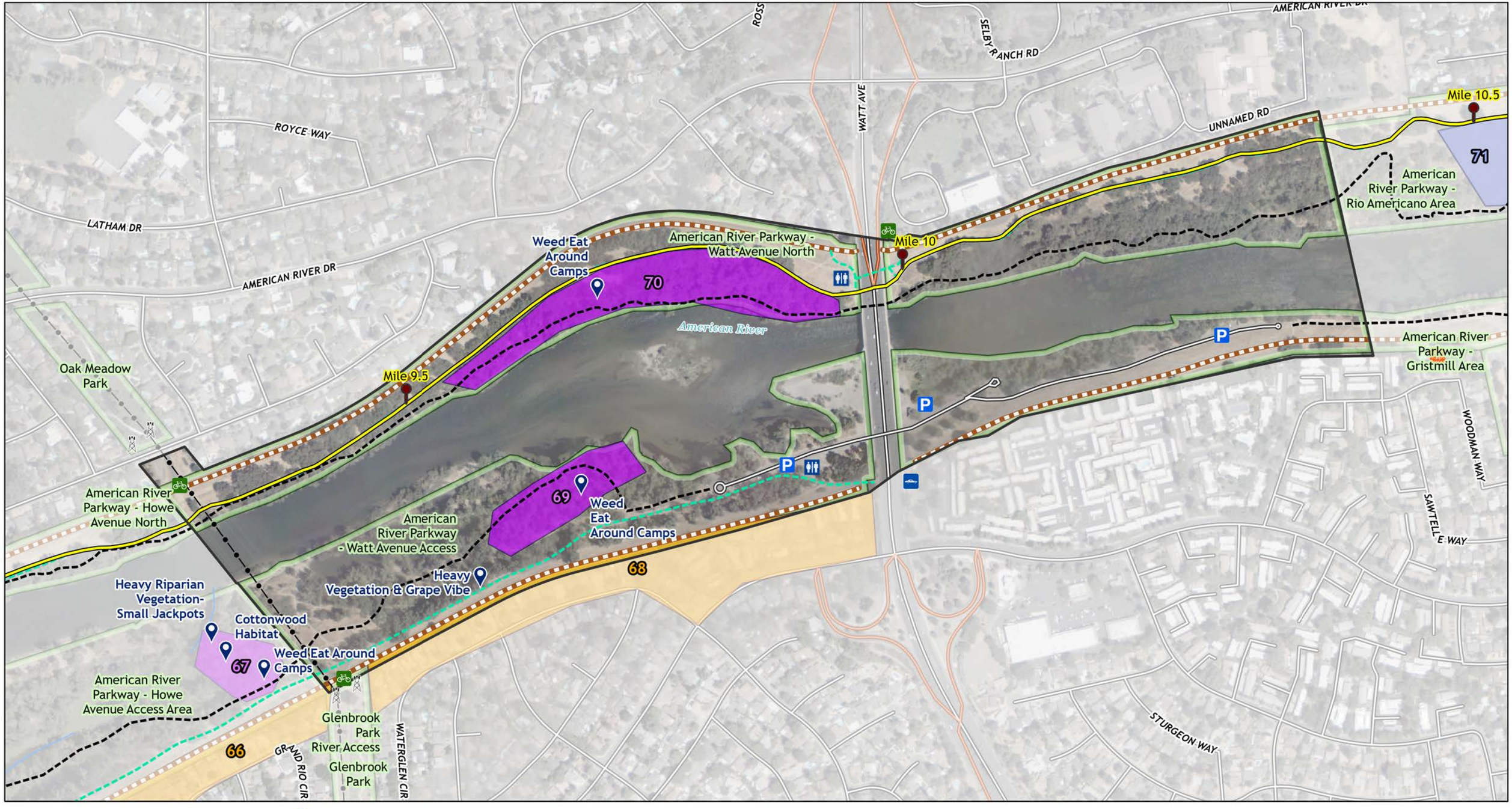
This section of the Parkway supports a mix of riparian vegetation, with oak woodlands on terraces north of the American River. Encampments are scattered throughout the area and a high number of ignitions have been reported in recent years.

Continuous levees border the north and south side of the Watt Avenue section, serving as a fuel break between the Parkway and surrounding neighborhoods.

Regional Parks does not currently perform grazing, thinning, or mowing in this section. Targeted weed eating and thinning around major encampment areas are recommended in a strip on the north side of the river, west of Howe Avenue and in a pocket south of the river, west of the Watt Avenue Boat ramp. Heavy riparian vegetation and small jackpots of fuels exist in both areas.

Figure 17: Heavy riparian forest adjacent to Watt Ave Bridge has encampments, is a priority for targeted weed-eating. (Map Imagery ©2023 Google, Landsat/Copernicus)

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
68	Watt Avenue	Education	Community outreach on structure hardening, defensible space, zone zero.	13.0	Moderate	5-10 Years
69	Watt Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	3.6	High	Annual
70	Watt Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	8.1	High	Annual



Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Park
Pedestrian Access
Bicycle/Ped Access
Car/Bike/Ped Access
Transmission Line
Levee
Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

Watt Avenue

N

0 500 1,000 2,000 Feet

Map Scale: 1:5,000

SARA Park

Named for the 'Save the American River Association,' the SARA Park section has narrow strips of Parkway land on either bank of a braided section of the river. A key ecological feature in this section on the north bank is oak woodland terraces. Directly adjacent to the river, riparian vegetation has regenerated following past human intervention. At the time of surveys for this CWPP, there was substantially less unsanctioned camping in this area than in areas downriver. Pockets of mature riparian forest are the primary ecological asset in this area.

Continuous levees border the north side of the SARA Park section, serving as a fuel break between the Parkway and surrounding neighborhoods and commercial areas. On the south side of the river, the levees end at the Gristmill Recreation Area, which borders homes. Heavy riparian vegetation grows adjacent to the levees on the south bank west of Catania Way, and in the far southeast corner of this area, east of the terminus of the south bank levee system. This CWPP recommends a public education campaign about structure hardening and defensible space for residents living in the first block directly adjacent to areas where heavy vegetation grows close to the levees or homes.

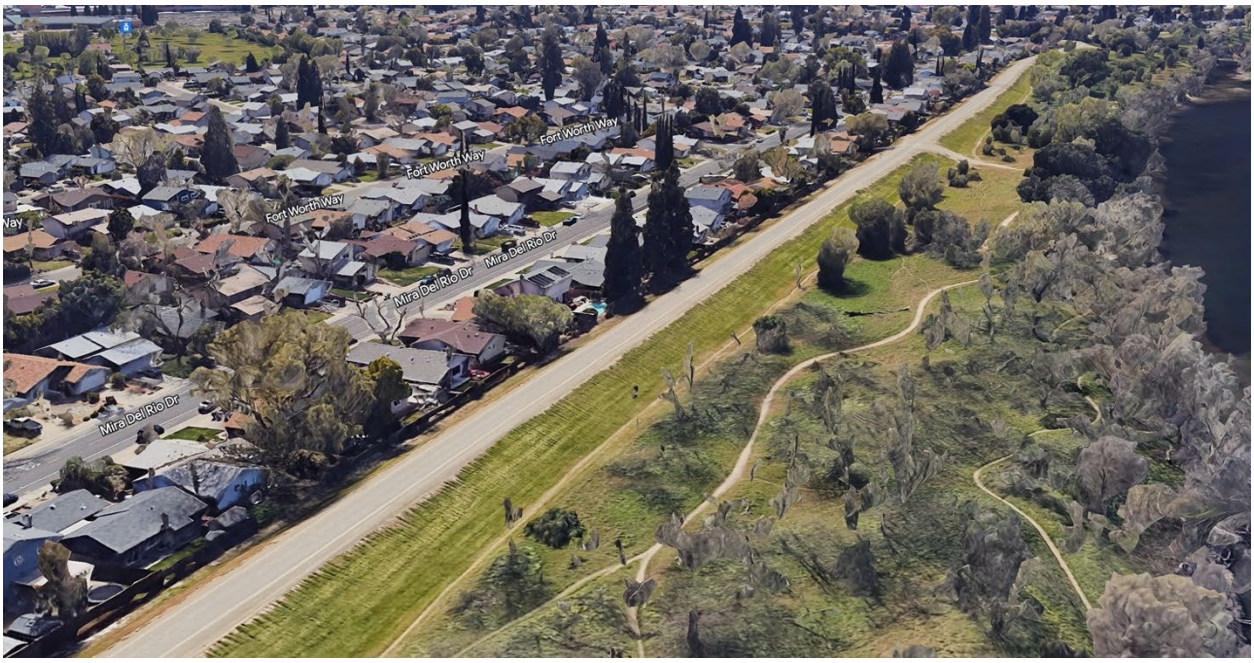


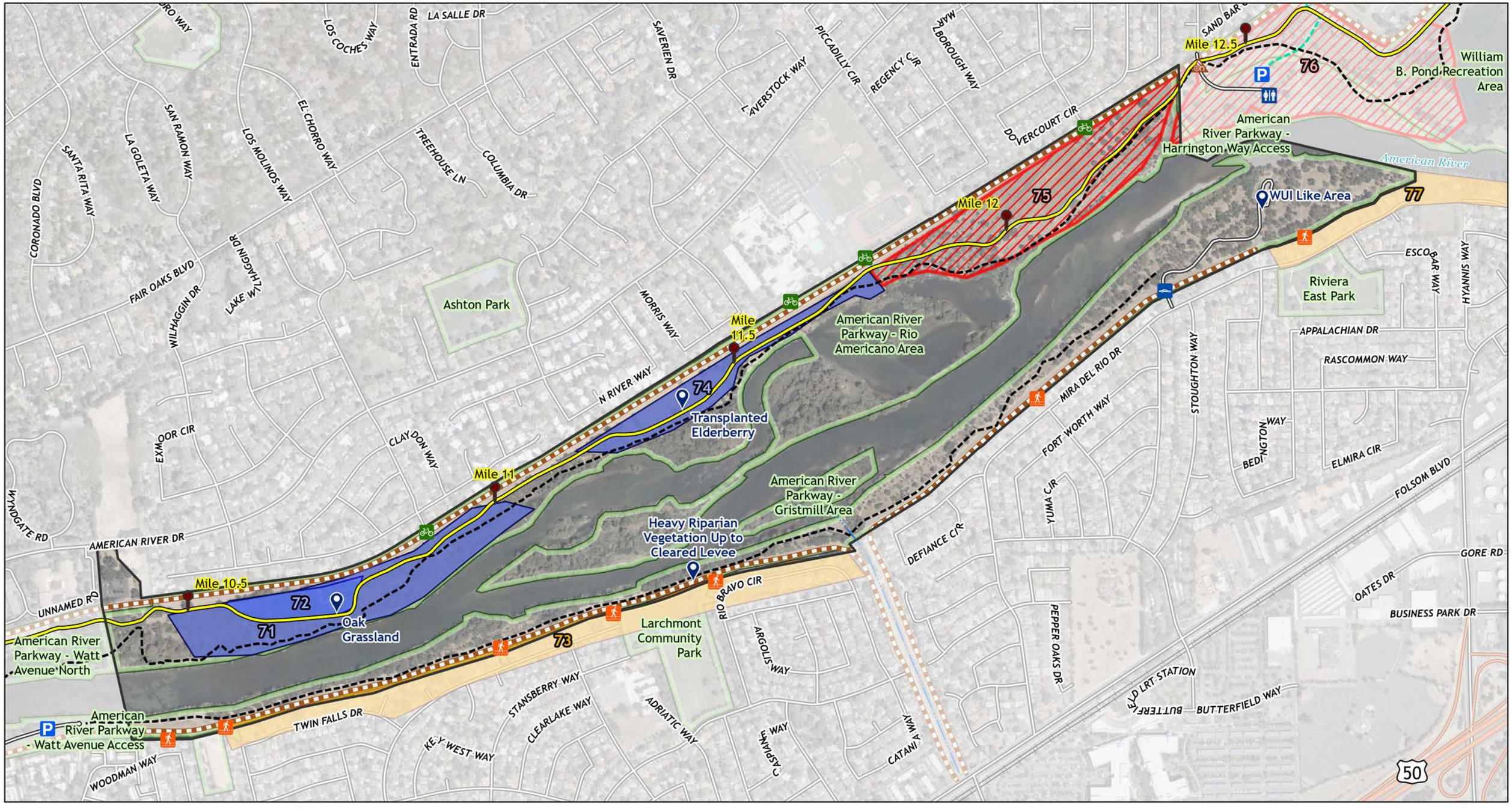
Figure 18: Area of low fuel loading adjacent to maintained levee.
(Map Imagery ©2023 Google, Landsat/Copernicus)

