AGENDA
CITY OF PLYMOUTH
City Council

REGULAR MEETING

THURSDAY, JUNE 25, 2026

Council Chambers
9426 Main Street, Plymouth, California

Don Nunn, Mayor

Holger Hornisch, Vice Mayor
Wendy Cranford, Council Member
Wendy Bottomley, Council Member
Deborah Dill, Council Member

PLEASE NOTE: The Council may take up any agenda item at any time, regardless of the order listed. Action may be taken on any item on the agenda. **Members of the public who wish to speak may be subject to a three (3) minute maximum time limit when addressing the Council, and/or the City may require speaker identification sheets be submitted to the City Clerk prior to being called upon by the Mayor to provide public comment.**

CITY OF PLYMOUTH CITY COUNCIL
REGULAR MEETING AGENDA
Thursday June 25, 2026
6:30 PM

City Council Chambers - 9426 Main Street - Plymouth, CA

In-person participation by the public is permitted. Alternatively, remote/electronic public participation is available in one of the following ways:

City of Plymouth's City Council Zoom Meeting
Meeting ID: 976 7664 9326 **Passcode**: 367528
Join via link: https://zoom.us/j/97676649326?pwd=FNatjJPDGEFUgbuWoTMy9eN6yobuyF.1

Members of the public not attending in-person may submit written comments prior to the meeting by emailing comments to the City Clerk at vmchenry@cityofplymouth.org before 3:30 PM on the day of the meeting. Emailed public comments will be distributed to the City Council and made part of the official record.

Don Nunn, Mayor

Holger Hornisch, Vice Mayor	Wendy Bottomley, Council Member
Wendy Cranford, Council Member	Deborah Dill, Council Member

MISSION STATEMENT

The City of Plymouth preserves our small-town atmosphere and provides fiscally responsible services that fulfill public needs while protecting their quality of life.

1. CALL TO ORDER/ROLL CALL:

- **Roll Call**
- **Pledge of Allegiance**

2. APPROVAL OF CITY COUNCIL REGULAR MEETING AGENDA OF JUNE 25, 2026

3. REGULAR MEETING PUBLIC COMMENT

Under provisions of the Government Code, citizens wishing to address the Council for any matter not on the agenda may do so at this time. Please submit a completed Speaker Submittal Form to the City Clerk. Comments are limited to three minutes or less and speakers are requested to state their name and community of residence. For public comments on agendized items, speakers will be called by the Mayor at the point on the agenda when the item will be heard. The City Council is prohibited from materially discussing or acting on any item not on the agenda unless it can be demonstrated to be of an emergency nature or an urgent need to take immediate action arose after the posting of the agenda.

4. PRESENTATIONS/PROCLAMATIONS/APPOINTMENTS: NONE

5. CONSENT CALENDAR ITEMS:

All matters listed under the Consent Calendar are to be considered routine by the City Council and will be enacted by one motion in the form listed. There will be no separate discussion of these items unless, before the City Council votes on the motion to adopt, members of the Council, staff or the public request specific items to be removed from the Consent Calendar for separate discussion and action.

5.1 CORRESPONDENCE

5.2 APPROVE THE REGULAR MEETING MINUTES OF JUNE 11, 2026

6. PUBLIC HEARINGS:

6.1 PUBLIC HEARING ON WATER AND WASTEWATER RATE; REVIEW RATE STUDY; AND DISCUSSION AND POSSIBLE ACTION TO APPROVE RESOLUTION 2026-12 UPDATING WATER AND WASTEWATER RATES

7. REGULAR AGENDA ITEMS:

7.1 DISCUSSION AND POSSIBLE ACTION TO APPROVE FIRST AMENDMENT TO FRANCHISE AGREEMENT FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES

7.2 DISCUSSION AND POSSIBLE ACTION TO UNFREEZE ONE MAINTENANCE WORKER I POSITION FOR THE CITY'S PUBLIC WORKS DEPARTMENT

7.3 APPROVAL OF THE AMADOR COUNTY COMMUNITY WILDFIRE PROTECTION PLAN (CWPP)

7.4 DISCUSSION AND POSSIBLE ACTION TO APPROVE RESOLUTION 2026-13 OF THE CITY COUNCIL OF THE CITY OF PLYMOUTH AUTHORIZING CONTINUING APPROPRIATIONS AND EXPENDITURES ON THE BASIS OF THE FISCAL YEAR 2025-2026 BUDGET FOR FISCAL YEAR 2026-2027 UNTIL THE ADOPTION OF THE 2026-2027 BUDGET

8. CITY MANAGER'S REPORT

9. MAYOR & COUNCIL MEMBERS' REPORTS AND COUNCIL REQUESTS FOR FUTURE AGENDA ITEMS

10. CLOSED SESSION: NONE

11. ADJOURNMENT

LEVINE ACT PUBLIC PARTY/APPLICANT DISCLOSURE OBLIGATIONS:

Applicants, parties, and their agents who have made campaign contributions totaling more than $500 (aggregated) to a Council Member over the past 12 months, must publicly disclose that fact for the official record of that agenda item. Disclosures must include the amount of the campaign contribution aggregated, and the name(s) of the campaign contributor(s) and Council Member(s). The disclosure may be made either in writing to the City Clerk prior to the agenda item consideration, or by verbal disclosure at the time of the agenda item consideration.

The foregoing statements do not constitute legal advice, nor a recitation of all legal requirements and obligations of parties/applicants and their agents. Parties and agents are urged to consult with their own legal counsel regarding the requirements of the law.

ADDITIONAL INFORMATION

Public documents related to an item on the open session portion of this agenda, which are distributed to the City Council less than 72 hours prior to the meeting, shall be available for public inspection at the City Clerk's office located in Plymouth City Hall and at the time of the meeting. Persons interested in proposing an item for the City Council Agenda should contact a member of the City Council, or the City Manager.

NOTICE:

As presiding officer for this meeting, the Mayor has the authority to preserve order at all City Council

meetings, to remove or cause the removal of any person from any such meeting for disruptive conduct, and to enforce the rules of the Council.

In compliance with the Americans with Disabilities Act, if you need a disability-related modification or accommodation, including auxiliary aids or services, to participate in this meeting, please contact the City Clerk's Office at (209) 245-6941 prior to the meeting.

CERTIFICATION OF POSTING OF AGENDA

I, Victoria McHenry, City Clerk for the City of Plymouth, declare that the foregoing agenda for June 25, 2026, Regular Meeting of the Plymouth City Council was posted and available for review on June 22, 2026, at the City Hall of the City of Plymouth, 9426 Main Street, Plymouth, California, 95669. The agenda is also available on the city website at cityofplymouth.org.

Signed at Plymouth, California

//s//

Victoria McHenry City Clerk

3

PUBLIC COMMENT

4

PRESENTATIONS
PROCLAMATIONS
APPOINTMENTS

5.1
CORRESPONDENCE

5.2

CITY OF PLYMOUTH CITY COUNCIL
REGULAR MEETING MINUTES DRAFT
Thursday June 11, 2026
6:30 PM

City Council Chambers - 9426 Main Street - Plymouth, CA

Don Nunn, Mayor

Holger Hornisch, Vice Mayor — Wendy Bottomley, Council Member
Wendy Cranford, Council Member — Deborah Dill, Council Member

MISSION STATEMENT

The City of Plymouth preserves our small-town atmosphere and provides fiscally responsible services that fulfill public needs while protecting their quality of life.

1. CALL TO ORDER/ROLL CALL: Called to order at 6:34pm

COUNCIL MEMBERS' PRESENT: Holger Hornisch, Wendy Bottomley, Deborah Dill

COUNCIL MEMBERS ABSENT: Don Nunn, Wendy Cranford

STAFF/ADVISORY PRESENT: Kyler Rayden, City Attorney (Attending via Zoom), Erica Fraser, Planning Director (Attending via Zoom), Cameron Begbie, City Manager, Victoria McHenry, City Clerk, Jacob Smith, Audio/Video Technician, Ricky VanDyke, Accountant

STAFF/ADVISORY ABSENT: None

Flag Salute led by Vice Mayor Hornisch

2. APPROVAL OF CITY COUNCIL REGULAR MEETING AGENDA OF JUNE 11, 2026

Council Member Bottomley motioned to approve the City Council Regular Meeting Agenda for June 11, 2026, as presented. Second by Council Member Dill. Motion passed with a roll call vote of 3-0-2, with Mayor Nunn and Council Member Cranford absent.

3. REGULAR MEETING PUBLIC COMMENT

Rosemarie Moody asked why the budget was not on the agenda as previously stated at the last meeting. City Manager Begbie stated that Finance Director Heath had a scheduling conflict and was unable to be at this meeting. City Manager Begbie is hoping to have a draft copy of the budget soon.

4. PRESENTATIONS/PROCLAMATIONS/APPOINTMENTS: NONE

5. CONSENT CALENDAR ITEMS:

5.1 CORRESPONDENCE

5.2 APPROVE THE REGULAR MEETING MINUTES OF MAY 14, 2026

5.3 APPROVE THE SPECIAL MEETING MINUTES OF MAY 18, 2026

5.4 RECEIVE MAY WARRANT REGISTER

5.5 SECOND READING AND ADOPTION OF 2025 BUILDING STANDARDS CODE

5.6 ADOPT RESOLUTIONI 2026-11 AUTHORIZING THE EXECUTION OF A PROFESSIONAL SERVICES AGREEMENT WITH HELIX ENVIRONMENTAL INC. FOR THE PREPARATION OF AN INITIAL STUDY AND SUBSEQUENTLY, EITHER A NEGATIVE DECLARATION, MITIGATED NEGATIVE DECLARATION, OR ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE HAMPTON BY HILTON HOTEL, AN 88-ROOM HOTEL WITH RESTAURANT LOCATED AT 9702 MAIN STREET IN PLYMOUTH, CA.

Planning Director Fraser was on Zoom to answer any questions. After council discussion, Council Member Dill motioned to approve the Consent Calendar, as presented. Second by Council Member Bottomley. Motion passed with a roll call vote of 3-0-2, with Mayor Nunn and Council Member Cranford absent.

6. PUBLIC HEARINGS: NONE

7. REGULAR AGENDA ITEMS:

7.1 REVIEW, DISCUSSION AND POSSIBLE ACTION REGARDING SALE OF SAFE AND SAND FIREWORKS WITHIN PLYMOUTH CITY LIMITS, USE OF SAFE AND SANE FIREWORKS ON JULY 4th AND AUTHORIZATION TO USE TOT FUNDS FOR INSURANCE AND SHERIFF COSTS FOR THE 4TH OF JULY EVENTS

Ashley Anaya from AFPD was present to answer any questions regarding fire protection at the event. After council discussion, Council Member Dill motioned to approve the Selling and Use of Safe and Sane Fireworks on July 4th and Authorizing the Use of TOT Funds for Insurance and Sheriff Costs for the 4th of July Events. Second by Council Member Bottomley. Motion passed with a roll call vote of 3-0-2, with Mayor Nunn and Council Member Cranford absent.

7.2 DISCUSSION AND POSSIBLE ACTION TO ADOPT RESOLUTION 2026-10 – A RESOLUTION OF THE CITY COUNCIL FOR THE CITY OF PLYMOUTH, CALIFORNIA, CALLING AND GIVING NOTICE OF THE HOLDING OF A GENERAL MUNICIPAL ELECTION TO BE CONSOLIDATED WITH THE STATEWIDE GENERAL ELECTION TO BE HELD ON TUESDAY, NOVEMBER 3, 2026, FOR THE ELECTION OF CERTAIN OFFICERS OF THE CITY AS REQUIRED BY THE LAWS OF THE STATE OF CALIFORNIA RELATING TO GENERAL LAW CITIES; REQUESTING THE COUNTY OF AMADOR APPROVE SAID CONSOLIDATION; AND SETTING FORTH REGULATIONS FOR CANDIDATE'S STATEMENTS

After council discussion, Council Member Bottomley motioned to Adopt Resolution 2026-10 – A Resolution of the City Council for the City of Plymouth, California, Calling and Giving Notice of the Holding of a General Municipal Election to be Consolidated with the Statewide General Election to be Held on Tuesday, November 3, 2026, for the Election of Certain Officers of the City as Required by the Laws of the State of California Relating to General Law Cities; Requesting the County of Amador Approve Said Consolidation; and Setting Forth Regulations for Candidate's Statements. Second by Council Member Dill. Motion passed with a roll call vote of 3-0-2, with Mayor Nunn and Council Member Cranford absent

8. CITY MANAGER'S REPORT

City Manager Begbie gave an update on public records requests for the last couple of months. City Manager Begbie stated that he felt that the transition from Republic Waste Services to Cal Waste Services was a success. He stated the biggest issue was the call centers didn't understand what was going on and said that Cal Waste will work towards making sure things stay the same. City Manager Begbie stated there would likely be a contract amendment presented at the next meeting regarding commercial waste pick up. He also gave a full update on the 4th of July event. City Manager Begbie was happy to announce that all the pop ups in Pop Up Plaza are now full. He reported that the pool is open and doing great. City Manager Begbie stated that they are working on getting Old Sacramento Road paved. He also gave updates on the audits and stated they are making great strides in getting them completed slowly but surely. City Manager Begbie reported that he would be meeting with the AFPD and Sheriff Department regarding 4th of July and Fair Safety. He also stated that the 88-room hotel is still underway and they are working on getting a new sketch of the hotel design. It will be presented to council once completed. City Manager Begbie reported that the Greilich Ranch subdivision is moving forward. They will be needing extra water storage, and they are looking at options for that. City Manager Begbie stated that he hopes is to have the help of Shenandoah Excavating to come to help install the TapCo signs within the next couple of weeks. City Manager Begbie stated that weed abatement is still happening around town and the weed issue on Miller way was taken care of via a company the City hired. The City will explore putting a line on the property to recoup costs incurred. City Manager Begbie also stated that one of the sinks in the park bathrooms was broken. He also noted that the Public Works staff were now working summer hours from 6:00am to 2:30pm.

9. MAYOR & COUNCIL MEMBERS' REPORTS AND COUNCIL REQUESTS FOR FUTURE AGENDA ITEMS

Council Member Dill stated that she attended the Amador Fire Graduation at the Jackson Rancheria. She stated it was a very nice event.

Vice Mayor Hornisch asked City Manager Begbie how often we would receive a Sheriff's report. City Manager Begbie stated they would be available at every other meeting. Vice Mayor Hornisch stated that Zinfandel Ridge was replanting trees and Jim LeQuin was overseeing the replanting. He gave his thanks to Mr. LeQuin for his help with this project. Vice Mayor Hornisch also asked what the status was of the 200k of unpaid developer fees. City Manager Begbie stated that they are working with legal on how to proceed with that.

ADJOURNMENT INTO CLOSED SESSION AT 7:02PM

10. CLOSED SESSION:

10.1 CONFERENCE WITH REAL PROPERTY NEGOTIATORS

Property: APNs 008-070-036, -037, -038, -039, and -040

Agency Negotiators: Cameron Begbie, City Manager & Andreas Booher, City Attorney

Negotiating Parties: Sutter Home Winery

Terms Under Negotiation: All terms associated with possible acquisition of property by the City

11. ADJOURNMENT AT 7:18PM WITH NO REPORTABLE ACTION TAKEN

Respectfully Submitted at Plymouth, California

//s//

Victoria McHenry City Clerk

6.1

PUBLIC HEARING

CITY COUNCIL AGENDA ITEM NO. 6.1

06/25/2026

SUBJECT: Hold Public Hearing regarding Water and Wastewater rate study and consider adoption of water and wastewater rates show no majority protest exist.

DEPARTMENT: City Manager's Office

STAFF: Cameron Begbie, City Manager

TITLE

PUBLIC HEARING ON WATER AND WASTEWATER RATE; REVIEW RATE STUDY; AND DISCUSSION AND POSSIBLE ACTION TO APPROVE RESOLUTION 2026-12 UPDATING WATER AND WASTEWATER RATES

BACKGROUND

California Proposition 218 requires agencies to notify property owners and ratepayers of proposed changes to utility rates, and to hold a public hearing prior to implementing any increases. The purpose of this process is to ensure transparency and allow for public participation. The City has also opted to utilize the exhaustion of administrative remedies procedure pursuant to Government Code Section 53759.1. The mailed notice included all information required.

Water and wastewater systems are essential services funded entirely by user rates. Periodic rate reviews and adjustments are necessary to ensure that revenues are sufficient to support operations, maintenance, capital improvements, regulatory compliance, and long-term financial stability.

The City's most recent rate study was completed in 2017, and rate adjustments were last adopted in 2011. Since that time, increases in operating costs, infrastructure needs, and regulatory requirements have impacted the City's utility funds.

DISCUSSION

In partnership with City staff, NBS conducted comprehensive rate studies evaluating the City's water and wastewater enterprise funds. The studies reviewed current and projected operating expenses, capital improvement needs, reserve targets, and revenue requirements over a five-year planning period.

Key factors driving the proposed rate adjustments include:

- Aging infrastructure requiring rehabilitation and replacement
- Inflationary increases in labor, energy, and chemical costs
- State and federal regulatory mandates
- The need to replenish and maintain reserve levels and debt service coverage ratios

Council has been presented with the water and wastewater rate studies, ordered the required notices to be mailed, and will hold the required Public Hearing, including collection of protests. Objections were also solicited via the mailed notice and none were received timely. If a majority protest is not received, staff is seeking approval to adopt the rates as presented in the rate notice and rate study report previously presented.

ENVIRONMENTAL DETERMINATION

This is not a "project" under Section 15378 of the California Environmental Quality Act (CEQA) Guidelines.

FISCAL IMPACT

Approval of the rate adjustments is necessary to ensure the financial health of the City's water and wastewater utilities. Without the adjustments, the City risks falling short of funding obligations for operations and capital projects.

Mailing costs and consultant support for the Proposition 218 process are included in the current contract and will be paid from the Water and Wastewater Enterprise Funds.

RECOMMENDATION

Staff recommends that the City Council:

1. Hold a public hearing and call for any remaining protests to be submitted.
2. Tabulate protest to determine if a majority protest exists.
3. If no majority protest, adopt water and wastewater rates by Resolution 2026-12

ATTACHMENT(S)

1. Rate Study PowerPoint Presentation
2. Rate Study Report
3. Prop. 218 Hearing Notice
4. Resolution 2026-12

City of Plymouth

Overview of Water and Sewer Rate Study

June 25, 2026

NBS
helping communities fund tomorrow

Overview of a Rate Study

Rate Study Purpose & Methodology

Why Prepare a Rate Study?

1. Required to comply with Prop 218
2. Typically prepared every 5 years
3. They demonstrate the fairness & equity of customer rates

General Rate Study Methodology:

1 FINANCIAL PLAN	2 COST-OF-SERVICE ANALYSIS	3 RATE DESIGN ANALYSIS
Compares current sources and uses of funds and determines the revenue needed from rates and projects rate adjustments.	Proportionally allocates revenue requirements to the customer classes in compliance with industry standards and State Law.	Considers the rate structure that best meets the City's need to collect rate revenue from various types of customers.

Rate Study Methodology – Financial Plan

What are "Net Revenue Requirements"?

The Financial Plan estimates the costs to be recovered from customer rates:

O&M Costs
+ Debt Service
+ Capital Costs
- Non-Rate Revenues*
Net Revenue Requirements

** licenses, fines, application fees, etc.*

These costs should also include funding for adequate levels of reserves.

Rate Study Methodology – Cost of Service

How Are Water Costs Assigned to Customers?

Cost of Service Analysis (COSA) allocates costs based on the cost to serve each type of customer.

Water Costs are typically allocated by:

1. System Capacity Costs (based on system meter size factors)
2. Commodity Costs (annual consumption)
3. Customer Costs (number of accounts)

Cost Allocations – Costs are then allocated to each customer class based on their proportional share of the above criteria.

Rate Study Methodology – Cost of Service

How Are Sewer Costs Assigned to Customers?

Sewer Costs are typically allocated to customers based on:

1. Flow-Related Costs (the amount of effluent generated)
2. Effluent Strength-Related Costs
   - Biochemical Oxygen Demand (BOD/COD)
   - Total Suspended Solids (TSS)
3. Customer Costs

What are Customer Classes? – Customers with similar characteristics (effluent strength, volume, system demands, etc.) are grouped into classes.

(Note: Costs, rates and Prop 218 requirements are focused on Classes, not individual customers or properties)

Rate Study Methodology – Rate Design

What are Rate Design Objectives?

- Rates are proportional to cost of service (i.e., the cost to serve each customer or customer class)
- The San Juan Capistrano court decision (2015) mandated that rates "demonstrate the cost basis" in order to comply with Prop 218
- Equitable & non-discriminating
- Ease of administration and understanding
- Provide revenue stability

Water Rate Study Overview

Water Rate Study Objectives

Purpose of a Water Rate Study:

- Ensuring water rates will be able to cover all operating and maintenance costs.
- Build appropriate reserve funds.
- Complying with legal requirements of Prop 218.

Water Utility Financial Plan Summary

Summary of Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sources of Water Funds						
Rate Revenue	$ 650,000	$ 663,000	$ 676,260	$ 689,785	$ 703,581	$ 717,653
Wholesale Water Sales	-	-	-	-	-	-
Interest Earnings	78,450	80,019	81,619	83,252	84,917	86,615
Total Sources of Funds:	$ 728,450	$ 743,019	$ 757,879	$ 773,037	$ 788,498	$ 804,268
Uses of Water Funds						
Operating Expenses	$ 736,054	$ 774,929	$ 816,828	$ 862,049	$ 910,922	$ 963,812
Debt Service	146,566	149,766	149,613	149,309	148,851	151,289
Rate-Funded Capital Expenses	-	-	-	-	-	-
Total Use of Funds:	$ 882,620	$ 924,695	$ 966,441	$ 1,011,358	$ 1,059,773	$ 1,115,101
Surplus (Deficiency) before Rate Increase	$ (154,170)	$ (181,676)	$ (208,562)	$ (238,321)	$ (271,275)	$ (310,834)
Additional Revenue from Rate Increases[1]	-	198,900	308,375	374,802	447,450	526,843
Surplus (Deficiency) after Rate Increase	$ (154,170)	$ 17,224	$ 99,813	$ 136,480	$ 176,176	$ 216,009
Projected Annual Rate Revenue Increase	*0.00%*	*30.00%*	*12.00%*	*6.00%*	*6.00%*	*6.00%*
Cumulative Rate Increases	*0.00%*	*30.00%*	*45.60%*	*54.34%*	*63.60%*	*73.41%*
Net Revenue Requirement[2]	$ 807,370	$ 844,523	$ 884,518	$ 927,649	$ 977,294	$ 1,026,109

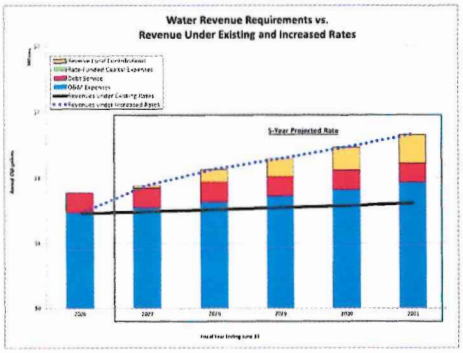
1. Assumes new rates are implemented July 1, 2026.
2. This is the annual amount needed from water rates. [Net Revenue Requirement = Total Use of Funds - (Non-Rate Revenues + Interest Earnings)].

- Year 1 and Year 2 rate adjustments have been smoothed, but these adjustments are still critical to address existing budget deficit
- Years 3 through 5 rate adjustments necessary to keep pace with inflation and begin to build reserve levels from current negative balance

Water Rate Study – Financial Plan

Graphical Picture of Water Financial Plan:

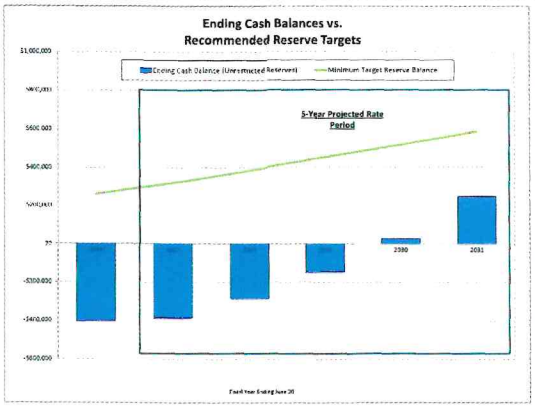
Revenues under increased rates will be used to pay for expenses as well as replenish reserve levels (shown on next slide)



Note: No rate-funded capital expenditures are depicted because those funds are allocated to reserve replenishment

Reserve Fund Levels

Water Reserves Under Proposed Water Rates & Financial Plan:

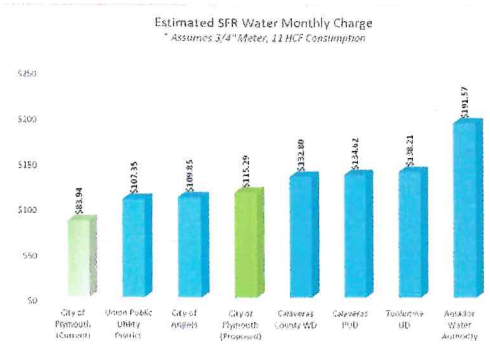


Proposed Draft Water Rate Schedule

Water Rate Schedule	Current Rates	Proposed Rates FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Monthly Fixed Service Charge						
3/4 inch	$33.23	$43.16	$48.34	$51.24	$54.32	$57.58
1 inch	$54.60	$71.10	$79.63	$84.41	$89.47	$94.84
1 1/2 inch	$107.56	$140.94	$157.86	$167.33	$177.37	$188.01
2 inch	$171.35	$224.76	$251.73	$266.83	$282.84	$299.81
3 inch	$320.32	$448.26	$502.05	$532.17	$564.10	$597.94
4 inch	$533.08	$699.69	$783.66	$830.68	$880.52	$933.35
6 inch	$1,064.50	$1,397.99	$1,565.75	$1,659.69	$1,759.28	$1,864.83
Commodity Rate ($/CCF)[1]						
Commodity Rate	$4.61	$6.56	$7.34	$7.78	$8.25	$8.75

1. CCF = Hundred Cubic Feet or 748 gallons.

Proposed Water Rate Regional Comparison



Sewer Rate Study Overview

Sewer Rate Study Objectives

Purpose of a Sewer Rate Study:

- Ensuring sewer rates will be able to cover all operating and maintenance costs.
- Ensuring sufficient funding for essential Capital Improvement Projects.
- Maintaining appropriate reserve funds.
- Complying with legal requirements of Prop 218.

Equivalent Dwelling Units

Current Code of Ordinances

- EDU method based on 2013 Wastewater Collection System Master Plan
- Used 200 gallons per day based on peak water usage November - April
- EDUs to be updated annually, but not recalculated for several years

Revised EDU Calculation

- Considers volume and strength of effluent (BOD & TSS)
- Residential – 1 EDU per Unit
- Other Customer Classes – EDUs calculated based on volume & strength factors
- 109 gallons per day basis from current customer data

Sewer Utility Financial Plan Summary

Summary of Sewer Revenue Requirements

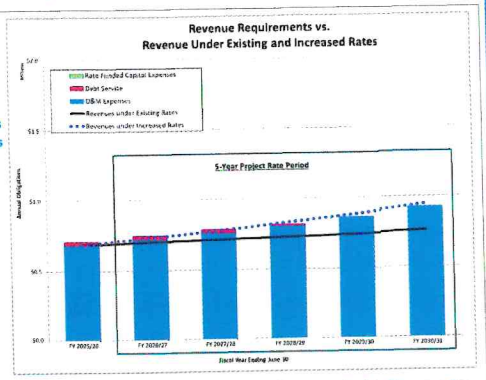
Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sources of Sewer Funds						
Sewer Service Fees	$ 620,000	$ 632,400	$ 645,048	$ 657,949	$ 671,108	$ 684,530
Low Income Credit	(2,880)	(2,938)	(2,996)	(3,056)	(3,117)	(3,180)
Sewer Misc Fees	67,400	68,748	70,123	71,525	72,956	74,415
Total Sources of Funds:	**$ 684,520**	**$ 698,210**	**$ 712,175**	**$ 726,418**	**$ 740,948**	**$ 755,765**
Uses of Sewer Funds						
Operating Expenses:	$ 682,892	$ 719,873	$ 761,275	$ 808,114	$ 861,691	$ 923,684
Other Expenditures:	$ -	$ -	$ -	$ -	$ -	$ -
Existing Debt Service	$ 23,700	$ 25,700	$ 24,550	$ 8,400	$ -	$ -
Total Use of Funds:	**$ 706,592**	**$ 745,573**	**$ 785,825**	**$ 816,514**	**$ 861,691**	**$ 923,684**
Surplus (Deficiency) before Rate Increase	**$ (22,072)**	**$ (47,363)**	**$ (73,651)**	**$ (90,096)**	**$ (120,745)**	**$ (167,918)**
Additional Revenue from Rate Increases[1]	-	31,620	66,117	103,709	144,628	189,123
Surplus (Deficiency) after Rate Increase	**$ (22,072)**	**$ (15,743)**	**$ (7,533)**	**$ 13,614**	**$ 23,883**	**$ 21,205**
Projected Annual Rate Revenue Increase	*0.00%*	*5.00%*	*5.00%*	*5.00%*	*5.00%*	*5.00%*
Cumulative Rate Increases	*0.00%*	*5.00%*	*10.25%*	*15.76%*	*21.55%*	*27.63%*
Net Revenue Requirement[2]	**$ 642,072**	**$ 679,763**	**$ 718,599**	**$ 748,044**	**$ 791,853**	**$ 852,449**

1. Assumes new rates are implemented July 1, 2026.
2. This is the annual amount needed from sewer rates. (Net Revenue Requirement = Total Use of Funds - (Non-Rate Revenues + Interest Earnings)).

Sewer Rate Study – Financial Plan

Graphical Picture of Sewer Financial Plan:

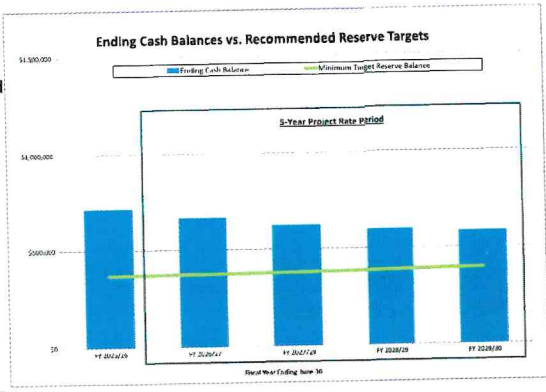
Revenues under increased rates will be used to pay for expenses as well as maintain reserve levels (shown on next slide)



Note: No rate-funded capital expenditures are depicted because the minimal capital costs are funded via capital reserves

Reserve Fund Levels

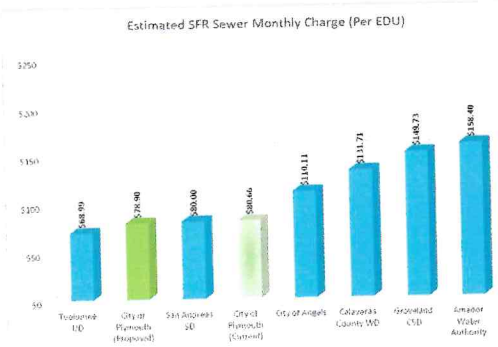
Sewer Reserves Under Proposed Sewer Rates & Financial Plan:



Proposed Draft Sewer Rate Schedule

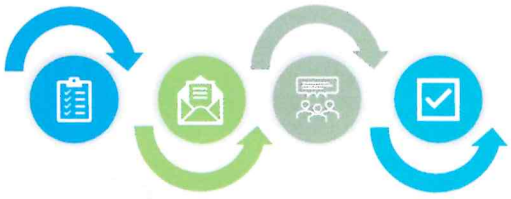
Sewer Rate Schedule	Current Rates ($/EDU)	Proposed Monthly Sewer Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Fixed Service Charges (Per EDU)						
ALL CUSTOMERS						
All Customers - per EDU	$80.66	$78.90	$82.85	$86.99	$91.34	$95.91

Proposed Sewer Rate Regional Comparison



Prop 218 Process for Utility Rates

1. Council Provides Direction on Proposed Rate Adjustments
2. Council Direct Staff to Send Out Prop 218 Notices *(45-day noticing period)*
3. Receive Written Objections & Protests / Hold a Public Hearing to Consider New Rates
4. Adopt New Rates *(assuming no successful Prop 218 challenge)*



Questions & Discussion

CITY OF PLYMOUTH

Water and Sewer Rate Study

DRAFT *Report*

April 2026

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1. Introduction

1.1 Purpose

The City of Plymouth (City) retained NBS to conduct a comprehensive utility rate study for its water and sewer enterprise funds. The City had several objectives and goals in mind for this study including meeting revenue requirements, reviewing the rising costs of providing services, funding capital improvements and changes in costs, and complying with certain legal requirements (e.g., California Constitution Article XIII D, Section 6, which is commonly referred to as Proposition 218 [Prop 218]). The City's broader objectives in this study include ensuring adequate funding for operating and capital costs, reviewing reserve funding, and ensuring revenue stability in utility rates. The rates resulting from this study were developed in a manner that is consistent with industry standard cost-of-service principles. In addition to documenting the rate study methodology, this report is provided with the intent to assist the City in its continuing effort to maintain transparent communications with the residents and community it serves.

In developing new rates for the City's enterprise funds, NBS worked cooperatively with City staff and the City Council (Council) in selecting the appropriate rate alternatives that address the City's goals and objectives. Based on input provided by City staff and City Council, NBS proposes the rates summarized in this report. The Council has the final decision regarding the adoption of the proposed rates and whether to proceed with the Prop 218 approval process.

1.2 Overview of the Study

Comprehensive rate studies, such as this one, typically include three components: (1) preparation of a financial plan that identifies the net revenue requirements for the utility; (2) analysis of the cost to serve each customer class, and (3) the rate structure design. These steps are shown in **Figure 1** and are intended to follow industry standards and reflect the fundamental principles of cost-of-service rate making embodied in the American Water Works Association's (AWWA) *Principles of Water Rates, Fees, and Charges*,[1] also referred to as Manual M1, and the Water Environment Federation's *Financing and Charges for Wastewater Systems* (Manual of Practice No. 27).[2]

Rate studies also address requirements under Prop 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, the three steps shown in **Figure 1** represent the order in which they were performed in this study.

[1] *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, Manual M1, American Water Works Association (AWWA), 8th Edition, 2025.

[2] *Financing and Charges for Wastewater Systems*, Manual of Practice No. 27, Water Environment Federation, Fourth Edition, 2018.

Figure 1. Primary Components of a Rate Study

NBS projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and developed new water and sewer rates for the City using this approach. The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed. Detailed tables and figures documenting the development of the proposed rates are provided in the Technical Appendices.

The City provided NBS with the data necessary to conduct the study, including historical, current, and projected revenues and expenditures, number of customer accounts and Equivalent Dwelling Units, and water consumption data along with other operational and capital cost information.

FINANCIAL PLAN

As a part of the rate study, NBS projected revenues and expenditures on a cash-flow basis for the next five (5) years. The amount of rate revenue required, that will allow reserves to be maintained at the recommended levels, is known as the net revenue requirement. As current rate revenue falls short of the net revenue requirement, rate adjustments – or more accurately, adjustments in the total revenue collected from rates – are recommended. This report presents an overview of the methodologies, assumptions, and data used along with the financial plan and proposed rates developed in this study.[3]

COST-OF-SERVICE ANALYSIS

The basic purpose of the cost-of-service analysis (COSA) is to fairly and equitably allocate costs to customer classes. The cost-of-service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. For example, a key task is the "classification" of the water revenue requirements into the following categories:

- Commodity related costs
- Capacity related costs
- Customer related costs

[3] The complete financial plans are available in the Technical Appendices.

For the sewer utility, the normal classification of sewer revenue requirements uses the following categories:

- Volume related costs
- Strength related costs
- Customer related costs

RATE DESIGN ANALYSIS

During the rate design phase of the study, NBS and City staff worked together to develop rate alternatives that will meet the City's objectives. It is important for the City to send proper price signals to its customers about the actual cost of providing service. This objective is typically addressed through both the magnitude of the rate adjustments and the rate structure design. In other words, both the amount of revenue collected and the way in which the revenue is collected from customers are important.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been well documented in several rate-setting manuals, such as AWWA's Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in *Principles of Public Utility Rates*,[4] which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound rate structure:

- Rates should be easy to understand from the customer's perspective.
- Rates should be easy to administer from the utility's perspective.
- Rates should be equitable and non-discriminating (i.e., cost-based).
- Rates should promote the efficient allocation of the resource.
- There should be continuity in the rate making philosophy over time.
- Rates should address other utility policies (e.g., conservation and economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

RATE STRUCTURE TERMINOLOGY

This section covers basic rate design criteria that NBS and City staff considered as a part of their review of the rate structure alternatives. One of the most fundamental points in considering rate structures is the relationship between fixed and variable costs. Fixed costs, such as debt service and personnel costs, typically do not vary with the amount of water consumed. In contrast, variable costs, such as the cost of purchased water, chemicals, and electricity, tend to change with the quantity of water sold. Most rate structures contain a fixed, or minimum, charge in combination with a volumetric charge.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc. Fixed charges for water utilities typically increase by meter size. For example, a customer with a 2-inch meter, such as a hotel or supermarket, has a fixed meter charge that is more than five times greater than the typical residential customer with a 3/4-inch meter based on the safe operating

[4] James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988, pp. 383-384.

capacity of the meter.[5] Since a large portion of utility costs are typically related to meeting capacity requirements, individual capacity demands are important in establishing equitable rates for customers.

Variable (Consumption-Based) Charges – In contrast to fixed charges, variable costs, such as purchased water, groundwater replenishment costs, and the cost of electricity used in pumping water and chemicals for treatment, tend to change with the quantity of water produced. For a water utility, variable charges are calculated based on a metered consumption per unit price (e.g., per 100 cubic feet, or HCF). For a sewer utility, variable charges are typically based on winter water consumption.

Uniform (Single-Tier) Rates – There are significant variations in the basic philosophy of variable charge rate structure alternatives. Under a uniform (single tier) rate structure, the cost per unit does not change with based on meter size or customer type and, therefore, provides a simple and straightforward approach from the customer's perspective and in terms of the City's rate administration.

KEY FINANCIAL ASSUMPTIONS

The following is a summary of the key financial assumptions used in the analyses. The following capital and operational fund targets reflect input from City staff to meet specific utility objectives.

Funding of Capital Projects – The capital improvement costs related to the water utility have been put on hold due to the overall financial status of the utility and are not anticipated to be funded unless the City obtains grant funding. The capital improvement costs related to the sewer utility will be funded with cash in reserves.

Reserve Targets – For each utility (i.e., water and sewer), the City maintains reserves for operations, capital, and other specific needs. The details of each utility's reserve targets are covered in their respective sections of this report.

Inflation and Growth Projections – Assumptions were made in the analysis regarding cost inflation to project future revenues and expenses for the study period. The following inflation factors were used in the analysis:

- Customer growth is estimated at 2.0% per year.
- General cost inflation is estimated at 2.5% annually.
- Labor cost inflation is estimated at 4.0% annually.
- Electricity cost inflation is estimated at 20.0% annually.
- Fuel & Utilities cost inflation is estimated at 7.08% annually.
- Water purchase inflation factor is estimated at 10.0% annually.

These inflation factors are based on long-term trends; therefore, the City should re-examine these factors in another year to assess the impacts on utility costs and whether projected rate increases will be sufficient for the remainder of the rate adoption period.

[5] *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, Manual M1, AWWA, 7th Edition, 2017, pp. 151-152.

2. Water Rate Study

2.1 Key Water Rate Study Issues

The City's water rate analysis was undertaken with a few specific objectives, including:

- Generating sufficient revenue to meet anticipated operating and maintenance costs.
- Continuing with a rate design that promotes revenue stability.
- Updating the cost-of-service linkage in proposed rates from the current rate structure which was implemented around 2008.
- Rebuild reserve levels to ensure continuity in operations.
- Complying with the legal requirements of Prop 218 to ensure the cost of providing service is properly allocated amongst user classifications.

NBS developed various water rate alternatives as requested by City staff over the course of this study. All rate structure alternatives relied on industry standards and cost-of-service principles. The rate alternative that will ultimately be implemented is the decision of the Council. The fixed and volume-based charges were calculated based on the net revenue requirements, number of customer accounts, water consumption and other relevant data provided by the City.

The following are the basic components included in this analysis:

Developing Cost Allocations – The water revenue requirements were "functionalized" into three categories: (1) commodity (or volume-based) costs; (2) fixed capacity costs; and (3) customer service costs. These functionalized costs were then used to develop unit costs based on various factors, such as water consumption, peaking factors, and number of accounts by meter size.

Determining Revenue Requirements by Customer Class – The total revenue that needs to be collected from each customer class was determined using the functional costs and allocation factors. For example, customer costs are allocated based on the number of meters, while volume-related costs are allocated based on the water consumption of each customer class. Once the costs are allocated and the net revenue requirement for each customer class is determined, collecting the revenue requirements from each customer class is addressed within the rate design.

Evaluating Rate Design (Fixed vs. Variable Charges) – The revenue requirements for each customer class are collected through a combination of fixed monthly service charges and volumetric rates. Based on direction from City staff, the rates proposed in this report will collect 44% of the rate revenue from the fixed charge and 56% from the variable charges.

2.2 Financial Plan

It is important for municipal utilities to not only collect sufficient revenues every year, but to also maintain reasonable reserves to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate adjustments are governed by the need to meet operating and capital costs as well as maintain reasonable reserve levels. The current state of the City's water utility, regarding these objectives, is as follows:

Meeting Net Revenue Requirements: For FY 2026/27 through FY 2030/31, the projected net revenue requirement (that is, total annual expenses plus debt service, less non-rate revenues) for the water system averages $844,000 - $1 million annually. If no rate adjustments are implemented, the City is projected to run an annual deficit of approximately $182,000 in FY 2026/27, increasing to more than $300,000 by FY 2030/31.

Maintaining Reserve Funds: Reserve funds provide a basis for a utility to cope with fiscal emergencies, such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and unexpected emergencies.

- The City's operating reserve balance is estimated to be negative $244,000 by the end of the 2024/25 fiscal year and the City has no funds in capital reserves. The challenge is to replenish the reserves and to be able to meet future revenue requirements and still maintain adequate reserves. NBS together with City staff have chosen to set the following reserve targets:
    - **Operating Reserve** equal to 3 months of operating and maintenance expenses, or approximately $194,000 in FY 2026/27. An operating reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, such as those caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (e.g., volumetric charges), and – particularly in periods of economic distress – changes or trends in the age of receivables. NBS considers a 3-month operating reserve to be analogous reserve fund target (i.e., most municipal water utilities use a 3-month target for the operating reserve).
    - **Capital Rehabilitation & Replacement Reserve** equal to 3% of the net assets, which puts the target reserve is between $128,000 and $345,000 during the 5 year rate period. This reserve is intended to be a cash resource set aside to address long-term capital system replacement and rehabilitation needs. NBS considers a 3% of the net assets capital reserve target to be in line with what most utilities aim for. Many utilities aim for 3% to 6% of net assets.

Funding Capital Improvement Projects: The City must fund necessary capital improvements to maintain current service levels. City staff has identified roughly $4.94 million in expected capital improvement needs over the next five years (FY 2026/27 through FY 2030/31) which is an average of $988,000 in capital expenditures annually. The City has opted to not fund their capital improvement plan for the next 5 years as they work to rebuild their operating reserves.

Inflation and Growth Projections: Cost inflation and growth assumptions are necessary to project future revenues and expenses for the study period. Customer growth is expected to be nearly 2.0% annually. This factor was used in the analysis for rate revenues while specific inflation factors were used for various components of the operating and maintenance budget, as detailed in the Technical Appendices.

Maintaining Adequate Bond Coverage: The water utility currently has outstanding debt with the USDA for the Plymouth Pipeline. The debt does not require a minimum debt service coverage ratio, however it is

essential to maintain sufficient fund balances to meet the annual debt service payments. The rate increases increase coverage to generally acceptable levels over the rate period.

Figure 2 summarizes the sources and uses of funds, net revenue requirements, and the annual percent adjustments in total rate revenue recommended for the next five years.

Figure 2. Summary of Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sources of Water Funds						
Rate Revenue	$ 650,000	$ 663,000	$ 676,260	$ 689,785	$ 703,581	$ 717,653
Wholesale Water Sales	-	-	-	-	-	-
Interest Earnings	78,450	80,019	81,619	83,252	84,917	86,615
Total Sources of Funds:	**$ 728,450**	**$ 743,019**	**$ 757,879**	**$ 773,037**	**$ 788,498**	**$ 804,268**
Uses of Water Funds						
Operating Expenses	$ 736,054	$ 774,929	$ 816,828	$ 862,049	$ 910,922	$ 963,812
Debt Service	146,566	149,766	149,613	149,309	148,851	151,289
Rate-Funded Capital Expenses	-	-	-	-	-	-
Total Use of Funds:	**$ 882,620**	**$ 924,695**	**$ 966,441**	**$ 1,011,358**	**$ 1,059,773**	**$ 1,115,101**
Surplus (Deficiency) before Rate Increase	**$ (154,170)**	**$ (181,676)**	**$ (208,562)**	**$ (238,321)**	**$ (271,275)**	**$ (310,834)**
Additional Revenue from Rate Increases[1]	-	198,900	308,375	374,802	447,450	526,843
Surplus (Deficiency) after Rate Increase	**$ (154,170)**	**$ 17,224**	**$ 99,813**	**$ 136,480**	**$ 176,176**	**$ 216,009**
Projected Annual Rate Revenue Increase	***0.00%***	***30.00%***	***12.00%***	***6.00%***	***6.00%***	***6.00%***
Cumulative Rate Increases	*0.00%*	*30.00%*	*45.60%*	*54.34%*	*63.60%*	*73.41%*
Net Revenue Requirement[2]	**$ 807,370**	**$ 844,523**	**$ 884,518**	**$ 927,649**	**$ 977,294**	**$ 1,026,109**

1. Assumes new rates are implemented July 1, 2026.
2. This is the annual amount needed from water rates. [Net Revenue Requirement = Total Use of Funds - (Non-Rate Revenues + Interest Earnings)].