Regional Parks does not currently perform grazing, thinning, or mowing in this section. In the western portion of the section, on the north side of the river, biannual grazing is recommended to raise the crown base heights of overstory trees on the gentle terrain adjacent to the American River Discovery Trail. This treatment can help prevent grass fires in the understory from becoming established in the larger trees. Up river, there are pockets of elderberry transplants, and efforts should be made to protect them through mowing and prescribed fire.

Prescribed fire is recommended in a strip at the northeastern end of the section and into the Arden Bar section. This is a high-traffic area and provides an opportunity to demonstrate the use of prescribed fire for native grassland restoration and maintenance.

Figure 19: After the levee ends at Gristmill Recreation Area, wildland vegetation grows closer to homes. (Map Imagery ©2023 Google, Landsat/Copernicus)

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
71	SARA Park	New Grazing Unit	One-time or episodic grazing. Goal is to raise crown base height.	26.2	Moderate	5 years
72	SARA Park	New Grazing Unit	Add unit to annual grazing program.	5.1	Moderate	Annual
73	SARA Park	Education	Community outreach on structure hardening, defensible space, zone zero.	27.0	Moderate	5-10 Years
74	SARA Park	New Grazing Unit	Add unit to annual grazing program.	11.2	High	Annual
77	SARA Park to Upper Sunrise	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years



- Mapping Point
- Mile Point
- American River Parkway Trail
- Bike Trail
- Horse Trail
- Park
- Pedestrian Access
- Bicycle/Ped Access
- Car/Bike/Ped Access
- Car/Bike/Ped/ Equestrian Access
- Transmission Line
- Levee
- Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

SARA Park

N

0 500 1,000 2,000 Feet

Map Scale: 1:9,000

Arden Bar

The Parkway widens at the Arden Bar section, located at a bend in the American River where mine tailings have created a series of bars that serve as wildlife habitat and fishing pond. Vegetation here is in good condition despite scars left behind from hydraulic mining operations. The NRMP goals include conserving existing native vegetation, naturalizing areas degraded by mining operations and further reducing invasive plants in the area.

The Arden Bar area contains William B. Pond Recreation Area, a Regional Sanitation facility, Sacramento County Sheriff training facility and one end of the Harold M. Richey Memorial Bridge. The developed recreation and infrastructure facilities are generally surrounded with irrigated playing fields and turf areas, and face minimal wildfire hazards if they remain regularly maintained and irrigated.

A continuous levee provides a fuel break through the north edge of the Arden Bar section, and around the Regional Sanitation facility. Levees are not continuous on the south side of the river, and homes on the southern bank of the river at the eastern end of Mira Del Rio Drive have a high exposure to wildfires which may start below them. There are minimal publicly-managed lands below homes on Mira Del Rio Drive, and this CWPP recommends public outreach and education about structure hardening and defensible space for areas on the south bank where homes are adjacent to areas of heavy wildland vegetation.

Figure 20: Heavy vegetation adjacent to homes on Mira Del Rio Drive.
(Map Imagery ©2023 Google, Landsat/Copernicus)

Regional Parks does not perform grazing, thinning, or mowing in this section. Adjacent to the SARA Park section, prescribed fire is recommended for yellow starthistle control and semi-annual hazardous fuel reduction at the western and southern ends of the Regional Sanitation facility. This is a high-traffic area where extensive roads and trails create natural, low-complexity burn units.

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
75	Arden Bar	Prescribed Fire	Potential oak woodland training burns. Goal is to reduce YST.	29.4	High	3 Consecutive Years for YST
76	Arden Bar	Prescribed Fire	Potential cultural burning, training burns and YST control.	40.6	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
77	SARA Park to Upper Sunrise	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years

Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Pedestrian Trail
Park
Nature Study Area
Pedestrian Access
Bicycle/Ped Access
Car/Bike/Ped/ Equestrian Access
Transmission Line
Levee
Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway
Proposed Projects
Arden Bar

N

0 500 1,000 2,000 Feet

Map Scale: 1:9,000

River Bend Park & North Bank Bluffs

River Bend Park contains the largest contiguous forested area within the Parkway, dominated by live oak woodland in the west. To the east, Soil Born Farms leases an agricultural area on the south bank of the river, providing native plants for Parkway restoration projects, as well as organic farming and community education. River Bend Park contains several areas for picnicking, day camps, overnight group camping, fishing, rafting and equestrian activities. The county's invasive plant removal project has removed pampas grass and other invasive plants in this area.

A levee runs on the north side of the River Bend Park section to the Sarah Court Access. On the South side, a levee protects homes up to the intersection of Las Casas Way and Los Palos Drive.

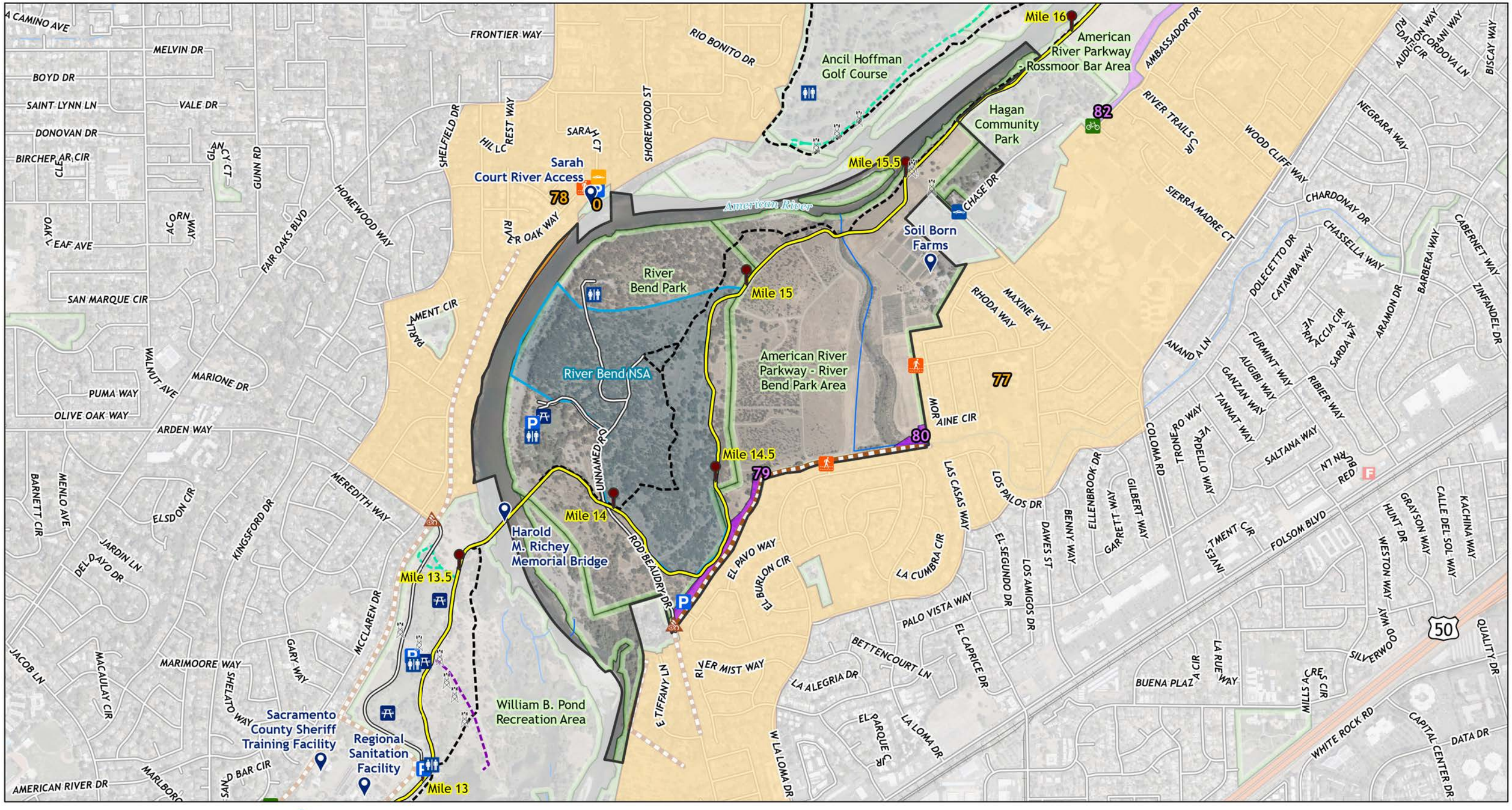
Directly upstream of William B. Pond Recreation Area, gentle bluffs begin to rise along the north bank of the river. This general area is best described as Fair Oaks. Moving east, the bluffs become more pronounced, and east of the Effie Yeaw Nature Center, these bluffs begin to be dissected by frequent small ravines which are full of dense vegetation. The topography makes access difficult. The bluffs continue all the way to the eastern end of the Parkway, and create some unique fire management challenges. Fires starting in the wildlands of the Parkway have the potential to run upslope through the poorly accessed ravines into neighborhoods and become urban conflagrations.

Figure 31: The bluffs begin – note the lack of flat areas at the toe of the north bank of the river.
(Map Imagery ©2023 Google, Landsat/Copernicus)

There is very little publicly-managed land outside of the floodplain on the north side of the river upstream of Riverbend Park. Many of the gravel bars along the river are comprised of large cobble or mine tailings, and opportunities for mowing, grazing, or other wildfire hazard abatement projects are fewer than on the better soils and wider river terraces downstream.

Hazard reduction on and around individual properties is potentially the most effective way to reduce wildfire hazards posed to neighborhoods adjacent to the Parkway. CWPP identifies areas for public wildfire education along the entire north bank of the river from River Bend Park to Greenback Lane, near Folsom.

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
77	SARA Park to Upper Sunrise	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years
78	River Bend Park to Sacramento Bar	Education	Community outreach on structure hardening, defensible space, zone zero.	1040.9	Moderate	5-10 Years
79	River Bend Park	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	5.8	Very High	Annual
80	River Bend Park	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	1.4	Very High	Annual



Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Pedestrian Trail
Park
Nature Study Area
Pedestrian Access
Bicycle/Ped Access
Car/Ped Access
Car/Bike/Ped Access
Car/Bike/Ped/ Equestrian Access
Transmission Line
Levee
Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

River Bend Park

N

0 500 1,000 2,000 Feet

Map Scale: 1:13,000

Ancil Hoffman County Park & Sarah Court Access

This section of the Parkway has not been mined, but was cleared for agricultural use, and later converted into recreation areas, including the golf course in the lower half of the park. The upper portion of the park contains the Effie Yeaw Nature Center, riparian vegetation, a large gravel bar and a strip of declining native vegetation on the northern bluff.

There are no levees in this section. A well maintained and frequently watered and mowed golf course and adjacent turf areas provide a major fuel break in the area. High wildfire hazard conditions exist on the bluffs to the north of this section, and neighborhoods on both the south and north margins of this section are a high priority for wildfire education and outreach work.

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
77	SARA Park to Upper Sunrise	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years
78	River Bend Park to Sacramento Bar	Education	Community outreach on structure hardening, defensible space, zone zero.	1040.9	Moderate	5-10 Years
81	Ancil Hoffman County Park	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	2.9	High	Annual
83	Ancil Hoffman County Park	New Grazing Unit	Potential grazing at Effie Yeaw Nature Center should target high-hazard areas adjacent to homes. Goal of episodic entry is to raise crown height. Potential demonstration site for cultural burns and prescribed fire.	19.4	High	1-3 years

Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Park
Nature Study Area
Pedestrian Access
Bicycle/Ped Access
Car/Ped Access
Car/Bike/Ped Access
Car/Bike/Ped/ Equestrian Access
Transmission Line
Levee
Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

Ancil Hoffman County Park and Sarah Court Access

N

0 500 1,000 2,000 Feet

Map Scale: 1:12,000

Rossmoor Bar & San Juan Bluffs

Dominated by dredger gold mining and aggregate tailings, this large, mostly disturbed Parkway section contains some pockets of high-quality vegetation and habitat. Those higher value areas include valley oak and live oak woodland patches, which are expected to mature and provide increasingly more desirable habitat. Invasive tree of heaven dominates in mine tailing areas. Areas in the southeast and historic agricultural areas have been proposed for woodland savanna plantings or the enhancement of existing grasslands. The San Juan Bluffs are on the north side of the river and the small strip of Parkway borders a residential neighborhood.

Figure 22: Near Rossmoor Bar, wildland vegetation and landscaping plants combine to create heavy fuel loading. There are no public land parcels on which to do hazard reduction work in this section of the river. Outreach and education on what homeowners can do to reduce hazards on their own property is important here and where similar conditions exist. (Map Imagery ©2023 Google, Landsat/Copernicus)

Regional Parks does not perform grazing, thinning, or mowing in this section. There are no levees in this section. Hydraulic mining tailings provide some fuel breaks here, but also make for difficult access if fires do occur. High wildfire hazard conditions exist on the bluffs to the north of this section, and neighborhoods on both the south and north margins of this section are a high priority for wildfire education and outreach work.

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
77	SARA Park to Upper Sunrise	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years
78	River Bend Park to Sacramento Bar	Education	Community outreach on structure hardening, defensible space, zone zero.	1040.9	Moderate	5-10 Years
82	Rossmoor Bar	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	4.3	Very High	Annual
84	Rossmoor Bar	Prescribed Fire	Potential YST burns.	11.1	Moderate	3 Consecutive Years
85	Rossmoor Bar	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	2.3	Very High	Annual
86	Rossmoor Bar	Prescribed Fire	Potential YST burns.	57.6	Moderate	3 Consecutive Years

Mapping Point
Mile Point
American River Parkway Trail
Bike Trail
Horse Trail
Park
Nature Study Area
Pedestrian Access
Bicycle/Ped Access
Car/Ped Access
Car/Bike/Ped Access
Car/Bike/Ped/ Equestrian Access
Transmission Line
Levee
Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

Rossmoor Bar and San Juan Bluffs

N

0 500 1,000 2,000 Feet

Map Scale: 1:16,000

Sacramento Bar & Lower Sunrise

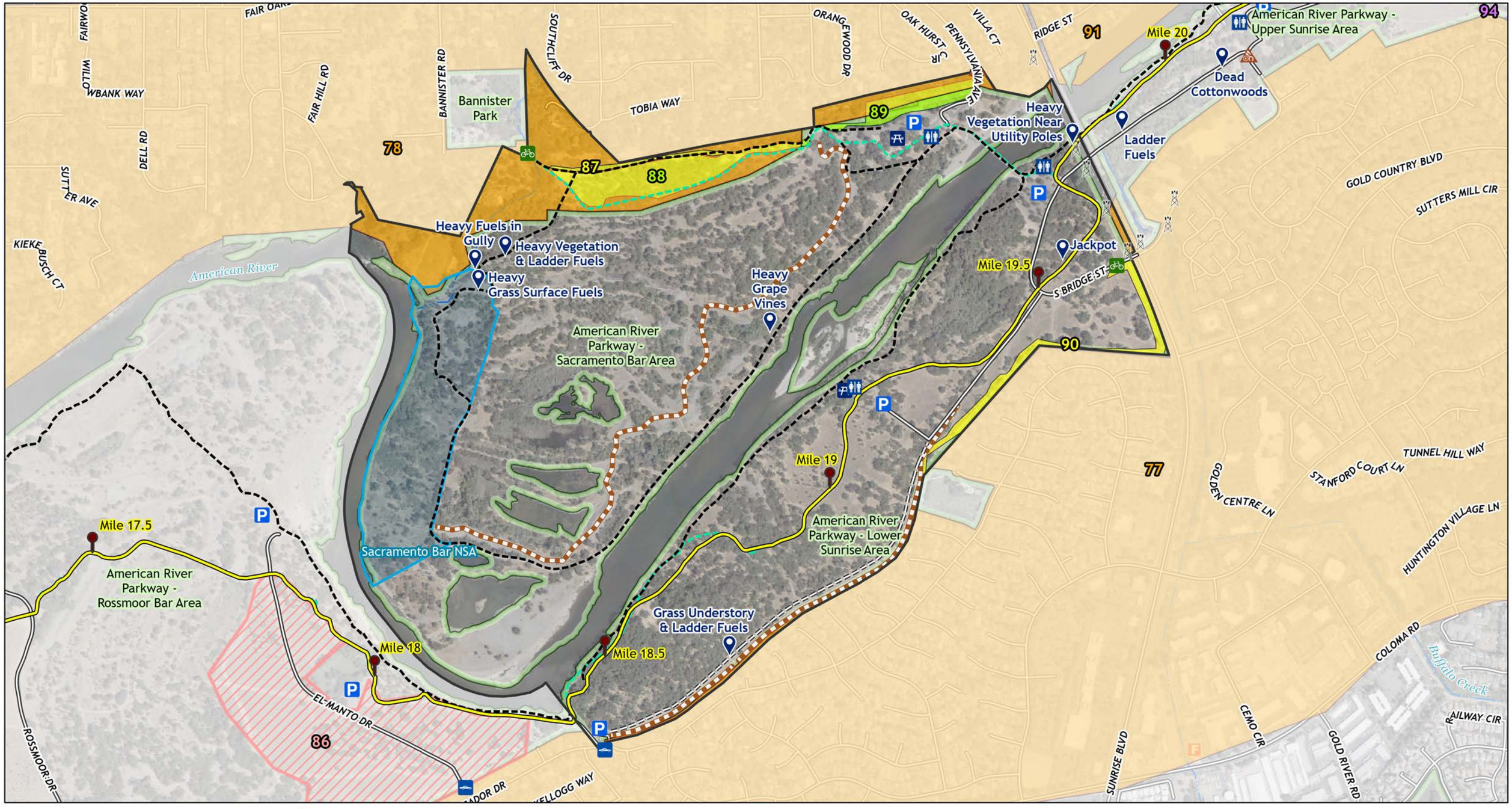
These two sections of the Parkway lie on opposite sides of the river with Sacramento Bar on the north bank and Lower Sunrise on the south bank. Both areas were affected by mining and support pockets of oak woodland, with more contiguous forested areas in Lower Sunrise. Invasive species have been largely controlled, but will require continued monitoring and removal.

Regional Parks manages a strip of grazing on the northern edge of the Sacramento Bar section, bordering neighborhoods. The threats posed by wildland fire to neighborhoods south of this area are generally low, but there are some site-specific threats to individual homes, and the entire area is recommended for wildfire hazard education. Generally, areas adjacent to oak woodland face a lower threat than those near mature riparian forest. This is because the oak woodland generally has less ladder fuels and fires here will be less-prone to causing torching and long-range spotting.

Figure 23: Mixed wildland fire exposures to structures adjacent to Rossmoor Park.
(Map Imagery ©2023 Google, Landsat/Copernicus)

Levees resume through the Sacramento Bar section and run on the southern edge of Lower Sunrise, bordering residential areas, north of Sun River Park. Hydraulic mining tailings provide some fuel breaks here.

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
77	SARA Park to Upper Sunrise	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years
78	River Bend Park to Sacramento Bar	Education	Community outreach on structure hardening, defensible space, zone zero.	1040.9	Moderate	5-10 Years
87	Sacramento Bar	Existing Fuel Break	Maintain existing fuel break.	0.7	High	Annual
88	Sacramento Bar	Existing Grazing Unit	Continue grazing program in this unit.	8.1	Moderate	Annual
89	Sacramento Bar	Existing Grazing Unit	Continue grazing program in this unit.	3.7	Moderate	Annual
90	Lower Sunrise	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	3.7	High	Annual



- Mapping Point
- Mile Point
- American River Parkway Trail
- Bike Trail
- Horse Trail
- Park
- Nature Study Area
- Bicycle/Ped Access
- Car/Bike/Ped Access
- Car/Bike/Ped/ Equestrian Access
- Transmission Line
- Levee
- Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

Sacramento Bar and Lower Sunrise

N

0 500 1,000 2,000 Feet

Map Scale: 1:9,000

Sailor Bar, Upper Sunrise & Sunrise Bluffs

Upstream from Sunrise Blvd., Upper Sunrise covers the southern bank of the river to Nimbus Dam and the Sunrise Bluffs area is a narrow strip on the north side of the river bordering a residential neighborhood. Upper Sunrise was heavily altered by mining activities. The area supports oak woodlands and is transitioning into a foothills vegetation community with gray pine, toyon and California buckeye scattered among oaks.

Clusters of gray pine present a significant fire hazard and contribute to an enhanced risk of torching fire behavior by creating heavy amounts of ladder fuels when their long, highly-flammable needles accumulate in brush below the trees. Ladder fuels can cause 'Torching' of the larger trees. This is problematic, as it often leads to long-range spotting, where new fires can start a long distance away from the torching tree.

Gray pine should be controlled or minimized in areas adjacent to homes or park infrastructure. Small seedlings and saplings of gray pine are a high priority for removal, as once gray pine become large, they can be very difficult and expensive to remove, especially near structures. Limbing is usually not an option, as the mature trees lack low branches and the pine needles are the real issue, from a fuels and fire behavior perspective.

On the north side of the river, across from Upper Sunrise, Sailor Bar contains pockets of unaltered riparian vegetation and oak woodlands but is largely disturbed by mining activities. The area also has the only blue oak dominated forest within the Parkway, in the northern meadow.