Figure 3 summarizes the projected reserve fund balances and reserve targets for the City's unrestricted funds. A detailed version of the proposed 5-year financial plan is included in *Appendix A.* Water Rate Study Tables and FiguresThe tables in the appendix include the revenue requirement, reserve funds, revenue sources and the proposed rate adjustments needed to meet the City's funding requirements.

Figure 3. Summary of Primary Water Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Operating Reserve						
Ending Balance	$ (401,457)	$ (384,080)	$ (283,963)	$ (147,025)	$ 26,713	$ 228,000
Recommended Minimum Target	*184,000*	*194,000*	*204,000*	*216,000*	*228,000*	*241,000*
Capital Reserve						
Ending Balance	$ -	$ -	$ -	$ -	$ -	$ 17,099
Recommended Minimum Target	*75,100*	*127,700*	*180,800*	*234,600*	*289,000*	*344,300*
Total Ending Balance	**$ (401,457)**	**$ (384,080)**	**$ (283,963)**	**$ (147,025)**	**$ 26,713**	**$ 245,099**
Total Recommended Minimum Target	***$ 259,100***	***$ 321,700***	***$ 384,800***	***$ 450,600***	***$ 517,000***	***$ 585,300***

2.3 Cost-of-Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis (COSA) proportionately distributes the revenue requirements to each of the customer classes. The COSA consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to each customer class. Costs are classified according to the function they serve. All costs in the City's budget are allocated to each component of the rate structure in proportion to the level of service required by customers.

The level of service is related to the volume of water purchased and treated, infrastructure capacity, and customer services. These costs are based on allocation factors, such as water consumption, number of

meters, and customer class. Ultimately, a COSA is intended to result in rates that are proportional to the cost of providing service to each customer class.

FUNCTIONALIZATION AND CLASSIFICATION OF COSTS

Most costs are not typically allocated just to fixed or variable categories but rather allocated to multiple functions of water service. The functionalization and classification process provides the basis for allocating costs to various customer classes based on the cost causation (classification) components described below:

- **Commodity-related costs** are costs associated with the change in the volume of water produced and delivered. These commonly include the costs of water quality testing, energy related to pumping for transmission and distribution, and source of supply.
- **Capacity-related costs** are costs associated with sizing facilities to meet the maximum demand. This includes both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events.
- **Customer-related costs** are costs associated with having a customer connected to the water system, such as meter reading, postage, billing, and other administrative duties.

The City's budgeted costs were reviewed and allocated to these cost causation components which are used as the basis for establishing new water rates and translated into fixed and variable charges. Tables in the Technical Appendices show how the City's expenses were classified and allocated to these cost causation components. In the analysis, these cost causation components are also considered to be either fixed or variable.

FIXED AND VARIABLE COSTS

Ideally, utilities should recover all of their fixed costs from fixed charges and all of their variable costs from volumetric charges. When this is the case, fluctuations in water sales revenues would be directly offset by reductions or increases in variable expenses, which provides greater revenue stability for the utility. However, other factors are often considered when designing water rates, such as community values, water conservation goals, ease of understanding, and ease of administration.[6]

NBS functionalized the City's costs into categories that represent fixed and variable costs. This analysis resulted in a cost distribution that is approximately 44% fixed and 56% variable (i.e., volumetric), which is consistent with the City's current rate collection proportions. The proposed rates are based on these 44% fixed and 56% variable allocations.

Figure 4 summarizes how costs are allocated to each cost component and used to establish new water rates. **Figure 5** shows the resulting cost allocation to each cost classification component.

[6] *Principles of Water Rates, Fees, and Charges,* Manual of Water Supply Practices, Manual M1, AWWA, 7th Edition, 2017, pp. 6 and 96.

Figure 4. Allocation Percentages of Revenue Requirements

Classification Components	Cost-of-Service Net Revenue Requirements *(FY 2026/27)*	
Commodity-Related Costs	$ 482,664	*56.0%*
Capacity-Related Costs	370,617	*43.0%*
Customer-Related Costs	8,619	*1.0%*
Net Revenue Requirement	**$ 861,900**	*100.0%*

Figure 5. Allocated Net Revenue Requirements

Customer Classes	Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	VARIABLE	*FIXED*			
	Commodity-Related Costs	Capacity-Related Costs	Customer-Related Costs		
All Customers	$ 482,664	$ 370,617	$ 8,619	$ 861,900	*100.0%*
Total Net Revenue Requirement	**$ 482,664**	**$ 370,617**	**$ 8,619**	**$ 861,900**	**100%**

2.4 Characteristics of Water Customers by Customer Class

Customer classes are determined by combining customers with similar demand characteristics and types of use into categories that reflect the cost differentials to serve each type of customer. The hydraulic capacity and the number of meters by size are used to allocate costs to customer classes and determine the appropriate rate structures for each.

2.5 Rate Design Analysis

Evaluating the water rate structure includes reviewing rate-design objectives and policies, including continuity of rate design, revenue stability, equity among customers, and water conservation. NBS discussed the 44%/56% rate designs with City staff and City Council over the course of this study. Ultimately, City staff and Council selected the 44%/56% rate alternative, as it is closest to the actual cost of service based on NBS' analysis. Also, a uniform tier for all customers was selected to continue. The following section describes how the proposed water rates were determined.

DEVELOPMENT OF PROPOSED RATES

Fixed Service Charges

The fixed meter charge recognizes that the water utility incurs fixed costs regardless of whether customers use water. Two components comprise the fixed meter charge: (1) the capacity component, and (2) the customer component. The capacity component recovers costs associated with sizing the water system to ensure there is sufficient capacity in the system to meet peak demand. A user class with higher-hydraulic capacity is allocated a proportionately higher share of the capacity-related costs compared to customer classes with lower hydraulic capacity. The customer component includes those costs related to reading and maintaining meters, customer billing and collection, and other customer service-related costs.

Fixed charges also vary based on meter sizes because larger meters have higher capacity requirements and reflect their potential to use more of the system's capacity.[7] The potential capacity demands is proportional to the maximum hydraulic flow through each meter size based on the hydraulic capacity ratios established by AWWA.[8] The AWWA capacity ratios used for this report are shown in **Figure 6**.

Figure 6. Hydraulic Capacity Factors

Meter Size	Standard Meters	
	Meter Capacity (GPM)[1]	Equivalency to 3/4 inch
	Displacement Meters	
3/4 inch	30	1.00
1 inch	50	1.67
1 1/2 inch	100	3.33
2 inch	160	5.33
	Compound Class I Meters	
3 inch	320	10.67
4 inch	500	16.67
6 inch	1,000	33.33
8 inch	1,600	53.33

1. Per AWWA, M1 Manual, Table B-1.

The actual number of meters by size is multiplied by the corresponding capacity ratios to calculate "equivalent" meters. The number of equivalent meters is used as a proxy for the potential demand that each customer can place on the water system. **Figure 7** summarizes the number of meters, the hydraulic capacity factors, and the number of equivalent meters (i.e., the number of meters multiplied by the hydraulic capacity factor) by customer class and meter size.

Figure 7. Equivalent Meters

Number of Meters by Class and Size[1]	FY 2026/27							Total
	3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
All Customers	459	96	6	9	0	1	1	572
Total Meters/Accounts	**459**	**96**	**6**	**9**	**0**	**1**	**1**	**572**
Hydraulic Capacity Factor[2]	*1.00*	*1.67*	*3.33*	*5.33*	*10.67*	*16.67*	*33.33*	
Total Equivalent Meters	**459**	**160**	**20**	**48**	**0**	**17**	**33**	**737**

1. Meter by Class and Size are based on June 2023 customer billing data.

Using the costs allocated to each customer class from Figure 5, **Figure 8** shows the calculation of the fixed monthly service charges for all customer classes based on meter size. As previously mentioned, the customer service charge is calculated by dividing the customer service-related costs by the total number of meters, whereas the fixed capacity charge is calculated by dividing the capacity-related costs by the total number of equivalent meters for each meter size.

[7] System capacity is the system's ability to supply water to all delivery points at the time when demanded.

[8] *Principles of Water Rates, Fees and Charges*, Manual of Water Supply Practices, Manual M1, AWWA, 7th Edition, 2017, p. 386. *Water Meters – Selection, Installation, Testing and Maintenance*, Manual M6, AWWA, 5th Edition, 2012, pp. 63-65.

Figure 8. Calculation of Fixed Service Charges

Number of Meters by Class and Size[1]	FY 2026/27							Total
	3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
All Customers	459	96	6	9	0	1	1	572
Total Meters/Accounts	**459**	**96**	**6**	**9**	**0**	**1**	**1**	**572**
Hydraulic Capacity Factor[2]	*1.00*	*1.67*	*3.33*	*5.33*	*10.67*	*16.67*	*33.33*	
Total Equivalent Meters	**459**	**160**	**20**	**48**	**0**	**17**	**33**	**737**
Monthly Fixed Service Charges								
Customer Costs ($/Acct/month)[3]	$1.26	$1.26	$1.26	$1.26	$1.26	$1.26	$1.26	
Capacity Costs ($/Acct/month)[4]	$41.91	$69.84	$139.69	$223.50	$447.00	$698.44	$1,396.73	
Total Monthly Meter Charge	**$43.16**	**$71.10**	**$140.94**	**$224.76**	**$448.26**	**$699.69**	**$1,397.99**	
Annual Fixed Costs Allocated to Monthly Meter Charges								
Customer Costs	$ 8,619							
Capacity Costs	370,617							
Total Fixed Meter Costs	$ 379,236							
Annual Revenue from Monthly Meter Charges								
Customer Charges	$ 6,916	$ 1,447	$ 90	$ 136	$ -	$ 15	$ 15	**$ 8,619**
Capacity Charges	$ 230,820	$ 80,460	$ 10,057	$ 24,138	$ -	$ 8,381	$ 16,761	**$ 370,617**
Total Revenue from Monthly Meter Charges	**$ 237,736**	**$ 81,907**	**$ 10,148**	**$ 24,274**	**$ -**	**$ 8,396**	**$ 16,776**	**$ 379,236**

1. Meter by Class and Size are based on June 2023 customer billing data.
2. Source: *Principles of Water Rates, Fees, and Charges* , Manual M1, AWWA, Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

Volumetric Rates

Currently, the City uses uniform, or single tier, volumetric rate. Given the single source of water supply, a uniform volumetric rate is more appropriate from a Prop 218 perspective.

Figure 9 shows the calculation of the uniform tier rate per unit of water for all customers, including the basic commodity rate (without pumping costs) and rates for each zone (including pumping costs).

Figure 9. Uniform Tier Rates for FY 2026/27

Customer Classes	Number of Meters[1]	Water Consumption (HCF/yr)	Total Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates ($/HCF)	*Proposed Rate Structure*
All Customers	572	73,606	$ 482,664	*56.0%*	$6.56	*Uniform*
Total Water	**572**	**73,606**	**$ 482,664**	***56.0%***		

1. Consumption data is based on the City of Plymouth's billing data.

2.6 Proposed Water Rates

The City's previous rate study appears to have been completed in 2008. Since then, the underlying cost factors (e.g., consumption by class, number of meters, peaking factors) have changed. The cost-of-service analysis by nature "re-balances" how costs are allocated between customer classes and, as a result, there are uneven adjustments in the first year of the 5-year rate adoption period. In contrast, in the subsequent four years of the rate planning period, proposed charges are simply adjusted by the proposed adjustment in total rate revenue needed to meet projected revenue requirements.

Figure 10 provides a comparison of the current and proposed water rates for FY 2026/27 through 2030/31 for each customer class and meter size. Projected rates for each fiscal year[9] reflect adjustments based on the cost-of-service analysis, the 44% fixed/56% variable rate design structure, and the recommended percent increases in rate revenue planned for each year. More detailed tables on the development of the proposed water rates are documented in Appendix A.

[9] All rate adjustments are scheduled to be effective on July 1, 2026.

Figure 10. Current and Proposed Water Rates

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Monthly Fixed Service Charge						
3/4 inch	$33.23	$43.16	$48.34	$51.24	$54.32	$57.58
1 inch	$54.60	$71.10	$79.63	$84.41	$89.47	$94.84
1 1/2 inch	$107.56	$140.94	$157.86	$167.33	$177.37	$188.01
2 inch	$171.35	$224.76	$251.73	$266.83	$282.84	$299.81
3 inch	$320.32	$448.26	$502.05	$532.17	$564.10	$597.94
4 inch	$533.08	$699.69	$783.66	$830.68	$880.52	$933.35
6 inch	$1,064.50	$1,397.99	$1,565.75	$1,659.69	$1,759.28	$1,864.83
Commodity Rate ($/CCF) [1]						
Commodity Rate	$4.61	$6.56	$7.34	$7.78	$8.25	$8.75

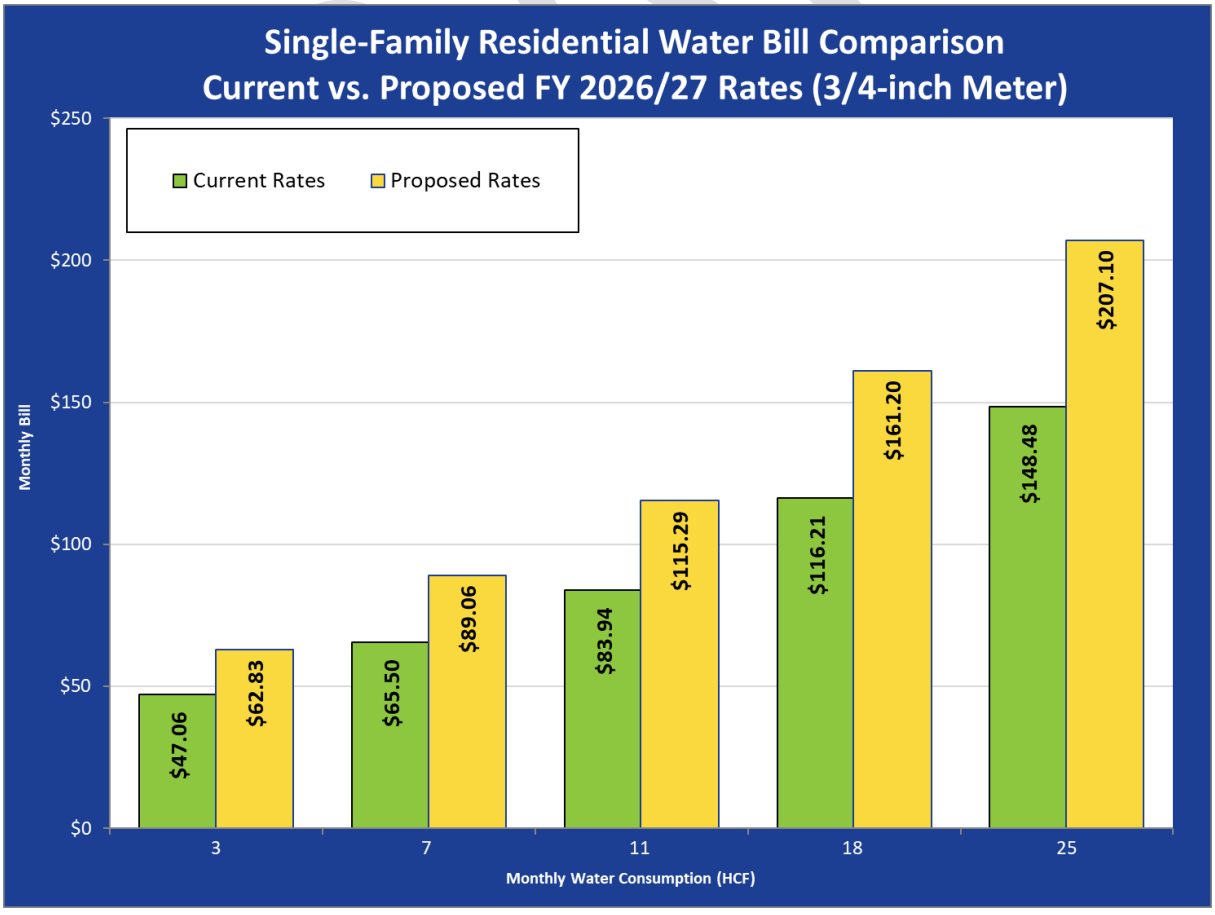
1. CCF = Hundred Cubic Feet or 748 gallons.

2.7 Comparison of Current and Proposed Water Bills

Figure 11 compares a range of monthly water bills under the current and proposed water rates for residential customers. These monthly bills are based on typical meter sizes and highlight various consumption levels for customers.

These bill comparisons assume that financial plan projections remain accurate. However, some costs that are outside of the City's control could change, such as the cost of water purchased from Amador Water Agency. There is a "pass-through" provision that allows the City to make adjustments to water rates if these types of costs exceed those in the City's projections.

Figure 11. Monthly Water Bill Comparison for Residential Customers



3. Sewer Rate Study

3.1 Key Sewer Rate Study Issues

The City's sewer rate analysis was undertaken with a few specific objectives, including:

- Ensuring equity among customer classes by collecting rate revenue through the cost-of-service process based on both fixed monthly charges and volumetric rates.
- Maintain adequate reserve levels to ensure continuity in operations.
- Comply with Prop 218 requirements to ensure costs are properly allocated between user classifications.

3.2 Financial Plan

It is important for the sewer utility to ensure rates provide sufficient funding to cover operating and maintenance costs, planned capital expenditures, and maintain reasonable reserves. The sewer utility's rate increases are governed by these needs, and the current state of the City's sewer utility is as follows:

Meeting Net Revenue Requirements: For FY 2026/27 through FY 2030/310, the projected net revenue requirements (that is, total operating expenses plus rate-funded capital costs less non-rate revenues) for the City averages approximately $680,000 to $852,000 annually. If no rate increases are implemented, the City is projected to run an annual deficit of approximately $47,000 beginning in FY 2026/27 but increasing to $168,000 by FY 2030/31, and the utility would struggle to meet its operating costs and debt service payments.

Maintaining Reserve Funds: Reserve funds provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The reserve funds for the sewer utility are considered unrestricted reserves and consist of the following:

- **Operating Reserve**: The target ending fund balance for the operating reserve is equal to three months of operating expenses, or approximately $180,000 in FY 2026/27. An operating reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations in revenue can be caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (such as volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.
- **Capital Rehabilitation & Replacement Reserve** equal to 3% of the net assets, which puts the target reserve at approximately $194,000 in FY 2026/27. This reserve is intended to be a cash resource set aside to address long-term capital system replacement and rehabilitation needs. NBS considers a 3% of the net assets capital reserve target to be in line with what most utilities aim for. Many utilities aim for 3% to 6% of net assets.

Maintaining Adequate Bond Coverage: The sewer utility currently has two outstanding Sewer Revenue Bonds with the USDA. The debt does not require a minimum debt service coverage ratio, however it is essential to maintain sufficient rate revenue to meet the annual debt service payments.

The recommended rate revenue increase is 5% annually throughout the five-year rate adoption period. **Figure 12** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual increases in sewer rate revenue proposed for the next five years. **Figure 13** summarizes the projected reserve fund balances and reserve targets for the sewer utility's unrestricted funds.

Figure 12. Summary of Sewer Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sources of Sewer Funds						
Sewer Service Fees	$ 620,000	$ 632,400	$ 645,048	$ 657,949	$ 671,108	$ 684,530
Low Income Credit	(2,880)	(2,938)	(2,996)	(3,056)	(3,117)	(3,180)
Sewer Misc Fees	67,400	68,748	70,123	71,525	72,956	74,415
Total Sources of Funds:	**$ 684,520**	**$ 698,210**	**$ 712,175**	**$ 726,418**	**$ 740,946**	**$ 755,765**
Uses of Sewer Funds						
Operating Expenses:	$ 682,892	$ 719,873	$ 761,275	$ 808,114	$ 861,691	$ 923,684
Other Expenditures:	$ -	$ -	$ -	$ -	$ -	$ -
Existing Debt Service	$ 23,700	$ 25,700	$ 24,550	$ 8,400	$ -	$ -
Total Use of Funds:	**$ 706,592**	**$ 745,573**	**$ 785,825**	**$ 816,514**	**$ 861,691**	**$ 923,684**
Surplus (Deficiency) before Rate Increase	**$ (22,072)**	**$ (47,363)**	**$ (73,651)**	**$ (90,096)**	**$ (120,745)**	**$ (167,918)**
Additional Revenue from Rate Increases[1]	-	31,620	66,117	103,709	144,628	189,123
Surplus (Deficiency) after Rate Increase	**$ (22,072)**	**$ (15,743)**	**$ (7,533)**	**$ 13,614**	**$ 23,883**	**$ 21,205**
Projected Annual Rate Revenue Increase	***0.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***
Cumulative Rate Increases	*0.00%*	*5.00%*	*10.25%*	*15.76%*	*21.55%*	*27.63%*
Net Revenue Requirement[2]	**$ 642,072**	**$ 679,763**	**$ 718,699**	**$ 748,044**	**$ 791,853**	**$ 852,449**

1. Assumes new rates are implemented July 1, 2026.
2. This is the annual amount needed from sewer rates. [Net Revenue Requirement = Total Use of Funds - (Non-Rate Revenues + Interest Earnings)].

Figure 13. Summary of Sewer Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Operating Reserve						
Ending Balance	$ 192,756	$ 173,485	$ 168,188	$ 183,969	$ 204,371	$ 217,634
Recommended Minimum Target	*171,000*	*180,000*	*190,000*	*202,000*	*215,000*	*231,000*
Capital Reserve						
Ending Balance	$ 517,331	$ 486,976	$ 449,186	$ 409,918	$ 374,967	$ 343,144
Recommended Minimum Target	*199,100*	*194,200*	*189,500*	*185,000*	*180,600*	*176,500*
Total Ending Balance	**$ 710,087**	**$ 660,461**	**$ 617,373**	**$ 593,887**	**$ 579,338**	**$ 560,778**
Recommended Minimum Target	***$ 370,100***	***$ 374,200***	***$ 379,500***	***$ 387,000***	***$ 395,600***	***$ 407,500***

A more detailed version of the utility's proposed five-year financial plan is included in Appendix B. The appendix tables include revenue requirements, reserve funds, revenue sources, proposed rate increases, and the City's capital improvement program.

3.3 Cost-of-Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis (COSA) proportionately distributes the revenue requirements to each of the customer classes. The COSA consists of the classification of expenses and then the allocation of those expenses to customer classes based on allocation factors, such as water consumption and number of equivalent dwelling units (EDUs), or accounts. Ultimately, a COSA is intended to result in rates that are proportional to the cost of providing service to each customer class.

CUSTOMER CLASSES AND ALLOCATION FACTORS

Customer classes are determined by combining customers with similar demand characteristics and types of use into categories that reflect the cost differentials to serve each type of customer. The January 2024 water consumption data was the basis for estimating the amount of flow that each customer class sends to the treatment plant.

Figure 14 shows the development of the flow/volume allocation factors by customer class calculated by taking the January 2024 water consumption lowest consecutive 3-month water usage for 2023 for residential customers, annualizing that usage, and using the annual consumption for non-residential customer classes.

Figure 14. Development of the Flow Allocation Factor

Customer Class	Number of Accounts[1]	Number of Units	Estimated Annual Winter Volume (Gallons)[2]	Percentage of Volume
Residential	476	524	20,880,065	**81.7%**
Non-Residential				
Low Strength	40	N/A	1,294,025	**5.1%**
Medium Strength		N/A		**0.0%**
High Strength	9	N/A	1,181,331	**4.6%**
RV Park	1	156	2,135,250	**8.4%**
Septage	1		72,000	**0.3%**
Total:	**527**		**25,562,671**	**100.0%**

1. Number of accounts provided by City Staff.
2. January 2024 water consumption.

Volumetric charges for non-residential customer classes were based on the annual consumption and their estimated effluent. **Figure 15** summarizes the development of the strength allocation factors by customer class. These strength-related percentages were used to allocate strength-related costs. (Note: Residential customer strengths, and their estimated pounds of BOD and TSS, are used to allocate capacity-related costs to multi-family and commercial customers.)

Figure 15. Development of the Strength Allocation Factor

Customer Class	Estimated Annual Winter Volume (Gallons)[1]	Biochemical Oxygen Demand (BOD)				Total Suspended Solids (TSS)			
		Avg. Strength Factor (mg/l)[2]	Calculated BOD (lbs./yr.)[3]	Adjusted BOD (lbs./yr.)	Percent of Total	Avg. Strength Factor (mg/l)[2]	Calculated TSS (lbs./yr.)[3]	Adjusted TSS (lbs./yr.)	Percent of Total
Residential	20,880,065	175	30,474	30,474	**61.5%**	175	30,474	30,474	**62.9%**
Non-Residential									
Low Strength	1,294,025	200	2,158	2,158	**4.4%**	200	2,158	2,158	**4.5%**
Medium Strength	-	450	-	-	**0.0%**	450	-	-	**0.0%**
High Strength	1,181,331	600	5,911	5,911	**11.9%**	600	5,911	5,911	**12.2%**
RV Park	2,135,250	434	7,729	7,729	**15.6%**	150	2,671	2,671	**5.5%**
Septage	72,000	5,400	3,243	3,243	**6.5%**	12,000	7,206	7,206	**14.9%**
Total:	**25,562,671**		**49,516**	**49,516**	**100.0%**		**48,421**	**48,421**	**100.0%**

1. Estimated sewer flow based on average winter consumption.
2. Source: CA State Water Resources Control Board, *Revenue Program Guidelines (Appendix G) , G-21* .

Figure 16 summarizes the development of the customer allocation factor.

Figure 16. Development of the Customer Allocation Factor

Sewer Customer Classes	Number of Accounts	Percent of Total
Residential	476	**90.3%**
Non-Residential		
Low Strength	40	**7.6%**
Medium Strength	-	**0.0%**
High Strength	9	**1.7%**
RV Park	1	**0.2%**
Septage	1	**0.2%**
Total:	**527**	**100.0%**

CLASSIFICATION AND ALLOCATION OF COSTS

As previously noted, costs are classified into the following three categories: (1) flow-related costs, (2) strength-related costs (BOD and TSS), and (3) customer-related costs. Costs are typically allocated to more than one of these .

The City's budgeted costs were allocated to these three categories which serve as the basis for calculating the proposed charges. Tables in Appendix B. Sewer Rate Study Tables and Figuresshow how the City's expenses were classified and allocated to these cost-causation components.

Figure 17 summarizes the allocation of the net revenue requirements to each cost causation component for the proposed rates.

Figure 17. Allocation of Revenue Requirements by Customer Class

Customer Class	Cost Classification Components				Cost-of-Service Net Revenue Req'ts.	% of COS Net Revenue Req'ts.
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requirements [1]	***$ 393,482***	***$ 130,225***	***$ 130,225***	***$ 25,831***	***$ 679,763***	
	58.0%	*19.1%*	*19.1%*	*3.8%*	*100.0%*	
ALL CUSTOMERS						
Residential	$ 321,403	$ 80,147	$ 81,959	$ 23,331	**$ 506,840**	*74.6%*
Non-Residential						
Low Strength	19,919	5,677	5,805	1,961	**33,361**	*4.9%*
Medium Strength	-	-	-	-	**-**	*0.0%*
High Strength	18,184	15,547	15,898	441	**50,070**	*7.4%*
RV Park	32,868	20,326	7,184	49	**60,427**	*8.9%*
Septage	1,108	8,528	19,379	49	**29,065**	*4.3%*
Total:	**$ 393,482**	**$ 130,225**	**$ 130,225**	**$ 25,831**	**$ 679,763**	***100%***

1. The revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

3.4 Rate Design Analysis

During this rate study, NBS discussed with City staff various rate alternatives. Ultimately, the rate alternative selected by City staff is one similar to the existing rate design, which is to use a fixed only rate with no volumetric charge. The reasons for selecting this alternative are (1) it maintains the existing rate design developed during the last study which utilize sewer strengths for various customers types based on

values in the State water Resources Control Board guidelines,[10] (2) it provides continuity for sewer customers, (3) it recognizes that the sewer utility incurs fixed costs regardless of whether customers send any sewer into the City's collection system, and (4) it is easy to understand from a customer's perspective and easy to administrate from City staff's perspective.

FIXED CHARGES

The monthly fixed charge is calculated by taking 100% of total revenue requirements and dividing by the number of equivalent dwelling units (EDUs). EDUs are based on dwelling units for residential accounts. EDUs are based on the relative volume and strength of effluent for other customer classes.

The fixed charge calculations are summarized in **Figure 18**. The estimated sewer flow is based on average winter consumption for residential customers, while it is based on annual consumption for non-residential customers.

Figure 18. Development of Fixed Charges

Customer Class	Number of Accounts	No. of EDUs	Adjusted Annual Volume Total (Gallons)	Total Revenue Requirement	Fixed & Volumetric Charges	
					Monthly Fixed Charge	Vol. Rate $/HCF
ALL CUSTOMERS						
All Customers - per EDU	527	717.9	25,562,671	$ 679,763	$78.90	*N/A*

3.5 Proposed Sewer Rates

The proposed sewer rates are similar to existing rates in terms of the rate design and rate methodology. **Figure 19** compares the current and proposed rates for FY 2026/27 through FY 2030/31 by customer class. More detailed tables on the development of the proposed rates are documented in Appendix B.

Figure 19. Current vs. Proposed Sewer Rates

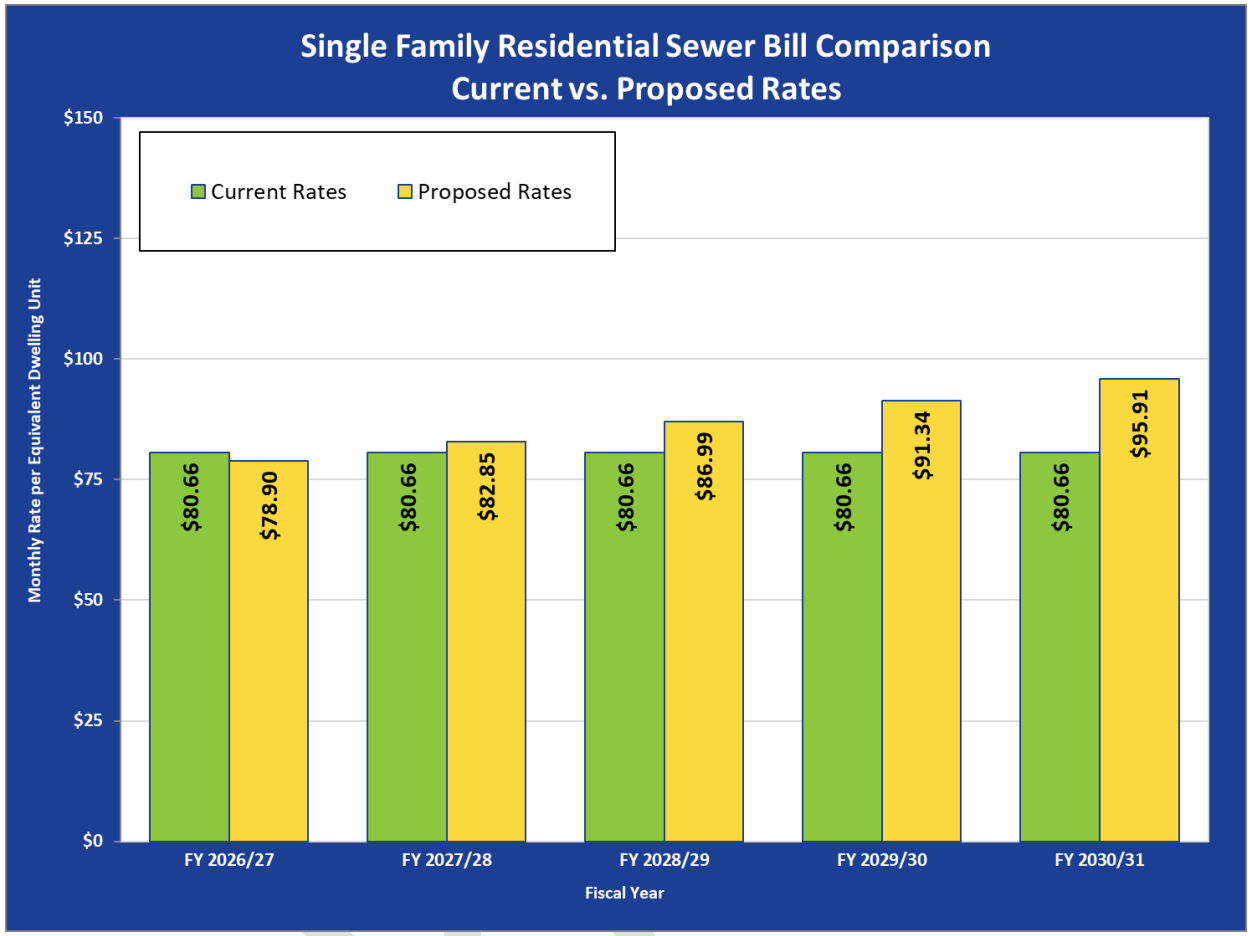
Sewer Rate Schedule	*Current Rates ($/EDU)*	Proposed Monthly Sewer Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Fixed Service Charges (Per EDU)						
ALL CUSTOMERS						
All Customers - per EDU	$80.66	$78.90	$82.85	$86.99	$91.34	$95.91

3.6 Comparison of Current and Proposed Sewer Bills

The following figure presents a comparison of the current and proposed monthly rate per equivalent dwelling unit for residential customers.

[10] *Residential strength factors used here are the 175 mg/l shown in Table 22.*

Figure 20. Residential Sewer Bill Comparison



4. Recommendations and Next Steps

4.1 Consultant Recommendations

NBS recommends the City take the following actions:

- **Approve and Accept this Study:** NBS recommends the City Council formally approve and adopt this Study and its recommendations and proceed with the next steps outlined below to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.
- **Implement Recommended Levels of Rate Increases and Proposed Rates:** Based on successfully meeting the Prop 218 procedural requirements, the City should proceed with implementing the 5-year schedule of proposed rates and rate increases previously shown in Figure 10 and Figure 19. This will help ensure the continued financial health of City's utilities.

4.2 Next steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements — particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

Note: The attached Technical Appendices provide more detailed information on the analysis of the financial plan, revenue requirements, cost-of-service, and the rate design analyses that have been summarized in this report.

4.3 NBS' Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on several principal assumptions and considerations regarding financial matters, conditions, and events that may occur in the future. This information and these assumptions, including the City's budgets, capital improvement costs, customer accounts and consumption, and information from City staff were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein and may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

Technical Appendices

These Appendices contain:

- Appendix A: Water Rate Study Tables and Figures
- Appendix B: Sewer Rate Study Tables and Figures

Appendix A. Water Rate Study Tables and Figures

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sources of Water Funds [1]						
Rate Revenue	$ 650,000	$ 663,000	$ 676,260	$ 689,785	$ 703,581	$ 717,653
Wholesale Water Sales	$ -	$ -	$ -	$ -	$ -	$ -
Other Non-rate Revenue	$ 78,450	$ 80,019	$ 81,619	$ 83,252	$ 84,917	$ 86,615
Total Sources of Funds:	**$ 728,450**	**$ 743,019**	**$ 757,879**	**$ 773,037**	**$ 788,498**	**$ 804,268**
Uses of Water Funds [1]						
Operating Expenses:						
Water System	$ 736,054	$ 774,929	$ 816,828	$ 862,049	$ 910,922	$ 963,812
Subtotal: Operating Expenses	$ 736,054	$ 774,929	$ 816,828	$ 862,049	$ 910,922	$ 963,812
Other Expenditures:						
Existing Debt Service	$ 149,766	$ 149,613	$ 149,309	$ 148,851	$ 151,289	$ 148,912
New Debt Service	-	-	-	-	-	-
Rate-Funded Capital Expenses	-	-	-	-	-	-
Subtotal: Other Expenditures	$ 149,766	$ 149,613	$ 149,309	$ 148,851	$ 151,289	$ 148,912
Total Uses of Water Funds:	**$ 885,820**	**$ 924,542**	**$ 966,137**	**$ 1,010,900**	**$ 1,062,211**	**$ 1,112,724**
plus: Revenue from Rate Increases [3]	-	198,900	308,375	374,802	447,450	526,843
Annual Surplus/(Deficit)	**$ (157,370)**	**$ 17,377**	**$ 100,117**	**$ 136,938**	**$ 173,738**	**$ 218,386**
Net Revenue Req't. *(Total Uses less Non-Rate Revenue)*	**$ 807,370**	**$ 844,523**	**$ 884,518**	**$ 927,649**	**$ 977,294**	**$ 1,026,109**
Total Rate Revenue After Rate Increases (Water)	**$ 650,000**	**$ 861,900**	**$ 984,635**	**$ 1,064,587**	**$ 1,151,031**	**$ 1,244,495**
Projected Annual Rate Revenue Increase	***0.00%***	***30.00%***	***12.00%***	***6.00%***	***6.00%***	***6.00%***
Cumulative Increase from Annual Revenue Increases	*0.00%*	*30.00%*	*45.60%*	*54.34%*	*63.60%*	*73.41%*
Debt Coverage After Rate Increase	*(0.05)*	*1.12*	*1.67*	*1.92*	*2.15*	*2.47*

1. Revenue and expenses through FY 2024/25 provided by the City. Revenues and expenses for all other years are escalated based on the forecasting assumptions in Table 8.
2. Interest earnings through FY 2024/25 are from the City's Budget. For all other years, interest is calculated based on historical LAIF returns.
3. Revenue from rate increases assumes an implementation date of July 1, 2026 for new rates. For each year thereafter, the assumption is that new rates will be implemented on July 1st of each year.

3	*<-- Select Financial Plan Scenario Here*						
Financial Plan Alternatives		FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
1	Alternative 1 - 12% Annual Rate Increases	*0.00%*	*12.00%*	*12.00%*	*12.00%*	*12.00%*	*12.00%*
2	Alternative 2 - Custom Rate Increase	*0.00%*	*20.00%*	*16.00%*	*8.00%*	*8.00%*	*8.00%*
3	Alternative 3 - Custom Rate Increases	*0.00%*	*30.00%*	*12.00%*	*6.00%*	*6.00%*	*6.00%*
4	Alternative 4 - No Rate Increases	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Unrestricted Reserve:						
Total Beginning Cash[1]	$ (244,087)					
Operating Reserve						
Beginning Reserve Balance	$ (244,087)	$ (401,457)	$ (384,080)	$ (283,963)	$ (147,025)	$ 26,713
Plus: Net Cash Flow (After Rate Increases)	(157,370)	17,377	100,117	136,938	173,738	218,386
Plus: Interest Earnings	-	-	-	-	-	345
Less: Transfer out to Capital and Infrastructure Reserve	-	-	-	-	-	(17,099)
Ending Operating Reserve Balance	***$ (401,457)***	***$ (384,080)***	***$ (283,963)***	***$ (147,025)***	***$ 26,713***	***$ 228,345***
Target Ending Balance (90 days of O&M)[2]	*$ 184,000*	*$ 194,000*	*$ 204,000*	*$ 216,000*	*$ 228,000*	*$ 241,000*
Capital Reserve						
Beginning Reserve Balance	$ -	$ -	$ -	$ -	$ -	$ -
Plus: Grant Proceeds	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	-	-	-	-	-	17,099
Plus: Interest Earnings	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects	-	-	-	-	-	-
Ending Capital Reserve Balance	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ 17,099***
Target Ending Balance (3% of net assets)[3]	*$ 75,100*	*$ 127,700*	*$ 180,800*	*$ 234,600*	*$ 289,000*	*$ 344,300*
Ending Balance - Excl. Restricted Reserves	***$ (401,457)***	***$ (384,080)***	***$ (283,963)***	***$ (147,025)***	***$ 26,713***	***$ 245,443***
Min. Target Ending Balance -Excl. Restricted Reserves	***$ 259,100***	***$ 321,700***	***$ 384,800***	***$ 450,600***	***$ 517,000***	***$ 585,300***
Ending Surplus/(Deficit) Compared to Reserve Targets	***$ (660,557)***	***$ (705,780)***	***$ (668,763)***	***$ (597,625)***	***$ (490,287)***	***$ (339,857)***
Annual Interest Earnings Rate[4]	*1.29%*	*1.29%*	*1.29%*	*1.29%*	*1.29%*	*1.29%*

1. Beginning cash balances provided by City staff for Fund 40 Source file: FY 2024-25 Adopted Budget - Water & Sewer
2. The target ending balance is set equal to 90 days of O&M expenses.
3. The target ending balance is set equal to 3% of net capital assets. See *Exhibit 2 (CIP)* for details.
4. Historical interest earning rates are per the average annual yields for funds invested in LAIF (2018-2022). The source is the California State Treasurer's website: *https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp* .