Figure 244: Wildfire hazards are high in steep, deeply dissected areas north of the American River east of Sunrise Boulevard. (Map Imagery ©2023 Google, Landsat/Copernicus)

A potential new access for wildfires in this area exists at the end of Emperor Drive, which is recommended in the 2015 Report of Wildfire Hazard Conditions. On a site visit in December, Metro Fire and Regional Parks also discussed improving the gravel roads inside the parkway and a potential new emergency vehicle access at Emperor Drive. Abandoned barbed wire fencing also exists in the area, which should be removed for firefighter safety.

Regional Parks manages grazing at Fair Oaks Bluff, along the northern edge of the Sailor Bar section and north of the turtle pond, bordering neighborhoods.

A ravine and steep sections of grassland surround the homes located on Bluff Lane, which is Metro Fire's highest fire hazard concern in the Parkway. The topography creates a series of chimneys that can funnel fire towards homes, and the neighborhood has a single vehicle ingress/egress. Homeowners with large, overhanging porches maintain a 50' gravel fuel break on the river-facing side of the neighborhood, and Metro Fire indicates that any summer fire in the area receives a large response. The last major fire in "The Bluffs" was approximately 10 years ago.

Metro Fire also indicates that the 55+ community on Visage Circle, off Hazel Ave. and north of the Nimbus Dam, is another concern with a single vehicle ingress/egress.

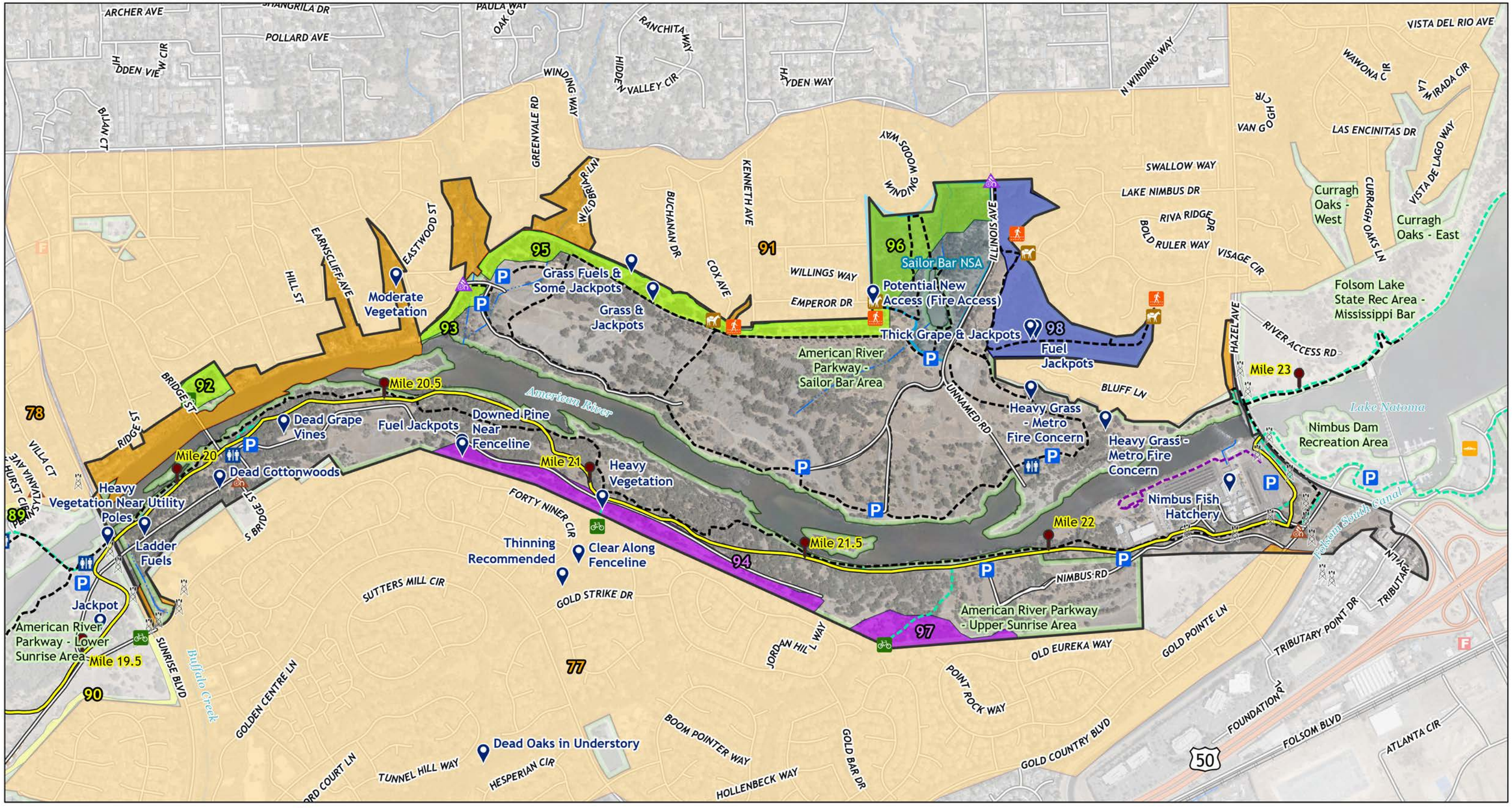
Gold River Neighborhood

A greenway with bike and pedestrian paths within the Gold River neighborhood provides fuel continuity to the Parkway. Here, wildland vegetation reaches deep into the surrounding neighborhoods, creating opportunities for wind-driven wildfires to become urban conflagrations. This CWPP recommends specific fuel reduction thinning projects and wildfire education and outreach for the Gold River community.

Hydraulic mining tailings provide some fuel breaks here, notably to the southwest of Nimbus Road at the hatchery. Regional Parks also manages grazing units along the edge of the Gold River neighborhood.

Figure 25: Gold River greenbelts create pathways for wildfire to spread into the residential areas adjacent to the Parkway. (Map Imagery ©2023 Google, Landsat/Copernicus)

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
77	SARA Park to Upper Sunrise	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years
91	Sailor Bar	Education	Community outreach on structure hardening, defensible space, zone zero.	1924.4	Moderate	5-10 Years
92	Sunrise Bluffs	Existing Grazing Unit	Continue grazing program in this unit.	3.7	Moderate	Annual
93	Sailor Bar	Existing Grazing Unit	Continue grazing program in this unit.	3.1	Moderate	Annual
94	Upper Sunrise	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	20.0	High	Annual
95	Sailor Bar & Sunrise Bluffs	Existing Grazing Unit	Continue grazing program in this unit.	20.4	Moderate	Annual
96	Sailor Bar	Existing Grazing Unit	Continue grazing program in this unit.	20.1	Moderate	Annual
97	Upper Sunrise	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	8.5	High	Annual
98	Sailor Bar	New Grazing Unit	Episodic grazing to raise canopy base height.	30.1	High	2-4 Years



- Mapping Point
- Mile Point
- American River Parkway Trail
- Bike Trail
- Horse Trail
- Pedestrian Trail
- Park
- Nature Study Area
- Equestrian Access
- Pedestrian Access
- Bicycle/Ped Access
- Car/Ped Access
- Car/Bike/Ped/Equestrian Access
- Car/Equestrian/Ped Access
- Transmission Line
- Levee
- Railroad

Recomended Treatments

- Prescribed Fire
- Continue Existing Grazing
- Education
- Existing Fuelbreaks
- Mowing
- New Grazing
- Targeted Fuels Reduction

American River Parkway

Proposed Projects

Sailor Bar, Sunrise Bluffs, and Upper Sunrise

N

0 500 1,000 2,000 Feet

Map Scale: 1:12,000

5.2 Reimplementing Prescribed Fire & Adaptive Wildfire Tactics

There are a wide variety of opportunities to use fire to improve the function, safety, aesthetics, and resiliency of the American River Parkway. Both fire departments welcome opportunities to use fire to control vegetation and any training opportunities that use of fire may bring.

While it's widely recognized that prescribed fire is an excellent tool for managing vegetation, public appetite for prescribed fire varies. Sacramento residents may have anxiety about fire near their homes and smoke from prescribed fires. Creating additional smoke is also a tough sell following busy fire seasons when smoke settles in the Sacramento Valley.

While prescribed fires temporarily affect air quality, a 2022 report indicates that the air quality and health impacts of prescribed fire smoke are limited. Prescribed fires are implemented under conditions to limit harmful smoke exposure and are conducted when meteorological conditions are favorable, atmospheric conditions support smoke dispersion, and wind patterns allow smoke to move away from populated areas. Some evidence suggests that air quality impacts can be reduced by limiting the size and intensity of a prescribed fire event. Ultimately, smoke from a prescribed fire will be less than that of an uncontrolled wildfire. (PSE Healthy Energy, 2022)

Metro Fire has indicated that older populations in the upper reaches of the ARP are concerned about evacuating and prescribed fire can elevate those concerns.

Although fire has not been used in the Parkway for many years, areas dominated by YST can also be treated with repeated entries of prescribed fire, in combination with the existing mowing program. Burning when flowers first appear (January-May) can eliminate YST in the seedling, rosette, and early bolting stages, although burning during this window can be difficult due insufficient dry fuel available to carry the intense fire necessary for YST control. A preferred burning window exists between late June and July, during the early flower stage. This prescription must be continued for at least three consecutive years in severe infestations to reduce the seed bank. Many of the areas in the Parkway can be burned to reduce YST dominance, lower the threat of late-summer and fall wildfires, and provide training opportunities to local fire departments and prescribed burning organizations.

Prescribed fire's utility in the management of invasive vegetation is well-documented. The conceptual burn units identified in the maps for this document were designed to meet multiple objectives. If Regional Parks is interested in advancing these types of projects, contracting with a California State Fire Marshal-certified burn boss to develop detailed prescriptions and burn objectives (using the State's burn plan template) would be the next step.

'Adaptive wildfire tactics' describe using methods other than direct attack on the fire to put it out. This could include waiting for a low-intensity grass fire to reach a nearby road, or lighting a backfire off a trail system to contain a fire which is spreading in an inaccessible area. Some fires ignite in areas where the geography (islands, mine tailings, or on a river bend gravel bar) mean the fire is mostly contained when it starts. In some scenarios like this, allowing a fire to burn

itself out may be the most sensible approach. This CWPP recommends that fire agencies with jurisdiction in the Parkway develop fire management plans for the Parkway which pre-identify areas and conditions where adaptive wildfire tactics or prescribed fire may be appropriate.

This CWPP also suggests minimizing the use of plastic or vinyl irrigation supplies or plumbing in areas where prescribed fire may be applied in the future and minimizing the use of synthetic geotextiles in grassland or vegetation restoration projects which may be good locations to treat yellow starthistle with fire in the future.

5.3 Post-Fire Recovery

All plants in the Parkway can burn, but most native California vegetation habitats are adapted to fire. Communities like chaparral naturally burn with high-severity, leaving little vegetation after fire. Oak woodlands, like those found throughout the Parkway, typically burn with mixed severity. After an oak woodland fire, post-fire effects will be varied, with some areas that saw crown torching while others where fire moved across the ground, burning the understory.

Woodland communities throughout the Parkway are adapted to cycles of fire. A century of fire suppression has affected the composition of vegetation of those vegetation habitats, however.

In areas where fire is suppressed or infrequent, live oak and shrub vegetation will proliferate. Low-intensity fires will favor blue oaks as they are more fire adapted than interior live oak, and mature blue oaks will survive fires that kill above-ground portions of live oak (which will resprout from the base). Foothill pine saplings (gray pine) are very sensitive to fire, so regular fires will reduce the regeneration of the Parkway's pines.

Evolved for hot and dry summers, gray pines have long, thin needles that help it deflect heat and retain water, but the species is not fire resistant. Its needles contain ether extracts, wood, bark, and cones all contain pitch, and gray pine trunks are often coated with resin. The tree has two fire survival strategies: large trees will better survive moderate-severity fires due to thick bark and seed regeneration favors post-fire conditions. Gray pine seeds that have been heat scarified have increased germination rates.

Because the Parkway's native vegetation habitats are adapted to regular fire, the natural post-fire environment may need little intervention or replanting. One notable exception is in riparian habitats where rapid post-fire regrowth can occur in areas with invasive species. Arundo donax thrives in disturbed riparian environments and can experience explosive growth without any significant rainfall.

Cottonwood and willow riparian communities are distributed throughout the Parkway and in many places, cottonwood habitat has also been negatively affected by fire. While riparian habitats typically burn with low severity, drought has led to hotter fires in stands of mature cottonwoods that are not easily replaced.

Every fire is different and the Parkway will face unique challenges in restoration their land. These general recommendations can help recovery:

- Stay safe. Local fire officials may deem a burned area unfit for entry. Hazards can unstable trees, power lines, and structures. In developed areas, toxic ash or debris may exist from burned constructed materials. Fire-weakened trees or snags are a danger, especially on windy days. Avoid working in areas with snags immediately after a fire. Typically, many fire-weakened trees will fall after the first good windstorm following a fire, and snag hazard decreases.
- Trees that may have lost all their foliage may still recover. If a tree is structurally sound and poses a low risk, wait up to three years after the fire to determine whether it will recover or if it needs to be removed, especially for larger, more valuable trees. All California oak species can resprout.
- Minimize foot traffic and equipment on burned landscapes. Post-fire disturbances on slopes will increase the likelihood of erosion and activity on flat ground can compact soil, lower water absorption rates, spread noxious weed seeds, and increase runoff.
- Clear drainage systems and clear out any culverts, waterways, and irrigation equipment. Mitigate drainage velocity and volume in high-flow areas with straw wattles or rock.
- Use weed-free material such as barley or rice straw wattles, mulch from known sources, rocks, and branches to dissipate flow velocity on slopes to limit erosion.
- Remain vigilant and monitor for invasive plant spread which can take advantage of disturbances caused by fire. Common post-fire invaders include:
    - barbed goatgrass
    - cheat grass
    - filaree
    - French broom
    - medusahead
    - mullein
    - mustards
    - red brome
    - yellow starthistle
    - stinkwort
- Repair any fire breaks to blend evenly with existing slopes.
- Prune back fire-damaged vegetation. Many damaged and scorched native plants will resprout and grow back in a bushy shrublike form. Selecting the most vigorous 2-3 sprouts for retention and removing the rest will encourage the re-development of a more tree-like form.
- If replanting occurs, use locally-sourced native plants. Fire will release native seeds stored in the soil.
- Exercise patience. The Parkway has recovered many times after wildfire and the land will heal on its own in most cases.

5.4 Enforcement

To address the growing number of people living in the Parkway, the Board of Supervisors of the County of Sacramento passed two ordinances to prohibit camping. These new laws give police and park rangers the authority to address activities in the Parkway due to public health, safety, and welfare concerns. Violations are first subject to verbal or written warnings, and can result

in a misdemeanor. One ordinance contains Parkway-specific rules and the following are the key provisions of the ordinance:

- Prohibition on camping or constructing, maintaining, or inhabiting any structure or camping facility in the American River Parkway or Dry Creek Parkway, except with written permission from the Director.
- Prohibition on modifying the parklands (e.g., dirt, landscaping) or accumulating furniture, household goods, or other items to create a structure.
- Bans the use or maintenance of a container with flammable or combustible liquid or a generator, except when issued a permit by the Regional Parks Director.

The intent of the ordinance is to provide the County with an additional enforcement tool to address camping and makeshift shelters in the Parkway, and to reduce public concern relating to fires in parks. While the official position of Regional Parks is that camping is not allowed, the practice is widespread in the Lower ARP, with scattered encampments upriver.

This CWPP strongly recommends that Regional Parks enforce the existing camping ordinances. If widespread encampments exist within the Parkway, human-caused fires will continue to occur.

5.5 Public Education

It is important for property owners adjacent to wildland open spaces to recognize they live in areas of elevated wildfire hazard, and that they need to manage fire hazards on their property as if they live in the country, not in a city. This CWPP recommends working with a wildfire communication specialist to develop an education campaign that targets property owners living near the Parkway. These property owners would receive information on wildfire awareness and hardening information to retrofit homes and outbuildings. Areas targeted for educational outreach have been included on the preceding maps in upper sections of the Parkway.

Community Resources

Regional Parks provides a list of wildfire risk reduction activities that it recommends for property owners who live near the Parkway or other parks, including information on how residents can obtain fuel break maintenance permits.

SFD's online community outreach covers many urban and home fire safety scenarios, but there is little information regarding wildland fires on their website. This CWPP recommends that SFD offer more wildland fire information, which could be Parkway-specific.

Metro Fire discusses weed abatement and the Community Education section of their website pertains to preventing fire in the home, injury prevention, early childhood education and building inspections. While this is important information in an urban area, much of Metro Fire's service area is rural and in the WUI. This CWPP recommends that Metro Fire also offer more wildland fire information.

The American River Parkway Foundation organizes the Fire Safe Council and provides volunteer opportunities for increasing the fire resiliency in the Parkway through weed abatement and cleanups. Their Parkway in Peril video describes the challenging nature of addressing fire within the ARP.

Defensible Space & Home Hardening

Homes can be exposed to wildfire through direct flames, radiant heat, or flying embers. Flying embers are responsible for the destruction of most homes during wildfires in the foothills and mountains, and in the event of a crown fire in the Parkway, flying embers can reach homes up to a mile away.

CAL FIRE lists defensible space guidelines and provides a wealth of information on how to maintain the area around your home:

- The first five feet of Zone 0 is the most critical and homeowners on the Parkway should keep the area closest to buildings and decks clear to prevent embers from igniting materials.
- Zone 1 reduces the likelihood of fire burning directly to the structure by breaking fuels continuity and eliminating a pathway that fire can use to reach the home.
- Fuel modification in Zone 2 includes removing dead vegetation and reducing living vegetation to eliminate fuel ladders. This creates fuel separation between individual or islands of trees or shrubs.

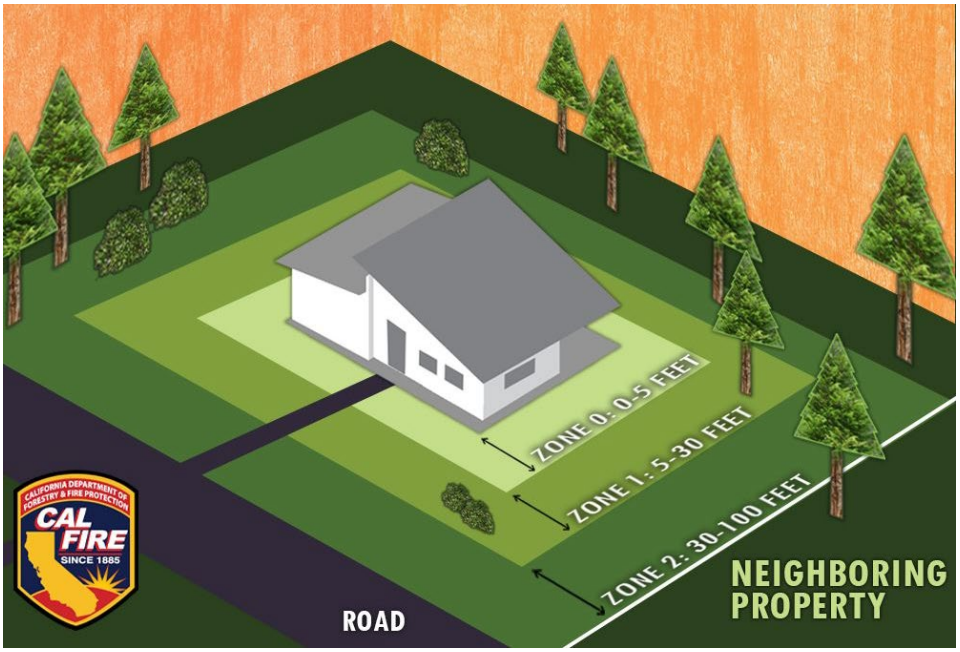


Figure 26: CAL FIRE defensible space zones.
(Image ©2023 CAL FIRE)

While recently-built neighborhoods currently have less-overgrown landscaping and contain homes built to modern building codes, houses that are packed tightly onto smaller lots increase the risk of home-to-home fire spread should a wildfire ignite homes on the edge of the Parkway.

Landscaping should also be carefully tended. Over time, landscaping will increase in hazard as shrubs grow and dead material collects within them. Shrubs like juniper and rosemary contain highly flammable compounds and burn like gasoline, and should not be used within 10 feet of houses or wooden fences for homes along the Parkway.

Roofing like metal, clay or tile roof can protect the most vulnerable part of a home, while stucco and other noncombustible materials can be used in new construction or renovations. The most appropriate home retrofitting strategies are site specific but general target areas should include reducing vulnerability at the roof, roof edges, rain gutters, eaves, vents, attic, crawl spaces, siding, windows, skylights, decks, garages, fences, and chimneys.

There are a variety of resources available to educate homeowners and public officials on home hardening techniques and technologies:

- CAL FIRE offers a Wildfire Home Retrofit Guide and a low-cost retrofit list. Other resources are available at ReadyforWildfire.org
- Homeowners may be able to participate in the California Wildfire Mitigation Program available through CAL OES designed to develop small scale rebate programs for retrofits.
- The National Fire Protection Association offers resources to Prepare Homes for Wildfire.

Additional resources related to fire safety are included in Appendix D.

6. CONCLUSIONS & FUTURE DIRECTIONS

A CWPP is the beginning, not the end, of continued efforts toward understanding and planning for wildland fire risk. This document serves as a starting point for future conversations, vegetation management projects, policy development and enforcement.

Planning alone does little to mitigate wildfire hazards. The projects recommended in this document will not happen without sustained advocacy from committed people and organizations. None of the interventions described in this document are 'one and done' solutions. Maintaining the wildfire resilience of the Parkway is a never-ending job.

With the completion of this document, this CWPP recommends that Regional Parks collaborates with other Parkway stakeholders to commit to the following actions:

- Execute the vegetation management projects outlined in the following documents:
    - 2008 American River Parkway Plan
    - 2015 Report of Wildfire Hazard Conditions and Recommendations for Wildland Fire Hazard Reduction in the Sacramento County Regional Park System
    - 2021 Sacramento County Local Hazard Mitigation Plan
    - 2022 American River Parkway Natural Resources Management Plan
- Follow vegetation management recommendations in this CWPP, including the reintroduction of prescribed fire into the ARP's fuels management program.
- Enforce ordinances designed to reduce illegal camping in the Parkway. If enforcement is not currently or legally possible, follow vegetation management recommendations to reduce fuel continuity around large encampments.
- Perform targeted educational outreach to residents in the areas identified in this CWPP.
- Commit to maintenance of all implemented projects and maintain a master schedule for ongoing vegetation management work.