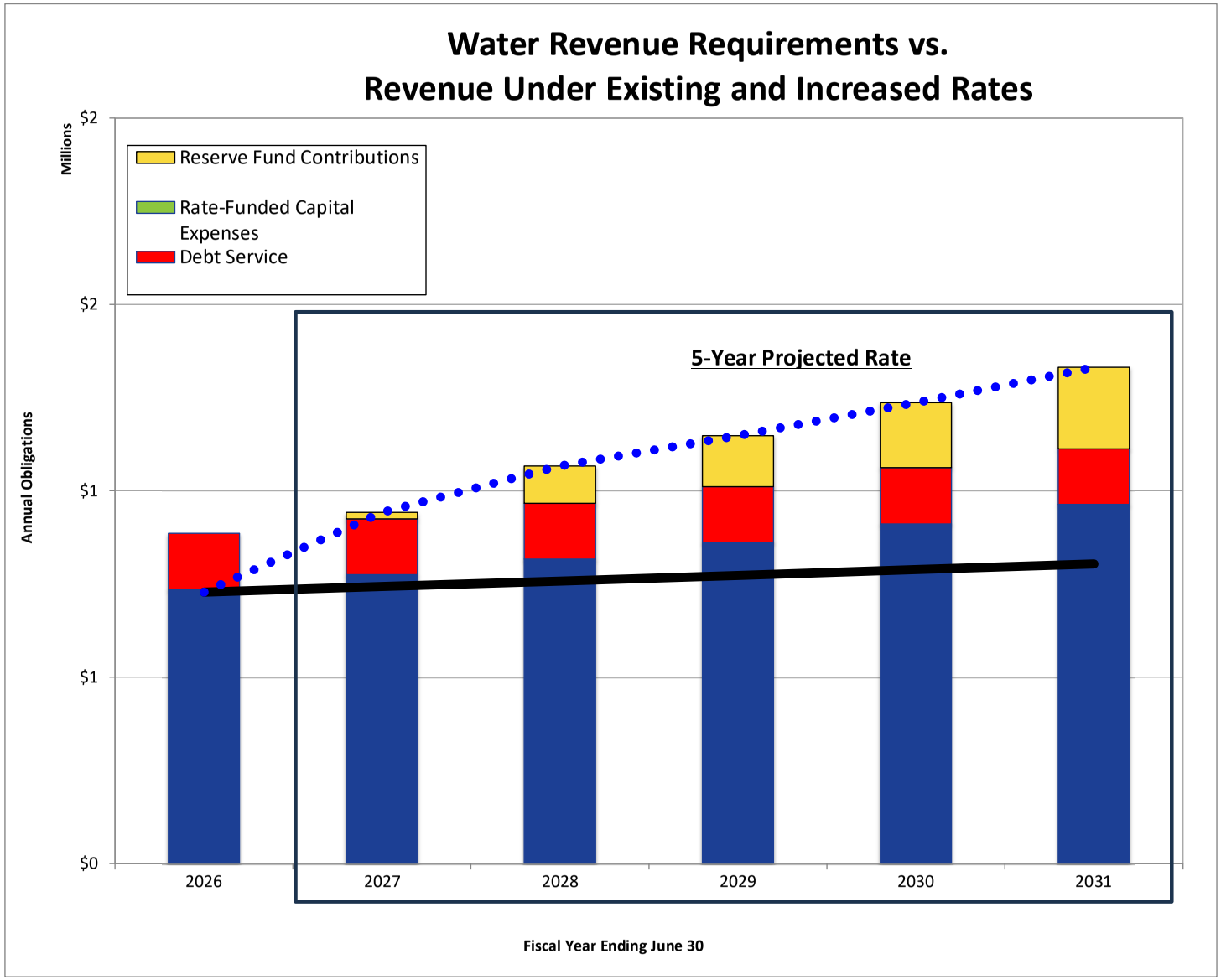
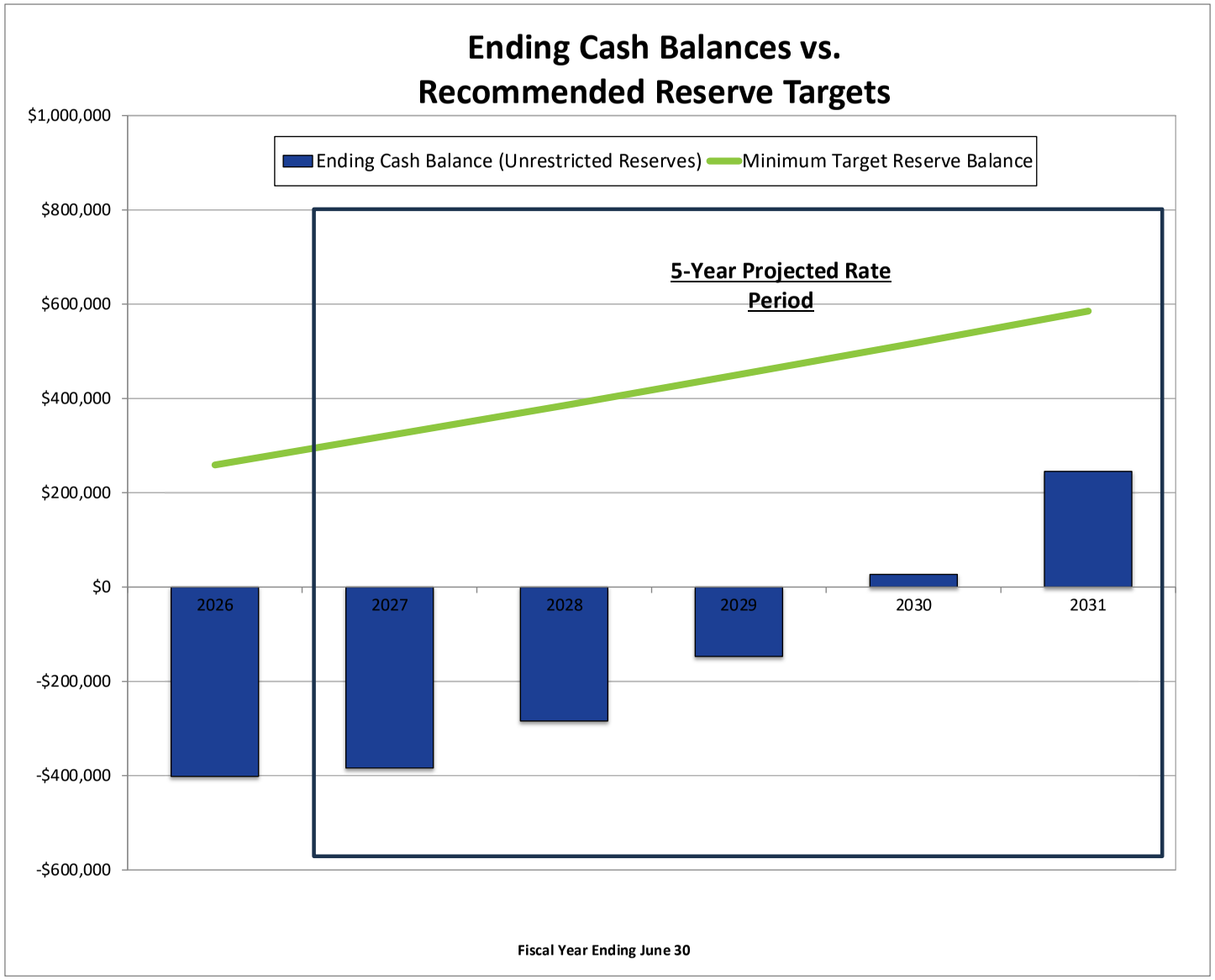

Water Revenue Requirements vs.
Revenue Under Existing and Increased Rates
Millions
$2
$2
$1
$1
$0
Reserve Fund Contributions
Rate-Funded Capital Expenses
Debt Service
5-Year Projected Rate
Annual Obligations
2026
2027
2028
2029
2030
2031
Fiscal Year Ending June 30

CHART 2


Ending Cash Balances vs.
Recommended Reserve Targets
$1,000,000
$800,000
$600,000
$400,000
$200,000
$0
-$200,000
-$400,000
-$600,000
Ending Cash Balance (Unrestricted Reserves)
Minimum Target Reserve Balance
5-Year Projected Rate Period
2026
2027
2028
2029
2030
2031
Fiscal Year Ending June 30

CITY OF PLYMOUTH
WATER RATE STUDY
Operating Revenue and Expenses
Preliminary Draft Subject to Material Revision, Do Not Cite or Distribute

TABLE 3 : REVENUE FORECAST [1]

DESCRIPTION	Basis	Budget	5-Year Projected Rate Period				
		FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Operating Revenue							
Water Commodity Charge	1	285,000	290,700	296,514	302,444	308,493	314,663
Water Service Charge	1	365,000	372,300	379,746	387,341	395,088	402,989
Wholesale Water Sales	1	-	-	-	-	-	-
Cell Tower Lease	1	18,450	18,819	19,195	19,579	19,971	20,370
Penalties	1	50,000	51,000	52,020	53,060	54,122	55,204
Misc Charges	1	10,000	10,200	10,404	10,612	10,824	11,041
TOTAL: REVENUE		**$ 728,450**	**$ 743,019**	**$ 757,879**	**$ 773,037**	**$ 788,498**	**$ 804,268**
		0.44					
		0.56					

TABLE 4 : REVENUE SUMMARY

DESCRIPTION	Basis	Budget	5-Year Projected Rate Period				
		FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Rate Revenue		$ 650,000	$ 663,000	$ 676,260	$ 689,785	$ 703,581	$ 717,653
Wholesale Water Sales		$ -	$ -	$ -	$ -	$ -	$ -
Other Non-rate Revenue		$ 78,450	$ 80,019	$ 81,619	$ 83,252	$ 84,917	$ 86,615
TOTAL: REVENUE		**$ 728,450**	**$ 743,019**	**$ 757,879**	**$ 773,037**	**$ 788,498**	**$ 804,268**

TABLE 5 : OPERATING EXPENSE FORECAST[1]

DESCRIPTION	Basis	Budget	5-Year Projected Rate Period				
		FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
WATER ENTERPRISE FUND - 40							
Salaries & Wages	3	$ 85,921	$ 89,358	$ 92,932	$ 96,649	$ 100,515	$ 104,536
FICA	3	6,304	6,556	6,818	7,091	7,375	7,670
Workers Comp. Ins.	3	2,914	3,031	3,152	3,278	3,409	3,545
Employee Health Ins.	3	4,355	4,529	4,710	4,899	5,095	5,299
Office Expense	2	2,500	2,563	2,627	2,692	2,760	2,829
Advertising	2	100	103	105	108	110	113
Miscellaneous Expense	2	1,000	1,025	1,051	1,077	1,104	1,131
Gasoline-Fuel	7	25	27	29	31	33	35
Propane	7	50	54	57	61	66	70
Computer Software	2	3,750	3,844	3,940	4,038	4,139	4,243
Contract Services	2	10,000	10,250	10,506	10,769	11,038	11,314
Water Testing By Lab	2	3,500	3,588	3,677	3,769	3,863	3,960
Repair and Maintenance of Meter	2	500	513	525	538	552	566
Water Commodity Purchase	6	240,000	264,000	290,400	319,440	351,384	386,522
Water Meter Charge - AWA	2	260,000	266,500	273,163	279,992	286,991	294,166
Electricity	5	5,500	6,600	7,920	9,504	11,405	13,686
Communications	2	1,700	1,743	1,786	1,831	1,876	1,923
Building & Grounds Maintenance	2	1,250	1,281	1,313	1,346	1,380	1,414
Maintenance Supplies	2	150	154	158	162	166	170
Maintenance Contracts	2	40,000	41,000	42,025	43,076	44,153	45,256
Equipment Repair & Mtc	2	7,000	7,175	7,354	7,538	7,727	7,920
Permits	2	9,250	9,481	9,718	9,961	10,210	10,466
City Attorney	3	1,000	1,040	1,082	1,125	1,170	1,217
Engineering	2	2,000	2,050	2,101	2,154	2,208	2,263
Contract Services - AWA	2	7,500	7,688	7,880	8,077	8,279	8,486
HR Expense Allocation	2	31,785	32,580	33,394	34,229	35,085	35,962
IT Expense	2	8,000	8,200	8,405	8,615	8,831	9,051
TOTAL: EXPENSES		**$ 736,054**	**$ 774,929**	**$ 816,828**	**$ 862,049**	**$ 910,922**	**$ 963,812**

TABLE 6 : FORECASTING ASSUMPTIONS

INFLATION FACTORS[2]	Basis	2026	2027	2028	2029	2030	2031
Customer Growth[3]	1	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
General Cost Inflation[3]	2	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Labor Cost Inflation[3]	3	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Chemicals[3]	4	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Electricity[3]	5	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Source of Supply[3]	6	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Fuel & Utilities[4]	7	7.08%	7.08%	7.08%	7.08%	7.08%	7.08%
No Escalation	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses for FY 2021/22 through FY 2023/24 provided by the City. Revenues and expenses for all other years are escalated based on the forecasting assumptions in Table 8. Source file: *1_O & M Budgets-Water & Wastewater & 2_Total Revenue Report FY 2023*
2. Expenses are inflated each year by the following annual inflation factor categories.
3. Inflation factors provided by the City. Source file: *9_Projected Growth Rates*
4. Fuel & Utilities cost inflation is based on the 5-year average annual change in the Consumer Price Index - Average Price Data for Fuels and related products and power. This factor is used for utility costs other than electricity.

CITY OF PLYMOUTH
WATER RATE STUDY
Capital Improvement Plan Expenditures
Preliminary Draft Subject to Material Revision, Do Not Cite or Distribute

TABLE 7 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget	5-Year Projected Rate Period				
Funding Sources:	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Grants	$ -	$ -	$ -	$ -	$ -	$ -
Use of Capacity Fee Reserves	-	-	-	-	-	-
SRF Loan Funding	-	-	-	-	-	-
Use of New Revenue Bond Proceeds	-	-	-	-	-	-
Use of Capital Rehabilitation and Replacement Reserve	-	-	-	-	-	-
Rate Revenue	-	-	-	-	-	-
Total Sources of Capital Funds	$ -	$ -	$ -	$ -	$ -	$ -
Uses of Capital Funds:						
Total Project Costs	$ -	$ -	$ -	$ -	$ -	$ -
Capital Funding Surplus (Deficiency)	$ -	$ -	$ -	$ -	$ -	$ -
SRF Loan Funding [1]	$ -	$ -	$ -	$ -	$ -	$ -
New Revenue Bond Proceeds	$ -	$ -	$ -	$ -	$ -	$ -

1. Funds from the SRF Loan will be used to pay for the development of Wells 17 and 18 with aresenic and lead treatment currently estimated at $16.7 million (See Projects 3-5 i

TABLE 8 : CAPITAL IMPROVEMENT PROGRAM FUNDING OPTIONS

Policy Choice		FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
1	Alternative 1 - Full Funding of CIP	$ 879,252	$ 913,631	$ 949,354	$ 986,474	$ 1,025,045	$ 1,065,124
2	Alternative 2 - 50% Funding of CIP	$ 439,626	$ 456,816	$ 474,677	$ 493,237	$ 512,523	$ 532,562
3	Alternative 3 - 50% Funding of CIP	$ -	$ -	$ -	$ -	$ -	$ -

Insert policy choice in box to right, based on options listed above:	3

Capital Improvement Program Funding Choice	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Effective Annual Funding Amount	$ -	$ -	$ -	$ -	$ -	$ -

CITY OF PLYMOUTH
WATER RATE STUDY
Capital Improvement Plan Expenditures
Preliminary Draft Subject to Material Revision, Do Not Cite or Distribute

CAPITAL IMPROVEMENT PROGRAM

TABLE 9 : CAPITAL IMPROVEMENT PROGRAM COSTS (*in Current-Year Dollars*)[1]

Project Description[2]	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Capital Outlay						
Phase 1 Master Plan Improvements	$ 378,278	$ 378,278	$ 378,278	$ 378,278	$ 378,278	$ 378,278
Phase 2 Master Plan Improvements	467,890	467,890	467,890	467,890	467,890	467,890
Estimated Future Projects						
Future Projects[3]						
Total: CIP Program Costs *(Current-Year Dollars)*	**$ 846,167**	**$ 846,167**	**$ 846,167**	**$ 846,167**	**$ 846,167**	**$ 846,167**

TABLE 10 : CAPITAL IMPROVEMENT PROGRAM COSTS (*in Future-Year Dollars*)[4]

Project Description[2]	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Capital Outlay						
Phase 1 Master Plan Improvements	$ 393,068	$ 408,437	$ 424,407	$ 441,001	$ 458,244	$ 476,162
Phase 2 Master Plan Improvements	486,184	505,194	524,947	545,473	566,801	588,962
Estimated Future Projects						
Future Projects[3]	-	-	-	-	-	-
Total: CIP Program Costs *(Future-Year Dollars)*	**$ 879,252**	**$ 913,631**	**$ 949,354**	**$ 986,474**	**$ 1,025,045**	**$ 1,065,124**

TABLE 12 : EXISTING DEBT OBLIGATIONS

EXISTING DEBT OBLIGATIONS	Budget	5-Year Projected Rate Period				
Annual Repayment Schedules:	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**	**FY 2028/29**	**FY 2029/30**	**FY 2030/31**
Debt Service						
Principal Payment	$ 63,998	$ 67,045	$ 70,093	$ 73,140	$ 79,235	$ 79,235
Interest Payment	85,768	82,568	79,216	75,711	72,054	69,677
Subtotal: Annual Debt Service	**$ 149,766**	**$ 149,613**	**$ 149,309**	**$ 148,851**	**$ 151,289**	**$ 148,912**
Coverage Requirement ($-Amnt above annual payment)	$ -	$ -	$ -	$ -	$ -	$ -
Reserve Requirement (total fund balance)	$ -	$ -	$ -	$ -	$ -	$ -
Grand Total: Existing Annual Debt Service	**$ 149,766**	**$ 149,613**	**$ 149,309**	**$ 148,851**	**$ 151,289**	**$ 148,912**
Grand Total: Existing Annual Coverage Requirement	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Grand Total: Existing Debt Reserve Target	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

TABLE 13 : EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY WATER RATES

Annual Obligations	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Existing Annual Debt Service	*$ 149,766*	*$ 149,613*	*$ 149,309*	*$ 148,851*	*$ 151,289*	*$ 148,912*
Existing Annual Coverage Requirement	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
Existing Debt Reserve Target	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*

TABLE 17 : CURRENT WATER RATE SCHEDULE

Water Rate Schedule[1]	Current Rates as of July 1, 2019[1]
Monthly Fixed Service Charge	
3/4 inch	$33.23
1 inch	$54.60
1 1/2 inch	$107.56
2 inch	$171.35
3 inch	$320.32
4 inch	$533.08
6 inch	$1,064.50
Commodity Rate ($/CCF) [2]	
Commodity Rate	$4.61

1. Source file: 11_Plymouth Fee Schedule_2020-07-13
2. CCF = Hundred Cubic Feet or 748 gallons.

TABLE 18 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses							
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Basis of Classification		
	FY 2026/27	(COM)	(CAP)	(CA)	(COM)	(CAP)	(CA)
Water Enterprise Fund - 40							
Salaries & Wages	$ 89,358	$ 35,743	$ 44,679	$ 8,936	40.0%	50.0%	10.0%
Fica	6,556	2,622	3,278	656	40.0%	50.0%	10.0%
Workers Comp. Ins.	3,031	1,212	1,515	303	40.0%	50.0%	10.0%
Employee Health Ins.	4,529	1,812	2,265	453	40.0%	50.0%	10.0%
Office Expense	2,563	1,025	1,281	256	40.0%	50.0%	10.0%
Advertising	103	51	41	10	50.0%	40.0%	10.0%
Miscellaneous Expense	1,025	410	513	103	40.0%	50.0%	10.0%
Gasoline-Fuel	27	13	11	3	50.0%	40.0%	10.0%
Propane	54	27	21	5	50.0%	40.0%	10.0%
Computer Software	3,844	1,538	1,922	384	40.0%	50.0%	10.0%
Contract Services	10,250	4,100	5,125	1,025	40.0%	50.0%	10.0%
Water Testing By Lab	3,588	3,588	-	-	100.0%	0.0%	0.0%
Repair And Maintenance Of Meter	513	256	205	51	50.0%	40.0%	10.0%
Water Commodity Purchase	264,000	264,000	-	-	100.0%	0.0%	0.0%
Water Meter Charge - Awa	266,500	159,900	106,600	-	60.0%	40.0%	0.0%
Electricity	6,600	3,300	3,300	-	50.0%	50.0%	0.0%
Communications	1,743	697	871	174	40.0%	50.0%	10.0%
Building & Grounds Maintenance	1,281	513	769	-	40.0%	60.0%	0.0%
Maintenance Supplies	154	-	154	-	0.0%	100.0%	0.0%
Maintenance Contracts	41,000	-	41,000	-	0.0%	100.0%	0.0%
Equipment Repair & Mtc	7,175	2,870	4,305	-	40.0%	60.0%	0.0%
Permits	9,481	4,741	4,741	-	50.0%	50.0%	0.0%
City Attorney	1,040	416	520	104	40.0%	50.0%	10.0%
Engineering	2,050	820	1,025	205	40.0%	50.0%	10.0%
Contract Services - Awa	7,688	3,075	3,844	769	40.0%	50.0%	10.0%
Hr Expense Allocation	32,580	13,032	16,290	3,258	40.0%	50.0%	10.0%
It Expense	8,200	3,280	4,100	820	40.0%	50.0%	10.0%
Subtotal	**$ 774,929**	**$ 509,040**	**$ 248,374**	**$ 17,515**	**65.7%**	**32.1%**	**2.3%**

TABLE 19 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses, cont.							
Budget Categories	Total Revenue Requirements FY 2026/27	Commodity (COM)	Capacity (CAP)	Customer (CA)	Basis of Classification (COM)	(CAP)	(CA)
Debt Service Payments							
Outstanding Debt	$ 149,613	$ -	$ 149,613	$ -	0.0%	100.0%	0.0%
New Debt Issue - SRF Loan	-	-	-	-	0.0%	100.0%	0.0%
New Debt Issue - Revenue Bond	-	-	-	-	0.0%	100.0%	0.0%
Total Debt Service Payments	**$ 149,613**	**$ -**	**$ 149,613**	**$ -**	**0.0%**	**100.0%**	**0.0%**
Capital Expenditures							
Rate Funded Capital Expenses	$ -	$ -	$ -	$ -	0.0%	100.0%	0.0%
TOTAL REVENUE REQUIREMENTS	**$ 924,542**	**$ 509,040**	**$ 397,987**	**$ 17,515**	**55.1%**	**43.0%**	**1.9%**
Less: Non-Rate Revenues							
Non-rate revenues							
Wholesale Water Sales	$ -	$ -	$ -	$ -	50.0%	40.0%	10.0%
Other Non-rate Revenue	(80,019)	(40,010)	(32,008)	(8,002)	50.0%	40.0%	10.0%
NET REVENUE REQUIREMENTS	**$ 844,523**	**$ 469,031**	**$ 365,979**	**$ 9,513**			
Allocation of Revenue Requirements	**100.0%**	**55.5%**	**43.3%**	**1.1%**			

TABLE 20 : ADJUSTMENT TO CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses, continued Adjustments to Classification of Expenses				
Adjustment for Current Rate Level:	**Total**	**(COM)**	**(CAP)**	**(CA)**
Test Year (FY 2026/27) Target Rate Rev. After Rate Increases	$ 861,900			
Projected Rate Revenue at Current Rates	$ 663,000			
Test Year (FY 2026/27) Projected Rate Adjustment	30%			
Adjusted Net Revenue Req'ts	**$ 861,900**	**$ 478,682**	**$ 373,510**	**$ 9,709**
Percent of Revenue	*100.0%*	*55.5%*	*43.3%*	*1.1%*

TABLE 21 : NET REVENUE REQUIREMENTS PER COSA RESULTS

Net Revenue Requirements - Per COSA Results *44% Fixed / 56% Variable*	Total Rate Revenue Requirements FY 2026/27	Commodity Related Costs	Fixed Costs	
			Capacity Related Costs	Customer Related Costs
Rate-Design Adjustments to Fixed/Variable %	**100.0%**	**56.0%**	**43.0%**	**1.0%**
Rate-Design Adjustments to Fixed/Variable ($)	**$861,900**	**$482,664**	**$370,617**	**$8,619**

TABLE 22 : DEVELOPMENT OF THE COMMODITY ALLOCATION FACTOR

Development of the Volumetric/Variable Allocation Factor[1]		
Customer Class	CY 2023 Consumption (HCF)	% of Total Volume
All Customers	73,606	**100.0%**
Total	**73,606**	**100.0%**

1. Consumption data is based on the City of Plymouth's billing data.

TABLE 23 : DEVELOPMENT OF THE CAPACITY ALLOCATION FACTORS

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors				
Customer Class	Average Monthly Use (HCF)	Peak Monthly Use (HCF)[1]	Peak Monthly Factor	% of Max Month Capacity
All Customers	6,134	6,134	**1.00**	**100.0%**
Total	**6,134**	**6,134**	**1.00**	**100.0%**

1. Based on peak monthly data (peak day data not available).

TABLE 24 : DEVELOPMENT OF THE CUSTOMER ALLOCATION FACTORS

Development of the Customer Allocation Factor		
Customer Class	No. of Meters CY 2023	% of Total Meters/EDUs
All Customers	572	**100.0%**
Total	**572**	**100.0%**

1. Meter count data is based on the City's billing data for June 2023.
2. Multi-family residential customers are by dwelling units.

TABLE 25 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Classification Components	Cost-of-Service Net Revenue Requirements *(FY 2026/27)*	
Commodity-Related Costs	$ 482,664	*56.0%*
Capacity-Related Costs	370,617	*43.0%*
Customer-Related Costs	8,619	*1.0%*
Net Revenue Requirement	**$ 861,900**	*100.0%*

TABLE 26 : ALLOCATION OF NET REVENUE REQUIREMENTS - FY 2026/27

Net Revenue Requirements					
Customer Classes	Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	VARIABLE	*FIXED*			
	Commodity-Related Costs	Capacity-Related Costs	Customer-Related Costs		
All Customers	$ 482,664	$ 370,617	$ 8,619	$ 861,900	*100.0%*
Total Net Revenue Requirement	**$ 482,664**	**$ 370,617**	**$ 8,619**	**$ 861,900**	**100%**
Total Net Revenue Requirement by Classification Component	*VARIABLE* *$482,664* *56%*	*FIXED* *$379,236*		*$861,900*	

TABLE 27 : COST-OF-SERVICE SUMMARY OF REVENUE REQUIREMENTS

Customer Class	Allocated Costs		Net Revenue Requirements				
	FY 2025/26 COS Rev. Req't	% of COS Rev. Req't.	% Fixed Revenue	% Variable Revenue	Revenue from Volumetric Charges	Revenue from Hydraulic Capacity Charges	Revenue from Customer Costs
All Customers	$ 861,900	100.0%	44%	56%	$ 482,664	$ 370,617	$ 8,619
Total	**$ 861,900**	**100%**			**$ 482,664**	**$ 370,617**	**$ 8,619**

TABLE 28 : METER EQUIVALENCY FACTORS USED IN FIXED CHARGES CALCULATION

Meter Size	Standard Meters	
	Meter Capacity (GPM)[1]	Equivalency to 3/4 inch
	Displacement Meters	
3/4 inch	30	1.00
1 inch	50	1.67
1 1/2 inch	100	3.33
2 inch	160	5.33
	Compound Class I Meters	
3 inch	320	10.67
4 inch	500	16.67
6 inch	1,000	33.33
8 inch	1,600	53.33

1. Per AWWA, M1 Manual, Table B-1.

TABLE 29 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES FOR FY 2026/27

	Net Revenue Requirements							
Number of Meters by Class and Size[1]	**FY 2026/27**							**Total**
	3/4" meter	**1" meter**	**1.5" meter**	**2" meter**	**3" meter**	**4" meter**	**6" meter**	
All Customers	459	96	6	9	0	1	1	572
Total Meters/Accounts	**459**	**96**	**6**	**9**	**0**	**1**	**1**	**572**
Hydraulic Capacity Factor[2]	*1.00*	*1.67*	*3.33*	*5.33*	*10.67*	*16.67*	*33.33*	
Total Equivalent Meters	**459**	**160**	**20**	**48**	**0**	**17**	**33**	**737**
Monthly Fixed Service Charges								
Customer Costs ($/Acct/month)[3]	$1.26	$1.26	$1.26	$1.26	$1.26	$1.26	$1.26	
Capacity Costs ($/Acct/month)[4]	$41.91	$69.84	$139.69	$223.50	$447.00	$698.44	$1,396.73	
Total Monthly Meter Charge	**$43.16**	**$71.10**	**$140.94**	**$224.76**	**$448.26**	**$699.69**	**$1,397.99**	
Annual Fixed Costs Allocated to Monthly Meter Charges								
Customer Costs	$ 8,619							
Capacity Costs	370,617							
Total Fixed Meter Costs	$ 379,236							
Annual Revenue from Monthly Meter Charges								
Customer Charges	$ 6,916	$ 1,447	$ 90	$ 136	$ -	$ 15	$ 15	**$ 8,619**
Capacity Charges	$ 230,820	$ 80,460	$ 10,057	$ 24,138	$ -	$ 8,381	$ 16,761	**$ 370,617**
Total Revenue from Monthly Meter Charges	**$ 237,736**	**$ 81,907**	**$ 10,148**	**$ 24,274**	**$ -**	**$ 8,396**	**$ 16,776**	**$ 379,236**

1. Meter by Class and Size are based on June 2023 customer billing data.
2. Source: *Principles of Water Rates, Fees, and Charges* , Manual M1, AWWA, Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 30 : ESTIMATED FIXED REVENUE BY CUSTOMER CLASS

				Net Revenue Requirements			
Customer Class and Meter Size	**Hydraulic Capacity Factor**	**Number of Meters**	**Total Equivalent Meters**	**Fixed Meter Charge**		**Total Fixed Meter Charge**	**Estimated Revenue from Fixed Charges**
				Customer Component	**Capacity Component**		
All Customers							
3/4"	1.00	459	459	$1.26	$41.91	$43.16	$ 237,736
1"	1.67	96	160	$1.26	$69.84	$71.10	$ 81,907
1 1/2"	3.33	6	20	$1.26	$139.69	$140.94	$ 10,148
2"	5.33	9	48	$1.26	$223.50	$224.76	$ 24,274
3"	10.67	0	0	$1.26	$447.00	$448.26	$ -
4"	16.67	1	17	$1.26	$698.44	$699.69	$ 8,396
6"	33.33	1	33	$1.26	$1,396.73	$1,397.99	$ 16,776
Subtotal: All Customers		**572**	**737**				**$ 379,236**

TABLE 31 : PROPOSED VOLUMETRIC CHARGES FOR FY 2026/27

Net Revenue Requirements						
Customer Classes	**Number of Meters[1]**	**Water Consumption (HCF/yr)**	**Total Target Rev. Req't from Vol. Charges**	**% of Total Rate Revenue**	**Uniform Commodity Rates ($/HCF)**	***Proposed Rate Structure***
All Customers	572	73,606	$ 482,664	*56.0%*	$6.56	*Uniform*
Total Water	**572**	**73,606**	**$ 482,664**	***56.0%***		

1. Consumption data is based on the City of Plymouth's billing data.

TABLE 32 : ESTIMATED VOLUMETRIC REVENUE BY CUSTOMER CLASS

Customer Class	Estimated Consumption (HCF)	Estimated Variable Revenue	% of Variable Rate Revenue	Estimated Fixed Revenue	Total Estimated Revenue	Cost of Service Net Revenue Req'ts
All Customers	73,606	$ 482,664	*100.0%*	$ 379,236	$ 861,900	$ 861,900
Grand Total	**73,606**	**$ 482,664**	***100.0%***	**$ 379,236**	**$ 861,900**	**$ 861,900**

TABLE 33 : CURRENT VS. PROPOSED WATER RATES

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Monthly Fixed Service Charge						
3/4 inch	$33.23	$43.16	$48.34	$51.24	$54.32	$57.58
1 inch	$54.60	$71.10	$79.63	$84.41	$89.47	$94.84
1 1/2 inch	$107.56	$140.94	$157.86	$167.33	$177.37	$188.01
2 inch	$171.35	$224.76	$251.73	$266.83	$282.84	$299.81
3 inch	$320.32	$448.26	$502.05	$532.17	$564.10	$597.94
4 inch	$533.08	$699.69	$783.66	$830.68	$880.52	$933.35
6 inch	########	$1,397.99	$1,565.75	$1,659.69	$1,759.28	$1,864.83
Commodity Rate ($/CCF) [1]						
Commodity Rate	$4.61	$6.56	$7.34	$7.78	$8.25	$8.75

1. CCF = Hundred Cubic Feet or 748 gallons.

Appendix B. Sewer Rate Study Tables and Figures

CITY OF PLYMOUTH
SEWER RATE STUDY
Financial Plan and Reserve Projections
Preliminary Draft Subject to Material Revision, Do Not Cite or Distribute

TABLE 1: FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY[1]	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sources of Sewer Funds [1]						
Sewer Service Fees	$ 620,000	$ 632,400	$ 645,048	$ 657,949	$ 671,108	$ 684,530
Low Income Credit	(2,880)	(2,938)	(2,996)	(3,056)	(3,117)	(3,180)
Sewer Misc Fees	67,400	68,748	70,123	71,525	72,956	74,415
Total Sources of Funds:	**$ 684,520**	**$ 698,210**	**$ 712,175**	**$ 726,418**	**$ 740,946**	**$ 755,765**
Uses of Sewer Funds [1]						
Operating Expenses:	$ 682,892	$ 719,873	$ 761,275	$ 808,114	$ 861,691	$ 923,684
Other Expenditures:						
Existing Debt Service	23,700	25,700	24,550	8,400	-	-
Rate-Funded Capital Expenses	-	-	-	-	-	-
Total Uses of Sewer Funds:	**$ 706,592**	**$ 745,573**	**$ 785,825**	**$ 816,514**	**$ 861,691**	**$ 923,684**
plus: Revenue from Rate Increases[2]	-	31,620	66,117	103,709	144,628	189,123
Annual Surplus/(Deficit)	**$ (22,072)**	**$ (15,743)**	**$ (7,533)**	**$ 13,614**	**$ 23,883**	**$ 21,205**
Net Revenue Req't. *(Total Uses less Non-Rate Revenue)*	**$ 642,072**	**$ 679,763**	**$ 718,699**	**$ 748,044**	**$ 791,853**	**$ 852,449**
Total Rate Revenue After Rate Increases	**$ 620,000**	**$ 664,020**	**$ 711,165**	**$ 761,658**	**$ 815,736**	**$ 873,653**
Projected Annual Rate Revenue Increase	***0.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***	***5.00%***
Cumulative Increase from Annual Revenue Increases	*0.00%*	*5.00%*	*10.25%*	*15.76%*	*21.55%*	*27.63%*
Debt Coverage After Rate Increase	*N/A*	*28.40*	*31.70*	*98.82*	*N/A*	*N/A*

1. Revenue and expenses through FY 2025/26 provided by the City. Revenues and expenses for all other years are escalated based on the forecasting assumptions in Table 6.

2. Revenue from rate increases assumes an implementation date of July 1, 2026 for new rates. For each year thereafter, the assumption is that new rates will be implemented on July 1st of each year.

1	*<-- Select Financial Plan Scenario Here*						
Financial Plan Alternatives		FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
1	Alternative 1 - Custom Rate Increases	*0.00%*	*5.00%*	*5.00%*	*5.00%*	*5.00%*	*5.00%*
2	Alternative 2 - Custom Rate Increases	*0.00%*	*17.00%*	*5.00%*	*5.00%*	*5.00%*	*5.00%*
3	Alternative 3 - Custom Rate Increases	*0.00%*	*10.00%*	*10.00%*	*10.00%*	*10.00%*	*10.00%*
4	Alternative 4 - No Rate Increases	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*	*0.00%*

TABLE 2: RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	5-Year Projected Rate Period				
	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Total Beginning Cash[1]	**$ 756,903**					
Unrestricted Reserves:						
Sewer Enterprise Fund						
Beginning Reserve Balance	$ 756,903	$ 192,756	$ 173,485	$ 168,188	$ 183,969	$ 204,371
Plus: Net Cash Flow (After Rate Increases)	(22,072)	(15,743)	(7,533)	13,614	23,883	21,205
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-
Plus: Interest Earnings	9,756	2,485	2,236	2,168	2,371	2,634
Less: Transfer out to Capital and Infrastructure Reserve	(551,831)	(6,014)	-	-	(5,853)	(10,576)
Ending Operating Reserve Balance	***$ 192,756***	***$ 173,485***	***$ 168,188***	***$ 183,969***	***$ 204,371***	***$ 217,634***
Target Ending Balance (90 days of O&M)[2]	*$ 171,000*	*$ 180,000*	*$ 190,000*	*$ 202,000*	*$ 215,000*	*$ 231,000*
Capital Reserve						
Beginning Reserve Balance	$ -	$ 517,331	$ 486,976	$ 449,186	$ 409,918	$ 374,967
Plus: Grant Proceeds	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	551,831	6,014	-	-	5,853	10,576
Plus: Interest Earnings	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects	(34,500)	(36,369)	(37,791)	(39,268)	(40,804)	(42,399)
Ending Capital Reserve Balance	***$ 517,331***	***$ 486,976***	***$ 449,186***	***$ 409,918***	***$ 374,967***	***$ 343,144***
Target Ending Balance (3% of net assets)[3]	*$ 199,100*	*$ 194,200*	*$ 189,500*	*$ 185,000*	*$ 180,600*	*$ 176,500*
Ending Balance - Excl. Restricted Reserves	***$ 710,087***	***$ 660,461***	***$ 617,373***	***$ 593,887***	***$ 579,338***	***$ 560,778***
Min. Target Ending Balance -Excl. Restricted Reserves	***$ 370,100***	***$ 374,200***	***$ 379,500***	***$ 387,000***	***$ 395,600***	***$ 407,500***
Ending Surplus/(Deficit) Compared to Reserve Targets	***$ 339,987***	***$ 286,261***	***$ 237,873***	***$ 206,887***	***$ 183,738***	***$ 153,278***
Annual Interest Earnings Rate[4]	*1.29%*	*1.29%*	*1.29%*	*1.29%*	*1.29%*	*1.29%*

1. Beginning cash balances provided by City staff. Source file: *3. Trial Balance - Chart of Accounts*
2. The target ending balance is set equal to 90 days of O&M expenses.

CHART 1

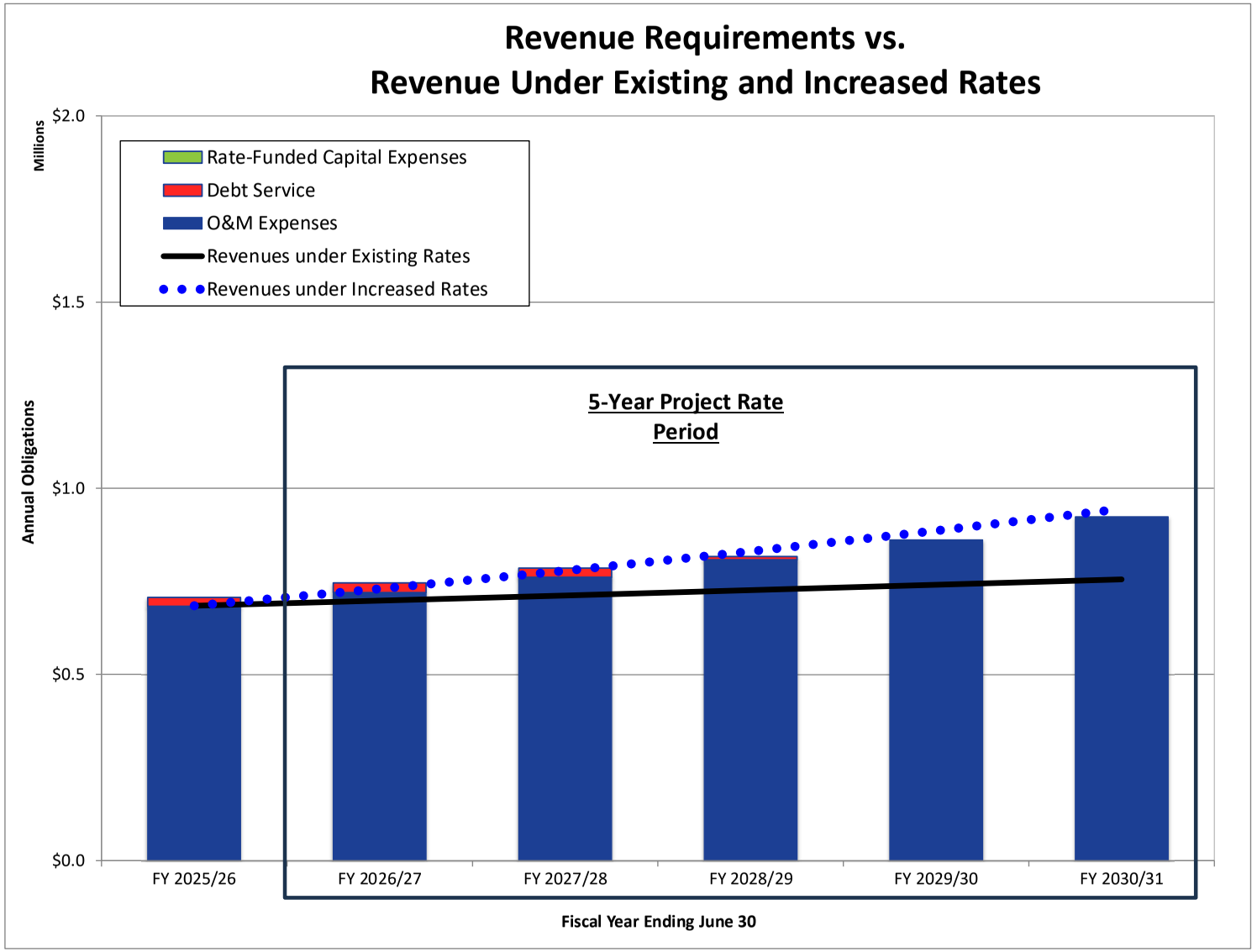

Revenue Requirements vs.
Revenue Under Existing and Increased Rates
Millions
$2.0
$1.5
$1.0
$0.5
$0.0
Annual Obligations
Rate-Funded Capital Expenses
Debt Service
O&M Expenses
Revenues under Existing Rates
Revenues under Increased Rates
5-Year Project Rate Period
FY 2025/26
FY 2026/27
FY 2027/28
FY 2028/29
FY 2029/30
FY 2030/31
Fiscal Year Ending June 30

CHART 2

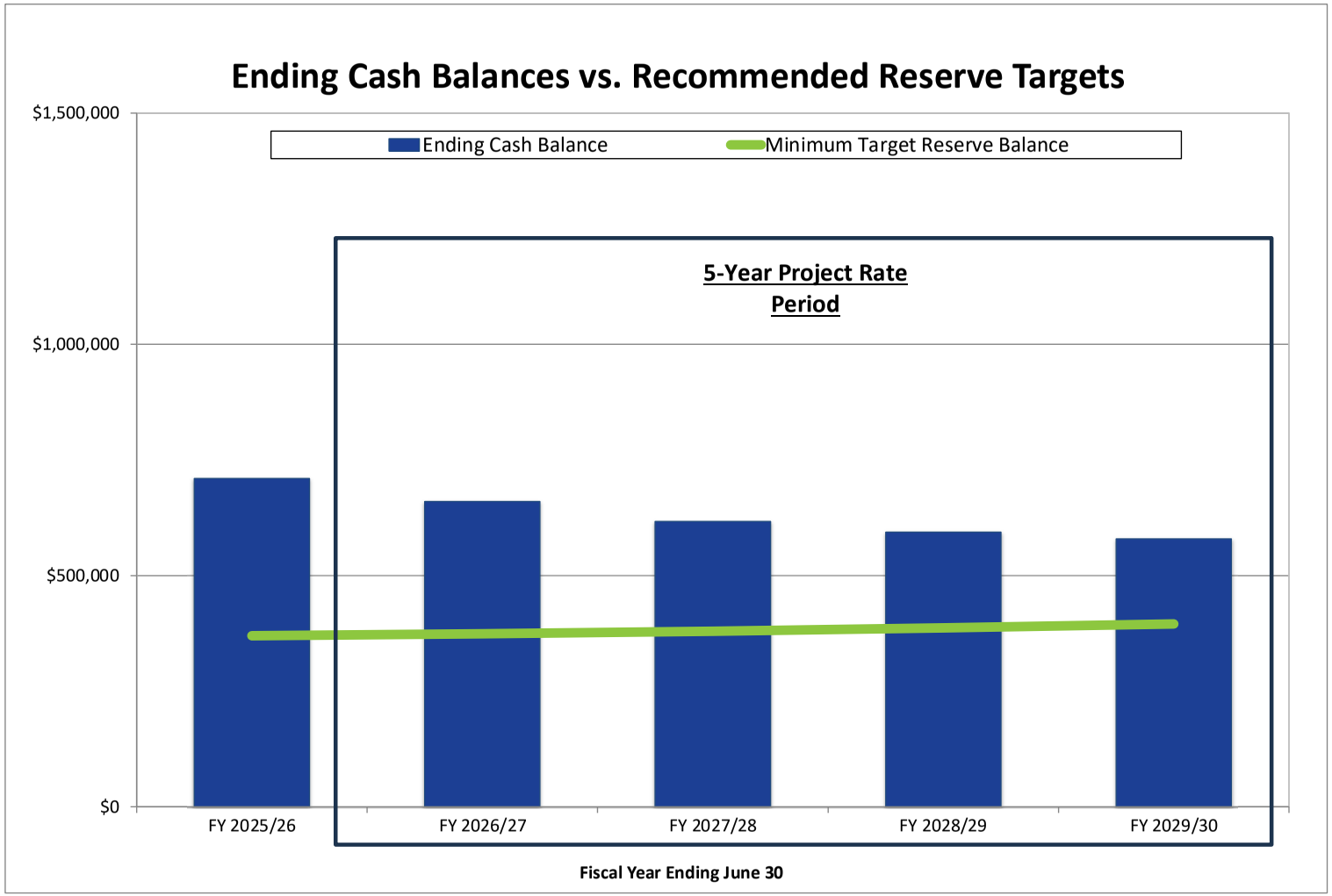

Ending Cash Balances vs. Recommended Reserve Targets
$1,500,000
$1,000,000
$500,000
$0
Ending Cash Balance
Minimum Target Reserve Balance
5-Year Project Rate Period
FY 2025/26
FY 2026/27
FY 2027/28
FY 2028/29
FY 2029/30
Fiscal Year Ending June 30

TABLE 3: REVENUE FORECAST[1]

Operations and Maintenance Forecast		Budget	5-Year Projected Rate Period				
DESCRIPTION	Basis	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Operating Revenue							
Sewer Service Fees	1	$ 620,000	$ 632,400	$ 645,048	$ 657,949	$ 671,108	$ 684,530
Low Income Credit	1	$ (2,880)	(2,938)	(2,996)	(3,056)	(3,117)	(3,180)
Non-Operating Revenue							
Sewer Misc Fees	1	67,400	$ 68,748	$ 70,123	$ 71,525	$ 72,956	$ 74,415
TOTAL: REVENUE		**$ 684,520**	**$ 698,210**	**$ 712,175**	**$ 726,418**	**$ 740,946**	**$ 755,765**

TABLE 4: REVENUE SUMMARY

DESCRIPTION	Basis	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sewer Service Fees		$ 620,000	$ 632,400	$ 645,048	$ 657,949	$ 671,108	$ 684,530
Low Income Credit		(2,880)	(2,938)	(2,996)	(3,056)	(3,117)	(3,180)
Sewer Misc Fees		67,400	68,748	70,123	71,525	72,956	74,415
TOTAL: REVENUE		**$ 684,520**	**$ 698,210**	**$ 712,175**	**$ 726,418**	**$ 740,946**	**$ 755,765**

TABLE 5: OPERATING EXPENSE FORECAST[1]

FUND / CATEGORY	Basis	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
SEWER ENTERPRISE FUND							
Salaries & Wages	3	$ 222,271	$ 231,162	$ 240,408	$ 250,025	$ 260,026	$ 270,427
FICA	3	16,609	17,273	17,964	18,683	19,430	20,207
Workers Comp. Ins.	3	6,233	6,482	6,742	7,011	7,292	7,583
Employee Health Ins.	3	11,749	12,219	12,708	13,216	13,745	14,294
Training & Education	3	500	520	541	562	585	608
Office Expense	2	2,000	2,050	2,101	2,154	2,208	2,263
Gasoline-Fuel	6	300	321	344	368	394	422
Rents, Leases Of Equip & Prop	2	2,550	2,614	2,679	2,746	2,815	2,885
Chemicals	4	35,000	45,500	59,150	76,895	99,964	129,953
Contract Services	2	75,000	76,875	78,797	80,767	82,786	84,856
Water Testing By Lab	2	16,000	16,400	16,810	17,230	17,661	18,103
Electricity	6	140,000	149,910	160,521	171,883	184,049	197,077
Communications	2	4,500	4,613	4,728	4,846	4,967	5,091
Building & Grounds Maintenance	2	1,500	1,538	1,576	1,615	1,656	1,697
Maintenance Supplies	2	4,000	4,100	4,203	4,308	4,415	4,526
Equipment Maint & Repair	2	15,000	15,375	15,759	16,153	16,557	16,971
Permits	2	58,000	59,450	60,936	62,460	64,021	65,622
Engineering	2	13,000	13,325	13,658	14,000	14,350	14,708
Contract Services - AWA	2	15,000	15,375	15,759	16,153	16,557	16,971
HR Expense Allocation	2	36,180	37,085	38,012	38,962	39,936	40,934
IT Expense	2	7,500	7,688	7,880	8,077	8,279	8,486
TOTAL: SEWER SYSTEM		**$ 682,892**	**$ 719,873**	**$ 761,275**	**$ 808,114**	**$ 861,691**	**$ 923,684**

TABLE 6: FORECASTING ASSUMPTIONS[2]

INFLATION FACTORS[2]	Basis	2026	2027	2028	2029	2030	2031
Customer Growth[3]	1	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
General Cost Inflation[3]	2	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
Labor Cost Inflation[3]	3	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Chemicals[3]	4	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Electricity[3]	5	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
Fuel & Utilities[4]	6	7.08%	7.08%	7.08%	7.08%	7.08%	7.08%
No Escalation	7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses through FY 2025/26 provided by the City. Revenues and expenses for all other years are escalated based on the forecastin
2. Expenses are inflated each year by the following annual inflation factor categories.
3. Inflation factors provided by the City. Source file: *9_Projected Growth Rates*
4. Fuel & Utilities cost inflation is based on the 5-year average annual change in the Consumer Price Index - Average Price Data for Fuels and related products and power. This factor is used for utility costs other than electricity.