The American River Parkway Fire Safe Council should:

- Create an ArcGIS Online-based CWPP/vegetation management project website where ongoing vegetation management work is tracked, and new project ideas can be submitted for review. Populate this database with the mapping and spreadsheet from this project.
- Convene an annual CWPP Project Committee meeting to review vegetation management progress and update the CWPP project map and spreadsheet list.

CWPPs are living documents and should be updated regularly. While project lists can be updated at any time, Federal Emergency Management Agency (FEMA) recommends, the actual CWPP document should be revisited in five years, as projects are completed, or sooner if vegetation or climate conditions change drastically. Nothing in the enabling legislation for CWPPs prohibits updating CWPP project lists at any time.

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Appendix A: Requirements of a Community Wildfire Protection Plan

Community Wildfire Protection Plans (CWPPs) use a collaborative, stakeholder-driven process to prepare responses to—and mitigation of—community wildfire risk. The CWPP process helps communities identify and prioritize wildfire risk mitigation projects. Most state and federal agencies will not fund local wildfire hazard mitigation projects unless they have been vetted by the community and identified specifically in an adopted CWPP.

Integration with Federal Policy

CWPPs are required to be consistent with The Healthy Forest Reforestation Act (HFRA) of 2003. The HFRA directed the USDA Forest Service to implement a collaborative approach for working with partners across jurisdictions to reduce wildfire risk to people, communities, and natural resources while sustaining and restoring healthy, resilient fire-adapted forests.

According to the HFRA, a CWPP should involve local fire departments, governments, and state forest management agencies to meet the following minimum requirements:

1. **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
2. **Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
3. **Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

The HFRA specifies that:

> *"At-risk communities are a group of homes and other structures with basic infrastructure and services within or adjacent to Federal land (HFRA sec. 101 [a2]) for which a significant threat to human life or property exists as a result of a wildland fire disturbance event (HFRA sec. 101 [c]). The CWPP will identify and prioritize areas for hazardous fuel reduction treatments (HFRA sec. 101 [b3]) and recommend measures to reduce structural ignitability throughout the at-risk community (HFRA sec. 101 [c3]). Fuel-reduction projects identified by the CWPP will receive priority for funding on federal land (HFRA sec. 103 [d1]) and will receive priority for funding on non-federal land (HRFA sec. 103 [d2])."*

Related Initiatives in Wildfire Resilience

The USDA Forest Service has created (January 2022) the 10-Year Wildfire Crisis Implementation Plan, keeping consistent with the purposes of the HFRA:

> *"this implementation plan builds on a national strategy for confronting the wildfire crisis facing the Nation. The strategy calls for an unprecedented paradigm shift in land management to increase fuels and forest health treatments across jurisdictions to match the actual scale of wildfire risk to people, communities, and natural resources, especially in the Western United States" (Wildfire Crisis Implementation Plan, 2022).*

Integration with State of California Policy

The purpose of American River Parkway's CWPP is consistent with, and supported by, the findings in Sec. 3.3 of CAL FIRE's California Forests and Rangelands 2010 Strategy Report.

> *"When planning occurs at the community level, greater community awareness can lead to better compliance with laws and regulations (such as defensible space and fire safe building codes) designed to improve the ability of a community to face a wildfire with as few losses as possible. California encourages the formation of local and community Fire Safe Councils, as well as participation in the national Firewise/USA program, with a goal of creating a CWPP. A CWPP or its equivalent (such as a countywide fire plan with substantial community input) focuses a community on the nature of wildfire hazards and risks, and necessary proactive action. The process of creating a CWPP also forges a strong partnership with local, state, and federal fire services." (California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, 2010)*

California's Wildfire and Forest Resilience Action Plan, states the following:

> *"The 2018 Strategic Fire Plan, which addressed wildfire threats across California communities, lays out eight goals, including maintenance of fire-resilient natural environments, increasing the number of fire-resistant buildings and infrastructure, and raising public awareness of wildfire threats. It also calls for creating local, state, federal, tribal, and private partnerships to achieve these goals." (California's Wildfire and Forest Resilience Action Plan, 2021)*

These state plans share the theme of reducing the risk of wildfire by taking actions long before a fire starts. State agencies plan to increase their assistance programs and partnerships with local communities to reduce risk, improve preparedness, and foster resilience. Basic principles prioritized by State Plans include the following goals:

- Assess community risk by identifying public and private resources (natural and manmade) which could be damaged by wildfire
- Create defensible space in high-risk communities and develop home hardening guidance
- Increase the number of communities directly involved in coordinated wildfire planning, and the number of Community Wildfire Protection Plans where needed to reduce wildfire risks

The American River Parkway CWPP was developed collaboratively by a multitude of stakeholders. Additionally, many of the vegetation management objectives referenced here for County or City-owned lands were developed through a public process during the development of the American River Parkway Plan, the American River Parkway Natural Resources Management Plan, the Sacramento County Local Hazard Mitigation Plan, Metro Fire's Community Wildfire Protection Plan, and the 2015 Report of Wildfire Hazard Conditions and Recommendations for Wildland Fire Hazard Reduction in the Sacramento County Regional Park System.

Appendix B: List of Abbreviations

ARFCD	American River Flood Control District
ARPF	American River Parkway Foundation
Fire Safe Council	American River Parkway Fire Safe Council
ARPP	2008 American River Parkway Plan
Cal Expo	California Exposition and State Fair
CAL FIRE	California Department of Forestry and Fire Protection
CPUC	California Public Utilities Commission
CSUS	California State University Sacramento
CWPP	Community Wildfire Protection Plan
FEMA	Federal Emergency Management Agency
FFD	Folsom Fire Department
FVMP	Floodplain Vegetation Management Plan
HFRA	Healthy Forests Restoration Act
IPMP	Invasive Plant Management Program
LAR	Lower American River
LHMP	2021 Sacramento County Local Hazard Mitigation Plan
NRMP	2022 American River Parkway Natural Resources Management Plan
Metro Fire	Sacramento Metropolitan Fire District
PG&E	Pacific Gas and Electric Company
PIT	2022 Homeless Point-in-Time Count Survey
Regional Parks	Sacramento County Department of Regional Parks
SAFCA	Sacramento Area Flood Control Agency
SARA	Save the American River Association
SFD	Sacramento Fire Department
SMUD	Sacramento Municipal Utility District
SVC	Sacramento Valley Conservancy
WAPA	Western Area Power Administration
WSRA	Wild and Scenic Rivers Act
WUI	Wildland Urban Interface

Appendix C: Glossary

Access Roads/Routes: Roads that allow entrance into and out of a property. Routes available for fire trucks and equipment to approach and defend areas or structures, including roadways or driveways.

Assessment: The evaluation and interpretation of measurements, intelligence, and other information to provide a basis for decision-making.

Assets at Risk: Those things that are important to quality of life that can be threatened with destruction or loss from wildfire. These include homes, businesses, infrastructure, cultural sites, wildlife habitat, natural resources, air quality, recreational facilities and areas, historical structures, and any other important attribute that individual communities rely on for their well-being.

Automatic or Mutual Aid Agreement: An agreement between two or more agencies whereby such agencies are automatically dispatched simultaneously to predetermined types of emergencies in predetermined areas.

Broadcast Burning: A controlled burn, where the fire is intentionally ignited and allowed to proceed over a designated area within well-defined boundaries for the reduction of fuel hazard, as a resource management treatment, or both.

Brush: A collective term that refers to stands of vegetation dominated by shrubby, woody plants, or low-growing trees.

Brushing: Clearing or "cleaning up" brushy vegetation in an area.

Buffer: An area of reduced vegetation that creates a barrier separating wildlands from vulnerable residential or business developments; this barrier is like a greenbelt in that it is usually used for another purpose, such as agriculture, recreation, parks, or golf courses.

Building Code: The building or construction code adopted by the local jurisdiction.

Burn: (1) An area burned over by wildland fire. (2) A reference to a working fire. (3) To be on fire. (4) To consume fuel during rapid combustion. (5) A fire in progress or under investigation.

Burning Conditions: The state of the combined factors of the environment—such as winds, temperature, fuel moistures, and humidity—that affect fire behavior in a specified fuel type.

Canopy: The top layer of a forest, tree, or low-growing stand of shrubs, which is formed by leaves, needles, and branches creating a continuous cover.

Canopy Density: A term used to describe the amount of vegetative cover in the top layer of a forest; among other things, the canopy density influences the amount of light penetration, understory composition, surface reflectance, and rainfall interception in a forest landscape.

Catastrophic Fire: Wildland or wildland-urban interface fire with a fast-moving front, extending over a large area (300+ acres) or highly destructive to lives, property, or natural resources.

Collaborative: An open, inclusive process that assumes all participants have valuable knowledge and opinions and all their comments are heard and considered; collaboration does not mean consensus or ownership.

Combustible: Any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn.

Combustion: The rapid oxidation of fuel in which heat and usually flame are produced. Combustion can be divided into four phases: pre-ignition, flaming, smoldering, and glowing.

Community: A body of people living in one place or district and considered a whole; a neighborhood, subdivision, small town, village, or township with boundaries defined by the residents or by regulatory jurisdiction.

Cover: Any plants or organic matter that hold soil in place or grow over and create shade that provides wildlife with an area to reproduce and find protection from predators and weather.

Crown Density: A measurement of the thickness or density of the foliage of the treetops (crown) in a stand.

Crown Fire (Crowning): A fire that spreads through the top of the vegetative canopy; characteristic of hot fires and dry conditions. Crown fires become independent from the surface fire and are generally more complex to control than surface fires.

Defensible Space: An area, either natural or manmade, where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to provide a barrier between an advancing wildland fire and the loss to life, property, or resources. In practice, defensible space is defined as an area with a minimum of 100 feet around a structure that is cleared of flammable brush or vegetation. Distance from the structure and the degree of fuels treatment vary with vegetation type, slope, density, and other factors.

Embers: Burning (or glowing) particles of vegetation from tree branches, parts of shrubs or chaparral, or other combustible materials that ignite and burn during a wildfire and are carried in wind currents to locations in front of the wildfire (also known as firebrands).

Evacuation: An organized, phased, and supervised withdrawal, dispersal, or removal of citizens from dangerous or potentially dangerous areas, and their reception and care in safe areas.

Evacuation Route: A path or road that has been preplanned for getting out of harm's way in a fire situation. The route should be well understood in advance of crisis by all participants. If there is any unclear direction, the path should be marked.

Exposure: (1) Property that may be endangered by a fire burning in another home or by a wildfire; (2) Direction in which a slope faces, usually with respect to cardinal directions; (3) The general surroundings of a site with special reference to its openness to winds.

Fire: Rapid oxidation, usually with the evolution of heat and light. Requires interaction of heat, fuel, and oxygen.

Fire Behavior: The way a fire reacts to the influences of fuel, weather, and topography. Common terms used to describe behavior include smoldering, creeping, running, spotting, torching, and crowning.

Fire Hazard: A fuel complex, defined by volume, type, condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.

Fire Hazard Mitigation: Various methods by which existing fire hazards can be reduced in a certain area, such as fuel breaks, non-combustible roofing, spark arrestors, etc.

Fire Hazard Severity Zone (FHSZ): Any geographical area designated pursuant to California Public Resource Code Section 4201 to contain the type and condition of vegetation, topography, weather, and structure density to increase the possibility of conflagration fires. Areas are zoned as Very High, High, or Moderate by evaluating applicable risks and hazard.

Fire History: The known frequency and intensity of fires that have occurred in each area over a period.

Fire Intensity: Amount of heat released by a fire in an area in any given period. Fire intensity is usually related to the flame length of a fire.

Fire/Wildfire Management: Activities required for the protection of burnable wildland assets from fire, or the use of prescribed fire to meet land management objectives.

Fire Planning: Systematic technological and administrative management process of design, organization, facilities, and procedures, including fire use, to protect wildland from fire.

Fire Prevention: Activities such as public education, community outreach, law enforcement, and reduction of fuel hazards, intended to reduce wildland fire and the risks it poses to life and property.

Fire Resilient/Resiliency: The ability of an ecosystem to maintain its native biodiversity, ecological integrity, and natural recovery processes following a wildfire disturbance.

Fire Risk: The combination of vegetation, topography, weather, ignition sources, and fire history that leads to fire or ignition potential and danger in each area.

Fire Safe: For the purposes of this plan, this term is defined as: Action(s) that moderate the severity of a fire hazard to a level of "acceptable risk," as discussed in the Safety Element of the County General Plan. In a broader context, this term describes the state of lessened severity or action(s) that moderate the severity of a fire hazard or risk, while protecting structures and surrounding property from fire, whether fire is inside the structure or is threatening the structure from exterior sources.

Fire Safe Council: Public and private organizations that comprise a council intended to minimize the potential for wildfire damage to communities and homeowners, while also protecting the health of natural resources. Goals are achieved by distributing fire prevention materials, organizing fire safety programs, implementing fuel-reduction projects, and more. Visit *www.firesafecouncil.org*.

Fire Severity: Degree to which a site has been altered or disrupted by fire; loosely, a product of fire intensity and residence time.

Fire Spread: The movement of fire from one place to another.

Fire Suppression: All the work and activities connected with control and fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

Fire Weather: Weather conditions that influence fire ignition, behavior, and suppression, such as high temperature, low precipitation/humidity, and high winds.

Firewise/Firewise Communities/USA Recognition Program: (1) A national, multi-agency effort designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire before a fire starts. (2) Firewise offers a series of practical steps that individuals and communities can take to minimize wildfire risks to people, property, and natural resources. It emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home evacuation and design, landscaping, and maintenance.

Fuel(s): Combustible structures and vegetative materials. Includes dead plants, parts of living plants, duff, and other accumulations of flammable vegetation, such as grass, leaves, ground litter, shrubs, and trees that feed a fire. *See Surface Fuels.*

Fuelbreak: A natural or constructed barrier used to stop or check fires that may occur, or to provide a control line from which to work.

Fuel Description: Designation of fuel materials into categories based on size and drying times. Fuel descriptions in use are described below:

Description	Material	Diameter
Fine	Needles, leaves, etc.	
1 Hour	Woody material, generally drying out within 1 hour.	<1/4"
10 Hour	Woody material, generally drying out within 10 hours.	1/4"-1"
100 Hour	Woody material, generally drying out within 4 days.	1-3"
1000 Hour	Woody material, generally drying out within 40 days.	3"+
Downed	Fuel on the ground.	
Heavy	Large logs and snags.	

Fuel Ladder: A ladder of vegetation from the ground into the canopy (or upper branches) of the trees that allows fire to climb upward.

Fuel Load: The amount of available and potentially combustible material, usually expressed as tons/acre.

Fuel Management: Act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual means, or by fire in support of land management objectives.

Fuel Treatment: Manipulation or removal of fuels to reduce likelihood of ignition or lessen potential damage and resistance to control (e.g., lopping, chipping, crushing, piling, and burning). Also known as *Fuel Treatment*.

Geographic Information Systems (GIS): A technology used for digitally viewing, storing, analyzing, and manipulating geographical information. Layers of information can create a better understanding of how data is interrelated. Useful for landscape-level planning.

Hardened Homes: Improving a building's resistance to fire, such as updating a roof with noncombustible roofing material; the goal is to increase the structure's ability to survive a fire.

Hazard: Any real or potential condition that can cause injury, illness, or death of personnel, or damage to or loss of equipment or property.

Healthy Forests Restoration Act: A portion of the 2003 Healthy Forests Initiative intended to reduce hazardous fuels on public and private lands. Establishes Community Wildfire Protection Plans and sets standards for those plans.

Home Ignition Zone: The home and area out to approximately 100 feet, where local conditions affect the potential ignitability of a home during a wildfire.

Ignitability: The susceptibility to catch on fire.

Ignition: The event of combustion initiation that creates fire.

Incident: A human-caused or natural occurrence, such as wildland fire, that requires emergency service action to prevent or reduce the loss of life or damage to property or natural resources. Incident Management Teams also handle other non-fire emergency responses, including tornadoes, floods, hurricanes, earthquakes, and other disasters or large events.

Ingress-Egress: Roads and other avenues to enter and leave a property. Also refers to the act or right to come in or go through, as in entering a property (ingress), and the act or right to depart or go out, as in exiting a property (egress).

Jackpot: Heavy fuel concentrations that can flare up in a fire.

Ladder Fuels: Fuels that provide vertical continuity between strata and allow fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of crowning.

Landscape: The visible features of an area of land, including topography, water bodies, vegetation, human elements, such as land uses and structures, and transitory elements such as lighting and weather conditions.

Large Fire: 1) CAL FIRE defines a fire burning more than 300 acres as a large fire. 2) A fire burning with a size and intensity such that its behavior is determined by interaction between its own convection column and weather conditions above the surface.

Limbing/Limb Up: Removing selected branches of a standing or fallen tree or shrub.

Manual Treatment/Fuel Reduction: Methods of modifying wildfire fuel complexes without the use of machinery; such treatments may include chainsaws, fire-use applications, chemical treatments, and grazing.

Mastication: The process of “chewing up” or grinding vegetative fuels with machinery to reduce their hazard as a fuel source.

Mitigation: Those activities implemented prior to, during, or after an incident which are designed to reduce or eliminate risks to persons or property that lessen the actual or potential effects or consequences of an incident. Mitigation measures can include efforts to educate governments, businesses, and the public on measures they can take to reduce loss and injury and are often informed by lessons learned from prior incidents.

Mutual Aid Agreement: A reciprocal aid agreement between two or more agencies that defines what resources each will provide to the other in response to certain predetermined types of emergencies. Mutual aid response is provided upon request.

Pile Burning: A method used to reduce fuel wherein vegetation is cut, stacked, and then burned.

Preparedness: (1) Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination. (2) Mental readiness to recognize changes in fire danger and act promptly when action is appropriate. (3) The range of deliberate, critical tasks and activities necessary to build, sustain, and improve the capability to protect against, respond to, and recover from wildfire.

Prescribed Fire (Controlled Burning): A fire that burns within a range of predetermined conditions (such as fuel moisture content, weather conditions, etc.) that will keep it controllable, at desired intensity, and able to achieve its stated objectives. A written, approved burn plan must exist, and environmental requirements (where applicable) must be met, prior to ignition.

Prevention: Activities directed at reducing the incidence of fires, including public education, law enforcement, personal contact, and reduction of fuel hazards.

Pruning: The act of cutting back the unwanted portions of a plant or cutting for the purpose of enhancing growth.

Relative Humidity: A measure of moisture in the air. If the humidity is 100%, the air is completely saturated with moisture. If the humidity is less than 20%, the air is very dry. When the air is dry, it absorbs moisture from the fuels in the forest, making them more flammable.

Response: (1) Movement of an individual firefighting resource from its assigned standby location to another location, or to an incident in reaction to dispatch orders, or to a reported alarm. (2) Activities that address the short-term, direct effect of an incident, including immediate actions to save lives, protect property, and meet basic human needs. Also includes the execution of emergency operations plans as well as mitigation activities designed to limit the loss of life, personal injury, property damage, and other unfavorable outcomes.

Response Time: For the purposes of the CWPP, response time is the time that elapses between the moment a 911 call is placed to the emergency dispatch center and the time that a first responder arrives on scene. Response time includes dispatch time, turnout time (the time it takes firefighters to travel to the fire station, don their gear, and prepare the apparatus), and travel time.

Risk: (1) The chance of a fire starting as determined by the presence and activity of causative agents; (2) A chance of suffering harm or loss; (3) A number related to the potential of firebrands to which a given area will be exposed during a rating day.

Signage: Address markers, road postings, and street signs that designate the location of residences and help orient people within a community or area. Highly visible signage is important for helping emergency responders quickly locate incident sites.

Slope: Upward or downward incline or slant, usually calculated as a percentage. One percent of slope means a rise or fall of one foot of elevation within 100 feet. A 45 percent slope would equal 45 feet of rise in 100 feet.

Snag: A standing dead tree that has usually lost most of its branches. Snags offer essential food and cover for a host of wildlife species.

Spot Fire: A fire ignited outside the perimeter of the main fire by flying sparks or embers.

Structure: Any building or structure used for support or shelter of any use or occupancy.

Suppression: All the work of extinguishing or containing a fire, beginning with its discovery.

Thinning: The act of removing a percentage of vegetation to encourage an open space and healthy growth for the remaining vegetation.

Torch/Torching: A rapid and intense burning of a single or small group of trees/shrubs, causing the upward movement of fire; also known as crown fire initiation or flare-up.

Underburn: A prescribed fire method where burning is conducted in the understory so that the fire consumes surface fuels but not trees or shrubs. Also known as understory burning.

Understory: Generally herbaceous or shrubby vegetation that makes up the plant layer under the tree canopy layer.

Wildfire: An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildlands: Areas in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered. Can also include large cattle ranches and forests managed for timber production.

Wildland-Urban Interface (WUI): The zone where structures and other human developments meet, or intermingle with, undeveloped wildlands.