CITY OF PLYMOUTH
SEWER RATE STUDY
Capital Improvement Plan Expenditures
Preliminary Draft Subject to Material Revision, Do Not Cite or Distribute

TABLE 7: CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget	5-Year Projected Rate Period				
Funding Sources:	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
ARPA Funds[1]	$ -	$ -	$ -	$ -	$ -	$ -
Use of Capacity Fee Reserves	-	-	-	-	-	-
SRF Loan Funding	-	-	-	-	-	-
Use of New Revenue Bond Proceeds	-	-	-	-	-	-
Use of Capital Reserve	34,500	36,369	37,791	39,268	40,804	42,399
Transfer In	-	-	-	-	-	-
Rate Revenue	-	-	-	-	-	-
Total Sources of Capital Funds	**$ 34,500**	**$ 36,369**	**$ 37,791**	**$ 39,268**	**$ 40,804**	**$ 42,399**
Uses of Capital Funds:						
Total Project Costs	$ 34,500	$ 36,369	$ 37,791	$ 39,268	$ 40,804	$ 42,399
Capital Funding Surplus (Deficiency)	$ -	$ -	$ -	$ -	$ -	$ -
SRF Loan Funding	$ -	$ -	$ -	$ -	$ -	$ -
New Revenue Bond Proceeds	$ -	$ -	$ -	$ -	$ -	$ -

TABLE 8: CAPITAL IMPROVEMENT PROGRAM FUNDING OPTIONS

Policy Choice		FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
1	Alternative 1 - Full Funding of CIP	$ 34,500	$ 36,369	$ 37,791	$ 39,268	$ 40,804	$ 42,399
2	Alternative 2 - 50% Funding of CIP	$ 17,250	$ 18,184	$ 18,895	$ 19,634	$ 20,402	$ 21,199
3	Alternative 3 - 0% Funding of CIP	$ -	$ -	$ -	$ -	$ -	$ -

Insert policy choice in box to right, based on options listed above:

Capital Improvement Program Funding Choice	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Effective Annual Funding Amount	$ 34,500	$ 36,369	$ 37,791	$ 39,268	$ 40,804	$ 42,399

CAPITAL IMPROVEMENT PROGRAM

TABLE 9: CAPITAL IMPROVEMENT PROGRAM COSTS (*in Current-Year Dollars*)[1]

Project Description[2]	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Equipment	$ 34,500	$ -	$ -	$ -	$ -	$ -
Future Projects[3]	-	35,000	35,000	35,000	35,000	35,000
Total: CIP Program Costs *(Current-Year Dollars)*	**$ 34,500**	**$ 35,000**	**$ 35,000**	**$ 35,000**	**$ 35,000**	**$ 35,000**

TABLE 10: CAPITAL IMPROVEMENT PROGRAM COSTS *(in Future-Year Dollars)* [4]

Project Description[2]	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Equipment	$ 34,500	$ -	$ -	$ -	$ -	$ -
Future Projects[3]	-	36,369	37,791	39,268	40,804	42,399
Total: CIP Program Costs *(Future-Year Dollars)*	**$ 34,500**	**$ 36,369**	**$ 37,791**	**$ 39,268**	**$ 40,804**	**$ 42,399**

TABLE 11: FORECASTING ASSUMPTIONS

Economic Variables	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Annual Construction Cost Inflation, Per Engineering News Record[5]	*0.00%*	*3.91%*	*3.91%*	*3.91%*	*3.91%*	*3.91%*
Cumulative Construction Cost Multiplier from FY 2025/26	*1.00*	*1.04*	*1.08*	*1.12*	*1.17*	*1.21*

1. Capital project costs were provided by City Staff and assumes Year 1 begins in FY 2024/25. Source file: *FY23-24 CIP PROJECTS FOR BUDGET & SEWER SYSTEM IMPROVEMENTS 032323* .
2. Project costs beyond Year 5 in the City's capital improvement plan have been allocated equally across a 7-year period (FY 2029/30 through FY 2035/36).
3. Future project costs beyond FY 2033/34 are calculated based on the City's 10-year average.
4. The capital project costs have been inflated using the Construction Cost Index (See Table 13). Website: *http://enr.construction.com* .
5. For reference purposes, the annual Construction Cost Inflation percentage is the 5-year average change in the Construction Cost Index from 2017 to 2022 (3.91%). Source: Engineering News Record website (*http://enr.construction.com*).

TABLE 12: EXISTING DEBT OBLIGATIONS

EXISTING DEBT OBLIGATIONS	Budget	5-Year Projected Rate Period				
Annual Repayment Schedules:[1]	**FY 2025/26**	**FY 2026/27**	**FY 2027/28**	**FY 2028/29**	**FY 2029/30**	**FY 2030/31**
1988 Sewer Revenue Bonds - $368,550						
Principal Payment	$ 13,000	$ 15,000	$ 15,000	$ -	$ -	$ -
Interest Payment	2,150	1,500	750	-	-	-
Subtotal: Annual Debt Service	**$ 15,150**	**$ 16,500**	**$ 15,750**	**$ -**	**$ -**	**$ -**
Coverage Requirement ($-Amnt above annual payment)	$ -	$ -	$ -	$ -	$ -	$ -
Reserve Requirement (total fund balance)	$ -	$ -	$ -	$ -	$ -	$ -
USDA Loan - $201,500						
Principal Payment	$ 7,000	$ 8,000	$ 8,000	$ 8,000	$ -	$ -
Interest Payment	1,550	1,200	800	400	-	-
Subtotal: Annual Debt Service	**$ 8,550**	**$ 9,200**	**$ 8,800**	**$ 8,400**	**$ -**	**$ -**
Coverage Requirement ($-Amnt above annual payment)	$ -	$ -	$ -	$ -	$ -	$ -
Reserve Requirement (total fund balance)	$ -	$ -	$ -	$ -	$ -	$ -
Grand Total: Existing Annual Debt Service	**$ 23,700**	**$ 25,700**	**$ 24,550**	**$ 8,400**	**$ -**	**$ -**
Grand Total: Existing Annual Coverage Requirement	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Grand Total: Existing Debt Reserve Target	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

1. Source file: *7. Debt Service Schedules*

TABLE 13: EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY WATER RATES

Annual Obligations	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Existing Annual Debt Service	*$ 23,700*	*$ 25,700*	*$ 24,550*	*$ 8,400*	*$ -*	*$ -*
Existing Annual Coverage Requirement	-	-	-	-	-	-
Existing Debt Reserve Target	-	-	-	-	-	-

CITY OF PLYMOUTH
SEWER RATE STUDY
Projected Sewer Rates Under Existing Rate Schedule
Preliminary Draft Subject to Material Revision, Do Not Cite or Distribute

TABLE 14: CURRENT SEWER RATES

Wastewater Rate Schedule[1]	Current Rates as of July 1, 2019[1]
Monthly Fixed Service Charge	
Per EDU	$80.66

1. Source file: 11_Plymouth Fee Schedule_2020-07-13

TABLE 15: CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses									
Budget Categories	**Total Revenue Requirements**	**Flow**	**Strength**		**Customer**	**Basis of Classification**			
	FY 2026/27	**(VOL)**	**(BOD)**	**(TSS)**	**(CA)**	**(VOL)**	**(BOD)**	**(TSS)**	**(CA)**
SEWER ENTERPRISE FUND									
Salaries & Wages	$ 231,162	$ 127,139	$ 46,232	$ 46,232	$ 11,558	55.0%	20.0%	20.0%	5.0%
Fica	17,273	9,500	3,455	3,455	864	55.0%	20.0%	20.0%	5.0%
Workers Comp. Ins.	6,482	3,565	1,296	1,296	324	55.0%	20.0%	20.0%	5.0%
Employee Health Ins.	12,219	6,720	2,444	2,444	611	55.0%	20.0%	20.0%	5.0%
Training & Education	520	286	104	104	26	55.0%	20.0%	20.0%	5.0%
Office Expense	2,050	1,128	410	410	103	55.0%	20.0%	20.0%	5.0%
Gasoline-Fuel	321	193	64	64	-	60.0%	20.0%	20.0%	0.0%
Rents, Leases Of Equip & Prop	2,614	1,438	523	523	131	55.0%	20.0%	20.0%	5.0%
Chemicals	45,500	27,300	9,100	9,100	-	60.0%	20.0%	20.0%	0.0%
Contract Services	76,875	42,281	15,375	15,375	3,844	55.0%	20.0%	20.0%	5.0%
Water Testing By Lab	16,400	9,840	3,280	3,280	-	60.0%	20.0%	20.0%	0.0%
Electricity	149,910	89,946	29,982	29,982	-	60.0%	20.0%	20.0%	0.0%
Communications	4,613	2,537	923	923	231	55.0%	20.0%	20.0%	5.0%
Building & Grounds Maintenance	1,538	923	308	308	-	60.0%	20.0%	20.0%	0.0%
Maintenance Supplies	4,100	2,255	820	820	205	55.0%	20.0%	20.0%	5.0%
Equipment Maint & Repair	15,375	8,456	3,075	3,075	769	55.0%	20.0%	20.0%	5.0%
Permits	59,450	32,698	11,890	11,890	2,973	55.0%	20.0%	20.0%	5.0%
Engineering	13,325	7,329	2,665	2,665	666	55.0%	20.0%	20.0%	5.0%
Contract Services - Awa	15,375	8,456	3,075	3,075	769	55.0%	20.0%	20.0%	5.0%
Hr Expense Allocation	37,085	20,396	7,417	7,417	1,854	55.0%	20.0%	20.0%	5.0%
It Expense	7,688	4,228	1,538	1,538	384	55.0%	20.0%	20.0%	5.0%
Total: Sewer System	**$ 719,873**	**$ 406,614**	**$ 143,975**	**$ 143,975**	**$ 25,310**	**56.5%**	**20.0%**	**20.0%**	**3.5%**

TABLE 16: CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses, cont.									
Budget Categories	**Total Revenue Requirements**	**Flow**	**Strength**		**Customer**	**Basis of Classification**			
	FY 2026/27	**(VOL)**	**(BOD)**	**(TSS)**	**(CA)**	**(VOL)**	**(BOD)**	**(TSS)**	**(CA)**
Debt Service Payments									
Outstanding Debt	$ 25,700	$ 25,700	$ -	$ -	$ -	100.0%	0.0%	0.0%	0.0%
Total Debt Service Payments	**$ 25,700**	**$ 25,700**	**$ -**	**$ -**	**$ -**	**100.0%**	**0.0%**	**0.0%**	**0.0%**
TOTAL REVENUE REQUIREMENTS	**$ 745,573**	**$ 432,314**	**$ 143,975**	**$ 143,975**	**$ 25,310**	**58.0%**	**19.3%**	**19.3%**	**3.4%**
Less: Non-Rate Revenues									
Non-Operating Revenue									
Low Income Credit	2,938	-	-	-	2,938	0.0%	0.0%	0.0%	100.0%
Sewer Misc Fees	(68,748)	(38,832)	(13,750)	(13,750)	(2,417)	56.5%	20.0%	20.0%	3.5%
NET REVENUE REQUIREMENTS	**$ 679,763**	**$ 393,482**	**$ 130,225**	**$ 130,225**	**$ 25,831**				
Allocation of Revenue Requirements	**100.0%**	**57.9%**	**19.2%**	**19.2%**	**3.8%**				

TABLE 17: DEVELOPMENT OF THE VOLUME ALLOCATION FACTOR

Development of the VOLUME Allocation Factor				
Customer Class	Number of Accounts[1]	Number of Units	Estimated Annual Winter Volume (Gallons)[2]	Percentage of Volume
Residential	476	524	20,880,065	**81.7%**
Non-Residential				
Low Strength	40	N/A	1,294,025	**5.1%**
Medium Strength		N/A		**0.0%**
High Strength	9	N/A	1,181,331	**4.6%**
RV Park	1	156	2,135,250	**8.4%**
Septage	1	N/A	72,000	**0.3%**
Total:	**527**		**25,562,671**	**100.0%**

1. Number of accounts provided by City Staff.
2. Estimated using January 2024 water consumption.

TABLE 18: DEVELOPMENT OF THE STRENGTH ALLOCATION FACTOR

Development of the STRENGTH Allocation Factor									
Customer Class	Estimated Annual Winter Volume (Gallons)[1]	Biochemical Oxygen Demand (BOD)				Total Suspended Solids (TSS)			
		Avg. Strength Factor (mg/l)[2]	Calculated BOD (lbs./yr.)[3]	Adjusted BOD (lbs./yr.)	Percent of Total	Avg. Strength Factor (mg/l)[2]	Calculated TSS (lbs./yr.)[3]	Adjusted TSS (lbs./yr.)	Percent of Total
Residential	20,880,065	175	30,474	30,474	**61.5%**	175	30,474	30,474	**62.9%**
Non-Residential									
Low Strength	1,294,025	200	2,158	2,158	**4.4%**	200	2,158	2,158	**4.5%**
Medium Strength	-	450	-	-	**0.0%**	450	-	-	**0.0%**
High Strength	1,181,331	600	5,911	5,911	**11.9%**	600	5,911	5,911	**12.2%**
RV Park	2,135,250	434	7,729	7,729	**15.6%**	150	2,671	2,671	**5.5%**
Septage	72,000	5,400	3,243	3,243	**6.5%**	12,000	7,206	7,206	**14.9%**
Total:	**25,562,671**		**49,516**	**49,516**	**100.0%**		**48,421**	**48,421**	**100.0%**

1. Estimated sewer flow based on average winter consumption.
2. Source: CA State Water Resources Control Board, *Revenue Program Guidelines (Appendix G) , G-21 .*

TABLE 19: CALCULATION OF EQUIVALENT DWELLING UNITS

Development of the EQUIVALENT DWELLING UNITS (EDUS) Per Customer Class								
Customer Class	Flow	Biochemical Oxygen Demand (BOD)			Total Suspended Solids (TSS)			EDUs[3]
	Adjusted Total Annual Volume (Gallons)[1]	Avg. Strength Factor (mg/l)[2]	Adjusted BOD (lbs./yr.)	Percent of Total	Avg. Strength Factor (mg/l)[2]	Adjusted TSS (lbs./yr.)	Percent of Total	
Residential	20,880,065	175	30,474	61.5%	175	30,474	62.9%	524.0
Non-Residential								
Low Strength	1,294,025	200	2,158	4.4%	200	2,158	4.5%	34.3
Medium Strength	-	450	-	0.0%	450	-	0.0%	0.0
High Strength	1,181,331	600	5,911	11.9%	600	5,911	12.2%	58.4
RV Park	2,135,250	434	7,729	15.6%	150	2,671	5.5%	50.5
Septage	72,000	5,400	3,243	6.5%	12,000	7,206	14.9%	50.6
Total:	**25,562,671**		**49,516**	**100.0%**		**48,421**	**100.0%**	**717.9**

1. Estimated sewer flow based on average winter consumption.
2. Source: CA State Water Resources Control Board, *Revenue Program Guidelines (Appendix G) , G-21* .
3. Number of EDUs calculated based on based on 60% Flow, 20% BOD and 20% TSS.

TABLE 20: DEVELOPMENT OF THE CUSTOMER ALLOCATION FACTOR

Development of the CUSTOMER Allocation Factor		
Sewer Customer Classe	Number of Accounts	Percent of Total
Residential	476	**90.3%**
Non-Residential		
Low Strength	40	**7.6%**
Medium Strength	-	**0.0%**
High Strength	9	**1.7%**
RV Park	1	**0.2%**
Septage	1	**0.2%**
Total:	**527**	**100.0%**

TABLE 22: ALLOCATION OF NET REVENUE REQUIREMENTS

Allocation of FY 2024/25 Revenue Requirements by Customer Class						
Customer Class	Cost Classification Components				Cost-of-Service Net Revenue Req'ts.	% of COS Net Revenue Req'ts.
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requireme	***$ 393,482***	***$ 130,225***	***$ 130,225***	***$ 25,831***	***$ 679,763***	
	58.0%	*19.1%*	*19.1%*	*3.8%*	*100.0%*	
ALL CUSTOMERS						
Residential	$ 321,403	$ 80,147	$ 81,959	$ 23,331	**$ 506,840**	*74.6%*
Non-Residential						
Low Strength	19,919	5,677	5,805	1,961	**33,361**	*4.9%*
Medium Strength	-	-	-	-	**-**	*0.0%*
High Strength	18,184	15,547	15,898	441	**50,070**	*7.4%*
RV Park	32,868	20,326	7,184	49	**60,427**	*8.9%*
Septage	1,108	8,528	19,379	49	**29,065**	*4.3%*
Total:	**$ 393,482**	**$ 130,225**	**$ 130,225**	**$ 25,831**	**$ 679,763**	***100%***

1. The revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

TABLE 23: PROPOSED SEWER RATES

Customer Class	Number of Accounts	No. of EDUs	Adjusted Annual Volume Total (Gallons)	Total Revenue Requirement	Fixed & Volumetric Charges	
					Monthly Fixed Charge	Vol. Rate $/HCF
ALL CUSTOMERS						
All Customers - per EDU	527	717.9	25,562,671	$ 679,763	$78.90	*N/A*

TABLE 24: CURRENT VS. PROPOSED SEWER RATES

Sewer Rate Schedule	*Current Rates ($/EDU)*	Proposed Monthly Sewer Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Fixed Service Charges (Per EDU)						
ALL CUSTOMERS						
All Customers - per EDU	$80.66	$78.90	$82.85	$86.99	$91.34	$95.91

City of Plymouth California

NOTICE OF PUBLIC HEARING

PROPOSITION 218 NOTICE OF PUBLIC HEARING FOR PROPOSED INCREASES TO RATES FOR WATER AND SEWER RATES FOR THE CITY OF PLYMOUTH, CA

Dear Property Owner:

Notice is hereby given that pursuant to California state law (Proposition 218), the City Council of the City of Plymouth (City), California, will conduct a public hearing on June 25, 2026, at 6:30 p.m. in the City Council Chambers, 9426 Main Street, Plymouth, California, as part of its regularly scheduled meeting, to consider proposed increases to rates charged for water and sewer services. If adopted, the proposed rate changes will become effective on July 1, 2026.

The purpose of this notice is to set forth the proposed updated charges for water and sewer services and to notify you of the public hearing. At the public hearing, the City Council will consider all written objections, consider written and verbal comments, tabulate written protests, and if a majority protest is not received, consider adopting the updated water and sewer services charges. The procedures for submitting a written objection and/or a written protest are detailed in this notice.

Why are Water and Sewer Services Charge Adjustment Proposed?

While the City continually strives for cost efficiency and the maximization of assets, it also needs to keep pace with inflation, labor, material, and other operational cost increases including compliance with State imposed regulations. All revenue generated from customer water and sewer bills is used to pay for the regulatory changes, ongoing operation, maintenance, repair and replacement of the existing water and sewer system respectively. The last rate studies were completed about 18 years ago. By State law, the City may not collect more revenue than is necessary to recover the costs of providing services.

How Were the Proposed Charges Calculated?

A third-party consultant prepared a Water and Sewer Rate Study Report for the City to determine the total revenue necessary to ensure there will be adequate funding to complete planned capital improvement projects, along with maintaining reserve funds, preparing for emerging regulatory requirements, and covering the cost of operation, maintenance, and improvement of the facilities used for the water and sewer systems. The Study then proportionately allocated the rate revenue requirements to each customer class for the respective utilities. The rates recommended by this study are the proposed service charges set forth in this notice. The Water and Sewer Rate Study Report, containing the detailed rate calculations, may be found at: https://cityofplymouth.org/proposition-218/

City water rates are based on a fixed monthly service charge and a commodity charge applied to usage. The sewer charges based on equivalent dwelling units (EDUs) regardless of the type of customer. The following table shows the proposed water and sewer rates over the next five years.

Water Rates

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Monthly Fixed Service Charge						
3/4 inch	$33.23	$43.16	$48.34	$51.24	$54.32	$57.58
1 inch	$54.60	$71.10	$79.63	$84.41	$89.47	$94.84
1 1/2 inch	$107.56	$140.94	$157.86	$167.33	$177.37	$188.01
2 inch	$171.35	$224.76	$251.73	$266.83	$282.84	$299.81
3 inch	$320.32	$448.26	$502.05	$532.17	$564.10	$597.94
4 inch	$533.08	$699.69	$783.66	$830.68	$880.52	$933.35
6 inch	$1,064.50	$1,397.99	$1,565.75	$1,659.69	$1,759.28	$1,864.83
Commodity Rate ($/CCF) [1]						
Commodity Rate	$4.61	$6.56	$7.34	$7.78	$8.25	$8.75

1. CCF = Hundred Cubic Feet or 748 gallons.

Sewer Rates

Sewer Rate Schedule	*Current Rates ($/EDU)*	Proposed Monthly Sewer Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Fixed Service Charges (Per EDU)						
ALL CUSTOMERS						
All Customers - per EDU	$80.66	$78.90	$82.85	$86.99	$91.34	$95.91

The water service rate is proposed to continue to include a provision that allows for Council adjustment of rates in the future on each July 1, commencing on July 1, 2027, during the upcoming five-year rate period as needed pursuant to Government Code Section 53756, without repeating the Proposition 218 noticing and majority protest process. This provision would apply only for increases in the water commodity purchase or water meter charge costs of the Amador Water Agency in excess of the respective inflation factors used to calculate the water rates.

PROTESTS AND OBJECTIONS TO THE PROPOSED CHARGES

Protests:

Property owners or customers of record subject to the proposed water and sewer service rates may file a written protest and/or a written objection to the proposed maximum rates. Protests to the proposed rates may be submitted pursuant to section 6 of Article XIII D of the California Constitution, and if protests are submitted by a majority of parcels receiving water and sewer services, then the City Council cannot adopt the proposed rates.

REQUIREMENTS FOR A VALID PROTEST

1. Must be in writing.
2. Must include a statement that it is a protest against the proposed change in water and sewer rates.
3. Must provide the name of the record owner or customer of record submitting the protest.
4. Must identify the parcel associated with the person filing the request by assessor's parcel number or service address.
5. Must include the original signature of the record owner or customer of record submitting the protest.

Protests will not be counted if any of the required elements of a written protest are omitted. Written protests must be received at the address below by 4:30 p.m. on June 25, 2026, if mailed or submitted in person prior to the public hearing. Written protests may also be hand delivered to the Clerk of the City Council at the City Council meeting on June 25, 2026, up until the close of the public input portion of the public hearing on the matter. Prior to the public hearing, hours for in person protest submittal are 8:30 a.m. – 4:30 p.m. Monday through Thursday, 8:30 – noon Fridays.

ATTN: Clerk of the City Council (Water and Sewer Service Charge Protest)

City of Plymouth

P.O. Box 429

Plymouth, CA 95669

If prior to the close of the public input portion of the public hearing, written protests are presented by a majority of parcels that receive water and sewer services, the City Council will not increase the water and sewer service rates from their existing level. Only one written protest per parcel will be counted in calculating a majority protest.

Objections:

Objections may be submitted pursuant to Government Code section 53759.1, and any person that wishes to challenge the rates in a legal proceeding must file an objection, which complies with the requirements detailed herein. While the same person or entity may submit both a protest and an objection, to be valid, protests and objections must be submitted separately, as clearly labeled, and be distinct documents.

REQUIREMENTS FOR A VALID OBJECTION

1. Must include a clear statement that it is an objection to the proposed water and sewer service rates.
2. Must be filed separately from protests.
3. Must include the name of the record owner or customer of record and the assessor's parcel number or service address associated with the objector's parcel that is subject to the proposed water and sewer service rates.
4. Must include the specific subsections of the California Constitution Article XIII D, section 6(b) or any other applicable law that the objector believes would be violated by the approval and/or imposition of the proposed water and sewer service rates.
5. Must include a detailed explanation, with references to the Water and Sewer Rate Study, legal authority, and any additional data or evidence the objector chooses to present that will enable the City to understand the grounds for the objector's claim that the proposed water and sewer service rates do not comply with Proposition 218 or any other applicable law.
    a) An objection may include expert analysis in support of the objection.
    b) If an objection includes expert analysis, the expert's contact information and statement of their qualifications must be included.
6. Must include the original signature of the objector. As such, electronic objections will not be valid.

To be valid, all written objections must include the information listed above and be received by the Clerk of the City Council by 12:00 p.m. on June 5, 2026, at the address below. Hours for in person objection submittal are 8:30 a.m. – 4:30 p.m. Monday through Thursday, 8:30 – noon Fridays.

ATTN: Clerk of the City Council (Water and Sewer Service Charge Objection)

City of Plymouth

P.O. Box 429

Plymouth, CA 95669

Failure to timely object in writing bars any right to challenge the proposed water and sewer service rates through a legal proceeding and any such action may be limited to issues identified in the challenger's objection.

If any of the requirements for a valid, written objection are not met, then the objection will be deemed invalid and will not be considered by the City. Objections must be submitted separately from protests and any written submission labeled as both a protest and an objection shall be deemed invalid.

Prior to the close of the public hearing, the City Council will consider and respond in writing to any timely, valid written objection. Written responses to timely submitted written objections will be prepared and made available to the public prior to or at the public hearing on the proposed water and sewer service rates. Responses may be posted on the County's website and made available through the Clerk of the City Council. Copies may also be provided upon request. The City's response will explain the substantive basis for retaining or altering the proposed water and sewer service rates in response to the written objection, and, if applicable, the grounds for not making any amendments in response to the objection.

The proposed water and sewer service rates are subject to Government Code section 53759. You are hereby notified pursuant to Government Code section 53759 that any judicial action or proceeding to attack, review, set aside, void, validate, or annul the City Council's adoption of the proposed water and sewer service rates must be commenced within 120 days of the effective date or the date of the final passage, adoption, or approval of the ordinance or resolution adopting the water and sewer service rates, whichever is later.

RESOLUTION NO. 2026-12

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PLYMOUTH ADOPTING AN INCREASE TO THE CITY OF PLYMOUTH WATER AND SEWER SERVICE FEES

WHEREAS, the City of Plymouth ("City") has determined that due to increased costs in the operation and maintenance of its water and sewer systems (the "Systems") it is necessary to implement increases to its water and sewer service fees (the "Fees"); and

WHEREAS, Sections 13.23.012 and 14.08.090-C of the Plymouth Municipal Code provide that the City Council shall fix water and sewer service charges by resolution; and

WHEREAS, the City previously retained NBS Government Finance Group, independent financial consultants, to review the City's water and sewer utilities to determine whether rates for service charges are sufficient to meet increased costs of service, and to prepare a cost of service analysis and rate study (the "Study"); and

WHEREAS, the revenues derived from the proposed increases to the Fees will not exceed the funds required to provide the water and sewer services and shall be used exclusively for the Systems; and

WHEREAS, the amount of the proposed increases to the Fees will not exceed the proportional cost of the service attributable to each parcel upon which they are proposed for imposition; and

WHEREAS, the proposed increased Fees will not be imposed on a parcel unless the water and/or sewer services are actually used by, or immediately available to, the owner of the parcel; and

WHEREAS, Article XIII D, section 6 of the California Constitution ("Article XIII D") requires that prior to imposing any increase to the Fees, the City shall provide written notice (the "Notice") by mail of the proposed increase to the Fees to the record owner of each parcel upon which the Fees are proposed for imposition and any tenant directly liable for payment of the Fees, the amount of the Fees proposed to be imposed on each parcel, the basis upon which the Fees were calculated, the reason for the Fees, and the date time and location of a public hearing (the "Hearing") on the proposed Fees; and

WHEREAS, pursuant to Article XIII D such Notice is required to be provided to the affected property owners and any tenant directly liable for the payment of the Fees not less than forty-five days prior to the Hearing on the proposed Fees; and

WHEREAS, the City did provide such Notice to the affected property owners and tenants in compliance with Article XIII D; and

WHEREAS, on June 25, 2026, the City Council held a duly noticed public hearing on the proposed Fees contained in this Resolution, and at that time invited oral and written comments from the public; and

WHEREAS, at the Hearing the City Council heard and considered all written materials and oral testimony concerning the establishment and imposition of the proposed increases to the Fees, and at the close of the Hearing the City received ____ written protests against the establishment and imposition of the proposed increases to the Fees and therefore there has been no majority protest; and

WHEREAS, the City Council of the City now desires to establish and impose the proposed increases to the Fees, effective July 1, 2026, at the rates and subject to the increased on the dates set forth in the scheduled included in Exhibit A; and

NOW THEREFORE, the City Council of the City of Plymouth does hereby resolve as follows:

1. The City Council finds that the foregoing Recitals are true and correct and incorporates the Recitals herein.

2. After considering the material presented in the Study and at the Hearing, the City Council hereby finds as follows:

(a) Revenues derived from the Fees do not exceed the funds required to provide the property-related service;

(b) Revenues derived from the Fees shall not be used for any purpose other than for which the Fees or charges is imposed;

(c) The amount of the Fees imposed upon any parcel or person does not exceed the proportional cost of service attributable to the parcel;

(d) The Fees are imposed for services that are actually used by, or immediately available to, the owner of the property upon which the Fees are imposed; and

(e) The Fees will not be imposed for general governmental purposes, but only for the costs of operation and maintenance of the City's potable water, recycled water, and sewer systems.

3. The City Council hereby establishes and imposes the increases to the Fees, effective July 1, 2026, at the rates and subject to the annual increases set forth in Exhibit A, attached hereto and by this reference incorporated herein.

4. The water usage charge component of the water service rates within the Fees may be further adjusted by the City in an amount equal to any increase in the cost of purchasing wholesale water needed to supply the City's water system that may be imposed on the City by the Amador Water Agency. The increase in rates may not exceed the cost of providing water service. The adjustments authorized by this Section may be made by the City Manager or designee, without conducting another public hearing or any action on the part of the City Council. However, the City shall provide written notice to all affected owners and customers of record not less than thirty (30) days prior to the effective date of the rate increase, pursuant to California

Government Code Section 53756.

5. The Council finds that the administration, operation, maintenance and improvements of the Systems, which are to be funded by the increased water and sewer service rates and charges set forth herein, are necessary to maintain service within the City' existing service area.

6. The Council further finds that the administration, operation, maintenance and improvements of the Systems, to be funded by the increased water and sewer service rates and charges, will not expand the City's Systems.

7. The City further finds that the adoption of the rates and charges is necessary and reasonable to fund the administration, operation, maintenance and improvements of the Systems.

8. Based on these findings, the Council determines that the adoption of the rates and charges established by this Resolution are exempt from the requirements of the California Environmental Quality Act pursuant to section 21080(b)(8) of the Public Resources Code and section 15273(a) of the State CEQA Guidelines.

9. The City Council hereby authorizes and directs the City Manager to implement and take all actions necessary to effectuate the increases set forth herein.

PASSED AND APPROVED on this day, June 25, 2026, at a regular scheduled meeting of the City Council of the City of Plymouth by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

_____
Don Nunn, Mayor

ATTEST:

_____
Victoria McHenry, City Clerk

EXHIBIT A

Water Rates

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Monthly Fixed Service Charge						
3/4 inch	$33.23	$43.16	$48.34	$51.24	$54.32	$57.58
1 inch	$54.60	$71.10	$79.63	$84.41	$89.47	$94.84
1 1/2 inch	$107.56	$140.94	$157.86	$167.33	$177.37	$188.01
2 inch	$171.35	$224.76	$251.73	$266.83	$282.84	$299.81
3 inch	$320.32	$448.26	$502.05	$532.17	$564.10	$597.94
4 inch	$533.08	$699.69	$783.66	$830.68	$880.52	$933.35
6 inch	$1,064.50	$1,397.99	$1,565.75	$1,659.69	$1,759.28	$1,864.83
Commodity Rate ($/CCF) [1]						
Commodity Rate	$4.61	$6.56	$7.34	$7.78	$8.25	$8.75

1. CCF = Hundred Cubic Feet or 748 gallons.

Sewer Rates

Sewer Rate Schedule	*Current Rates ($/EDU)*	Proposed Monthly Sewer Rates				
		FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Fixed Service Charges (Per EDU)						
ALL CUSTOMERS						
All Customers - per EDU	$80.66	$78.90	$82.85	$86.99	$91.34	$95.91

7.1

CITY COUNCIL AGENDA ITEM NO. 7.1
06/25/2026

SUBJECT: City Waste Management Commercial Rates Amendment

DEPARTMENT: City Manager's Office

STAFF: Cameron Begbie, City Manager

TITLE

DISCUSSION AND POSSIBLE ACTION TO APPROVE FIRST AMENDMENT TO FRANCHISE AGREEMENT FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES

BACKGROUND

On May 14, 2026, the City Council approved the proposal from Cal-Waste Recovery Systems to provide solid waste collection services within the City of Plymouth. At the time of the proposal's review and approval, commercial rate information from the City's previous waste service provider was not available to Cal-Waste. As a result, Cal-Waste developed estimated commercial rates based on the information available during the proposal process.

Since that time, Cal-Waste has received the previous provider's commercial rate schedule and has completed a comprehensive review of the commercial accounts and associated service levels. Based on this review, Cal-Waste has updated its commercial rate sheet to accurately reflect the commercial rates for the City of Plymouth.

Consistent with the commitments made during the proposal process, Cal-Waste has maintained its assurance to both the City and its customers that commercial service costs will not increase as a result of these adjustments. The revised rate schedule reflects updated account information while preserving the commitment to no rate increases for existing commercial customers.

ENVIRONMENTAL DETERMINATION

This action is not a project under the California Environmental Quality Act (CEQA) and is therefore not subject to CEQA review.

FISCAL IMPACT

There is no fiscal impact to the City associated with the approval of the updated commercial rate schedule.

RECOMMENDATION

Staff recommends the City Council review, discuss, and approve the commercial solid waste rates proposed by Cal-Waste Recovery Systems for the City of Plymouth approving this first amendment added as Exhibit A.

ATTACHMENT(S)

1. First Amendment to the franchise agreement - Exhibit A

FIRST AMENDMENT TO FRANCHISE AGREEMENT FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES

This FIRST AMENDMENT TO FRANCHISE AGREEMENT FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES ("First Amendment") is made and entered into on June 25, 2026 ("Effective Date") by and between the CITY OF PLYMOUTH, a municipal corporation (the "City"), and CALIFORNIA WASTE RECOVERY SYSTEMS, LLC, a California limited liability company (the "Contractor"). The City and Contractor may each be referred to herein as a "Party" and collectively as the "Parties."

WHEREAS, the FRANCHISE AGREEMENT FOR SOLID WASTE COLLECTION, DISPOSAL AND RECYCLING SERVICES took effect June 1, 2016 (the "Original Agreement"); and

WHEREAS, in the course of implementing the Original Agreement, it was discovered that the rates included for Commercial Services were inadvertently listed as higher than the rates Contractor had agreed to provide to commercial accounts within the City in the course of negotiations with the City and therefore need to be amended to provide ratepayers within the City with the benefit of the negotiated lower rates; and

WHEREAS, City and Contractor desire to amend the Agreement as provided herein.

NOW, THEREFORE, the Parties agree to the following modification to the Agreement.

1. Attachment 2 is replaced in its entirety with the updated version of Attachment 2 listing the lower rates for Commercial Services, attached hereto and incorporated herein as Exhibit A.

6. Except as specifically modified by this First Amendment, the Original Agreement shall remain in full force and effect. All capitalized terms in this First Amendment shall have the meaning ascribed them in the Original Agreement unless otherwise noted in this First Amendment.

7. This First Amendment may be executed in one or more counterparts, each of which shall be deemed an original. All counterparts shall be construed together and shall constitute one agreement.

IN WITNESS WHEREOF, the parties hereto have caused this First Amendment to be duly executed as of this 25th day of June, 2026.

CITY

CITY OF PLYMOUTH
a municipal corporation of the
of California

By: _____
Don Nunn, Mayor

APPROVED AS TO FORM

By: _____
Andreas Booher, City Attorney

CONTRACTOR

CALIFORNIA WASTE RECOVERY SYSTEMS, LLC, a California limited State liability company

By: _____
Rudy Vaccarezza, Owner

EXHIBIT A

CITY OF PLYMOUTH
Proposed 6/1/2026 RATES

******Unless otherwise stated, all rates are monthly***

ATTACHMENT 2

LIST OF CURRENT SERVICES, RATES AND SPECIAL CHARGES

RESIDENTIAL CURBSIDE SERVICE (Monthly)

32 GL		$28.95
64 GL		$38.10
96 GL		$47.18

All rates are for weekly service including Recycle Service and Yardwaste carts.

COMMERCIAL MSW (Monthly)

**only for 1yd accounts grandfathered in/no longer available* 1 yard		$139.11	
2 yard		$255.68	
3 yard		$383.48	
4 yard		$511.28	
6 yard		$766.94	
7 yard		$895.41	

COMMERCIAL RECYCLE (Monthly)

96 Gal Recycle Cart per Cart		$42.46	
**only for 1yd accounts grandfathered in/no longer available* 1 yard		$125.20	
2 yard		$230.11	
3 yard		$345.13	
4 yard		$460.15	
6 yard		$690.24	
7 yard		$805.87	

Debris Box Haul Rates *(each)*		$412.50		
Concrete Debris Box 10 Yard- Flat Rates Haul & Material *(each)*		$682.05		

OTHER RATES

Return Check Fees *(each)*		$25.00		
Late Fees Minimum $1.00 Fee Late Balance Greater than $10.00 *(per occurrence)*		1.50%		
Calculated at 1.5%				

RESIDENTIAL

On-Call Residential Service *(each)*		$14.48		
Extra cans or bags of MSW/Recycle equal to 32 gallon bags *(each)*		$12.33		
Cart Charge when carts not returned upon service stop or lost *(each)*				
Based on Cart Size		32-$67.50	64-$72.50	96-$75.00
Return Cart Fees when carts pulled for non payment *(per occurrence)*		$15.00		
Go Back due to Not Out or Blocked Cart *(per occurrence)*		$50.00		

COMMERCIAL

Extra Yards of MSW/Recycle *(per yard)*		$28.88
Go Back due to blocked bin *(per occurrence)*		$45.00
Return Bin Fees when pulled for non payment *(per occurrence)*		$50.00

DEBRIS BOX

Debris Box Rent after 7 Days *(per day)*		$31.13
Out of County Hauling from County Line *(per mile R/T all areas)*		$3.96
Trip Charge *(unsuccessful service attempt)* *(50% of Haul Rate per occurrence)*		$206.25
***resulting from customer action		
Mini Bin Rental *(7 day rental)*		
3yd Mini Bin		$211.10
6yd Mini Bin		$256.10

Commercial Services

A. COMMERCIAL COLLECTION SERVICES - Rates include weekly trash service. Rates include Bi-weekly Recycling service and Green Waste service.
Beginning August 1, 2027, rates will be adjusted annually according to the provisions of Article H.

Commercial County Surcharge (Per Month)	$1.00

Commercial Trash Service	**Total Billed to Customer**		
	1 x per Week	**2 x per week**	**3 x per week**
35 Gallon	$19.30	Not Offered	Not Offered
65 Gallon	$25.40	Not Offered	Not Offered
95 Gallon	$31.45	Not Offered	Not Offered
1 Yard	$92.74	$185.48	$278.22
2 Yard	$170.45	$340.90	$511.35
3 Yard	$255.65	$511.30	$766.95
4 Yard	$340.85	$681.70	$1,022.55
5 Yard	$426.06	$852.13	$1,278.19
6 Yard	$511.29	$1,022.58	$1,533.87

Commercial Recycling Service	**Total Billed to Customer**
	Bi-Weekly
95 Gallon (Additional Carts)	$28.31
1 Yard	$83.47
2 Yard	$153.41
3 Yard	$230.09
4 Yard	$306.77
5 Yard	$383.46
6 Yard	$460.16
Commercial Green Waste Service	**Total Billed to Customer**
Additional Cart	$28.31

MISCELLANEOUS COMMERCIAL CHARGES - Per Occurrence		
Size	**EXTRA RATES**	**SPECIAL RATES**
95 Gallon	$13.38	$30.10
1 Yard	$20.80	$46.80
2 Yard	$38.23	$86.01
3 Yard	$57.33	$129.00
4 Yard	$76.44	$171.99
5 Yard	$114.66	$257.99
6 Yard	$133.77	$300.99

* Extra Charges are on scheduled service days * Special Charges are on unscheduled service days

Commercial Container Swap/Cleaning	$67.00

*one per year included in rate

Commercial Locking Service Per Month	$24.00

ROLL-OFF SERVICES

A. ROLL-OFF COLLECTION SERVICES - Rates include the haul and one (1) ton of material. Any additional tonnage will be charged the per ton rate below. All Services are On-Call. Sizes shall vary with equipment availability.

Beginning August 1, 2027, rates will be adjusted annually according to the provisions of Article H.

Roll-Off County Surcharge (Per Haul)	$1.00

Bin Size	**Haul Rate**	**Per Ton Charge**	**Delivery Charge**
10-20 cubic yard Bin	$275.00	$152.75	$200.00
30-40 cubic yard Bin	$275.00	$152.75	$200.00
Trip Charge	$137.50		
Bin Rent Charge	$150.00		

*if bin is not serviced for 30 days, a rental charge will be assessed

Non-Included Materials Charges		
Material Type	**Rate**	**Unit**
Appliances	$45.00	per Each
Tires-Small	$5.00	per Each
Tires-Small on Rim	$10.00	per Each
Tires-Truck	$15.00	per Each
Tires-Truck on Rim	$20.00	per Each
Electronic Waste (E-Waste)	$13.00	per Each

Additional or New Services

Additional or New Services as determined beneficial or necessary to the Jurisdiction by the City or Contractor can be added upon mutual agreement between City Manager and Contractor.

7.2

CITY COUNCIL AGENDA ITEM NO. 7.2
06/25/2026

SUBJECT: Discussion and Possible Action to Unfreeze One Maintenance Worker I Position for the City's Public Works Department

DEPARTMENT: City Manager's Office

STAFF: Cameron Begbie, City Manager

TITLE

DISCUSSION AND POSSIBLE ACTION TO UNFREEZE ONE MAINTENANCE WORKER I POSITION FOR THE CITY'S PUBLIC WORKS DEPARTMENT

BACKGROUND

As part of the Fiscal Year 2025/2026 Budget adopted in September 2025, one Maintenance Worker I position was frozen as a cost-saving measure. At that time, the Public Works Department had reduced workload demands and implemented operational efficiencies that allowed services to be maintained with fewer personnel.

Since the adoption of the budget, staff has continuously evaluated departmental operations, workload distribution, and staffing needs to ensure the efficient delivery of public works services. Through this ongoing evaluation process, it has become evident that additional field personnel are necessary to effectively meet operational demands and maintain service levels.

Currently, the Public Works Superintendent position is vacant. To maintain continuity of operations, the Maintenance Lead Worker is temporarily fulfilling the duties of the Superintendent position while the City conducts an internal recruitment process. The position was posted internally on June 11, 202 in accordance with the City's Personnel Manual and the Recruitment Posting Policy that was adopted on May 14, 2026. Applications for the position are being accepted through June 25, 2026.

As staff has reviewed the department's organizational structure and operational needs, it has been determined that maintaining both a Public Works Superintendent position and a Maintenance Lead Worker position is not necessary. The supervisory and leadership functions can be effectively managed through the Superintendent position without the need for a separate Lead Worker classification.

The salary range for the Maintenance Lead Worker position is $26.26 to $34.22 per hour, plus benefits. The salary range for the Maintenance Worker I position is $21.52 to $26.16 per hour, plus benefits.

By utilizing the salary savings generated from the Maintenance Lead Worker position, the City can unfreeze and fill the Maintenance Worker I position with minimal budgetary impact. This staffing adjustment will provide additional personnel in the field to perform essential public works functions, respond to maintenance needs, and assist with the completion of ongoing and future public works projects.

The addition of a Maintenance Worker I position will increase the department's operational capacity and improve service delivery by ensuring that more staff are available to perform maintenance, repairs, and project-related work throughout the City.

ENVIRONMENTAL DETERMINATION

This action is not a project under the California Environmental Quality Act (CEQA) and is therefore not subject to CEQA review.

FISCAL IMPACT

The proposed staffing change can be accommodated through the salary savings associated with the Maintenance Lead Worker position. The hourly salary range for the Maintenance Lead Worker classification exceeds that of the Maintenance Worker I classification, resulting in sufficient savings to offset the cost of unfreezing and filling the Maintenance Worker I position.

Therefore, no additional budget appropriation is requested at this time.

RECOMMENDATION

Staff recommends the City Council unfreeze the Maintenance Worker I position to allow the City Manager to hire for this position to enhance field operations and maintain service levels within the Public Works Department. Funding for the position is already provided for in the City’s budget and can be supported through salary savings resulting from the restructuring of supervisory responsibilities and the anticipated filling of the Public Works Superintendent position.

7.3

CITY COUNCIL AGENDA ITEM NO. 7.3
06/25/2026

SUBJECT: Approval of the Amador County Community Wildfire Protection Plan (CWPP)

DEPARTMENT: City Manager's Office

STAFF: Cameron Begbie, City Manager

TITLE

APPROVAL OF THE AMADOR COUNTY COMMUNITY WILDLIFE PROTECTION PLAN (CWPP)

BACKGROUND

The Amador County Community Wildfire Protection Plan (CWPP) is a countywide wildfire resilience and risk reduction strategy developed through a collaborative effort involving Amador County, the Amador Fire Safe Council, CAL FIRE, local fire protection agencies, the U.S. Forest Service, municipal governments, tribal partners, utility providers, and community stakeholders.

The CWPP updates and consolidates previous wildfire planning efforts into a single comprehensive document that evaluates wildfire hazards, identifies community vulnerabilities, prioritizes fuel reduction projects, and establishes implementation strategies intended to reduce wildfire risk throughout Amador County.

The Plan was developed using extensive public outreach, community surveys, stakeholder engagement, wildfire modeling, and risk assessments to identify areas most vulnerable to wildfire impacts.

The Plan identifies several countywide priorities, including:

- Expansion of hazardous fuel reduction projects and shaded fuel break networks;
- Improved emergency access and evacuation routes;
- Enhanced emergency communications and water supply infrastructure;
- Increased home hardening and defensible space efforts;
- Greater interagency coordination and data sharing;
- Ongoing public education and Firewise community development; and
- Long-term forest health and landscape resilience projects.

Adoption of the CWPP demonstrates the City's commitment to wildfire preparedness and strengthens coordination with neighboring jurisdictions and partner agencies.

Importantly, approval of the CWPP helps maintain eligibility for numerous state and federal grant programs that support wildfire prevention, forest health, emergency preparedness, and infrastructure improvements. Many grant programs administered through CAL FIRE, FEMA, the U.S. Forest Service, and other agencies prioritize or require consistency with an adopted Community Wildfire Protection Plan.

The CWPP is a planning document and does not impose new regulatory requirements, land use restrictions, or direct financial obligations on the City. Rather, it provides a framework for future project development and funding opportunities.

ENVIRONMENTAL DETERMINATION

This action is not a project under the California Environmental Quality Act (CEQA) and is therefore not subject to CEQA review.

FISCAL IMPACT

There is no immediate fiscal impact associated with adoption of the CWPP. Implementation of future projects identified within the Plan will be considered separately and may be supported through state and federal grant funding opportunities.

RECOMMENDATION

Staff recommends the City Council review and consider adoption of the CWPP, a non-regulatory advisory plan, and authorizing the Mayor to sign the CWPP.

ATTACHMENT(S)

1. 2026 Amador County Community Wildfire Protection Plan (CWPP)

Amador County
Community Wildfire Protection Plan

Approved April 28th, 2026

Signature Page

The following signatories mutually agree on and approve the final contents of this CWPP:

Amanda Watson — Date
Coordinator
Amador Fire Safe Council

Executive Director
Amador Resource Conservation District

Susan Peters — Date
Board of Directors
Amador Fire Safe Council

David Wood — Date
Unit Chief
Cal Fire Amador-Eldorado Unit

Jeff Hoag — Date
Assistant Chief, Community Risk Reduction Program
Cal Fire Amador-Eldorado Unit

Dave Fournier — Date
Forest Supervisor
El Dorado National Forest

Robert Withrow — Date
Fire Chief
Amador Fire Protection District

Matthew Girton — Date
Coordinator
Amador County Office of Emergency Services

Patrick Crew
District 1 Supervisor
Amador County Board Of Supervisors

Date

Dan Epperson
District 2 Supervisor
Amador County Board Of Supervisors

Date

Jeff Brown
District 3 Supervisor
Amador County Board Of Supervisors

Date

Logan Carnell
District 4 Supervisor
Amador County Board Of Supervisors

Date

Brian Oneto
District 5 Supervisor
Amador County Board Of Supervisors

Date

Sandra Staples
Mayor
City of Amador City

Date

Joyce Davidson
City Clerk
City of Amador City

Date

Jody Maita
Mayor
City of Ione

Date

Janice Traverso
City Clerk
City of Ione

Date

Don Nunn
Mayor
City of Plymouth

Date

Victoria McHenry
City Clerk
City of Plymouth

Date

Chad Simmons
Mayor
City of Jackson

Date

John Georgette
City Clerk
City of Jackson

Date

Claire Gunselman
Mayor
City of Sutter Creek

Date

Pam Caronogan
City Clerk
City of Sutter Creek

Date

Acknowledgments

The development of this Community Wildfire Protection Plan was made possible through the collaborative efforts of many individuals, agencies, and organizations listed in the Steering Committee and Working Group who contributed time, expertise, and resources throughout the planning process. Contributors provided guidance, technical input, data, local expertise, and feedback during meetings and engagement activities that helped shape the plan's goals, strategies, and recommendations. Additional support was provided through data analysis, mapping, outreach coordination, and documentation efforts.

In addition, community members who participated in the public mapping survey and district meetings provided valuable insight from the community-at-large that helped inform this plan. District meetings would not have been possible without the participation of each member of the Board of Supervisors.

This project was supported by Grant L24AC00434-00 "Rancheria Ridge Fuel Break and County-Wide Planning Project" from the Bureau of Land Management, U.S. Department of the Interior.

Plan Contact Information

Todd Bertwell

Natural Resource Project Manager

Amador Fire Safe Council, Amador Resource Conservation District

todd@amadorrcd.org

Cover Photograph

CAL FIRE Amador-El Dorado Unit.
Prescribed burn on the Shake-Omo Vegetation Management Project.
March 2025.

Contents

Acronyms

ACBS	Amador County Board of Supervisors
ACEH	Amador County Environmental Health
ACITD	Amador County Information Technology Department
ACTC	Amador County Transportation Commission
ACTPW	Amador County Transportation and Public Works
ACPD	Amador County Planning Department
AEU	Amador-El Dorado Unit
AFPD	Amador County Fire Protection District
AFSC	Amador Fire Safe Council
ARCD	Amador Resource Conservation District
AWA	Amador Water Agency
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BLM FMO	Bureau of Land Management, Motherload Field Office
CA FSC	California Fire Safe Council
CAL FIRE	California Department of Forestry and Fire Protection
CALTRANS	California Department of Transportation
CIFD	City of Ione Fire Department
CWPM	Community Wildfire Preparedness and Mitigation (CAL FIRE – OSFM)
CWPP	Community Wildfire Protection Plan
EAPBA	El Dorado Amador Prescribed Burn Association
EBMUD	East Bay Municipal Utility District
ENF	Eldorado National Forest
FAC	Fire Adapted Community
FHSZ	Fire Hazard Severity Zone
FRA	Federal Responsibility Area
FRAP	Fire and Resource Assessment Program
FSR	Fire Safe Regulations
GIS	Geographic Information System
HFRA	Healthy Forests Restoration Act
HVRA	Highly Valued Resource and Asset
IH	Integrated Hazard
ITTS	Interagency Treatment Tracking System

JVFPD	Jackson Valley Fire Protection District
JVID	Jackson Valley Irrigation District
LRA	Local Responsibility Area
OES	Office of Emergency Services
OSFM	Office of the State Fire Marshal
PGE	Pacific Gas & Electric
QWRA	Quantitative Wildfire Risk Assessment
SCFPD	Sutter Creek Fire Protection District
SEDD	Sierra Economic Development District
SIZ	Structure Ignition Zone
SNC	Sierra Nevada Conservancy
SRA	State Responsibility Area
UCCE	University of California Cooperative Extension
USFS	United States Forest Service
VHFHSZ	Very High Fire Hazard Severity Zone
WUI	Wildland-Urban Interface

Executive Summary

Purpose and Background

The 2026 Amador County Community Wildfire Protection Plan (CWPP) is a countywide update to Amador's wildfire risk reduction and resilience framework. This plan consolidates earlier planning efforts, including the 2004 Countywide CWPP, the 2012 Pioneer–Volcano CWPP, and the 2016 High Country CWPP, into a single, data-driven, and collaboratively maintained document.

The plan is sponsored by the Amador Fire Safe Council (AFSC) and the Bureau of Land Management (BLM) in coordination with the Amador County Office of Emergency Services (OES), Amador Fire Protection District (AFPD), CAL FIRE Amador–El Dorado Unit (AEU), Amador Water Agency (AWA), the Eldorado National Forest (USFS), municipal and tribal governments, and local community organizations. Technical services are provided by the Spatial Informatics Group (SIG).

Planning Process

Governance, Steering Committee, and Working Group

The CWPP is guided by a Steering Committee consisting of representatives from AFSC, ARCD, CAL FIRE (AEU), AFPD, OES, AWA, the U.S. Forest Service (Eldorado National Forest, Amador Ranger District), and other local partners. This committee ensures compliance with federal CWPP standards and alignment with local and regional wildfire planning efforts.

In addition, the Working Group, consisting of representatives from a variety of stakeholders and groups within the county (Appendix A), provided consistent input and review of the data, analysis, planned approach, and document development for the CWPP.

Phased Approach

Initiation and Data Collection. Assemble and review spatial datasets, fire history records, and existing fuel reduction and emergency response plans.

Risk Assessment and Modeling. Apply probabilistic fire behavior models to evaluate exposure under moderate and extreme conditions.

Community Engagement and HVRA Identification. Conduct workshops, online surveys, and participatory mapping to identify locally important values and concerns.

Project Prioritization and Strategy Development. Use risk assessment results to identify cross-jurisdictional projects that achieve multiple benefits.

Implementation and Monitoring Framework. Develop measurable performance indicators, data management systems, and procedures for adaptive management.

I.D. Community and Stakeholder Engagement

Community engagement is a central element of the CWPP. Building on the public outreach methods used in earlier planning efforts, the 2025-6 process emphasizes broad participation through:

- **Public Workshops** in both up country and low country communities.
- **Online Interactive Mapping Tools** such as Planscape, Vibrant Planet - Land Tender, and Survey 123 that allow participants to view data and submit feedback.
- **Countywide Surveys for HVRA Prioritization** to identify local assets and protection needs.
- **Agency Coordination Meetings** that align CWPP objectives with CAL FIRE, U.S. Forest Service, and Amador OES planning cycles.
- **Targeted Outreach** to rural, vulnerable, and underrepresented populations.

Key Findings

Based on the Quantitative Wildfire Risk Assessment (QWRA), stakeholder input, and operational evaluations, the following key findings drive the strategies and priorities of the 2026 Amador County CWPP:

- **Countywide Collaboration and Coordination:** Coordination among state and local fire protection districts and departments, land management agencies, utilities, local government and public service organizations is essential to making meaningful progress toward wildfire resiliency. The Steering Committee, Working Group and Stakeholder Group that guided the development of this 2026 Amador County CWPP will be drawn on to expand and strengthen the Amador County Wildfire Collaborators (ACWC) group, led by the AFSC County Coordinator.
- **Cross-jurisdictional Geographic Information System (GIS) Management:** Amador County requires personnel to manage a centralized GIS database essential to planning and monitoring treatments, emergency access and response resources across public and private jurisdictions.
- **Distinct Regional Hazard Profiles:** Amador County exhibits distinct wildfire fire behavior across its geography. The western portion of the county is dominated by flashy fuels (grass and brush), resulting in high burn probabilities and rapid rates of spread, though generally producing flame lengths under 8 feet. In contrast, the central and eastern zones are characterized by dense timber and heavy understory. While burn probabilities are lower in these areas, they present a severe risk of extreme flame lengths (exceeding 25 feet) and active crown fires under 97th percentile weather conditions. Across the entire county, 83% of the area could experience flame lengths greater than 4 feet under severe weather scenarios, requiring mechanized suppression resources.
- **Vulnerability of Critical Assets:** The effects analysis indicates that agricultural lands, watersheds, forest vegetation, and the built environment (structures and utilities) face the highest potential for negative impacts from high-intensity wildfires.
- **Primary Community Concerns:** Public engagement revealed that the accumulation of hazardous fuels is the top concern among residents. Furthermore, rising homeowner's insurance premiums and policy non-renewals have become primary drivers motivating residents to engage in mitigation efforts. The community is also highly concerned with

the cascading impacts of wildfires, including prolonged smoke exposure, degraded air quality, and the disruption of local recreation and economic activity.

- **Strategic Fuel Reduction is Essential:** Addressing the county's hazard requires a multi-scale vegetation management approach. This includes large-scale Forest Health projects to improve ecosystem resilience, strategically placed Shaded Fuel Break Networks to aid suppression operations, and Community-Scale Fuel Reduction treatments directly adjacent to WUI neighborhoods.
- **Home Hardening and Defensible Space:** Because structures are most vulnerable to ember intrusion and radiant heat during a wildfire, widespread implementation of defensible space (Zones 0, 1, and 2) and structural hardening (e.g., upgrading vents, roofs, and siding to Chapter 7A WUI Building Code standards) are critical priorities for reducing property loss.
- **Critical Infrastructure and Response Gaps:** Effective wildfire response and safe evacuation are currently constrained by infrastructure limitations. Critical needs identified include expanding emergency water supply and storage, establishing comprehensive GIS hydrant mapping, hardening communications and radio systems, and improving narrow, one-way ingress/egress routes to support both civilian evacuation and emergency responder access.

Introduction

Community Wildfire Protection Plans (CWPPs) are collaboratively developed plans focused on reducing wildfire risk to identified community values within a defined planning area. They serve as an important vehicle for assessing local wildfire hazard and risk, coordinating wildfire risk reduction activities, and providing a mechanism for project funding and implementation.

A CWPP must meet three minimum requirements to be recognized under the Healthy Forests Restoration Act. First, it must be collaboratively developed, meaning that local government, local fire authorities, and the relevant state or federal land management agencies all participate in its creation. Second, the CWPP must identify and map the community's Wildland–Urban Interface (WUI), which defines the areas where homes, infrastructure, and other community assets are most at risk from wildfire. Finally, the plan must outline prioritized fuel-reduction projects and recommendations for reducing structural ignitability, providing a clear, locally supported roadmap for mitigating wildfire hazards. These minimum elements ensure that the CWPP reflects community priorities, strengthens cross-jurisdictional coordination, and guides effective wildfire-resilience actions. This plan meets the minimum requirements for a CWPP.

The CWPP fulfills the intent of the Healthy Forests Restoration Act (2003) by establishing locally supported priorities for hazardous fuel reduction, community preparedness, and landscape restoration. It renews Amador County's eligibility for state and federal funding through programs such as CAL FIRE's Wildfire Prevention and Forest Health Grants, FEMA Building Resilient Infrastructure and Communities (BRIC), and the USDA Community Wildfire Defense Grant Program.

Goals and Objectives

Plan Goals and Objective

1. Protect Life and Property through targeted fuel treatments, defensible space, and home hardening.

2. Safeguard Critical Infrastructure and Natural Resources including transportation corridors, utilities, watersheds, and cultural assets.

3. Promote Cross-Jurisdictional Collaboration across public, private, and tribal lands to achieve landscape-scale resilience.

4. Advance Data-Driven Decision Making by using quantitative wildfire risk modeling to prioritize treatments and funding investments.

5. Strengthen Community Preparedness and Recovery through public education, evacuation planning, and coordination with emergency management.

6. Ensure Long-Term Sustainability by aligning projects with maintenance, monitoring, and adaptive management frameworks.

Specific Objectives

1. Conduct a Quantified Wildfire Risk Assessment (QWRA) that integrates burn probability, flame length, and exposure of Highly Valued Assets (HVRAs).

2. Identify and map HVRAs such as homes, infrastructure, ecosystems, and cultural sites using community-defined priorities collected through surveys and meetings.

3. Define and maintain Wildland–Urban Interface (WUI) boundaries and fuel management zones consistent with CAL FIRE Fire Hazard Severity Zones and local plans.

4. Develop an Implementation Framework that outlines responsibilities, funding sources, and timelines for high-priority projects.

Roles and Responsibilities

The following CWPP Steering Committee holds primary responsibility for the plan development.

Table 1. Members and Organizations of the Amador County CWPP Steering Committee

Amador CWPP Steering Committee			
Name	**Organization/Agency**	**Title**	**CWPP Role**
Matthew Girton	Amador County Office of Emergency Services	Coordinator	Committee Member
Kayla Dale	Amador Fire Protection District	Public Information Officer	Committee Member
Rob Withrow	Amador Fire Protection District	Amador Fire Chief	Committee Member
Susan Peters	AFSC/AWA	Board Member - AFSC Representative	Committee Member
Todd Bertwell	AFSC/ARCD	Natural Resources Project Manager	Committee Member
Amanda Watson	AFSC/ARCD	Executive Director	Committee Member
Susan Peters	AFSC/AWA	Board Member - AFSC Representative	Committee Member
Jeff Hoag	CalFIRE AEU	Assistant Chief	Committee Member
David Wood	CALFIRE AEU	Unit Chief (as of December 2025)	Committee Member
Mike Blankenheim	CalFIRE AEU	Unit Chief (until December 2025)	Committee Member
James Thornock	US Forest Service	District Fire Management - Division Chief-1	Committee Member

Applicable Plans and Regulations

Wildfire resilience planning in Amador County is guided by a complex and interconnected framework of federal, state, regional, and local plans, policies, and regulations. The Community Wildfire Protection Plan (CWPP) is designed to function within this framework by aligning recommended actions with applicable regulatory requirements while remaining a non-regulatory, community-driven planning document. This alignment ensures consistency across agencies, maintains eligibility for funding, and supports coordinated implementation of wildfire mitigation strategies. See Appendix B for a list of plans and links to the documents.

Federal Framework

At the federal level, the Healthy Forests Restoration Act of 2003 (HFRA) provides the statutory foundation for CWPP development. HFRA authorizes communities to collaborate with federal, state, and local partners to identify and prioritize hazardous fuel reduction, address structural ignitability, and improve wildfire preparedness. Compliance with HFRA enables prioritization of fuel treatments on federal lands adjacent to communities and supports eligibility for certain federal funding programs.

Federal land management agencies, including the U.S. Forest Service and Bureau of Land Management, implement wildfire management through agency-specific land and resource management plans and fire management plans. These documents establish objectives for fuels management, suppression response, ecosystem restoration, and protection of communities and infrastructure. The CWPP complements these plans by identifying local priorities, values at risk, and opportunities for cross-boundary coordination, particularly in areas where federal lands interface with private and local jurisdictions.

State of California Regulatory Framework

California’s wildfire regulatory framework is extensive and directly influences CWPP implementation. Public Resources Code (PRC) Section 4291 establishes defensible space requirements, mandating vegetation clearance and fuel modification within 100 feet of structures in areas with flammable vegetation. These requirements form the basis for private property defensible space strategies identified in the CWPP and are enforced by local fire authorities.

Government Code Sections 51175–51189 define and regulate Very High Fire Hazard Severity Zones (VHFHSZs). These statutes require local jurisdictions to adopt fire hazard maps and apply wildfire-specific standards to development within designated areas. Government Code Section 51189 directs the Office of the State Fire Marshal to establish Wildland–Urban Interface (WUI) building standards, which are implemented through the California Building Code (Title 24, Chapter 7A). These standards address structural ignitability by requiring ignition-resistant construction materials and design features for new construction and qualifying remodels in WUI areas.

Additional state regulations address wildfire ignition prevention and infrastructure safety. PRC Sections 4292–4296 and related California Code of Regulations provisions establish vegetation management and clearance standards for electrical utilities and railroads. These regulations are critical for reducing wildfire ignitions associated with infrastructure corridors and inform CWPP recommendations related to utility coordination and corridor fuel management.

The California Emergency Services Act (CESA) provides the legal framework for emergency preparedness, response, and mutual aid. It establishes coordination responsibilities among state and local agencies and supports integration of wildfire evacuation planning, public notification, and emergency operations—key components addressed throughout the CWPP.

State and Regional Planning Documents

Several statewide and regional planning documents guide wildfire mitigation and resilience efforts in Amador County. CAL FIRE's 2025 Strategic Fire Plan for the Amador-El Dorado Unit establishes priorities for fuels reduction, fire prevention, and community protection at the unit and statewide levels. These plans emphasize landscape-scale treatments, protection of communities at risk, and collaborative implementation across ownership boundaries, all of which are reflected in the CWPP's fuels mitigation and community protection strategies.

Utility Wildfire Mitigation Plans, including those prepared by electric utilities serving the region, identify infrastructure hardening, vegetation management, and operational strategies to reduce ignition risk and enhance system reliability. The CWPP aligns with these plans by identifying priority corridors, critical infrastructure, and opportunities for coordinated mitigation.

Regional transportation and evacuation planning efforts, including evacuation studies and transportation plans prepared by regional agencies, provide important context for CWPP actions related to evacuation capacity, roadway resilience, and emergency access. Coordination with these plans ensures that wildfire evacuation and access improvements are integrated into broader transportation planning processes.

Local Plans and Ordinances

At the local level, the CWPP aligns with Amador County's General Plan, including the Fire Safety Element, which addresses wildfire hazards, emergency access, infrastructure resilience, and land use considerations in fire-prone areas. State law requires periodic review of General Plan fire safety elements, and the CWPP provides supporting analysis and recommendations that can inform future updates.

Local fire codes, ordinances, and standards adopted by cities, fire districts, and the county establish requirements for defensible space, access, water supply, and building safety. These regulations are enforced by local Authorities Having Jurisdiction and form the regulatory backbone for many of the mitigation actions promoted in the CWPP. While the CWPP does not create new regulatory requirements, it reinforces existing standards and encourages consistent application across jurisdictions.

Community-level wildfire safety plans, Fire Safe Council plans, and fire district strategic plans further refine wildfire mitigation priorities at local scales. The CWPP builds upon these efforts by providing a countywide framework that connects local actions to regional and landscape-scale strategies.

Relationship of the CWPP to Other Plans

The CWPP is intentionally designed to complement—not replace—existing plans and regulations. It serves as a coordinating document that bridges regulatory requirements, agency mandates, and community priorities. By aligning with applicable plans and policies, the CWPP

helps reduce duplication of effort, identify implementation gaps, and support collaborative project development.

Importantly, the CWPP maintains flexibility to adapt to changing conditions, emerging science, and evolving regulatory frameworks. Through periodic review and updates, the CWPP can continue to align with new legislation, updated hazard maps, and revised agency plans, ensuring its ongoing relevance and effectiveness.

See Appendix B listing Applicable Plans and Policies

Planning Area & Community Information

The following table (Table 2) provides a summary of the Amador County CWPP planning area and key community information. A map of the planning area boundary is provided in Figure 1. Figure 2 displays the land ownership within the county. Figure 3 displays land use and Figure 4 shows the locations of low income and disadvantaged communities in the planning area (California Energy Commission 2022).

Table 2. Summary of Amador County CWPP Planning Area and Community Information

CWPP Planning Area and Community Information		
Topic	**Summary**	**Data Source**
Planning Area Boundaries	Size: 606 sq mi (595 sq mi land, 11.4 sq mi water) Neighboring Counties: El Dorado, Alpine, Calaveras, San Joaquin, Sacramento	Amador County GIS
Population	Total: 40,474 30.8% urban, 69.2% rural	US Census Bureau, 2020 Census
Land Ownership	Majority: Private Secondary: Federal	CA State Geoportal - CALFIRE US Census Bureau, 2020 Census
Fire Environment	Fire environment varies considerably across the county due to changes in elevation, fuels, slope, and proximity to development. See Assessment of Wildfire Hazard and Wildfire Risk	Landfire Historical Fire Perimeters - CALFIRE Assessment of Wildfire Hazard and Wildfire Risk [SIG]
Land Use and Development Patterns	18,805 housing units • 83.4% occupied • 75.7% owner-occupied • 24.3% renter-occupied 35.5% of land zoned for single-family residential use 34.1% of land is farmland	US Census Bureau, 2020 Census Amador County General Plan
Socioeconomic Characteristics	Per Capita Income: $53,900 (44th, 2023) Unemployment Rate: 5.5% (2024)	California Department of Transportation

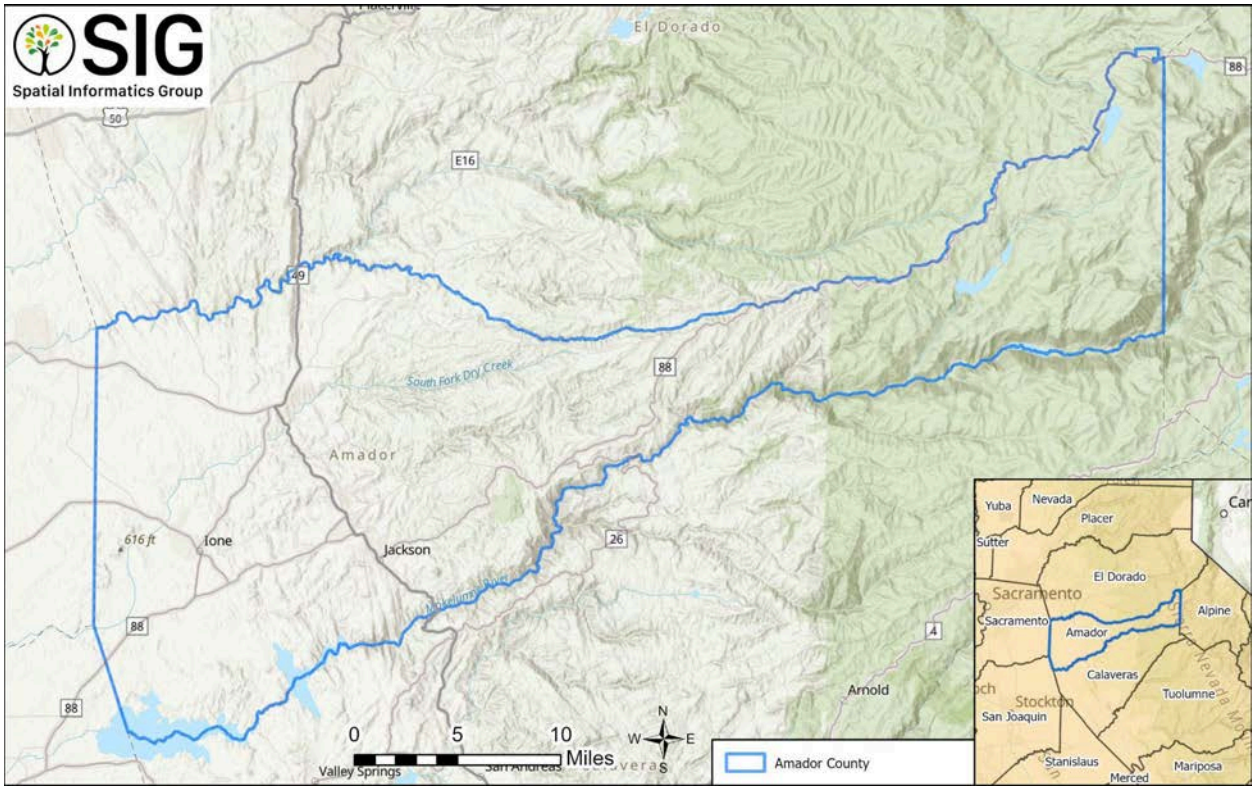


Figure 1. Amador County, CWPP Planning Area Boundary

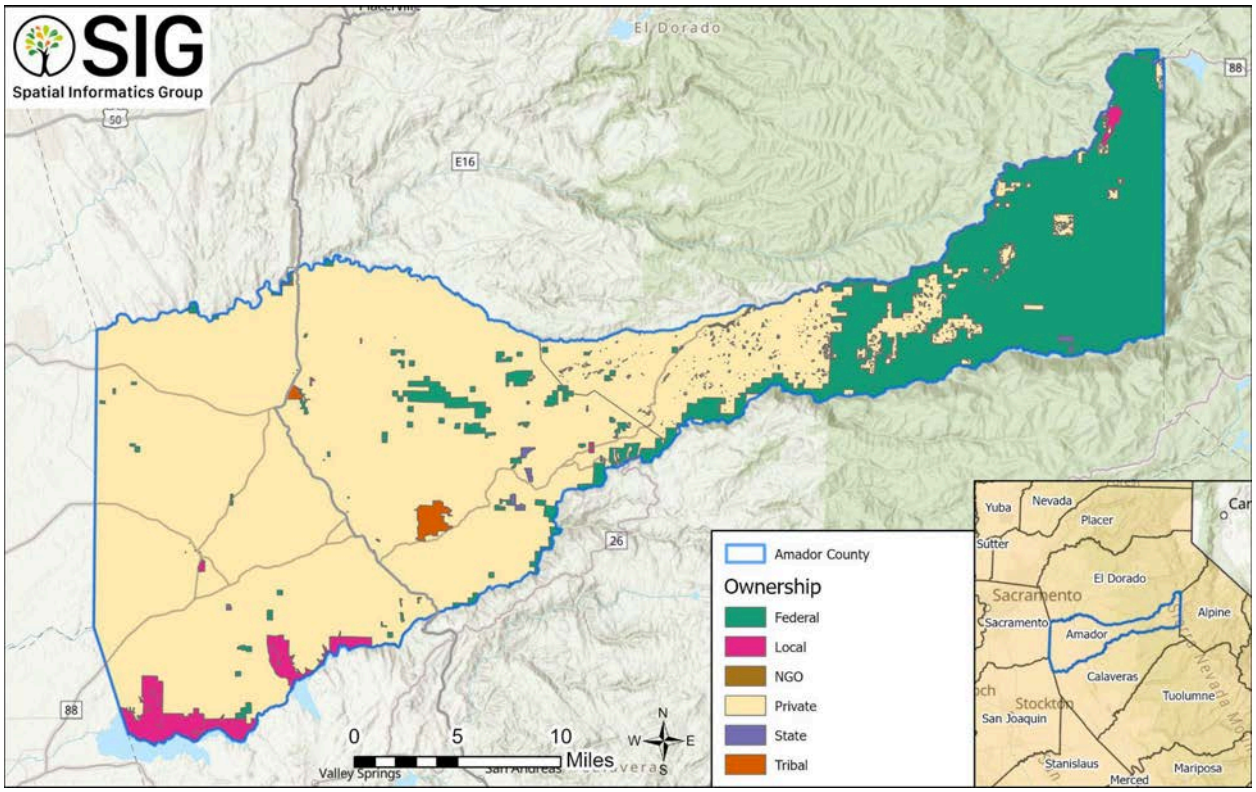


Figure 2. Land Ownership

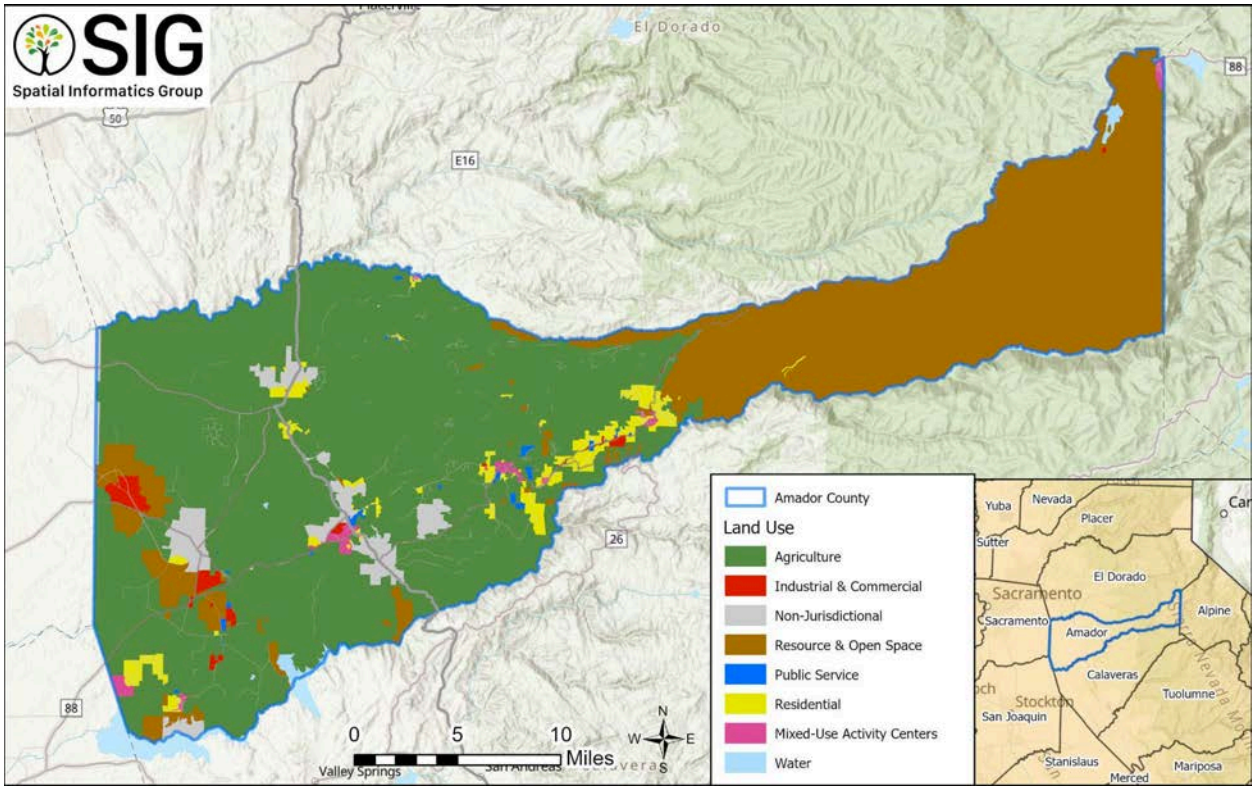


Figure 3. Land Use Categories

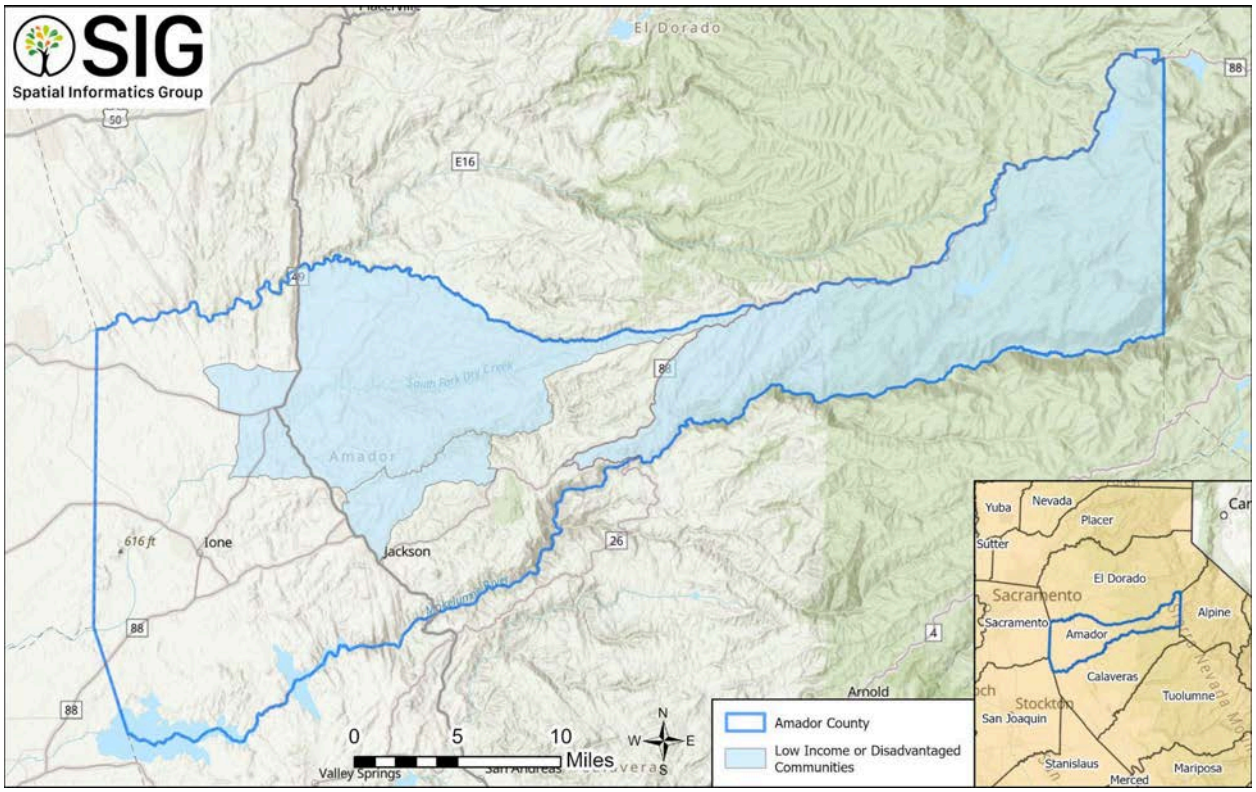


Figure 4. Low income or disadvantaged communities

Fire History

Amador County, like many areas in the central Sierra Nevada, has a long history of wildfire due to its Mediterranean climate, often varied topography, and fuel types that support frequent fire. Prior to Euro-American settlement, Native American communities actively influenced the fire regime through intentional burning practices. These fires were used to manage vegetation, improve plant materials used for construction and agriculture. Many of these cultural burns spread widely throughout the foothill environment and helped maintain open and productive landscapes. Following the discovery of gold in the late 1840s, rapid settlement introduced new land uses such as livestock grazing and the spread of non-native plant species, which significantly altered the landscape and the region's fire dynamics. Forest management, including timber harvesting and active fire suppression, further altered the region's vegetation structure, generally leading to more dense forests with greater fuel loads and greater continuity between surface fuels and the tree canopies. Fires in the past 100 years have been influenced by a combination of human activity and land-use changes associated with settlement, logging, and agriculture. Over time, fire suppression policies reduced the frequency of smaller, low-intensity fires, allowing vegetation and forest fuels to accumulate, which has contributed to more intense wildfires in modern decades.

Significant wildfires did occur in Amador County during the 1960s, though the decade saw relatively few major incidents compared with other parts of California. The most significant event was the Rancheria Creek Fire of 1961, which burned more than 34,000 acres and remains one of the largest historical wildfires recorded in the county. The fire occurred during a period when large wildfire events were relatively infrequent in Amador County and were typically associated with periods of hot, dry weather and strong winds. Aside from this event, most fires during the 1960s were smaller and more localized, reflecting both lower development in the wildland–urban interface and different forest and vegetation conditions than those seen today.

Later decades demonstrated that the potential for large wildfires in Amador County still exists. More recent events such as the Power Fire in 2004, which burned roughly 17,000 acres, and the Butte Fire in 2015 highlight the region's vulnerability under extreme weather and fuel conditions. The 2015 Butte Fire, which ignited east of Jackson when a tree contacted a power line, spread rapidly through dry fuels and steep terrain, ultimately burning about 70,868 acres across Amador and neighboring Calaveras counties. The incident destroyed hundreds of structures, caused two fatalities, and led to a state of emergency declaration by the governor. The Butte Fire demonstrated how quickly wildfires can grow in the Sierra foothills under hot, dry, and windy conditions and remains one of the most destructive events in the region's fire history.

More recent wildfire events continue to highlight the county's ongoing fire risk. Large regional fires such as the Caldor Fire (2021) and incidents like the Electra Fire (2022) and other local ignitions have affected or threatened parts of Amador County. These events reflect broader trends across California, where longer fire seasons, drought, and climate-driven changes in vegetation have increased wildfire frequency and intensity. Fires like Electra highlight that certain areas are prone to frequent wildfire. Not only are areas that burn likely to burn again, but previous fires may increase the chances that the same area may burn again due to changes in post-fire vegetation growth.

However, compared with many neighboring Sierra Nevada counties, Amador County has historically experienced fewer large and destructive wildfires. While nearby counties such as El Dorado, Calaveras, and Alpine have faced several major fires in recent decades—including events that burned tens of thousands of acres—Amador County has generally avoided incidents

of similar scale. Many of the largest regional fires have occurred just outside the county's boundaries. Although smaller fires and localized incidents have occurred within Amador County, the county has not experienced the same concentration of large wildfires that have affected surrounding regions. This relative absence of major fires does not eliminate risk, however, and recent large fires in adjacent counties highlight the potential for wildfire to impact Amador County under the right weather and fuel conditions.

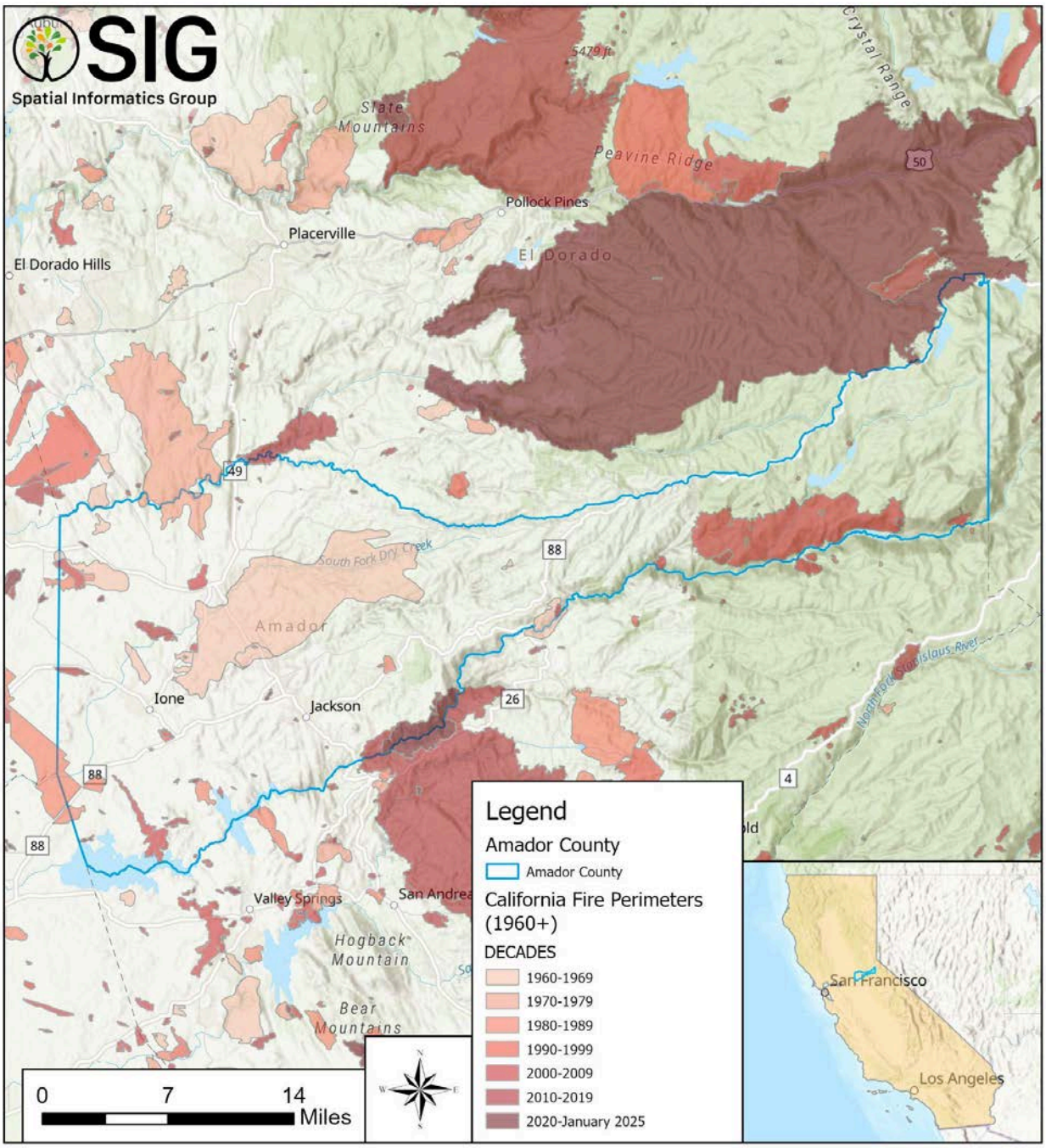


Figure 5. Fire perimeters, by decade, since 1960

Fire Protection Areas

Fire protection areas are defined geographic zones in which a specific agency, fire district, or jurisdiction is assigned primary responsibility for providing fire prevention, mitigation, and emergency response services. These areas establish clear boundaries for who responds to wildfire and structural fire incidents, who conducts inspections and code enforcement, and who leads local preparedness and public safety efforts. Fire protection areas help organize resources and personnel efficiently, reduce confusion during emergencies, and ensure that all lands—whether public or private—have an identified entity responsible for fire-related duties. They also support coordinated planning across jurisdictions by clarifying roles, improving communication, and enabling consistent implementation of fire prevention and hazard-reduction practices.

Fire District Service Areas

Fire districts listed in Table 3 (shown in Figure 6) are responsible for providing fire protection within the Amador County CWPP planning area.