Appendix D: Additional Resources

ALERT California: https://alertca.live/

CAL FIRE Defensible Space Zones: www.fire.ca.gov/programs/communications/defensible-space-prc-4291

CAL OES Retrofit Rebate Program: www.caloes.ca.gov/office-of-the-director/operations/recovery-directorate/hazard-mitigation/california-wildfire-mitigation-program

California Climate Investments: https://www.caclimateinvestments.ca.gov/

California Fire Hazard Severity Zone Maps: https://egis.fire.ca.gov/FHSZ/

California Public Resources Code 4291: https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4291.&lawCode=PRC

California Wildfire & Forest Resilience Task Force: https://wildfiretaskforce.org/

Firewise USA: http://www.firewise.org

Healthy Forest Restoration Act (HFRA) of 2003: www.congress.gov/bill/108th-congress/house-bill/1904

Housing arrangement and vegetation factors associated with single-family home survival in the 2018 Camp Fire, California: fireecology.springeropen.com/track/pdf/10.1186/s42408-021-00117-0.pdf

National Fire Protection Association: www.nfpa.org

Office of the State Fire Marshal: osfm.fire.ca.gov

Ready, Set, Go! Program: www.readyforwildfire.org/prepare-for-wildfire/ready-set-go

Reducing the Vulnerability of Building to Wildfire: Vegetation and Landscaping Guidance: anrcatalog.ucanr.edu/pdf/8695.pdf

Sacramento Alert: http://www.sacramento-alert.org

Wildfire Home Retrofit Guide: ucanr.edu/HomeRetrofitGuide

Appendix E: Master Project Table

Project Number	Parkway Section	Project Type	Project Description	Acres	Priority	Return Interval
1	Discovery Park	Targeted Fuels Reduction	Reduce grapevine thickets adjacent to areas with a high ignition hazard along Garden Highway; important to target areas with evidence of unauthorized camping or frequent use.	30.1	High	3-5 Years
2	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit adjacent to high-traffic area to reduce surface fuels, raise sightlines, and discourage illegal camping.	6.3	Moderate	Annual
3	Discovery Park	New Grazing Unit	Graze flat areas adjacent to large cottonwoods. Goal is to reduce surface fuels, raise sightlines and canopy base height, and discourage illegal camping.	45.0	Moderate	2-3 Years
4	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit adjacent to high-traffic area. Goal is to reduce surface fuels, raise sightlines, and discourage illegal camping.	13.0	Moderate	Annual

5	Discovery Park	New Grazing Unit	Graze flat areas adjacent to large cottonwoods. Goal is to reduce surface fuels, raise sightlines and canopy base height, and discourage illegal camping.	22.3	Moderate	2-3 Years
6	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit around Camp Pollock and Riverdale RV Park. Goal is to reduce surface fuels, raise sightlines, and discourage illegal camping.	19.2	Moderate	Annual
7	Discovery Park	Mowing	Weed eat and mow a 50-foot buffer off Arden Garden Connector to reduce surface fuel continuity.	4.8	High	Annual
8	Discovery Park	Existing Grazing Unit	Continue grazing program in this unit around Riverdale RV Park. Goal is to reduce surface fuels and discourage illegal camping	4.1	Moderate	Annual
9	Woodlake	Existing Grazing Unit	Continue grazing program in this unit to reduce surface fuels, maintain sightlines, maintain canopy base height, and discourage illegal camping.	3.7	Moderate	Annual

10	Woodlake	Existing Grazing Unit	Continue grazing program in this unit to reduce surface fuels, maintain sightlines, and discourage illegal camping.	2.2	Moderate	Annual
11	Woodlake	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	13.5	Very High	Annual
12	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	10.3	Moderate	Annually
13	Woodlake	Existing Grazing Unit	Continue grazing program in this unit.	5.2	Moderate	Annual
14	Woodlake	Prescribed Fire	Potential ecological burns to maintain oak woodland and wetland habitats. Consider working with CSU, Chico Ecological Reserves to develop ecological objectives and burning prescriptions. Protect any cottonwoods.	5.9	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST

15	Woodlake	Education	Wildfire safety outreach to unauthorized campers. Provide fire extinguishers to campers, patrol during high-risk wildfire hazard weather conditions.	8.9	High	Annual/Seasonal
16	Woodlake	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring. Also consider grazing.	1.2	High	Annual
17	Woodlake	Existing Grazing Unit	Continue grazing program in this unit.	0.7	Moderate	Annual
18	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	3.1	Moderate	2-4 Years
19	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	3.7	Moderate	2-4 Years

20	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping. Unit comprises entire green polygon on map.	51.0	Moderate	Annual
21	Woodlake	Mowing	Area is outside of the Parkway boundary, but contains heavily impacted, high value habitat that would benefit from mowing, especially along Lathrop Way and the bike trail.	30.4	High	Annual
22	Woodlake	Prescribed Fire	Potential burn unit to maintain oak woodland, raise sightlines, and reduce fuels within the boundaries of existing trails and fuel breaks.	4.0	Moderate	2-4 Years
23	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	18.6	Very High	Annual
24	Woodlake	Prescribed Fire	Potential training burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	4.0	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
25	Woodlake	Prescribed Fire	Potential training burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	44.9	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST

26	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	58.6	Moderate	Annual
27	Woodlake	Prescribed Fire	Potential ecological burns to maintain riparian ecosystem and reduce fuels along the river. Advise talking with CSU, Chico Ecological Reserves about prescriptions, techniques, and operational considerations.	57.2	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
28	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	3.9	High	Annual
29	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	21.8	High	Annual
30	Woodlake	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks	51.0	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
31	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	22.1	Very High	Annual

32	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	2.3	Moderate	Annual
33	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	1.4	Moderate	Annual
34	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	4.2	Moderate	Annual
35	Woodlake	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	2.2	Moderate	Annual
36	Cal Expo	Prescribed Fire	Potential burns to reduce fuels within the boundaries of existing trails and fuel breaks. Potential grassland restoration site. Proximity to freeway makes smoke management important and may constrain use of fire.	6.2	Moderate	2-4 Years

37	Cal Expo	Prescribed Fire	Potential burns to reduce invasives and maintain riparian/wetland habitats while reducing fuels. Consider involving CSU, Chico Ecological Reserves in planning and implementation. Proximity to freeway makes smoke management important and may constrain use of fire.	14.2	Moderate	2-4 Years
38	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	14.2	Moderate	Annual
39	Cal Expo	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	6.4	High	Annual
40	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	68.6	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
41	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	68.6	Moderate	Annual

42	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	19.8	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
43	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	19.8	Moderate	Annual
44	Paradise Beach	Education	Community outreach on structure hardening, defensible space.	40.8	Moderate	5-10 Years
45	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit	14.0	Moderate	Annual
46	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	14.0	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
47	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	34.9	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
48	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	34.9	Moderate	Annual
49	Cal Expo	Prescribed Fire	Potential for cultural burns in cooperation with CSUS.	17.3	Moderate	2-4 Years
50	Cal Expo	Prescribed Fire	Potential burns to control YST and reduce fuels within the boundaries of existing trails and fuel breaks.	27.5	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
51	Cal Expo	Existing	Continue grazing	27.5	Moderate	Annual

		Grazing Unit	program in this unit.			
52	Cal Expo	Prescribed Fire	Potential for cultural burns in cooperation with CSUS.	10.6	Moderate	2-4 Years
53	Cal Expo	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	9.5	High	Annual
54	Cal Expo	Prescribed Fire	Potential burns within the boundaries of existing trails and fuel breaks.	8.3	Moderate	3 Consecutive Years for YST
55	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit.	8.3	Moderate	Annual
56	Cal Expo	Prescribed Fire	Potential fuel reduction burns within the boundaries of existing trails and fuel breaks.	4.8	Moderate	Annual
57	Cal Expo	Prescribed Fire	Potential burns within the boundaries of existing trails and fuel breaks.	1.3	Moderate	3 Consecutive Years for YST
58	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit Goal is to reduce surface fuels and discourage illegal camping.	1.3	Moderate	Annual
59	Cal Expo	Existing Grazing Unit	Continue grazing program in this unit. Goal is to reduce surface fuels and discourage illegal camping.	1.3	Moderate	Annual
60	Campus Commons	Targeted Fuels	Weed eat to reduce surface fuels and	8.7	Very High	Annual

		Reduction	reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.			
61	Campus Commons	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	1.9	Very High	Annual
62	Campus Commons	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	4.4	Very High	Annual
63	Campus Commons	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	3.4	High	Annual
64	Howe Avenue	Prescribed Fire	Potential grassland restoration/YST burns.	5.0	High	3 Consecutive Years for YST

65	Howe Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	5.1	High	Annual
66	Howe Avenue	Education	Community outreach on structure hardening, defensible space, zone zero.	33.1	Moderate	5-10 Years
67	Howe Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	2.1	High	Annual
68	Watt Avenue	Education	Community outreach on structure hardening, defensible space, zone zero.	13.0	Moderate	5-10 Years
69	Watt Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	3.6	High	Annual

70	Watt Avenue	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	8.1	High	Annual
71	SARA Park	New Grazing Unit	One-time or episodic grazing. Goal is to raise crown base height.	26.2	Moderate	5 years
72	SARA Park	New Grazing Unit	Add unit to annual grazing program.	5.1	Moderate	Annual
73	SARA Park	Education	Community outreach on structure hardening, defensible space, zone zero.	27.0	Moderate	5-10 Years
74	SARA Park	New Grazing Unit	Add unit to annual grazing program.	11.2	High	Annual
75	Arden Bar	Prescribed Fire	Potential oak woodland training burns. Goal is to reduce YST.	29.4	High	3 Consecutive Years for YST
76	Arden Bar	Prescribed Fire	Potential cultural burning, training burns and YST control.	40.6	Moderate	Annual for Fuels Reduction; 3 Consecutive Years for YST
77	SARA Park to Nimbus Fish Hatchery	Education	Community outreach on structure hardening, defensible space, zone zero.	1988.5	Moderate	5-10 Years
78	River Bend Park to Sacramento Bar	Education	Community outreach on structure hardening, defensible space, zone zero.	1040.9	Moderate	5-10 Years

79	River Bend Park	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	5.8	Very High	Annual
80	River Bend Park	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	1.4	Very High	Annual
81	Ancil Hoffman County Park	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	2.9	High	Annual
82	Rossmoor Bar	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	4.3	Very High	Annual

83	Ancil Hoffman County Park	New Grazing Unit	Potential grazing at Effie Yeaw Nature Center should target high-hazard areas adjacent to homes. Goal of episodic entry is to raise crown height. Potential demonstration site for cultural burns and prescribed fire.	19.4	High	1-3 years
84	Rossmoor Bar	Prescribed Fire	Potential YST burns.	11.1	Moderate	3 Consecutive Years
85	Rossmoor Bar	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	2.3	Very High	Annual
86	Rossmoor Bar	Prescribed Fire	Potential YST burns.	57.6	Moderate	3 Consecutive Years
87	Sacramento Bar	Existing Fuel Break	Maintain existing fuel break.	0.7	High	Annual
88	Sacramento Bar	Existing Grazing Unit	Continue grazing program in this unit.	8.1	Moderate	Annual
89	Sacramento Bar	Existing Grazing Unit	Continue grazing program in this unit.	3.7	Moderate	Annual
90	Lower Sunrise	Existing Fuel Break	Maintain existing fuel breaks on trail system in accordance with ARPP guidelines: 20-foot width for emergency vehicle access; four-foot width for non-vehicular trails.	3.7	High	Annual

91	Sailor Bar	Education	Community outreach on structure hardening, defensible space, zone zero.	1924.4	Moderate	5-10 Years
92	Sunrise Bluffs	Existing Grazing Unit	Continue grazing program in this unit.	3.7	Moderate	Annual
93	Sailor Bar	Existing Grazing Unit	Continue grazing program in this unit.	3.1	Moderate	Annual
94	Upper Sunrise	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	20.0	High	Annual
95	Sailor Bar & Sunrise Bluffs	Existing Grazing Unit	Continue grazing program in this unit.	20.4	Moderate	Annual
96	Sailor Bar	Existing Grazing Unit	Continue grazing program in this unit.	20.1	Moderate	Annual
97	Upper Sunrise	Targeted Fuels Reduction	Weed eat to reduce surface fuels and reduce grapevine ladder fuels. Goal is to disrupt fuel continuity and discourage illegal camping. Perform work after grass cures in late-spring.	8.5	High	Annual
98	Sailor Bar	New Grazing Unit	Episodic grazing to raise canopy base height.	30.1	High	2-4 Years