Table 3. Fire Districts within the Amador County CWPP Planning Area

Fire Districts in CWPP Planning Area	
Fire District	**Description of Geographic Area**
Amador Fire Protection District	Most of Amador County, includes contract with Plymouth
Ione Fire Department	City of Ione
Jackson Fire Department	City of Jackson
Jackson Valley FPD	Southwest Amador County
Kirkwood Volunteer FD	City of Kirkwood
Plymouth - Contract with Amador FPD	Community of Plymouth
Sutter Creek FPD	Communities of Sutter Creek and Amador City

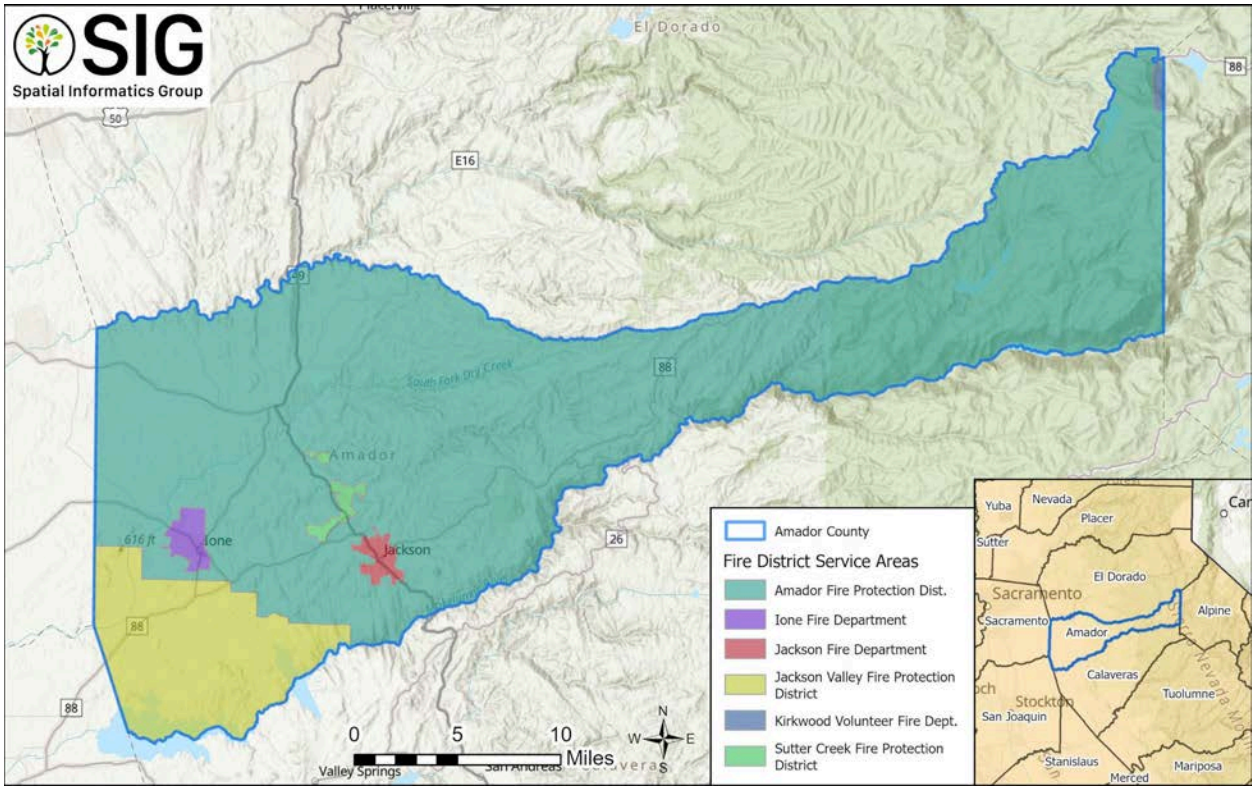


Figure 6. Fire District Service Areas within Amador County

Responsibility Areas

The following wildland fire responsibility areas are within the Amador County CWPP planning area which determines the legal and financial responsibility for wildland fire prevention and protection within each of these areas.

Federal Responsibility Areas

Federal Responsibility Areas (FRAs) are lands where the federal government has primary authority and responsibility for wildfire management, including prevention, preparedness, suppression, and fuels reduction activities. These areas typically include National Forests managed by the U.S. Forest Service, rangelands and public lands managed by the Bureau of Land Management, National Parks under the National Park Service, and wildlife refuges managed by the U.S. Fish and Wildlife Service. Within FRAs, federal agencies are responsible for developing and implementing fire management plans, conducting fuels treatments, maintaining access and infrastructure for wildfire response, and coordinating with state, local, and tribal partners. Their role also includes protecting federal resources and values at risk, supporting cross-boundary mitigation efforts, and ensuring wildfire policies align with national land management objectives.

State Responsibility Areas

State Responsibility Areas (SRAs) are lands where the state government holds primary responsibility for wildfire prevention, preparedness, and suppression, typically outside incorporated cities and beyond federal land boundaries. These areas often include privately owned land, rangelands, and watershed lands where fire risk is significant and coordinated

management is essential. In SRAs, the state—often through agencies such as CAL FIRE or RCDs —develops fire management policies, conducts fuels reduction and vegetation management projects, enforces defensible space regulations, and oversees wildfire response operations. State agencies also work closely with local governments, fire districts, and landowners to reduce wildfire risk, protect communities and natural resources, and ensure consistent, statewide standards for fire resilience and mitigation.

Local Responsibility Areas

Local Responsibility Areas (LRAs) are lands where cities, counties, or local fire protection districts hold primary responsibility for wildfire prevention, mitigation, and emergency response. These areas typically include incorporated communities, residential neighborhoods, commercial zones, and other developed lands where local governments have land-use authority and provide essential public safety services. Within LRAs, local agencies are responsible for enforcing building and fire codes, implementing defensible space and vegetation management standards, conducting public education and outreach, and coordinating local evacuation planning. They also manage initial wildfire response within their jurisdictions and collaborate with state and federal partners when incidents cross boundaries. Through these responsibilities, LRAs play a crucial role in protecting life, property, and critical infrastructure from wildfire risks.

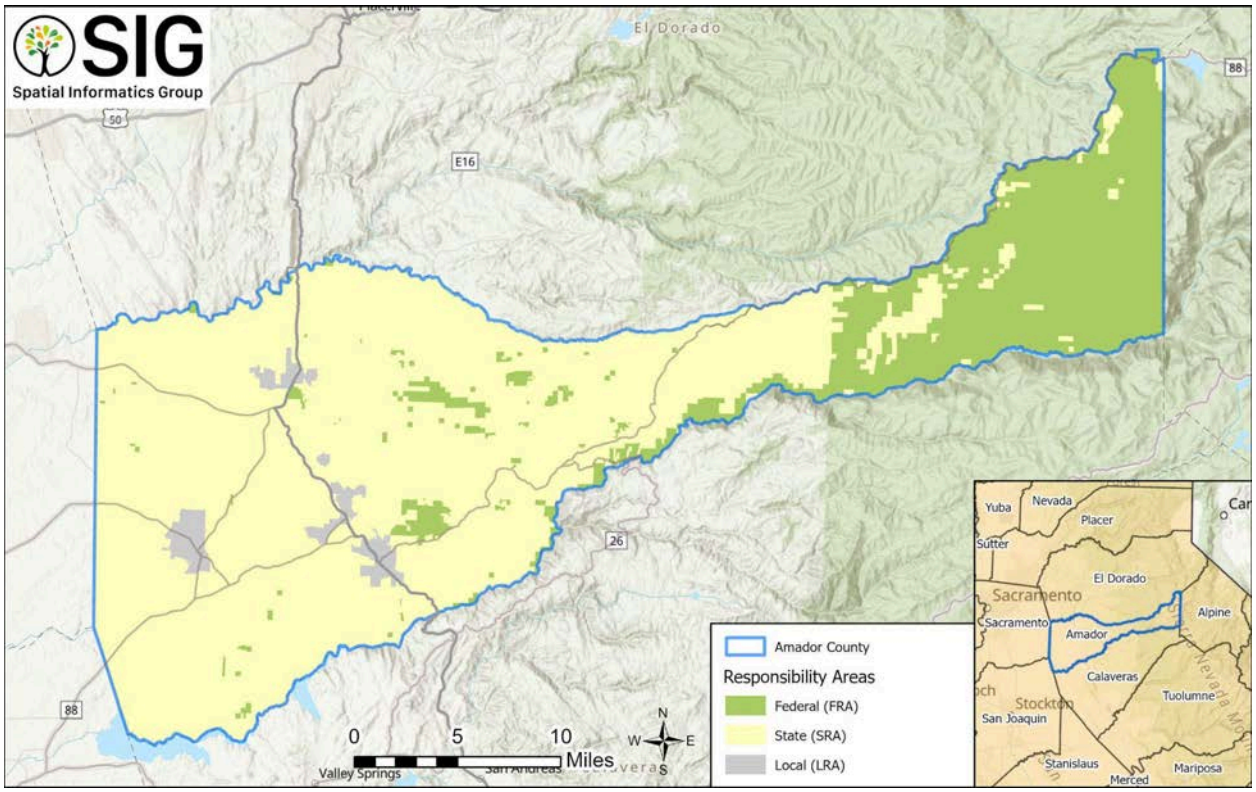


Figure 7. Wildland fire responsibility areas within the Amador County

CAL FIRE Units

CAL FIRE Units are regional administrative divisions of the California Department of Forestry and Fire Protection, each responsible for managing the state's fire prevention, preparedness, and wildfire response operations within a defined geographic area. These units oversee State

Responsibility Areas (SRAs) and often provide contract services to local governments for structural fire protection and emergency medical response. Their responsibilities include conducting vegetation management and fuel-reduction projects, USFSorcing defensible space and fire-safe construction standards, operating fire stations and emergency dispatch centers, and coordinating incident response across local, state, and federal agencies. CAL FIRE Units also support community education, fire planning, and recovery efforts, ensuring consistent and effective wildfire resilience strategies throughout California.

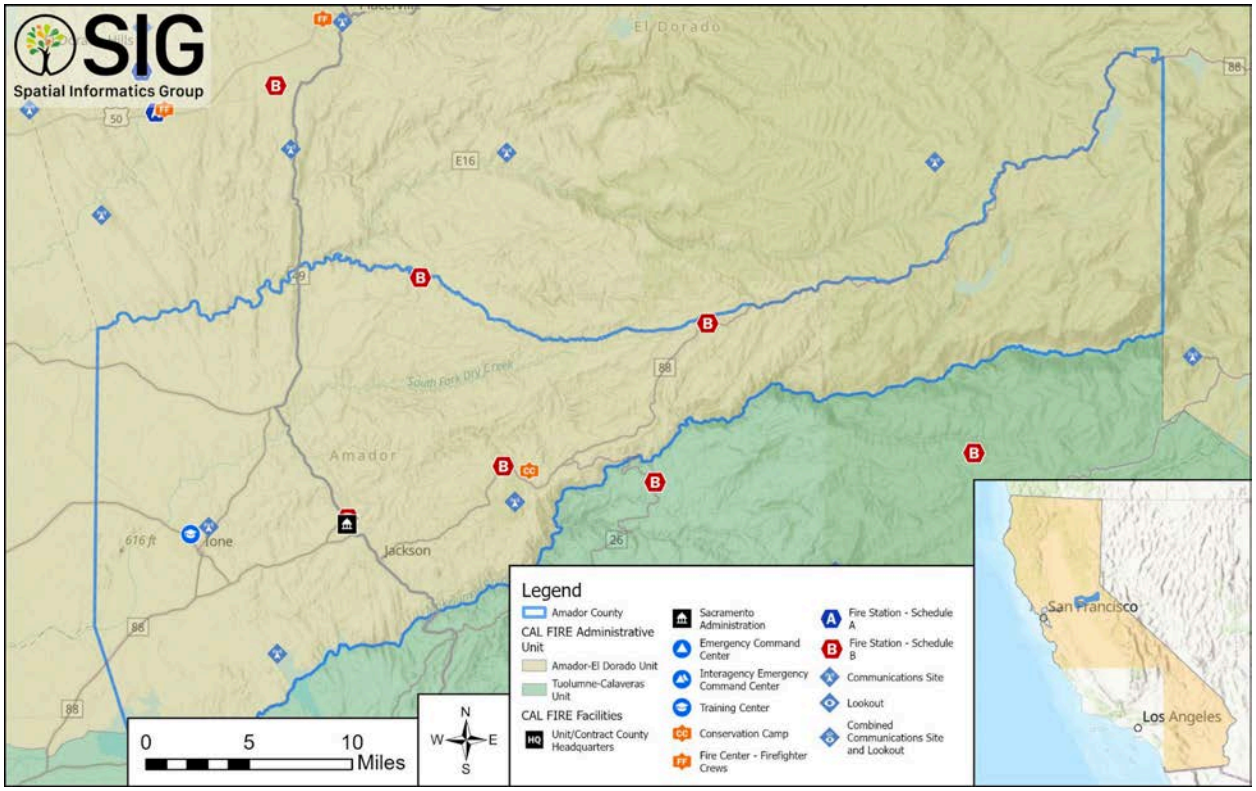


Figure 8. Map of the CAL FIRE units and facilities related to the Amador County CWPP planning area

Wildland-Urban Interface Identification

The Wildland–Urban Interface (WUI) is the zone where human development meets or intermingles with wildland vegetation. This area includes neighborhoods, businesses, infrastructure, and other community assets located near forests, shrublands, or grasslands that can carry wildfire. Because natural vegetation, steep terrain, and weather all influence fire behavior, the WUI represents the place where wildfire hazards and human exposure overlap most directly. As communities continue to expand into formerly undeveloped landscapes, the extent of the WUI increases, bringing additional challenges for fire management and public safety.

Recognizing the WUI is critically important because it highlights where the risk to life, property, and essential infrastructure is likely the greatest. Homes and development in the WUI are often more vulnerable to wildfire due to flammable building materials, inadequate defensible space, limited access routes, and the potential for ember ignition. Identifying WUI areas helps agencies, planners, and residents understand where to focus mitigation efforts, improve

evacuation planning, and strengthen building and vegetation standards. It also supports more effective wildfire response by clarifying where firefighting resources may be most needed during an emergency.

Within a CWPP, the WUI serves as a foundational element that guides all other components of the plan. Mapping and defining the WUI establishes a key planning area where fuels reduction, defensible space programs, infrastructure improvements, and community outreach should be prioritized. It ensures that recommended projects reflect local values and address the highest-risk zones. By clearly identifying the WUI, a CWPP strengthens collaboration among local, state, and federal partners, aligns mitigation strategies with community needs, and supports access to funding for wildfire-resilience projects.

The WUI is composed of three distinctions based on the level of development, intermixing with wildland fuels, and exposure to wildland fire.

Interface WUI:

The Interface Wildland–Urban Interface (WUI) zone is where structures and human development directly border large, contiguous areas of wildland vegetation. In this zone, residential neighborhoods or commercial areas sit adjacent to forests, shrublands, or grasslands without significant natural or manmade buffers. Because structures are concentrated along the wildland edge, fires approaching from nearby vegetation can quickly threaten homes and infrastructure. The clear boundary between development and wildland fuels makes the Interface WUI highly vulnerable to radiant heat, flame contact, and ember intrusion during a wildfire.

Intermix WUI:

The Intermix WUI zone describes areas where homes, buildings, and wildland vegetation are intermingled with one another, with no distinct separation between development and natural fuels. In this environment, vegetation is present throughout the community, often surrounding individual homes and parcels. This creates complex fire behavior conditions and challenges for firefighting, as fires can move simultaneously through wildland fuels and structures. The dispersed pattern of development in the Intermix WUI often results in limited access routes, longer response times, and a heightened need for defensible space and fire-resistant construction.

Influence Zone:

The Influence Zone represents the broader area beyond the immediate WUI where wildfire behavior can still significantly affect a community. These zones may be located several miles away from homes or infrastructure but can generate embers, smoke, or fast-moving fire fronts that impact Interface or Intermix areas. Recognizing the Influence Zone is important because conditions such as fuel buildup, topography, and prevailing winds in these areas can strongly influence the intensity and direction of fires that ultimately threaten communities. Managing fuels and fire behavior in the Influence Zone helps reduce the likelihood of severe wildfire impacts on nearby developed areas.

CAL FIRE Subdivision Review

Subdivisions—defined here as developments containing more than thirty residential units—are identified in coordination with local jurisdictions. If a subdivision meets the criteria outlined in Section 4290.5 of the California Public Resources Code, it is evaluated for access and evacuation routes, as well as other fire safety considerations. The findings from these evaluations, along with any related recommendations, are published by the Board of Forestry and Fire Protection and are publicly accessible.

This initiative is intended to share the results of subdivision surveys conducted under Assembly Bill 2911, which established Section 4290.5 of the Public Resources Code. Under Section 4290.5, the Board of Forestry and Fire Protection is responsible for surveying subdivisions located within State Responsibility Areas (SRA) or within Local Responsibility Area (LRA) Very High Fire Hazard Severity Zones of more than 30 dwelling units that lack a secondary evacuation route and face significant wildfire risk. Based on these surveys, the Board provides recommendations.

The recommendations included in each Subdivision Survey Report are advisory only and are provided solely for the purposes described in Section 4290.5. Local jurisdictions may choose to offer additional recommendations if they wish.

The process of identifying and surveying subdivisions is ongoing. Because updated SRA Fire Hazard Severity Zone (FHSZ) maps took effect on April 1, 2024, the hazard zone listed in reports for subdivisions surveyed before that date may differ from the current map. These subdivisions will be reassessed during the next review cycle.

Figure 9. CAL FIRE subdivisions within State Responsibility Areas (SRA) or within Local Responsibility Area (LRA) Very High Fire Hazard Severity Zones that lack a secondary evacuation route

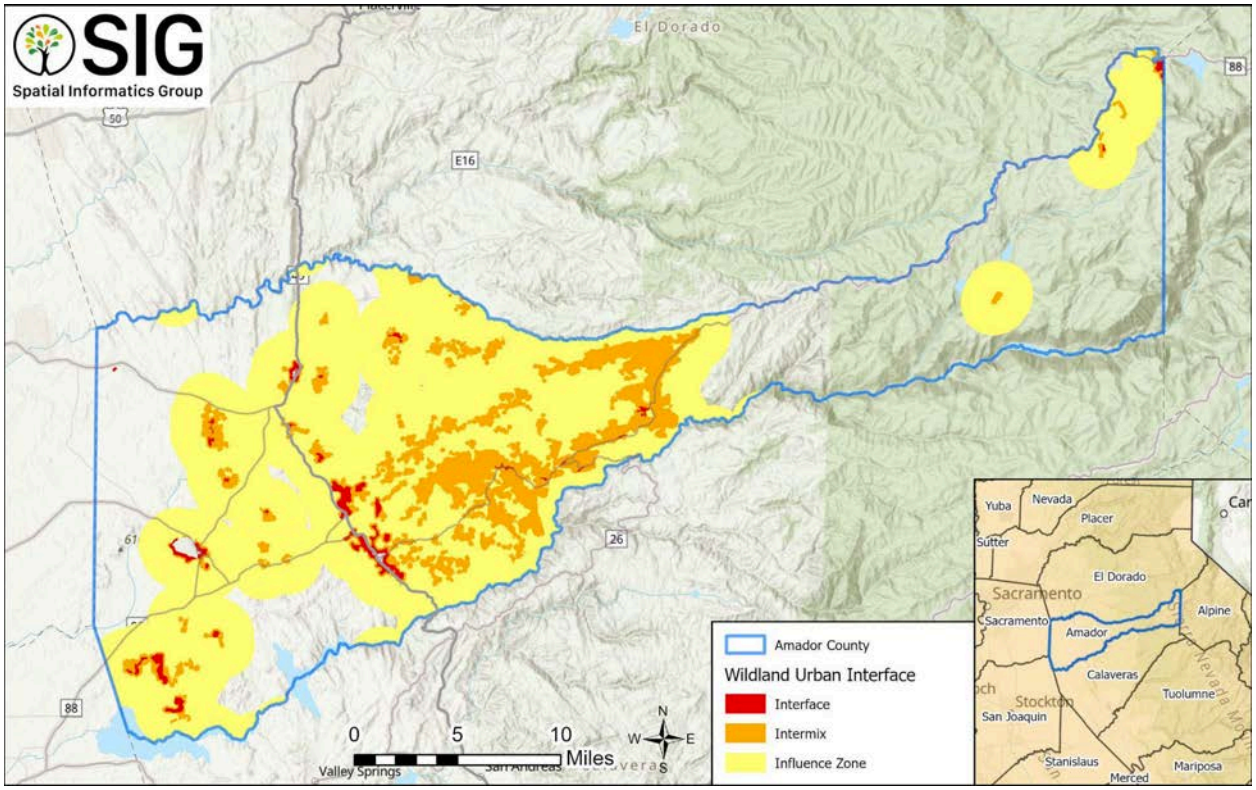


Figure 10. Wildland Urban Interface (WUI) boundaries within Amador County

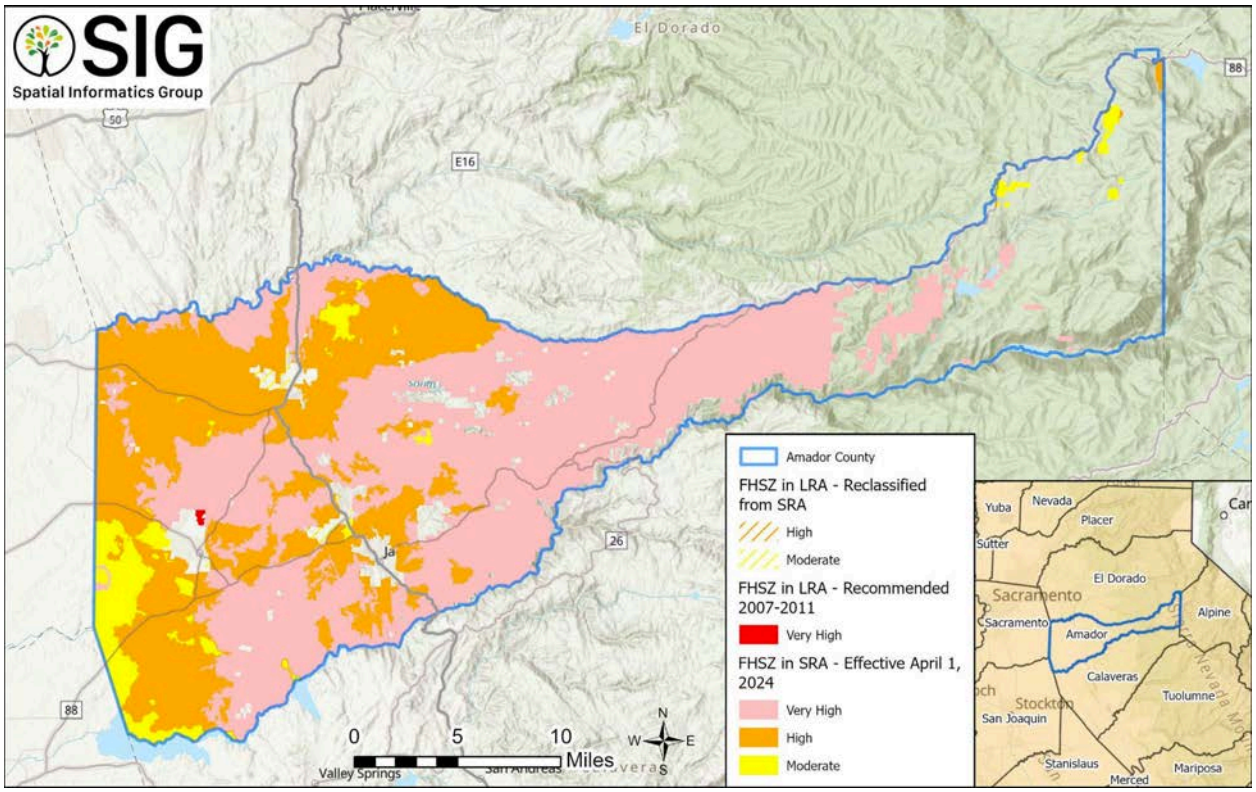


Figure 11. Fire Hazard Severity Zones by Responsibility Areas in Amador County

Assessment of Wildfire Hazard and Wildfire Risk

Summary of Wildfire Behavior Simulations, Fire Weather and Spread Modeling

Quantitative Wildfire Risk Assessment Methodology

The Amador County CWPP employs a rigorous Quantitative Wildfire Risk Assessment (QWRA) framework based on the Scott et al. (2013) methodology, which systematically integrates wildfire simulation, asset identification, and impact analysis. The process begins with Wildfire Simulations using FlamMap to model burn probabilities and fire intensities across the landscape using LANDFIRE data and Scott and Burgan 40 fuel models. This is followed by an Exposure Analysis that intersects these hazards with Highly Valued Resources and Assets (HVRAs)—the ecological and social elements prioritized by stakeholders. Finally, an Effects Analysis utilizes response functions to calculate Net Value Change (NVC), providing a weighted metric of potential beneficial or detrimental outcomes that allows planners to prioritize mitigation efforts based on integrated risk.

Wildfire Hazard Analysis and Simulation Results

The assessment characterizes wildfire hazard through high-resolution simulations of the 97th percentile weather conditions, revealing distinct spatial patterns across Amador County. Burn Probability is most elevated in the western portion of the county, particularly along the Highway 49 corridor, while the highest Flame Lengths and potential for Active Crown Fire are concentrated in the central timber and shrub-dominated zones. To synthesize these findings, the plan utilizes an Integrated Hazard (IH) index, which bins and cross-references burn probability with conditional flame length into a single classification matrix. This spatial data informs the county's strategic planning by identifying where fire intensity exceeds "direct attack" capabilities (flame lengths >8 feet) and where high rates of spread (>20 feet per minute) in flashy fuels pose the greatest threat to evacuation and suppression.

Measuring Wildfire Risk Methodology

To build a plan that protects Amador County, we need to understand exactly how and where wildfires threaten the things we care about most. To do this, we used a rigorous, science-based process known as a Quantitative Wildfire Risk Assessment (QWRA).

This framework breaks down the complex problem of wildfire risk into four logical, data-driven steps:

Step 1: Simulating the Fire (Wildfire Hazard)

First, we have to understand how a fire might behave on our specific landscape. We use advanced computer modeling software (called FlamMap) combined with local data on topography, weather, and vegetation (fuels). We ran these simulations under "97th percentile" weather conditions—meaning we modeled the fires based on the hottest, driest, and windiest days of the year. This step tells us two critical things:

- Burn Probability: How likely a specific area is to burn.
- Flame Length (Intensity): How hot and high the flames will be.

Step 2: Identifying What Matters Most (Community Assets)

Wildfire hazard only becomes a risk when it threatens something of value. We worked with local stakeholders and community members to identify and map our Highly Valued Resources and Assets (HVRAs). These are the ecological, social, and economic elements the community wants to protect, ranging from residential homes and critical water infrastructure to important wildlife habitats and cultural sites.

Step 3: Finding the Overlap (Exposure Analysis)

Next, we overlay our wildfire simulation maps directly onto our community asset maps. This "exposure analysis" evaluates the spatial interactions between fire hazards and our physical assets. By combining the likelihood of fire and the expected intensity, we generate an Integrated Hazard map, which visually highlights the neighborhoods and resources most exposed to severe fire behavior.

Step 4: Calculating the Impact (Effects Analysis)

Finally, we calculate the expected outcome if a fire were to reach these exposed assets. We measure this using a metric called Net Value Change (NVC). Because not all fire is bad—low-intensity fires can actually benefit certain natural habitats—this step weighs both the detrimental damages and the beneficial outcomes to HVRAs.

By integrating these metrics, we generate a comprehensive risk score. This allows us to prioritize our mitigation efforts and funding exactly where they will do the most good for Amador County.

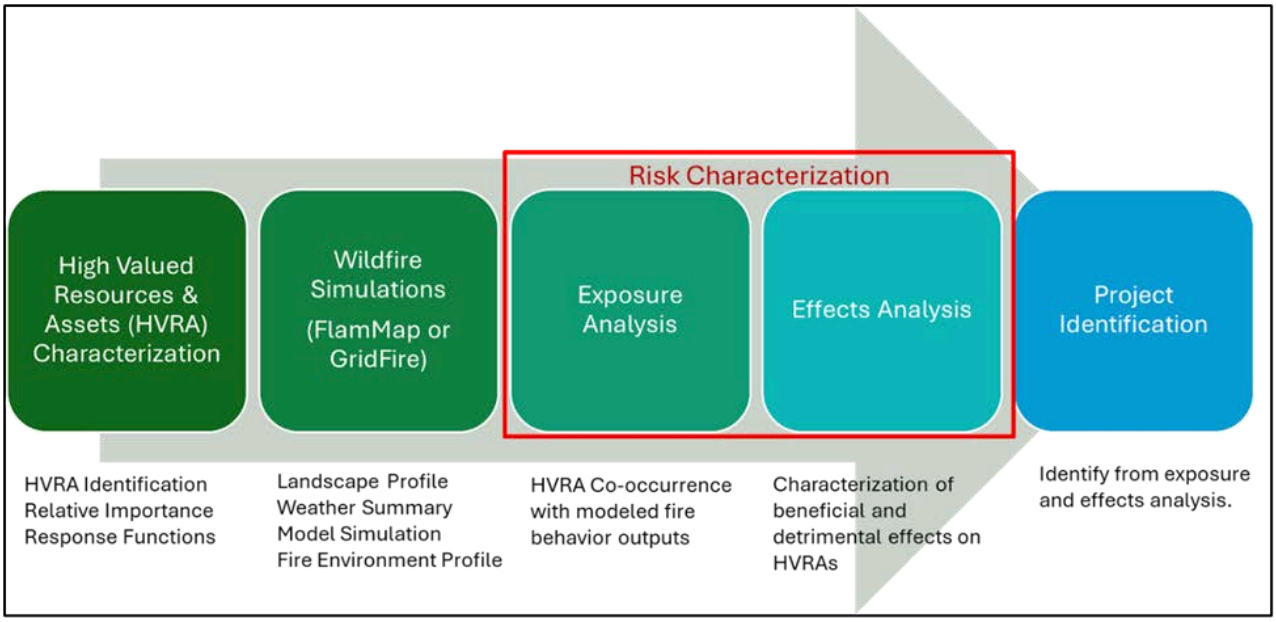


Figure 12. Quantitative wildfire risk assessment process.

Wildfire Hazard

The Amador County CWPP working group used the following process to incorporate a wildfire hazard assessment and associated map into the CWPP planning process.

Wildfire Model Simulations

Wildfire simulations are a central component of QWRA and wildfire hazard characterization, providing a scientific basis for understanding where and how fires are likely to burn under a range of environmental conditions (Scott et al. 2013, NWCG 2025a). These simulations integrate data on fuels, topography, historical weather patterns, and ignition sources (previously presented) to model potential fire behavior across the landscape (Scott 2012). Outputs such as burn probability, flame length, and rate of spread help quantify wildfire hazard and inform subsequent exposure and effects analyses. By simulating fire behavior under defined scenarios - such as percentile-based weather conditions completed for Amador County - QWRA enables planners and decision-makers to identify areas of elevated hazard and risk, prioritize mitigation efforts, and allocate resources more effectively to protect highly valued resources and assets (HVRAs).

FlamMap, used for simulating wildfire behavior for Amador County, is a fire behavior modeling tool developed by the U.S. Forest Service to simulate potential wildfire activity on landscapes using fuel, topography, and weather data (Finney 2006). Unlike dynamic models, FlamMap calculates fire behavior at each point under constant conditions, providing outputs like burn probability, flame length, rate of spread, and fire type. This makes it useful for strategic planning and risk assessment, as it evaluates fire hazards across different weather scenarios. In QWRA, FlamMap helps analyze landscape-level fire behavior and supports decisions on mitigation and fuel reduction priorities.

A fuel model is a standardized set of fuel bed characteristics that can be used for a variety of wildfire modeling applications. Fuel models and their characteristics, including fuel moisture content, fuel loading, and arrangement, are required for FlamMap to generate fire behavior outputs (USFS 2025b). Inputs for Amador County vegetation and fuel models were obtained from LANDFIRE (LANDFIRE 2025). The Scott and Burgan 40 Fire Behavior Fuel Models (Scott and Burgan 2005) were used for this analysis.

Summary of Wildfire Behavior Simulations, Exposure and Effects Analysis

Geographic Breakdown of Fire Behavior and Risk

When we look at these overall risk scores across the county, distinct hazard profiles emerge based on the local geography and vegetation :

- **The Western Zone (Grass-Dominated):** The highest burn probabilities occur here—mostly around areas like Camanche Village, south of Jackson, and the junction of Highways 16 and 49. In these flashy fuels, the rate of spread is predicted to be high (20-80 feet per minute). Fortunately, flame lengths in extreme weather generally won't exceed 8 feet. However, due to the high burn probability, the risk to Woodland Plant Species and Safety Protection infrastructure remains high.
- **The Central Zone (Timber-Dominated):** While burn probabilities are slightly lower here, the dense timber creates extreme intensity. Flame lengths are expected to exceed 25 feet in most areas, with passive and active crown fires likely. The Integrated Hazard (IH) is highly variable, but large areas fall into the "Highest" classification, posing severe risks to Woodland Plant Species and Safety Protection infrastructure.
- **The Eastern Zone (Shrub and Forest):** There is a massive area of high burn probability just west of Salt Springs Reservoir. This area combines heavy understory fuels with steep topography. Flame lengths can be expected to exceed 25 feet, resulting in a high risk to Watersheds, Agriculture, and Forest Vegetation.

What This Means for Amador County

Across the entire county, under 97th percentile extreme weather conditions, flame lengths greater than 4 feet may occur across 83% of the area. The areas with the most negative "Overall Risk" scores dictate our top priorities for action (Figures 19-21). To protect areas surrounding structures that would be severely impacted by these fast-moving or high-intensity wildfires, we must implement wildland mitigation measures, including mechanical fuel reduction (like shaded fuel breaks) and follow-up prescribed burning. Closer to home, reducing our overall risk relies heavily on property owners maintaining defensible space guidelines and utilizing fire-resistant building materials to harden their homes against embers and radiant heat.

Wildfire Model Simulations Results

Burn Probability

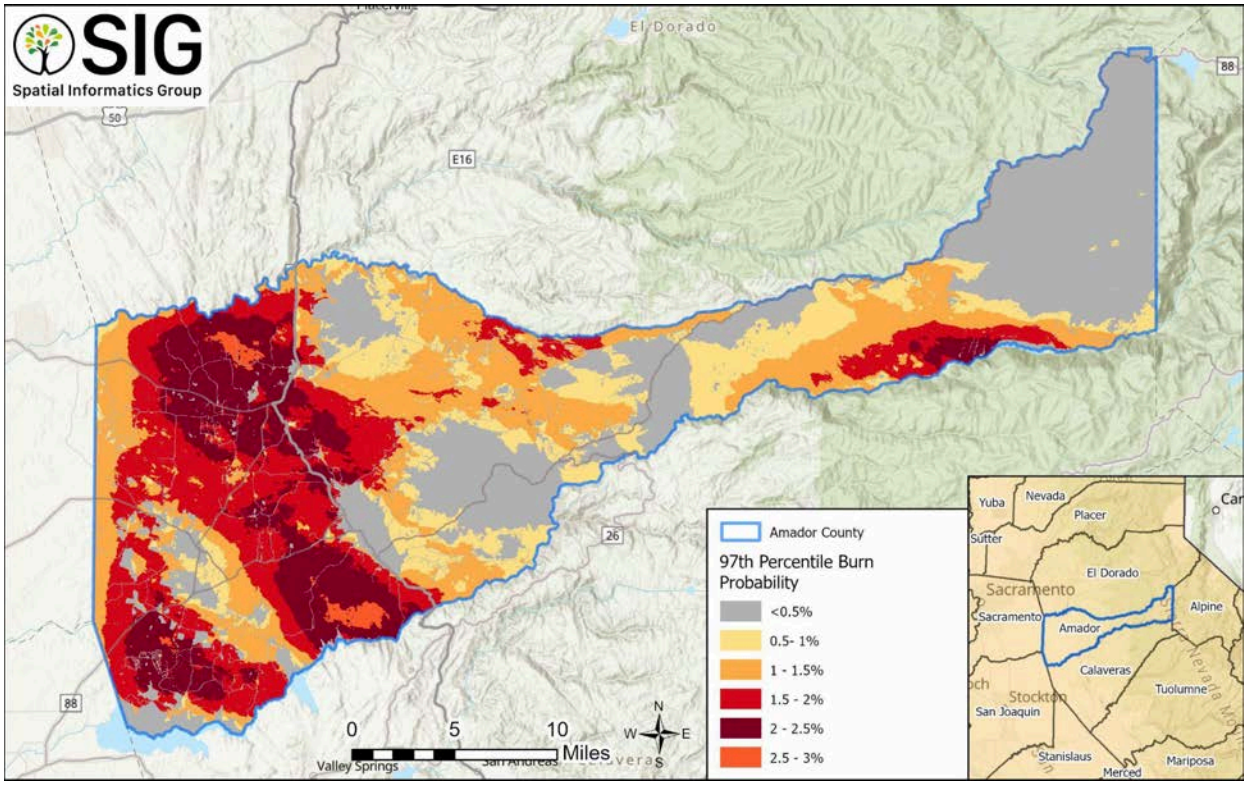


Figure 13. Amador County CWPP 97th Percentile Burn Probability

FlamMap calculates BP by running numerous fire simulations from random ignitions and dividing the number of times each pixel burned by the total number of simulations. The resulting map shows a value between 0 and 1 for each pixel, representing the probability of that pixel burning under the specified conditions (e.g., 8 hour burn duration, 97th percentile weather and fuel moisture conditions) (Figure 13). This output does not provide an indication of the probability of a fire starting but instead provides the probability of whether a pixel burns if a fire were to occur.

The FlamMap landscape burn probability analysis indicated the areas that are most likely to burn in Amador County under 97th percentile weather conditions. There are significant areas with high burn probabilities in the western portion of the county with the highest burn probabilities falling along the western side of the Highway 49 corridor.

Flame Length

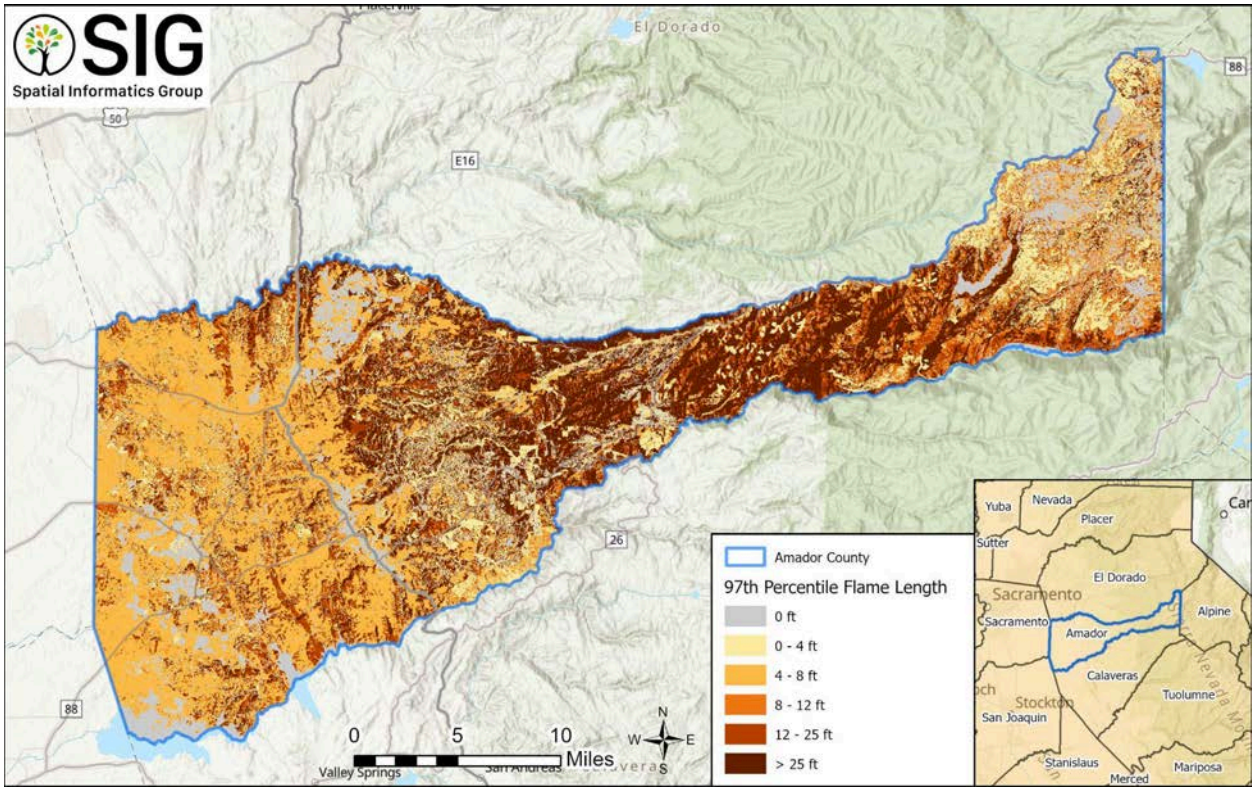


Figure 14. Amador County CWPP 97th Percentile Flame Length

Wildfire behavior modeling at Amador County indicated that flame lengths are varied under 97th percentile weather conditions (Figure 14). Flame lengths of or greater than 8 feet are too intense for direct attack at the head of a fire with hand tools. Handline cannot be relied upon to hold the fire. Equipment such as dozers, engines, and retardant aircraft can be effective.

Flame lengths may exceed 4 feet over approximately 73% of Amador County under 97th percentile conditions. Significant flame lengths are not predicted in the same areas where burn probability was elevated (western zone). Significant flame lengths are predicted in the central zone where timber and shrub fuels predominate.

Rate of Spread

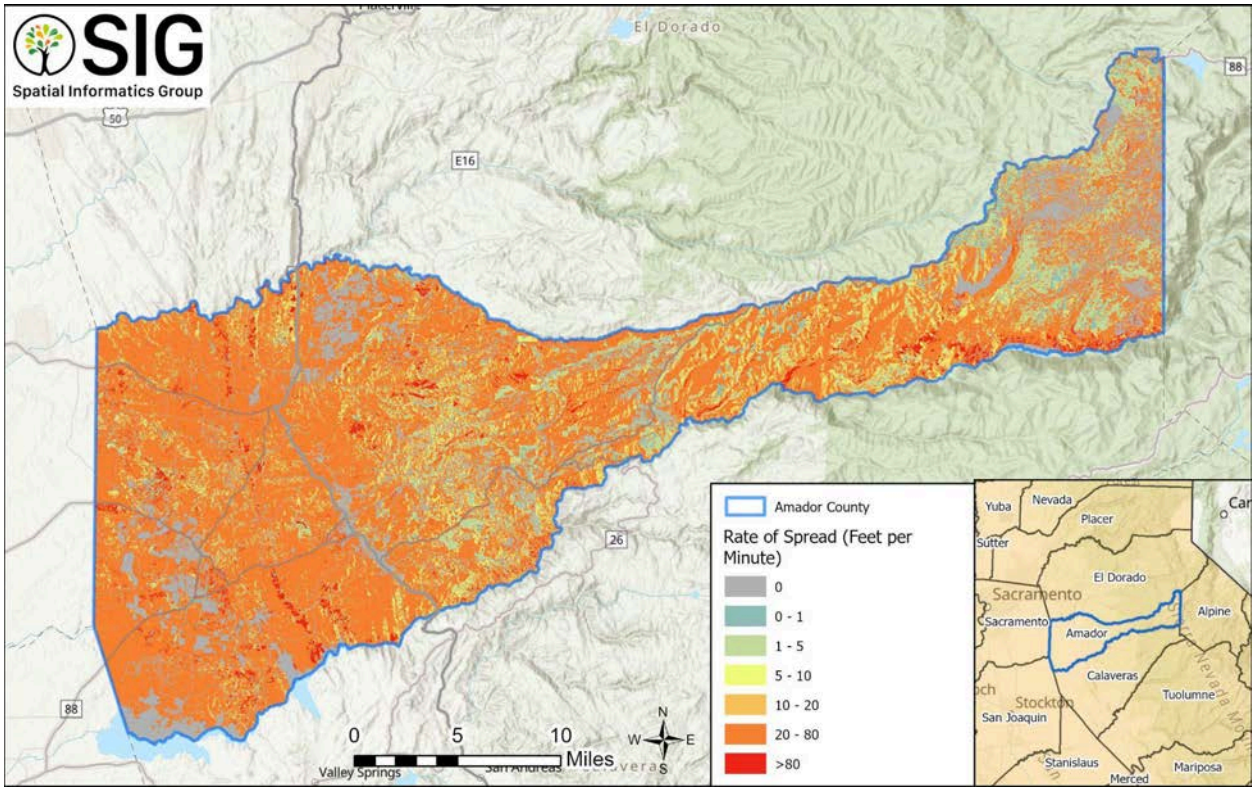


Figure 15. Amador County CWPP 97th Percentile Rate of Spread (Feet per Minute)

Generally, higher wind speeds combined with dry fuels drive higher rates of spread, particularly if the fuels are grass or grass-shrub types. Higher rates of spread (> 20 feet per minute) are observed in the western portion of the county where higher wind speeds and flashy fuel types combine (Figure 15). High rates of spread can be seen throughout the rest of the county where topography aligns with the prevailing wind under 97th percentile weather conditions.

Fire Type

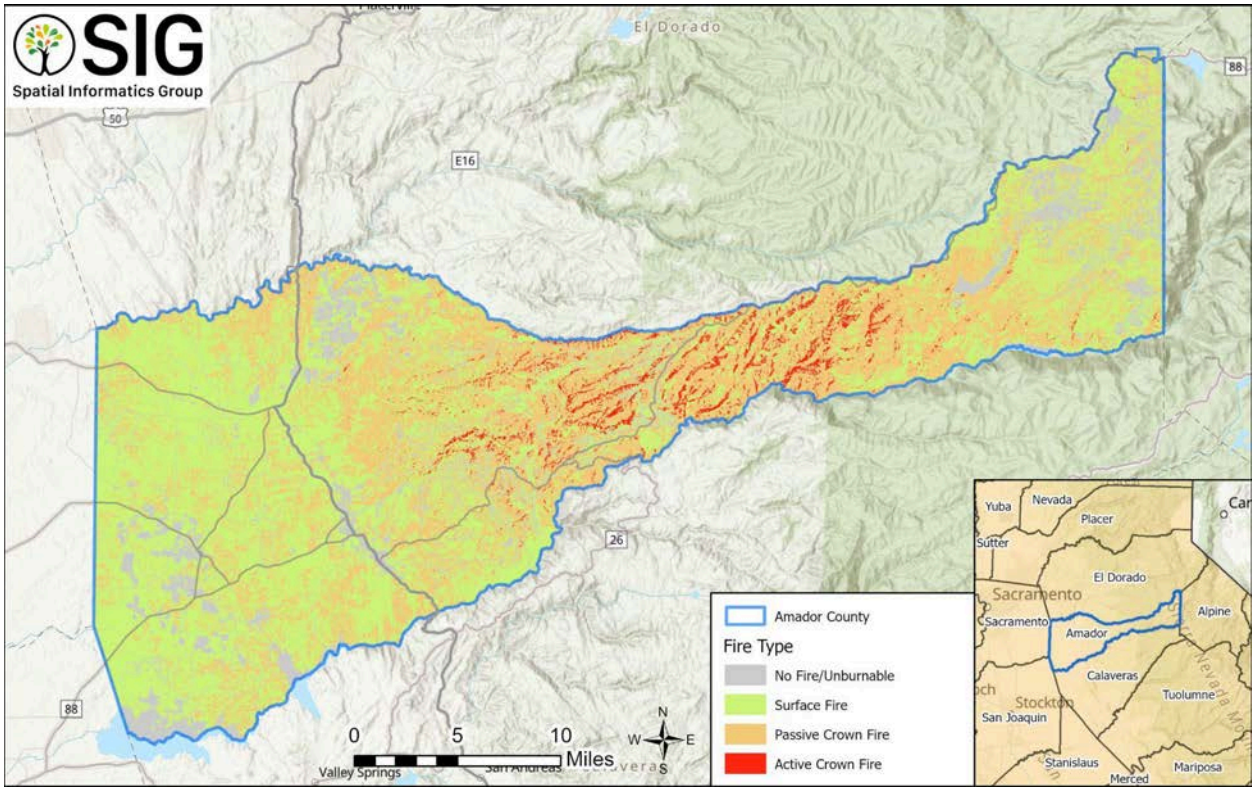


Figure 16. Amador County CWPP 97th Percentile Fire Type (Crown Fire Activity)

Fire type is a wildfire simulation output that is divided into four categories: unburned, surface fire, passive crown fire, and active crown fire. Surface fires are considered those burning in surface fuels such as litter, downed woody debris, and low-level living plants (NWCG 2005). Passive crown fires occur when surface fire intensity is sufficient to ignite tree crowns, individually or in groups, but wind speeds are not high enough to propagate fire between trees. Active Crown Fire takes place when surface fire intensity ignites tree crowns and fire spread and intensity in the tree crowns reciprocates, advancing surface fire spread and intensity and being the most difficult type to suppress.

Surface fire and passive crown fire is expected for most areas of the county under 97th percentile weather conditions (Figure 16). Active crown is expected throughout many areas in the central part of the county where heavy fuel loading in dense timber predominates.

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[1] Handline definition: A fire prevention barrier (fireline) constructed by removing burnable organic materials down to mineral soil with hand tools such as shovels, hoes, and rakes.

Integrated Hazard

Integrated Hazard (IH) combines burn probability and conditional flame length into a single characteristic that can be mapped (IFTDSS 2025). Values of both metrics are binned and classified to create the Integrated Hazard index. Because IH is based on the maximum Burn Probability of an analysis area, results are dynamic and dependent on the specific extent of the wildfire simulation. IH cannot be compared between analysis areas because it is dependent on the maximum results within an analysis area.

Burn Probability at Amador County was binned and classified as a percentage of the maximum value at 20% intervals. CFL was binned and classified in 2 feet flame length increments up to 12 feet. The resulting matrix of classified values (Figure 17) and the resulting Integrated Hazard map for Amador County are shown in Figure 18.

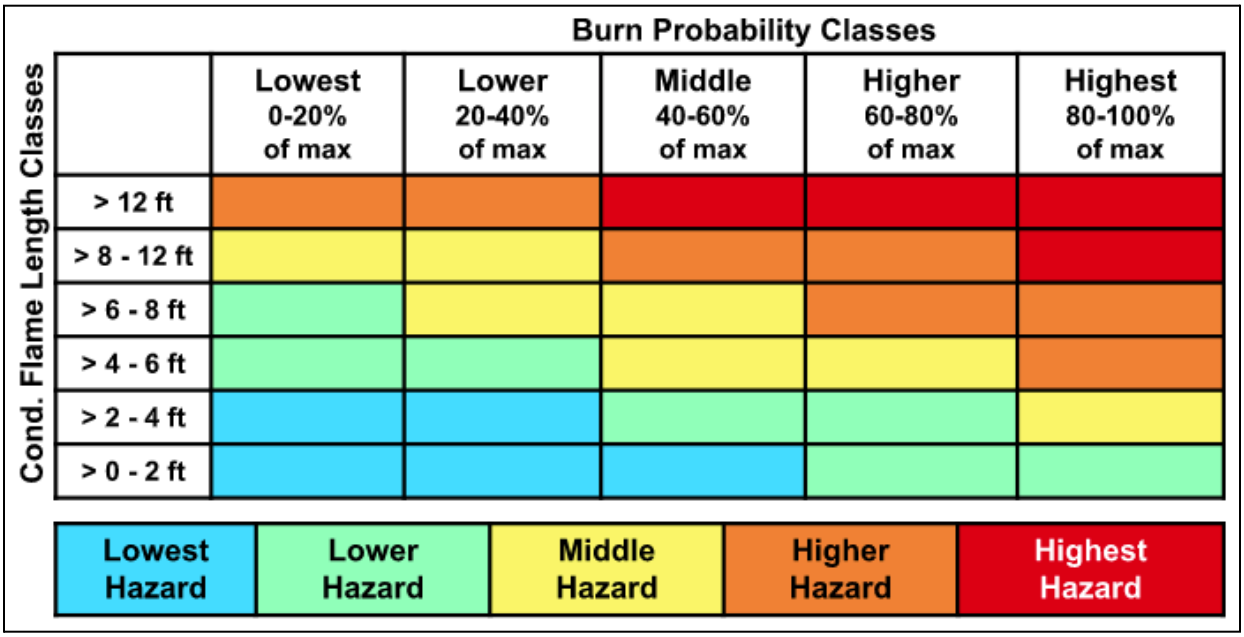

Figure 17. Integrated Hazard determination using Conditional Flame Length and Burn Probability (IFTDSS 2025).

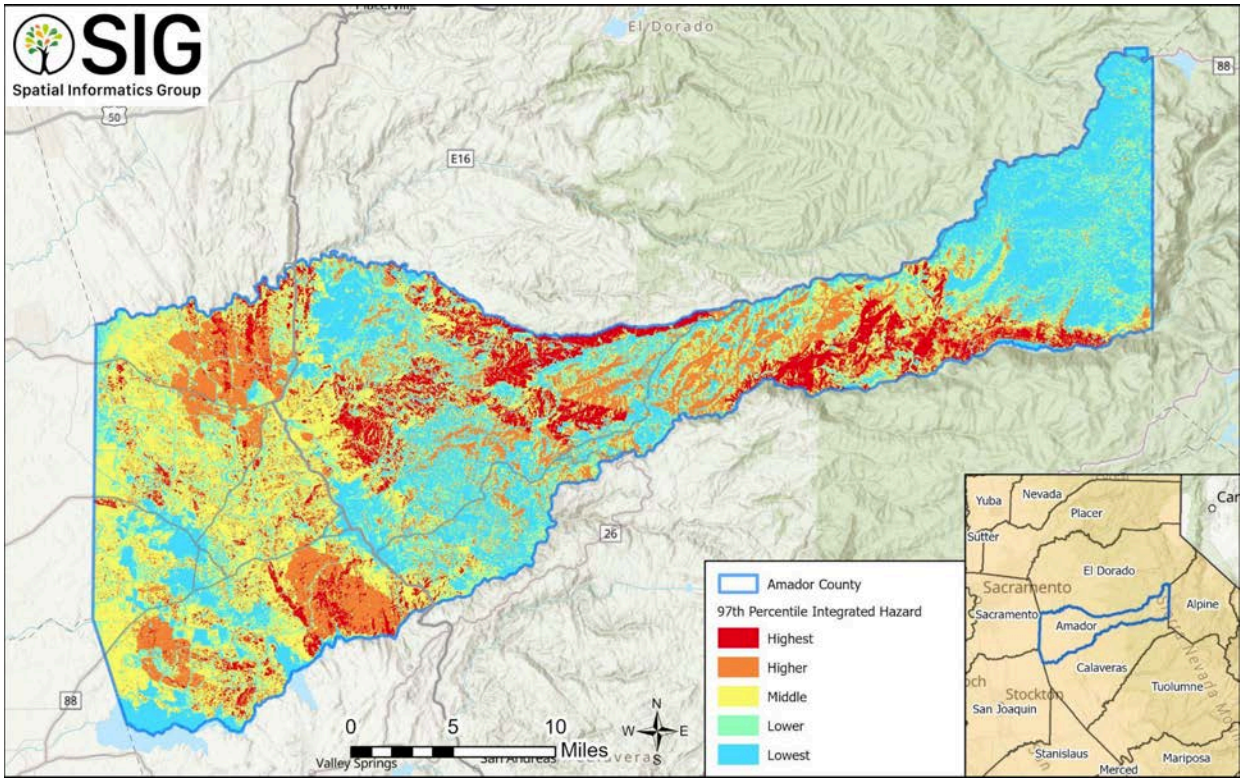

Figure 18. Amador County CWPP Integrated Hazard

Quantitative Wildfire Risk Assessment

To perform the Quantitative Wildfire Risk Assessment (QWRA), Highly Valued Resources and Assets (HVRAs) were identified and assigned Relative Importance (RI) weights and Response Functions (RF). These response functions characterize the sensitivity of each asset to various levels of fire intensity (flame length). By integrating these socio-ecological values with geospatial wildfire simulation outputs—specifically Burn Probability (BP) and Conditional Flame Length (CFL)—we calculated the Expected Net Value Change (eNVC) across the landscape. This comprehensive metric represents the primary measure of wildfire risk, accounting for both the likelihood of a fire event and the magnitude of its potential impact on community assets.

High Valued Resources and Assets Characterization

HVRA Identification

To understand our wildfire risk, we first have to define exactly what is at risk. In wildfire planning, the physical, ecological, and social elements we want to protect are called Highly Valued Resources and Assets (HVRAs). These encompass everything from residential neighborhoods and critical water infrastructure to vital wildlife habitats and sacred cultural sites.

Identifying Amador County's Assets

To build a complete picture of what matters in Amador County, our technical team (Spatial Informatics Group) utilized advanced mapping data from Vibrant Planet and combined it with extensive input from local stakeholders and residents (Appendix E). We organized these community assets into eight broad categories:

- **Community Assets:** Residential homes, commercial buildings, electrical utilities, and water/wastewater facilities.
- **Safety & Protection:** Communications towers, emergency services, and designated safety zones.
- **Water Resources:** Surface water, broader watersheds, and hydrological features.
- **Biodiversity & Wildlands Health:** Important aquatic and woodland species, forest vegetation, and riparian (riverside) habitats.
- **Ecological Commodities:** Agricultural lands, grazing areas, and commercial forestry.
- **Recreation, Science & Culture:** Parks, recreational infrastructure, cultural resources, and ecological monitoring sites.

Relative Importance and Response Functions

Ranking

Because we cannot immediately apply fuel reduction treatments to every single acre of the county, we must prioritize our efforts. To accomplish this, the project team developed a survey asking CWPP Working Group members to assign Relative Importance (RI) rankings by evaluating how critical each HVRA group is to protect from wildfire. Recognizing that priorities

change across a heterogeneous landscape, survey responses were grouped by zone to ensure the unique needs of Amador County's diverse communities were accurately captured.

Calculating Weighted Importance

To translate these community priorities into our spatial models, we applied a specific mathematical weighting process. Each HVRA's Relative Importance (RI) value was divided by its corresponding relative extent. Relative extent values were calculated as the area burned in acres of each sub-HVRA relative to the total extent of that sub-HVRA.

This calculation creates a weighting variable used when combining multiple sub-HVRAs into an estimated weighted Net Value Change (NVC). This critical step allocates importance evenly across an HVRA's area, which helps avoid overestimating the impact of highly widespread sub-HVRAs when summarizing our final risk results. Furthermore, the scores generated from the RI survey can also be used in Vibrant Planet's 'Emphasize Objectives' weighting sliders for future scenario planning.

Determining Asset Vulnerability

Beyond simply ranking importance, we must also evaluate how these assets react to fire. The assignment of sub-HVRA response functions (RF)—which dictate an asset's vulnerability to different wildfire intensity classes—was provided by Vibrant Planet alongside expert opinion. As recommended by the foundational QWRA methodology (Scott et al., 2013), flame length was utilized as a proxy for wildfire intensity to determine these response functions.

By combining these Relative Importance weights and Response Functions, our final risk assessment doesn't just show where fires will burn, but mathematically highlights the specific areas where fire threatens the assets our community values most.

Risk Assessment

Exposure Analysis

Knowing where a fire might burn is only part of the assessment. To truly measure our risk, we need to understand exactly what happens when those flames interact with our homes, infrastructure, and natural resources. This final phase of our risk assessment is broken into two parts: **Exposure** (what gets hit) and **Effects** (how bad the damage is).

When we overlay our simulated wildfire maps onto our community asset maps, we look at the types of fire our assets will likely face (Tables 4-6). Not all fires are created equal:

- **Surface Fires:** These burn through grass, fallen leaves, and low shrubs. They are generally easier to fight and are common in the western, grass-dominated areas of the county.
- **Crown Fires:** These occur when fire climbs into the tree canopy and spreads from treetop to treetop . These fires are extremely difficult to suppress, produce dangerous

flame lengths, and are a significant threat in the heavily forested Central and Eastern zones.

Fire suppression for passive and active crown fires is considered the most difficult. A considerable (>50%) amount of passive and active crown fire is possible in Amador County. However, significantly less potential for active crown fire was identified under the modeled weather conditions

Table 4. Summary of Fire Type Exposure on Amador County - West

HVRA	Sub-HVRA	Acres Burned	% Unburned	% Surface	% Passive	% Active
Assets						
	Structures	4,660	43	49	7	0
	Utilities	4,185	25	60	15	0
Biodiversity						
	Aquatic/ Riparian Animal Species	4,947	11	83	6	0
	Woodland Plant Species	3,019	3	25	72	0.5
Ecological Commodity						
	Agriculture	132,249	7	70	23	0
	Foresty	NA	-	-	-	-
Recreation						
	Recreation Areas	1,846	30	65	5	0
	Recreation Infrastructure	NA	-	-	-	-
Safety						
	Communicati ons	39	23	62	15	0
	Protection	89,985	15	65	20	0
	Safety Zones	10,942	28	60	12	0
	Services	65	40	51	9	0
Science & Culture						
	Cultural Resources	1,158	7	27	65	0.1
	Monitoring	6	10	67	23	0
Water						
	Hydro-geomo rphology	3,125	3	42	55	0.5
	Surface Water	5,378	53	37	10	0
	Watershed	17,909	24	53	23	0
Wildlands Health						
	Forest Vegetation	16,097	6	47	47	0.1
	Riparian Vegetation	83	26	66	8	0

Table 5. Summary of Fire Type Exposure on Amador County - Central

HVRA	Sub-HVRA	Acres Burned	% Unburned	% Surface	% Passive	% Active
Assets						
	Structures	8,498	27	43	29	1
	Utilities	4,537	19	38	40	3
Biodiversity						
	Aquatic/ Riparian Animal Species	869	13	72	15	0
	Woodland Plant Species	16,519	4	20	67	9
Ecological Commodity						
	Agriculture	72,325	4	37	53	6
	Foresty	2,448	7	39	48	6
Recreation						
	Recreation Areas	0.2	83	0	17	0
	Recreation Infrastructure	48	7	91	2	0
Safety						
	Communicati ons	47	26	41	32	1
	Protection	103,924	8	36	51	5
	Safety Zones	10,285	22	37	38	3
	Services	63	27	37	36	1
Science & Culture						
	Cultural Resources	8,432	7	22	65	6
	Monitoring	1	38	62	0	0
Water						
	Hydro-geomo rphology	23,692	1	24	59	16
	Surface Water	5,649	14	26	50	10
	Watershed	40,511	4	27	59	10
Wildlands Health						
	Forest Vegetation	77,632	7	25	59	9
	Riparian Vegetation	12	26	33	40	1

Table 6. Summary of Fire Type Exposure on Amador County - East

HVRA	Sub-HVRA	Acres Burned	% Unburned	% Surface	% Passive	% Active
Assets						
	Structures	230	29	52	19	0
	Utilities	799	13	58	29	0.2
Biodiversity						
	Aquatic/ Riparian Animal Species	737	12	68	20	0
	Woodland Plant Species	2,885	0	30	68	2
Ecological Commodity						
	Agriculture	49,779	15	43	41	1
	Foresty	10,739	5	48	47	0.5
Recreation						
	Recreation Areas	474	11	50	39	0
	Recreation Infrastructure	2,448	17	47	36	0.3
Safety						
	Communicati ons	11	36	43	21	0
	Protection	14,534	17	59	23	1
	Safety Zones	2,399	17	59	23	1
	Services	NA	-	-	-	-
Science & Culture						
	Cultural Resources	284	0	46	54	1
	Monitoring	4	51	28	21	0
Water						
	Hydro-geomo rphology	7,438	4	41	54	1
	Surface Water	4,687	35	37	28	1
	Watershed	60,098	15	44	41	1
Wildlands Health						
	Forest Vegetation	56,555	8	46	45	1
	Riparian Vegetation	167	22	49	29	0

To understand our exposure, we look at three specific metrics generated by our fire modeling (Tables 7-9):

- **Mean Flame Length (FL):** This represents the near-maximum, worst-case fire intensity. In wildland settings, flame lengths above 4 feet indicate that effective fire suppression may require mechanized resources (like dozers) instead of hand crews. Modeled results show many sub-HVRAs in Amador County are expected to experience mean flame lengths above this 4-foot threshold.
- **Conditional Flame Length (CFL):** This is the estimated mean flame length for all modeled fires that burn a given point. CFL values are typically lower than Mean FL because CFL accounts for the most likely fire spread direction (e.g., flanking or backing fires, rather than just worst-case head fires). Within the county, seven sub-HVRAs are expected to experience a mean CFL above 4 feet. Note: CFL is a primary input for generating our Integrated Hazard maps.
- **Conditional Burn Probability (CBP):** This represents the relative probability of any point burning if a fire starts somewhere on the landscape under our modeled weather conditions. Unsurprisingly, the highest mean CBP values in Amador County are found within our Biodiversity, Ecological Commodity, and Wildlands Health assets due to their dense forested composition.

Our analysis shows that under extreme weather conditions, the majority of the county could experience flame lengths over 4 feet, which is generally the limit for firefighters to safely attack a fire directly with hand tools.

Table 7. Summary of Exposure on Amador County - West

HVRA	Sub-HVRA	Mean FL	Mean CFL	Mean CBP
Assets				
	Structures	4	3	0.83%
	Utilities	8	4	1.06%
Biodiversity				
	Aquatic/Riparian Animal Species	7	5	1.51%
	Woodland Plant Species	26	10	1.50%
Ecological Commodity				
	Agriculture	10	6	1.65%
	Foresty	-	-	-
Recreation				
	Recreation Areas	5	4	1.23
	Recreation Infrastructure	-	-	-
Safety				
	Communications	7	5	1.15%
	Protection	9	5	1.14%
	Safety Zones	7	4	1.18%
	Services	5	3	0.77%
Science & Culture				
	Cultural Resources	24	9	1.26%
	Monitoring	11	5	1.39%
Water				
	Hydro-geomorphology	22	10	1.82%
	Surface Water	5	3	0.73%
	Watershed	9	5	1.47%
Wildlands Health				
	Forest Vegetation	16	7	1.60%
	Riparian Vegetation	5	3	0.63%

Table 8. Summary of Exposure on Amador County - Central

HVRA	Sub-HVRA	Mean FL	Mean CFL	Mean CBP
Assets				
	Structures	12	5	0.40%
	Utilities	19	6	0.40%
Biodiversity				
	Aquatic/Riparian Animal Species	8	5	0.81%
	Woodland Plant Species	38	12	0.84%
Ecological Commodity				
	Agriculture	28	10	0.88%
	Foresty	22	9	0.82%
Recreation				
	Recreation Areas	4	1	0.02%
	Recreation Infrastructure	2	2	0.09%
Safety				
	Communications	13	5	0.47%
	Protection	26	8	0.78%
	Safety Zones	19	6	0.61%
	Services	14	6	0.49%
Science & Culture				
	Cultural Resources	33	11	0.75%
	Monitoring	5	3	0.35%
Water				
	Hydro-geomorphology	43	13	0.88%
	Surface Water	34	10	0.69%
	Watershed	33	11	0.71%
Wildlands Health				
	Forest Vegetation	35	11	0.73%
	Riparian Vegetation	15	7	0.63%

Table 9. Summary of Exposure on Amador County - East

HVRA	Sub-HVRA	Mean FL	Mean CFL	Mean CBP
Assets				
	Structures	5	3	0.20%
	Utilities	11	6	1.14%
Biodiversity				
	Aquatic/Riparian Animal Species	8	4	0.16%
	Woodland Plant Species	24	11	1.41%
Ecological Commodity				
	Agriculture	14	6	0.54%
	Foresty	15	8	0.74%
Recreation				
	Recreation Areas	10	5	0.20%
	Recreation Infrastructure	11	5	0.30%
Safety				
	Communications	6	3	0.34%
	Protection	12	5	0.27%
	Safety Zones	9	4	0.27%
	Services	-	-	-
Science & Culture				
	Cultural Resources	19	8	1.63%
	Monitoring	5	3	0.89%
Water				
	Hydro-geomorphology	18	9	1.24%
	Surface Water	11	5	0.48%
	Watershed	14	6	0.59%
Wildlands Health				
	Forest Vegetation	15	8	0.55%
	Riparian Vegetation	10	4	0.11%

Effects Analysis

Once we determine that an asset is exposed to fire, the final step in our risk assessment is to calculate the expected outcome. We measure this using a metric called Net Value Change (NVC).

To calculate NVC, we must acknowledge a complex truth: wildfire is not always a bad thing. For certain fire-adapted landscapes in Amador County, low-intensity fire can actually be healthy, clearing out dead brush and promoting new ecological growth. Therefore, our NVC score evaluates the overall response by weighing both the Benefits (positive value change) and the Threats (negative value change).

By combining the likelihood of a fire, the intensity of the flames, and the specific vulnerability of the asset, we generate an "Overall Risk" score for every acre of the landscape (Tables 10-12).

Table 10. Summary of Relative Wildfire Benefit (Positive Value Change), Threat (Negative Value Change), and Overall Risk (NVC) for each sub-HVRA - Amador County - West

HVRA	Sub-HVRA	Rel. Benefit	Rel. Threat	Risk
Assets				
	Structures	0.1	-8	-8
	Utilities	0.1	-12	-12
Biodiversity				
	Aquatic/Riparian Animal Species	10	-4	6
	Woodland Plant Species	3	-36	-33
Ecological Commodity				
	Agriculture	13	-100	-87
	Foresty	-	-	-
Recreation				
	Recreation Areas	0.1	-3	-2
	Recreation Infrastructure	-	-	-
Safety				
	Communications	0	-4	-4
	Protection	8	-86	-78
	Safety Zones	1	-12	-11
	Services	0	-7	-7
Science & Culture				
	Cultural Resources	1	-19	-18
	Monitoring	0	-9	-9
Water				
	Hydro-geomorphology	0.2	-21	-21
	Surface Water	1	-8	-7
	Watershed	2	-26	-24
Wildlands Health				
	Forest Vegetation	2	-26	-24
	Riparian Vegetation	0	-4	-4

Table 11. Summary of Relative Wildfire Benefit (Positive Value Change), Threat (Negative Value Change), and Overall Risk (NVC) for each sub-HVRA - Amador County - Central

HVRA	Sub-HVRA	Rel. Benefit	Rel. Threat	Risk
Assets				
	Structures	0.2	-10	-9
	Utilities	0.1	-9	-9
Biodiversity				
	Aquatic/Riparian Animal Species	5	-10	-6
	Woodland Plant Species	1	-38	-37
Ecological Commodity				
	Agriculture	5	-78	-73
	Foresty	0	-10	-10
Recreation				
	Recreation Areas	0	0	0
	Recreation Infrastructure	0	0	0
Safety				
	Communications	0	-5	-5
	Protection	5	-99	-94
	Safety Zones	1	-17	-16
	Services	0	-11	-11
Science & Culture				
	Cultural Resources	1	-23	-22
	Monitoring	0	-2	-2
Water				
	Hydro-geomorphology	0.3	-41	-41
	Surface Water	0.3	-16	-16
	Watershed	1	-57	-57
Wildlands Health				
	Forest Vegetation	2	-100	-98
	Riparian Vegetation	0	-10	-10

Table 12. Summary of Relative Wildfire Benefit (Positive Value Change), Threat (Negative Value Change), and Overall Risk (NVC) for each sub-HVRA - Amador County - East

HVRA	Sub-HVRA	Rel. Benefit	Rel. Threat	Risk
Assets				
	Structures	0	-2	-2
	Utilities	0	-20	-20
Biodiversity				
	Aquatic/Riparian Animal Species	1	-1	-0.4
	Woodland Plant Species	2	-41	-39
Ecological Commodity				
	Agriculture	3	-77	-74
	Foresty	1	-28	-27
Recreation				
	Recreation Areas	0	-0.4	-0.4
	Recreation Infrastructure	0.1	-2	-2
Safety				
	Communications	0	-2	-2
	Protection	0.2	-12	-11
	Safety Zones	0.4	-21	-20
	Services	-	-	-
Science & Culture				
	Cultural Resources	0.5	-21	-21
	Monitoring	0	-8	-8
Water				
	Hydro-geomorphology	0.5	-33	-33
	Surface Water	0.3	-16	-15
	Watershed	3	-100	-97
Wildlands Health				
	Forest Vegetation	3	-76	-73
	Riparian Vegetation	0	-1	-1

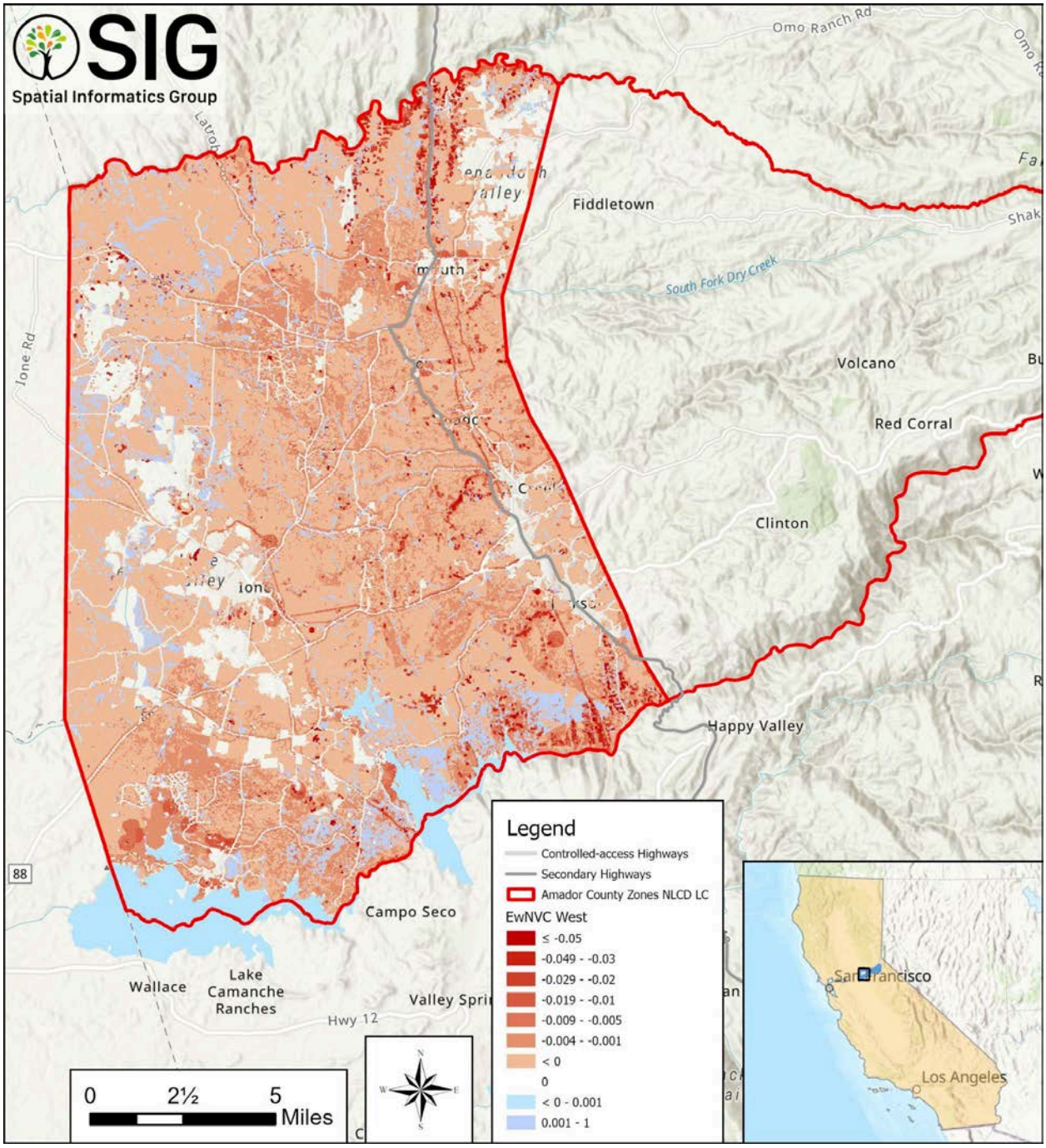

Figure 19. Amador County CWPP Expected Weighted Net Value Change for High Value Resources and Assets - West Zone

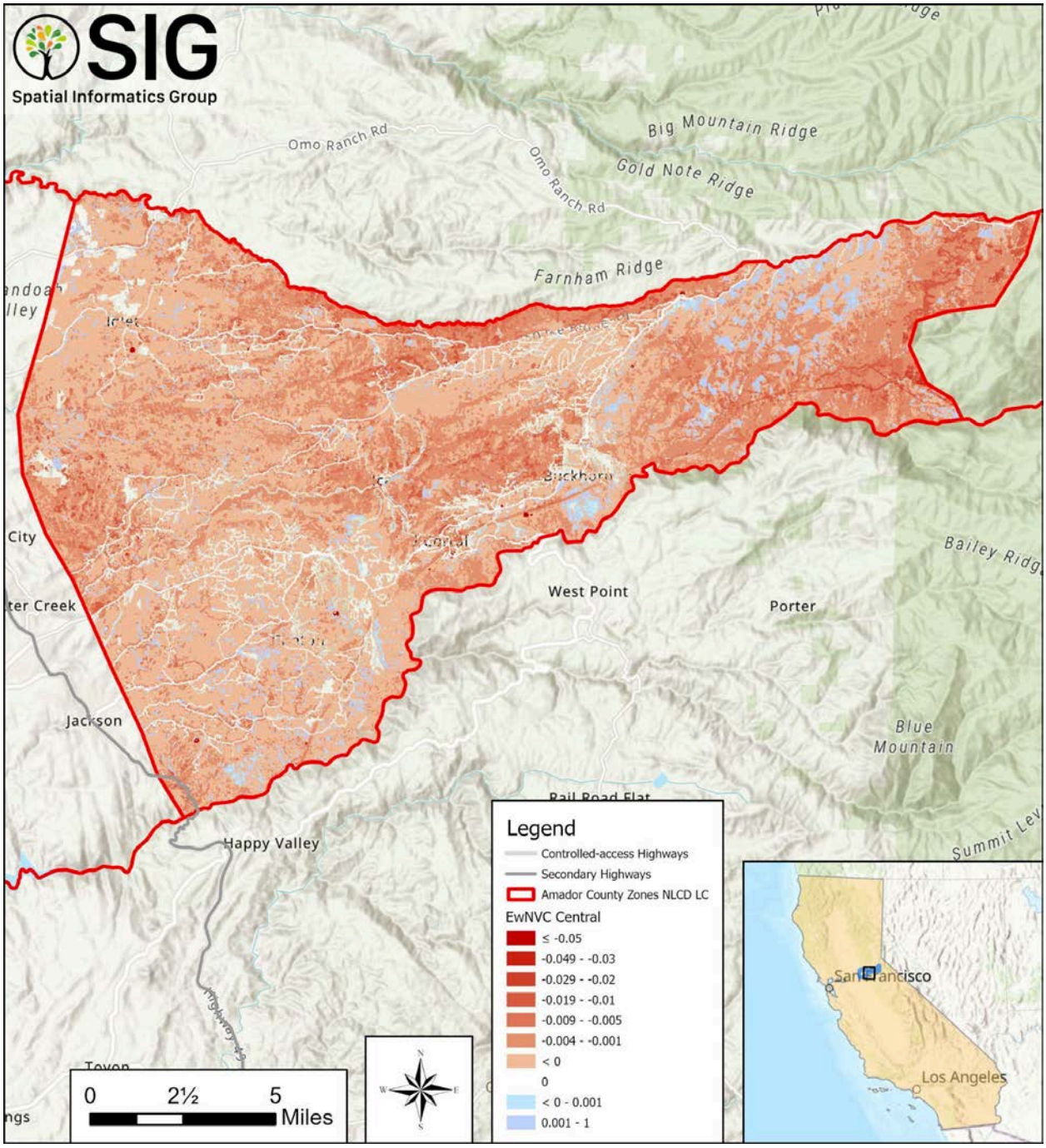

Figure 20. Amador County CWPP Expected Weighted Net Value Change for High Value Resources and Assets - Central Zone

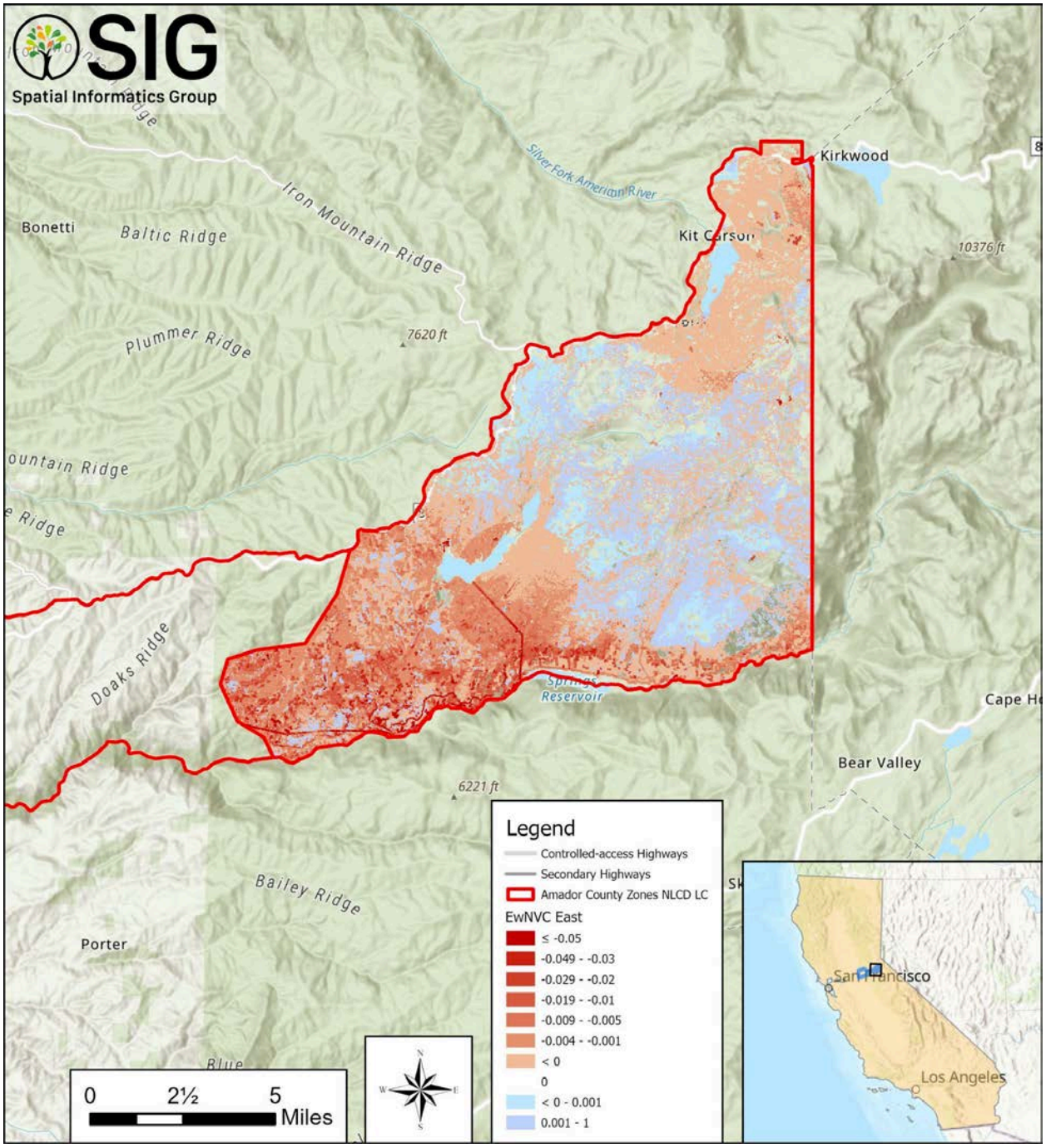

Figure 21. Amador County CWPP Expected Weighted Net Value Change for High Value Resources and Assets - East Zone

Action Plan

The Action Plan is a set of concrete and measurable activities that agencies, organizations, and individuals can take—often collaboratively—to meet the Goals and Objectives of the CWPP. These activities are designed to be consistent with other local and regional plans while addressing the needs identified during the CWPP process to improve wildfire protection within Amador County.

The following Amador County CWPP Action Plan summarizes and integrates the information and findings from the CWPP process to identify specific projects, programs, and other implementation mechanisms that can help achieve the CWPP goals and objectives. The Action Plan includes actions related to landscape management and prioritized fuel reduction treatments, reducing structural ignitability, and other hazard- and risk-reduction measures within the planning area.

Table 13 is organized using two complementary frameworks. Its overall structure follows the CAL FIRE CWPP Toolkit action-planning format, which groups actions under broader implementation headings and related objectives. The Plan Goal column separately identifies which of the six overarching Amador County CWPP plan goals described above in this report (p.17) each action most directly supports. Because many actions support more than one of the six overarching CWPP plan goals, the Plan Goal column lists up to three goals for each action in descending order from most to less directly applicable. The Action Plan also identifies lead agencies responsible for each action, implementation timeframes, resource needs, and metrics for tracking progress and outcomes.

Table 13. Amador County CWPP Action Plan

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
GOAL 1: Reduce the potential for catastrophic wildfires					
Objective 1.1: Develop interagency collaboration for pre-fire planning and fire response					
Coordinate on cross-boundary wildfire mitigation and resilience projects	AFSC	2026 and ongoing	County coordinator facilitates collaborative planning among local, state and federal agencies. CAFSC County Coordinator Grant. SNC RFFCP grant. Participating stakeholder agency staff time to prepare for, attend and follow up with meetings.	Number of agencies represented at quarterly (2026-2027) then annual (2028 and beyond) Amador County Wildfire Collaborators	3, 6, 4
Emergency Water Storage &	OES, AWA, ACEH and	2031	FEMA Hazard Mitigation Grant Program (HMPG), FEMA Building	See LHMP 2025, Amador County Planning Area Mitigation Actions, Action 7.	2, 5, 1

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
Hauling Infrastructure Project	others		Resilient Infrastructure & Communities (BRIC), California Department of Water Resources Grants, California Climate Resilience Program, State Water Resources Control Board Emergency Drinking Water Funds, USDA Rural Development Programs		
Ensure accurate fire hydrant mapping	All local fire agencies, ACTPW	2028	GIS capacity through staff and/or consultant. Fire department staff time to compile and verify data.	Complete and accurate fire hydrant map for the County, for each City and select additional unincorporated population centers	2, 4, 5
Establish and Fund a Full-Time Geographic Information Systems (GIS) position for Hazard Mitigation and Emergency Planning	ACPD, ACITD	2029	FEMA Hazard Mitigation Grant Program (HMPG), Building Resilient Infrastructure & Communities Grant (BRIC), State Homeland Security Program (SHSP), County General Fund	See LHMP 2025, Amador County Planning Area Mitigation Actions, Action 4; aligns with 2025 Strategic Fire Plan Amador- El Dorado Unit, p. 95.	4, 3, 6
Countywide wildfire resiliency coordination GIS mapping project to support fuels reduction efforts	AFSC, ACPD, ACITD	2028	SNC RFFCP. CAFSC County Coordinator Grant. County General Fund.	Wildfire resiliency project information consolidated, verified and made publicly viewable.	4, 3, 6
Enhance and Harden Cellular and Repeater Communications	OES, All local fire agencies,	2031 and beyond	FEMA Hazard Mitigation Grant Program (HMGP), FEMA Building Resilient Infrastructure and	See Amador County LHMP 2025, Amador County Planning Area Mitigation Actions, Action 5.	2, 5, 1

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
Infrastructure Countywide	police departments, American Legion Ambulance, and Cell Providers		Communities (BRIC), California Public Utilities Commission (CPUC) PSPS Mitigation Funds, California Office of Emergency Services (Cal OES) Infrastructure Grants, or State Homeland Security Program (SHSP)		
Upgrade and Replace Countywide Emergency Radio Communications Infrastructure	CAL FIRE, Amador County Sheriff's Office, All local fire agencies and police departments, American Legion Ambulance, ACTPW	2031	FEMA Hazard Mitigation Grant Program (HMGP), FEMA Homeland Security Grant Program (HSGP), Cal-OES Grants, Partner Agencies, County General Fund	See Amador County LHMP 2025, Amador County Planning Area Mitigation Actions, Action 6.	2, 5, 1
Regularly update Amador County CWPP	AFSC, OES, CAL FIRE, AFPD, USFS	2036	Numerous grant sources available including BLM Federal Financial Assistance, CALFIRE Wildfire Prevention Grant and others.	CWPP updated by 2036 and at least every 10 years thereafter.	6, 4, 3
Fire Risk Reduction Community List	OES, AFSC, ARCD	Apply July 2027 for inclusion in 2028 list.	CAFSC County Coordinator Grant. SNC RFFCP grant.	Amador County qualified and registered in the Fire Risk Reduction Community List. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 34, 95.	5, 3, 1
Objective 1.2: Reduce fuel loads strategically					

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
Shaded Fuel Break Network	AFSC, CAL FIRE AEU, SPI, USFS, UMRWA, PG&E	Ongoing	CAL FIRE Wildfire Prevention Grants, SNC Wildfire and Forest Resilience Grants, BLM Federal Financial Assistance.	CALFIRE Fuels Treatment Effectiveness Reporting. Number of new fuel breaks implemented. Number of acres treated to create new fuel breaks. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 82–84, 117.	1, 2, 3
Community Scale Fuel Reduction	AFSC, CAL FIRE	Ongoing	CAL FIRE Wildfire Prevention Grants, SNC Wildfire and Forest Resilience Grants, BLM Federal Financial Assistance, PG&E.	Number of new projects implemented. Number of acres treated. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 34, 117.	1, 5, 3
Monitoring and maintenance of strategic fuels reduction	AFSC, ARCD	2027, then ongoing	SNC Regional Forest and Fire Capacity Program, CAL FIRE Wildfire Prevention Grants, SNC Wildfire and Forest Resilience Grants, BLM Federal Financial Assistance.	Monitoring protocol and database established. Maintenance treatment effectiveness evaluation. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 95, 117.	6, 1, 4
GOAL 2: Reduce risk to life and property from wildfires					
Objective 2.1: Improve compliance with Defensible Space and Home Hardening standards					
Home Hardening Assistance	AFSC, CAL FIRE AEU	2031	Grant funding. Agency staff capacity to administer home improvement reimbursement program. Coordinate with enhanced education and outreach.	Number of homes engaged in program. Percent of homes in High, Very High FHSV retrofitted. 2025 Strategic Fire Plan Amador-El Dorado Unit, pp. 34, 114.	1, 5, 6
Defensible Space Assistance	ARCD, CAL FIRE, All local fire agencies	2026 and ongoing	CAL FIRE Wildfire Prevention Grants, explore additional funding sources to sustain programs.	Number of households engaged in programs. 2025 Strategic Fire Plan Amador-El Dorado Unit, pp. 34, 113–114.	1, 5, 6
Defensible Space Inspections/	CALFIRE	Ongoing	CAL FIRE staff and cooperating agencies.	Number of inspections and assessments performed. Number of structures brought into	1, 5, 6

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
Qualified Entity Program/ Real Estate Transaction Inspections				compliance. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 34, 113–114.	
Enforcement: State level	CAL FIRE	Ongoing	CAL FIRE staff/ Amador District Attorney.	Number of inspections and assessments performed. Number of structures brought into compliance. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 34, 113–114.	1, 5, 6
Good Neighbor Packet	AFPD	2026	AFPD staff time to promote and monitor the use of the policy.	Number of residents who utilize the Good Neighbor Packet to conduct fuels reduction work on adjacent properties.	1, 3, 5
Objective 2.2: Improve Ingress/ Egress Awareness					
Identify and map all single Ingress-Egress communities	OES, AFSC, AFPD	2028	Multiple department staff time. GIS capacity through staff and/or consultant.	Complete and accurate county-wide map(s) GIS polygons included in County-wide web map, maintained and updated annually.	5, 2, 4
Identify and plan road construction and improvement opportunities that restore the roadway infrastructure and improve ingress and egress routes where needed.	ACTC	This plan is updated every four (4) years and has a 20-year planning horizon.	ACTC Staff and Resources	ACTC has held two (2) 'Call for Projects' to date programming funding to 11 roadway projects, of which one was completed in early 2025, six are anticipated to go to construction in 2026, and three are estimated for completion by 2028.	2, 5, 1
Ingress/Egress Roadside Vegetation Monitoring and Maintenance	AFSC, ACTPW, CALTRANS	Ongoing	CAL FIRE Wildfire Prevention Grants, explore additional funding sources to sustain programs. CALTRANS general funds.	Upcoming monitoring program will track maintenance needs on Private and County maintained roads.	2, 6, 1

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
Tree Mortality Program	ACTPW, ARCD	2017-ongoing	USFS match funding. Additional funding sources will be required to sustain the ACTPW program. CAL FIRE Wildfire Prevention Grants. Seek additional funding mechanisms to fill the gap in need.	Number of trees treated.	2, 1, 6
Objective 2.3: Public Education and Outreach					
Collaborative planning with local community associations	All local fire agencies, AFSC, ARCD, CAL FIRE	ongoing	County general fund. SNC RFFCP, CAL FIRE Wildfire Prevention Grants, SNC Wildfire and Forest Resilience Grants.	Proportion of WUI covered by local wildfire preparedness and resiliency plans.	5, 3, 6
Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	AFSC	ongoing	CAFSC County Coordinator Grant. SNC RFFCP, CAL FIRE Wildfire Prevention Grants, SNC Wildfire and Forest Resilience Grants. Multi-agency staff time.	Number of outreach events offered. Number of participants attended. Number of outreach materials produced. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 34, 117.	5, 3, 1
Development and support of Firewise Communities in Amador County	FWC, AFPD, AFSC, all local fire districts	Ongoing	CAFSC County Coordinator Grant. SNC Regional Forest and Fire Capacity Program, CAL FIRE Wildfire Prevention Grants, SNC Wildfire and Forest Resilience Grants. County staff resources. Multi-agency staff time.	Number of Firewise Communities in good standing. 2025 Strategic Fire Plan Amador-El Dorado Unit, pp. 34, 95.	5, 3, 1
GOAL 3: Improve Landscape Resilience					
Objective 3.1: Implement landscape-scale fuels reduction projects					

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
Forest Health Projects	AFSC, ARCD, BLM MLFO, USFS, UMRWA	Ongoing	CAL FIRE Forest Health Grants, SNC Wildfire and Forest Resilience Grants, BLM Federal Financial Assistance, USFS Federal Financial Assistance, and more.	Number of acres treated by type of treatment. 2025 Strategic Fire Plan Amador-El Dorado Unit, pp. 82–84, 117.	6, 1, 2
Objective 3.2: Sustainability maintain fire-safe landscapes					
Vegetation Management Program (VMP)	CAL FIRE, SPI, AFSC	Ongoing	CAL FIRE resources. Cooperating agency/landowner staff resources.	Number of acres treated by type of treatment. 2025 Strategic Fire Plan Amador-El Dorado Unit, pp. 82–84	1, 6, 3
Rangeland Conservation and Prescribed Grazing	UCCE, NRCS, ARCD	2028 - strategy development	UCCE, ARCD staff and resources, potentially supplemented by grant funding from California Department of Conservation, SNC, CAL FIRE and others.	Acres of prescribed grazing implemented and tracked by the California Wildfire and Forest Resilience Task Force. Strategy document finalized.	6, 1, 2
Facilitate prescribed fire	Cooperating fire agencies, ACEH, EAPBA, ARCD	Ongoing	EAPBA resources, coordinator. CAL FIRE Business and Workforce Development Grant. State and local fire agency staff and resources.	Acres of prescribed fire implemented. Number of burn plans developed. 2025 Strategic Fire Plan Amador- El Dorado Unit, pp. 35, 37-39, 56–57, 63-64, 70–72.	1, 6, 3
Workforce Development	Amador Fire Mitigation Collaborators Group, UCCE	Ongoing	Sierra Business Council grants. CAL FIRE Business and Workforce Development Grant.	Number of professionals trained by practice/skill.	6, 3, 1
Facilitate diversified biomass markets	SEDD	Ongoing	Sierra Business Council grants. CAL FIRE Business and Workforce Development Grant.	Number of businesses with improved capacity for biomass processing. Tons of biomass processed per year.	6, 3, 1

CWPP Action Plan					
Action	**Lead(s)**	**Timeframe**	**Resources Required**	**Metric for Success**	**Plan Goal**
GOAL 4: Improve Governance and Legislation					
Objective 4.1: Advocate to enhance support for wildfire mitigation and resiliency					
Advocate for improved policy	AFSC, ACBS	Ongoing	CAFSC Coordinator Grant. County staff resources.	Number of interactions with state legislators.	3, 6, 5

Landscape Management and Prioritized Hazardous Fuel Reduction Treatments

Definitions

By establishing shared definitions and descriptions for fuel reduction treatments, partners can better communicate intent, evaluate effectiveness, and design treatments that align with broader countywide goals.

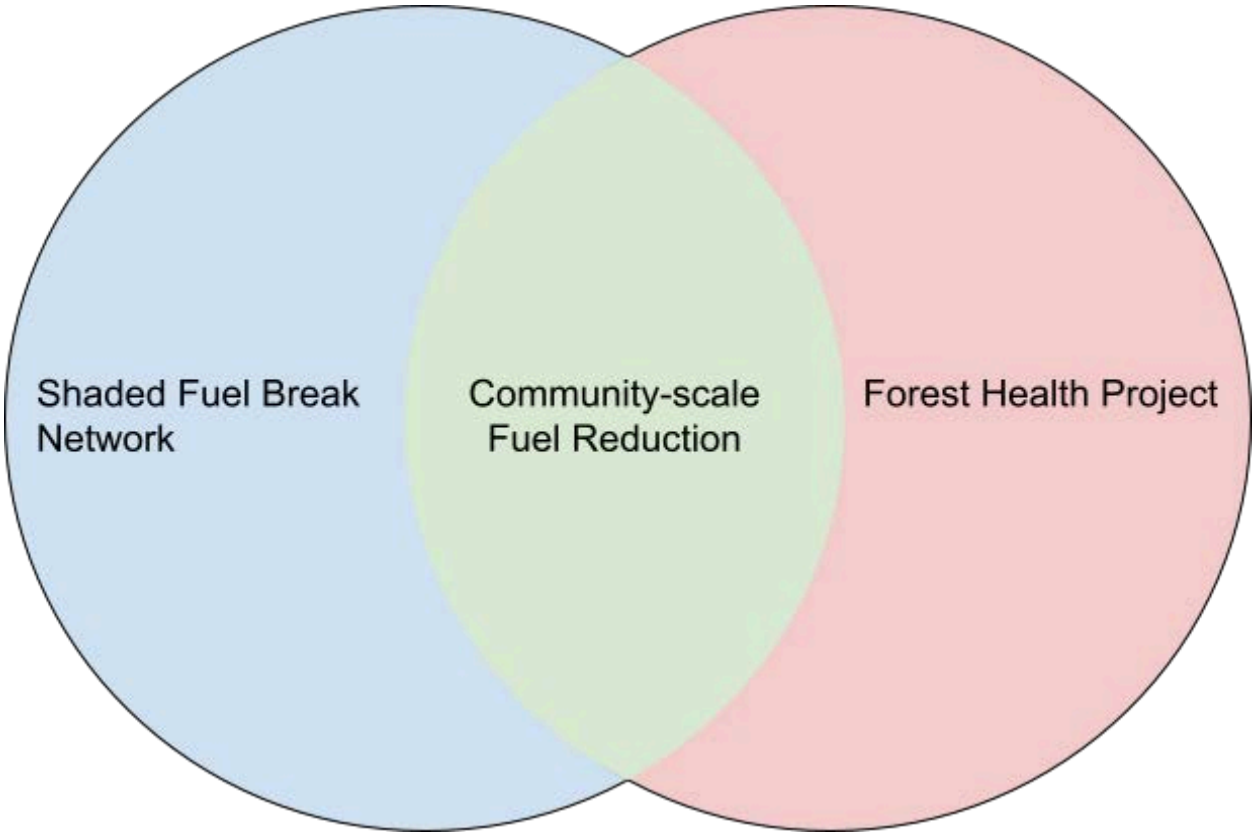

Figure 22. Venn diagram of fuel reduction treatment types

Forest Health projects

Purpose

Enhance ecosystem resilience: capacity to recover after wildfire

Context

Forests of the Sierra Nevada foothills evolved through cycles of disturbance. Native Americans set frequent, low-severity cultural fire which improved the landscape to meet human needs; especially for foraging and hunting. After European settlement and especially after the California Gold Rush, between 1850-1950 timber harvest replaced fire as the primary mechanism of forest disturbance which led to higher tree density, understory and ladder fuels. With the introduction

of the Z'berg-Nejedly Forest Practice Act of 1973, responsible forest management became mandated. Vegetation and stand density management expanded especially on industrial timberlands. In modern times, with the expansion of residential areas into the forest, fire exclusion and dramatically reduced forest management in the Wildland Urban Interface/Intermix have again increased the risk of high-intensity wildfire.

Function

Forest health projects are designed primarily to restore and maintain ecosystem resilience and forests' capacity to withstand and recover after wildfire. These treatments typically emphasize ecological objectives such as reducing overly dense stands, favoring fire-adapted and drought-tolerant species, improving age and structural diversity, and reintroducing more natural fire regimes. Methods often include selective thinning from below, removal of ladder fuels, prescribed burning, and in some cases managed wildfire.

Healthy forests resemble a mosaic of stand structure and composition, experience frequent low-intensity fires and other types of disturbance, and provide numerous benefits, including:

- ➔ Emergency response can more successfully protect human lives and assets from wildfire.
- ➔ Forest pathogens such as bark beetles are less likely to cause epidemics that result in widespread tree mortality.
- ➔ Soils increase their capacity to absorb, store and slowly release water, reducing the likelihood of floods and regulating delivery to reservoirs.
- ➔ Water, light, and nutrients are made available to early successional plant communities, increasing forage quality and quantity for wildlife and livestock.
- ➔ Diverse habitats improve wildlife diversity, balance predator-prey relationships and may reduce the likelihood of human-wildlife conflict.

In this approach, fuel reduction is a co-benefit of ecological restoration. By lowering surface and canopy fuel loads and increasing crown spacing, these treatments aim to moderate potential fire behavior—reducing flame lengths, crown fire potential, and ember production—while supporting long-term ecosystem function.Projects can range in scale from a few acres to several thousand.

Examples (implemented)

- Jackson Creek Forest Health (ARCD/CAL FIRE)
- Buckhorn Ridge (AFSC/BLM)
- Crestview (AFSC/BLM)
- Private non-industrial landowners participate in CAL FIRE's CFIP program and NRCS's EQIP program to support forest health and rangeland conservation on their own properties.

Community-scale fuel reduction

Community-Scale Fuel Reduction projects focus on reducing fuels accumulation and potential wildfire intensity in areas closest to neighborhoods in the Wildland Urban Interface/Intermix zones. They range between approximately 10 and 100 acres. They provide similar benefits to Shaded Fuel Breaks and Forest Health projects at a smaller scale.

Treatments prioritize defensible space principles: reducing surface fuels, pruning lower branches, spacing trees to limit crown fire spread, and removing flammable vegetation near structures.The primary objective is to modify fire behavior to improve the effectiveness of structure protection and evacuation, rather than to restore broader ecological conditions. By decreasing flame lengths and ember production near communities, these fuel reduction zones can provide safer conditions for firefighters and reduce the likelihood of home ignition from direct flame contact or radiant heat.

AFSC, with support of CAL FIRE, SNC, PG&E and other funding partners, plans and implements Community Fuel Break projects proposed by Firewise Communities, organized neighborhood groups, and City governments.

Examples (implemented)

- River Pines Community Fuel Break (AFSC/CAL FIRE)
- Butte Mountain Community Fuel Reduction project (AFSC/CAL FIRE)
- Jackson Gate Fuel Break (AFSC/PG&E)

NRCS, ARCD and AFSC are partnering to implement fuel reduction projects with groups of private non-industrial forest landowners through the mEQIP program.

Shaded Fuel Break Network

Context

Large-scale, high-intensity wildfires became more frequent and damaging since the turn of the century, especially in California's Sierra Nevada. Fuel reduction treatments are too costly to apply across all landscapes that need it. Shaded fuel breaks are a common approach to achieve the greatest benefit to wildfire mitigation given limited resources.

Function

Shaded fuel breaks are strips of forested areas typically ranging between 100 and 400 feet wide and covering tens to hundreds of acres. They are placed and designed to influence wildfire spread and support suppression operations at larger spatial scales. They are commonly located along ridgelines, roads, or other control features where firefighters can safely anchor and hold a line. Treatments may involve mechanical thinning, mastication, prescribed fire, or in some cases more intensive vegetation removal to create a clearly defined zone of reduced fuels. The goal is not to stop fire under all conditions, but to alter fire intensity and rate of spread so that suppression resources can engage more safely and effectively.

These fuel breaks are planned with operational strategy in mind, often using fire behavior modeling and historical fire data to identify high-leverage locations. When integrated into a network across a landscape, shaded fuel breaks can compartmentalize fuels, limit large fire growth, and create opportunities for burnout or backfiring operations. Their effectiveness depends on maintenance, alignment with topography and prevailing winds, and coordination across ownership boundaries, since fire does not respect jurisdictional lines.

Examples (implemented)

- Shake-Omo & Shake Fiddle Vegetation Management Plans (CAL FIRE/SPI)

- Pine Acres Fuel Break (CAL FIRE/AFSC)
- Mitchell Mine Fuel Break (AFSC/CAL FIRE/ARCD)
- Tiger Creek Fuel Break (AFSC/BLM/SNC)

Process - CWPP development

The following describes the process of identifying priority projects for hazardous fuel reduction treatments. The process of identifying priority projects involved utilization of prioritization software, consolidation of treatment datasets, review of the QWRA results, and input from local stakeholders.

Priority project areas were identified and prioritized using Vibrant Planet and Planscape prioritization software. Priority project areas were identified for each zone. Vibrant Planet prioritized project areas based on the emphasized objectives (results of the relative importance survey). Planscape prioritized project areas based on three selected priority objectives. Outputs are delivered for each objective (Prioritize Areas with High Probability of High-Intensity Fire, Prioritize Areas w/ High Wildfire Risk around Built Environment, Prioritize Areas with High-Intensity Fire Probability and Wildlife Species Richness) (Appendix F).

Past, current, and planned fuel treatment project boundaries were consolidated into a database for the CWPP. Datasets included those from consolidated treatment trackers such as CalMapper and Interagency Treatment Tracking System (ITTS), as well datasets provided from stakeholders including AFSC, ARCD, PG&E, EBMUD, and CalTrans.

Priority project areas, treatment datasets, QWRA and wildfire modeling results, as well as several other layers relevant to the CWPP planning were displayed on a public online map to help stakeholders explore the various datasets.

Table 14. Amador County CWPP Fuel Treatment Project Priorities, Locations, Size and Methods of Treatment. Treatments are not listed in any particular order

Fuel Treatment Projects and Priorities					
Name	**Location**	**Size**	**Method(s)**	**Status in 2026**	**Lead**
Forest Projects Plan - Phase 1	El Dorado National Forest - Amador District	11,023 ac in-progress + 8,508 ac planned	Mechanical mastication, lop & scatter, pile & chip, ...	Active implementation	El Dorado National Forest, UMRWA
Mokelumne - Amador - Calaveras (MAC)	El Dorado National Forest - Amador District	Prioritized treatment areas within 225,000 ac planning area	Prescribed fire, mechanical mastication, lop & scatter, pile & chip, ...	Proposed, seeking funding mechanism(s)	El Dorado National Forest, UMRWA
Mokelumne Rim Fuel Break	First ridge above Mokelumne River from HWY 49, south of Jackson to Tiger Creek Fuel Break in Buckhorn. Bisected by existing Pine Acres Fuel Break.	500-750 ac	Mechanical mastication, hand treatment + chipping	Proposed, seeking funding mechanism(s)	AFSC, BLM
Amador Pines Forest Health	Amador Pines: between HWY 88 and Shake Ridge Road, Lockwood & Barton	Up to 1000 ac	Mechanical mastication, hand treatment + chipping, riparian restoration	Proposed, seeking funding mechanism(s)	ARCD, CAL FIRE
Mt. Crossman Community Fuel Break	Buckhorn / Barton	85 ac	Mechanical mastication, hand treatment + chipping	Planned, funding approved	AFSC, SNC
Thompson Ridge Fuel Break	Between North Fork Rancheria Creek and South Fork Dry Creek	147 ac	Mechanical mastication, hand treatment + chipping	Planned, funding approved	AFSC, BLM
La Mel Community Fuel Break	Mella Drive, above headwaters of North	15 ac	Mechanical mastication	Proposed, seeking funding mechanism(s)	AFSC, CAL FIRE

Fuel Treatment Projects and Priorities					
Name	**Location**	**Size**	**Method(s)**	**Status in 2026**	**Lead**
	Fork Rancheria Creek				
Upper Dry Creek Fuel Break	North of Volcano, East of Lockwood between Fiddletown Rd and Shakeridge Rd	Up to 206 ac	Mechanical mastication, hand treatment + chipping	Proposed, seeking funding mechanism(s)	AFSC, BLM
Rendic Fuel Break	East of Amador City, between Amador Creek and Shakeridge Rd	Up to 178 ac	Mechanical mastication, hand treatment + chipping	Planned, seeking funding mechanism(s)	AFSC
Sutter Highlands Community Fuel Break	Northeast of Sutter Creek, between Sutter Creek Rd and Shakeridge Rd, connecting to Upper Rancheria Community Fuel Break	Up to 134 ac	Mechanical mastication, hand treatment + chipping	Proposed, seeking funding mechanism(s)	AFSC
Amador Foothill Rural Resiliency	Targeted forest, oak woodland and rangelands surrounding the lower elevation towns of Ione, Plymouth, Drytown, Amador City, Sutter Creek and Jackson.	To be determined, up to thousands of acres implemented in multiple phases	Mechanical mastication, hand treatment + chipping, prescribed fire, targeted grazing, herbicide	Proposed, seeking funding mechanism(s)	ARCD
Ione Wildfire Resiliency Phase 1: Mule Creek	Northeast of Ione among Mule Creek, Preston Castle properties and HWY 124 corridor.	To be determined, up to several hundred ac	Mechanical mastication, hand treatment + chipping, prescribed fire, targeted grazing,	Proposed, seeking funding mechanism(s)	ARCD or AFSC

Fuel Treatment Projects and Priorities					
Name	**Location**	**Size**	**Method(s)**	**Status in 2026**	**Lead**
			herbicide		
Ione Wildfire Resiliency Phase 2: Firebrick	Between Ione and Buena Vista surrounding mine	To be determined, up to several hundred ac	Mechanical mastication, hand treatment + chipping, prescribed fire, targeted grazing, herbicide	Proposed, seeking funding mechanism(s)	ARCD
Ione Wildfire Resiliency Phase 3: Sunnybrook	Between Ione and Sutter Creek, North of HWY 88	To be determined, up to several hundred ac	Mechanical mastication, hand treatment + chipping, prescribed fire, targeted grazing, herbicide	Proposed, seeking funding mechanism(s)	ARCD
Camanche Wildfire Resiliency	Pastured land surrounding Camanche Village and Camanche North Shore subdivisions	To be determined, up to several hundred ac	Targeted grazing, rangeland conservation technical assistance	Proposed, seeking funding mechanism(s)	ARCD
Doaks VMP	East of the community of Pioneer on Tiger Creek Road.	2,190-acres	Mechanical work, hand crew work, and broadcast burning	Active	CAL FIRE
Shake Fiddletown VMP	Shakeridge Road and Fiddletown Road east of the Community of Volcano.	2,526-acres	Mechanical work, hand crew work, and broadcast burning	Active	CAL FIRE
Shake Omo VMP	N. Amador Co. and adjacent S. El Dorado Co., along Omo Ranch Rd.	4,748-acres	Mechanical work, hand crew work, and broadcast burning	Active (retreatment)	CAL FIRE

Fuel Treatment Projects and Priorities					
Name	**Location**	**Size**	**Method(s)**	**Status in 2026**	**Lead**
Pine Acres VMP	Butte Fire perimeter, proceeding north to Highway 88 along the Mokelumne River Canyon edge to protect the community of Pine Acres.	2,190-acre	Mechanical treatment, prescribed fire, and pile burning	Active	PG&E and CAL FIRE
Tiger Creek/Doaks Fuel Break	West from the Antelope Fuel Break to the Tiger Creek Power Plant on the Mokelumne River.	TBD	TBD	Proposed	CAL FIRE

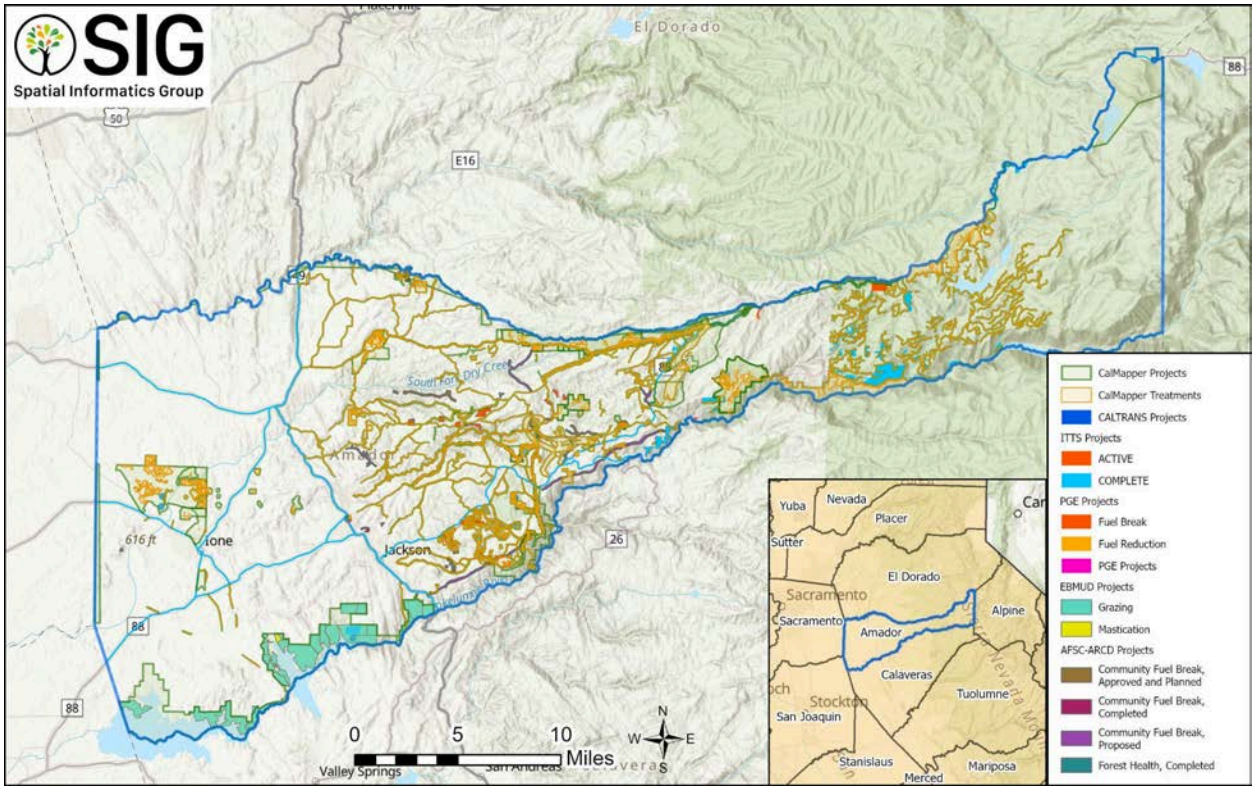

Figure 23. Amador County active and completed fuel treatment projects.

Treatments can be explored further using the live webmap at:

https://gsal.sig-gis.com/portal/apps/experiencebuilder/experience/?id=4d8a2179d6874e618fa8de8e504a8a30&draft=true

Ignitability Measures for Structures

Reducing the ignitability of structures is a critical component of private property protection and overall community wildfire resilience. During wildfire events, structures most commonly ignite as a result of ember intrusion, radiant heat, or direct flame contact rather than from the wildfire front itself. California's Wildland–Urban Interface building and defensible space standards, established under Title 24 of the California Code of Regulations (Chapter 7A) as well as Public Resources Code 4291, and Chapter 49 of the California Fire Code, are specifically designed to address these ignition pathways by requiring the use of ignition-resistant materials, construction methods, and design features for buildings and parcels located in designated WUI areas. Structural ignitability measures outlined in this plan build upon the intent of Chapter 7A by promoting both compliance for new construction and voluntary retrofits of existing structures. When integrated with defensible space measures under Public Resources Code 4291 and broader community-scale mitigation efforts, these measures substantially increase structure survivability, reduce structure-to-structure fire spread, and lessen demands on emergency response resources, thereby strengthening community-wide wildfire resilience.

New And Existing Development Requirements

Adopted in 2008, Chapter 7A applies primarily to new construction and certain remodels within designated WUI areas; however, these standards provide best-practice guidance for retrofitting existing structures. Items not regulated by Chapter 7A are still critical ignition pathways and are addressed through defensible space laws, fire codes, and local ordinances.

California Fire Safe Regulations

California's Fire Safe Regulations (FSR) establish minimum wildfire-safety standards for new subdivisions and other development in State Responsibility Areas (SRA) and Fire Hazard Severity Zones (FHSZ). These standards are adopted under Public Resources Code (PRC) §4290 and are intended to ensure that new development provides adequate emergency access, addressing, water supplies, and perimeter fuel modification so firefighters can safely reach and defend communities during wildfire.

In practice, FSR requirements are typically implemented through the tentative/parcel map process and development review (and enforced by the local Authority Having Jurisdiction in coordination with CAL FIRE where applicable). The regulations focus on four core areas: (1) road and driveway standards for fire apparatus access; (2) street and address signage; (3) emergency water supply standards; and (4) fuel modification/defensible space provisions tied to development layout and siting. Local jurisdictions may adopt standards that equal or exceed the state minimums.

Key Fire Safe Regulation elements include:

- Emergency access (roads/driveways): Minimum design features that support engine access and evacuation, including road geometry, turnouts, signage for limitations, and maintaining access during construction and long-term use.
- Addressing and road naming/signs: Requirements to ensure visible, legible, and standardized road and address identification to speed emergency response.
- Emergency water standards: Minimum provisions for available, accessible, and maintained water for wildfire response/structure defense, including hydrants/fire valves

and marking water sources.

- Fuel modification and development siting: Standards intended to reduce fire intensity and improve safety around structures and along access routes, including defensible-space-related setbacks and maintenance provisions for commonly owned areas.

Although the Fire Safe Regulations primarily apply to new development, partners frequently use them as best-practice guidance for existing communities—especially for upgrading ingress/egress constraints, improving address visibility, ensuring reliable emergency water, and establishing/maintaining strategic fuel modification along key evacuation corridors and community edges.

California WUI Building Code Requirements

California's Wildland–Urban Interface (WUI) Building Code requirements are established in Chapter 7A and are intended to reduce structure ignition from wildfire exposure. These standards apply to new construction, additions, and significant remodels located within State Responsibility Areas (SRA) and Local Responsibility Areas (LRA) designated as Very High Fire Hazard Severity Zones (VHFHSZ). Chapter 7A focuses on improving the ability of structures to resist ignition from embers (firebrands), radiant heat, and direct flame contact—the three primary causes of structure loss during wildfire events.

The WUI Building Code is one of California's most important wildfire mitigation policies and complements other state requirements such as defensible space (PRC §4291) and the Fire Safe Regulations (PRC §4290). While defensible space reduces fire intensity around structures, Chapter 7A reduces the likelihood that the structure itself will ignite when exposed to embers or nearby flame fronts.

Key Construction Standards

Chapter 7A includes performance and material standards for the most vulnerable components of a structure. Table 15 outlines applicable, but not all, WUI construction standards by building component. Key provisions include:

- Roofing: Roof assemblies must be Class A fire-rated. Because roofs are highly vulnerable to ember accumulation, materials and installation methods must resist flame penetration and ember intrusion.
- Vents: Attic, underfloor, and other ventilation openings must be covered with approved ember- and flame-resistant venting materials or protected by listed WUI-compliant vent products. Ember intrusion through vents has been identified as a leading cause of structure ignition during wind-driven fire events.
- Exterior Walls and Siding: Exterior wall coverings must use ignition-resistant materials or assemblies tested for wildfire exposure. This includes specific performance standards for siding, exterior wall systems, and sheathing.
- Windows and Glazing: Exterior windows and glazed doors must meet minimum performance requirements, typically including multi-pane glazing (e.g., tempered glass) to resist breakage from radiant heat exposure.
- Decking and Appendages: Decking surfaces, balconies, porches, and other attached structures must be constructed of ignition-resistant or approved materials. The underside

of decks and projections may require enclosure or protection to prevent ember accumulation.
- Eaves and Soffits: Eave and soffit assemblies must meet ignition-resistant construction standards to reduce ember entry and flame spread into attic spaces.
- Gutters and Roof Edge Protection: Although not always regulated directly in the same way as other components, maintaining noncombustible or debris-free gutters is considered critical in conjunction with roofing standards.

WUI Building Code requirements apply at the time of building permit issuance for applicable projects. Local jurisdictions may adopt more restrictive standards based on local fire hazard conditions. Property owners undertaking substantial remodels or additions within designated hazard zones should consult with the local building department and fire authority to determine current compliance requirements.

Within the context of the CWPP, Chapter 7A compliance represents a foundational structural hardening strategy. Research following recent California wildfire disasters has consistently demonstrated that homes built to modern WUI standards perform significantly better than older structures built prior to adoption of Chapter 7A. As such, promoting awareness of WUI construction standards, encouraging retrofits of vulnerable building components (e.g., vents, windows, decking), and supporting enforcement of current code requirements are key actions to reduce community wildfire risk.

When combined with defensible space, fuel reduction treatments, and emergency access improvements, California's WUI Building Code requirements form a critical part of a comprehensive wildfire resilience strategy.

Table 15. Common WUI construction and mitigation standards by building component

Structural Component	Mitigation Measures	Relevant Chapter 7A Reference
Chimney	Install a code-compliant spark arrestor or chimney cap with noncombustible screening (maximum 5/8-inch openings) on all chimneys and stovepipes to prevent ember intrusion or emission. Inspect and maintain chimney components regularly to ensure screens remain intact and functional.	*Not directly addressed in Chapter 7A*; see California Fire Code (CFC) and Public Resources Code §4291
Combustible Items	Keep decks, porches, balconies, and areas immediately adjacent to structures free of combustible materials such as leaf litter, furniture cushions, firewood, and stored items. Store combustible materials at least 30 feet from structures or within fire-resistant enclosures.	*Not addressed in Chapter 7A*; addressed through defensible space regulations (PRC §4291) and local ordinances

Detached Accessory Structures	Construct or retrofit detached structures using noncombustible or ignition-resistant materials whenever feasible. Apply the same ignition-resistant construction principles used for primary structures and maintain adequate defensible space separation.	§7A.1 (Scope and Application)
Eaves	Enclose open eaves with ignition-resistant materials such as fiber-cement board or exterior-grade plywood to limit ember intrusion. Seal gaps, joints, and exposed cavities where enclosure is not feasible.	§7A.3 (Vents); §7A.4 (Exterior Walls)
Exterior Siding	Use noncombustible or ignition-resistant siding materials such as stucco, fiber-cement, masonry, or metal. Maintain siding in good condition and seal gaps or joints greater than 1/8 inch to reduce ember entry and flame attachment.	§7A.4 (Exterior Walls)
Residential Fire Sprinkler Systems	Maintain existing residential fire sprinkler systems through regular inspection and servicing to ensure operability. Consider voluntary installation in existing homes where feasible to enhance interior fire suppression capability.	*Not addressed in Chapter 7A*; see CBC §313
Roof	Replace wood shake or shingle roofs with Class A fire-rated roofing assemblies. Seal gaps at ridgelines, valleys, and roof coverings (including tile ends) to prevent ember intrusion, and keep roofs free of combustible debris through routine maintenance.	§7A.2 (Roofing)

Defensible Space

Defensible space refers to the managed area surrounding a structure where vegetation, combustible materials, and other fire hazards are modified or reduced to decrease wildfire intensity and improve structure survivability. Properly established and maintained defensible space reduces the likelihood that flames or embers will ignite a structure, limits fire spread between properties, and provides safer conditions for firefighters to defend homes during wildfire events. Defensible space is most effective when combined with structural hardening measures and ongoing maintenance.

In Amador County, defensible space requirements generally extend up to 100 feet from structures, measured from eaves, decks, porches, and other attachments to the property line, where applicable (Table 16, Figure 24). These requirements are established under California Public Resources Code §4291 and reinforced through county ordinances and local fire authority regulations. Consistent enforcement and maintenance of defensible space standards have been

shown to significantly reduce wildfire impacts by interrupting fuel continuity and moderating fire behavior around homes and roadways.

Defensible space is organized into three zones based on distance from the structure, with progressively different objectives and treatment approaches. The most intensive measures are required closest to the building, where ember exposure and radiant heat pose the greatest risk. Property owners are encouraged to work with their local CalFire unit or fire protection district, Fire Safe Council, or Firewise community to obtain parcel-level assessments and guidance tailored to site-specific conditions.

Table 16. Defensible Space Zones and Recommended Mitigation Measures

Zone	Distance from Structure	Primary Objectives	Recommended Mitigation Measures
Zone 0 – Immediate (Ember-Resistant Zone)	0–5 feet	Eliminate combustible materials immediately adjacent to the structure and prevent ember ignition.	Use noncombustible surfaces such as concrete, pavers, or rock mulch adjacent to the structure. Keep roofs, gutters, and downspouts clear of leaves, needles, and debris. Remove firewood, stored items, and combustible furniture from this zone. Avoid woody vegetation, combustible mulch, fences, or trellises that contact the structure. Maintain a noncombustible clearance between the ground and exterior siding. Use noncombustible planters if vegetation is present and keep plants low-growing and well-spaced.
Zone 1 – Intermediate (Lean, Clean, and Green Zone)	5–30 feet	Reduce fuel continuity and slow fire spread while minimizing flame lengths near structures.	Maintain low-growing, well-irrigated vegetation and limit plant density. Create breaks between vegetation groups to disrupt continuous fuels. Remove ladder fuels by pruning lower tree branches and separating shrubs from tree canopies. Keep grass and herbaceous vegetation trimmed to a low height. Remove accumulated leaf and needle litter. Relocate combustible structures such as sheds, trailers, or recreational vehicles outside this zone where feasible, or create defensible space around them.
Zone 2 – Extended (Reduced Fuel Zone)	30–100 feet	Modify fuels to reduce fire intensity and keep wildfire on the ground.	Thin trees and shrubs to reduce horizontal and vertical fuel continuity. Remove dead or dying vegetation and reduce concentrations of ladder fuels. Increase spacing between tree canopies and prune lower limbs to reduce crown fire potential. Manage surface fuels to minimize flame length while retaining soil stability and ecological function. Treatments should be tailored to slope, vegetation type, and site conditions.

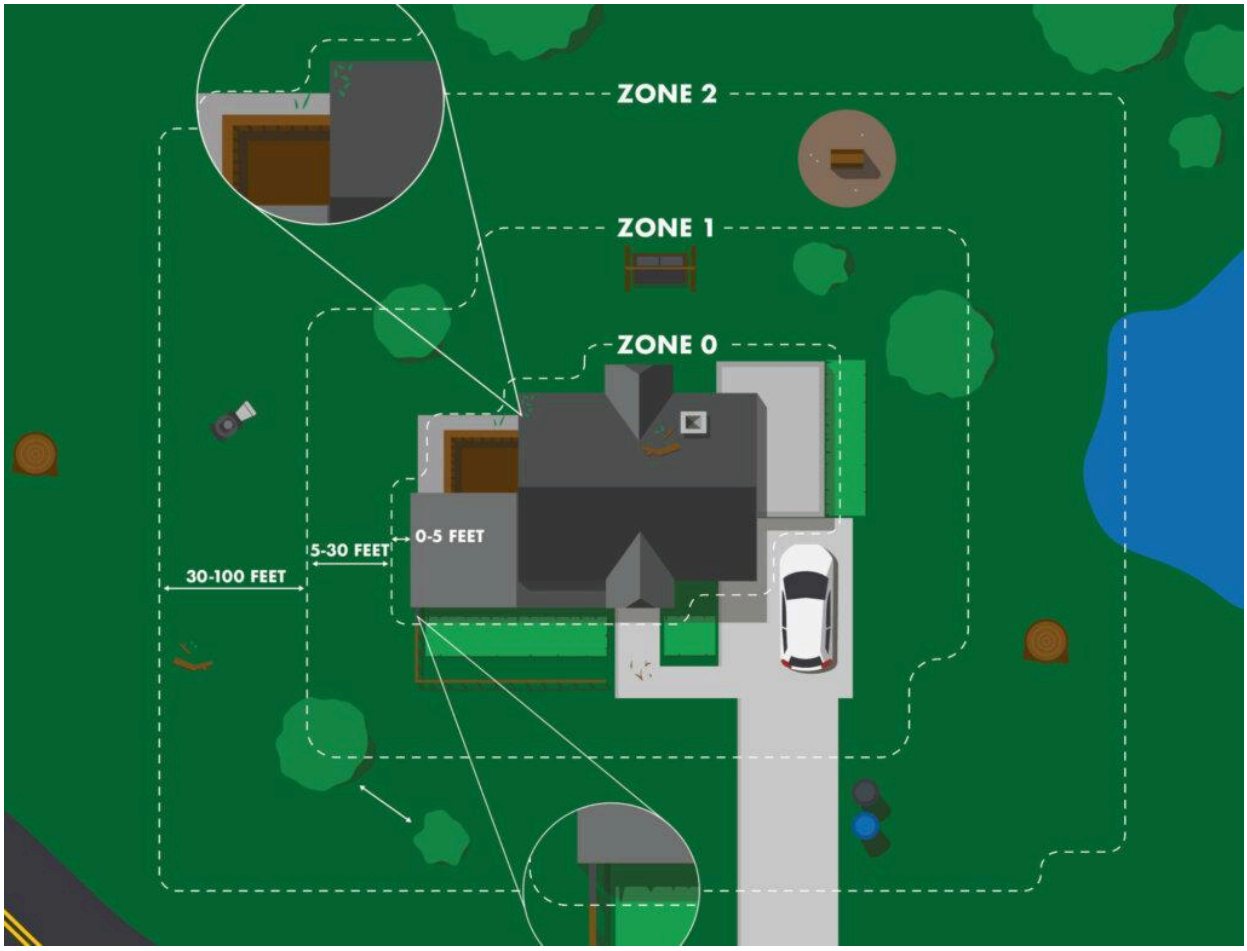

Figure 24. Defensible space distance requirements *(Image credit: https://readyforwildfire.org/prepare-for-wildfire/defensible-space/)*

Parcel-Level Assessments

Parcel-level assessments provide a systematic evaluation of wildfire risk at the individual property scale. These assessments examine how site conditions, vegetation, structures, and surrounding topography interact to influence structure ignitability and fire behavior. Within the CWPP, parcel-level assessments help translate broader hazard analyses into actionable, property-specific mitigation measures.

The purpose of a parcel-level assessment is to identify vulnerabilities that increase the likelihood of structure ignition and to recommend practical, prioritized improvements. Assessments typically evaluate three interrelated components:

1. **Defensible Space Conditions** – Consistent with Public Resources Code §4291 and the defensible space standards described above, assessments evaluate vegetation management within the required zones surrounding structures. This includes fuel continuity, ladder fuels, tree spacing, maintenance of grasses and shrubs, clearance from chimneys and propane tanks, and the condition of access routes. The assessment verifies whether the 0–5 foot “ember-resistant zone,” the 5–30 foot lean, clean, and green zone, and the extended reduced-fuel zone (where applicable) are properly established and maintained.

2. **Structural Vulnerability (Home Hardening)** – Assessments examine exterior building components that influence ignitability, including roofing materials, vents, eaves, siding, windows, decking, fences, and attached structures. This directly relates to the WUI Building Code and ignitability section below by identifying whether structures meet modern ignition-resistant construction standards or would benefit from retrofits. Even where defensible space is adequate, structural vulnerabilities—such as ember-prone vents or combustible decking—can result in ignition.
3. **Site and Access Factors** – Evaluations may also include slope, driveway width and clearance, turnaround space, visible addressing, water supply access, and proximity to hazardous topographic features (e.g., chimneys, canyons, or ridge alignments). These factors influence both fire behavior and firefighter access during an emergency.

Parcel-level assessments are conducted through on-site inspections by trained personnel such as fire department staff, Fire Safe Council representatives, or qualified wildfire mitigation specialists. Findings are often documented using standardized checklists, photographs, and scoring criteria to ensure consistency across properties. Many programs classify risk into categories (e.g., low, moderate, high) to help prioritize mitigation efforts.

Parcel-level assessments provide property owners with clear, site-specific recommendations that connect directly to defensible space requirements and structural ignitability principles. By identifying both vegetation and building-related vulnerabilities, these assessments help ensure that mitigation actions address the full range of wildfire exposure—embers, radiant heat, and direct flame contact.

When implemented community-wide, parcel-level assessments support broader CWPP goals by:

- Increasing compliance with defensible space standards;
- Encouraging home hardening and retrofits;
- Identifying recurring risk patterns across neighborhoods;
- Informing fuel reduction project prioritization; and
- Enhancing overall community wildfire resilience.

In combination with defensible space compliance and ignition-resistant construction practices, parcel-level assessments serve as a critical bridge between policy and on-the-ground wildfire risk reduction at the individual property level.

Insurance and the Insurance Institute for Business & Home Safety (IBHS)

The Insurance Institute for Business & Home Safety (IBHS) is a national nonprofit research organization supported by the insurance industry that conducts scientific research on how homes and communities can better withstand natural hazards, including wildfire. IBHS has become a leading authority on wildfire mitigation and home survivability through its research conducted at the IBHS Research Center, where full-scale wildfire ember and flame exposure tests are performed on building materials, construction assemblies, and defensible space treatments. The organization's findings have strongly influenced modern wildfire mitigation strategies, including California's emphasis on home hardening, ember-resistant construction, and the creation of the "Zone 0" ember-resistant area immediately surrounding structures.

IBHS research consistently demonstrates that structure survival during wildfire is strongly influenced by both defensible space and building design. Embers generated during wildfires can

travel long distances ahead of the main fire front and ignite vulnerable building components such as vents, roofs, decks, fences, mulch, and combustible materials near structures. As a result, IBHS promotes a “system approach” to wildfire resilience that combines defensible space, ignition-resistant construction, and ongoing property maintenance. Programs such as the IBHS Wildfire Prepared Home™ designation provide voluntary standards and guidance for homeowners seeking to reduce wildfire risk and improve insurability. Within the context of this CWPP, IBHS research and recommendations support many of the structural hardening, defensible space, and parcel-level mitigation actions identified throughout this plan.

Ignitability Measures for Critical Infrastructure

Critical infrastructure plays a vital role in protecting life safety, supporting emergency response, and sustaining community function during wildfire events. Facilities and systems such as water supply, communications networks, electrical utilities, and transportation corridors are essential not only for daily operations, but also for evacuation, firefighting, public notification, and post-fire recovery (Table 17). Damage to or failure of these systems during a wildfire can significantly increase risk to residents and first responders and prolong community disruption.

Wildfire impacts to critical infrastructure can occur through direct flame contact, radiant heat, ember intrusion, falling trees, slope failure, and post-fire hazards such as erosion and flooding. As wildfire intensity and frequency increase, protecting these systems requires proactive planning, targeted mitigation, and coordination among infrastructure owners, emergency responders, and land management agencies. Strategies identified in this plan emphasize risk reduction, redundancy, defensibility, and rapid restoration to improve overall system resilience.

Water Infrastructure

Water infrastructure is fundamental to wildfire suppression, public health, and recovery efforts. This includes municipal water systems, community water districts, storage tanks, treatment facilities, wells, and distribution lines. Wildfires can disrupt water supply through power outages, damage to aboveground facilities, contamination, or reduced access to critical components. Protecting water infrastructure involves maintaining defensible space around facilities, ensuring adequate fire flow capacity, protecting pump stations and storage tanks from ignition, and coordinating with fire agencies to identify priority assets. Redundant power supplies and backup water sources further enhance system reliability during wildfire incidents.

Communications Infrastructure

Reliable communications systems are essential for emergency notifications, coordination among response agencies, and public situational awareness during wildfires. Infrastructure such as radio repeaters, cell towers, dispatch centers, and fiber-optic networks are vulnerable to fire, smoke, power loss, and access constraints. Mitigation measures include vegetation management around communications sites, fire-resistant facility design, redundant power and signal pathways, and coordination among public safety agencies and private providers. Strengthening communications resilience improves emergency response effectiveness and supports timely evacuation and public safety messaging.

Electrical Infrastructure

Electrical infrastructure is both vulnerable to wildfire damage and a potential source of ignition. Power lines, substations, and related equipment are exposed to vegetation contact, wind, and extreme fire behavior. Wildfire-related power outages can also disrupt water systems, communications, medical services, and evacuation efforts. Protective strategies include vegetation clearance in utility corridors, hardening or undergrounding of equipment where feasible, improved access for inspection and repair, and coordination with utility wildfire mitigation plans. These actions reduce ignition risk while supporting system reliability during high fire danger conditions.

Road Infrastructure

Roadways are critical for evacuation, emergency access, and firefighting operations. Narrow roads, limited turnarounds, steep grades, and roadside vegetation can restrict evacuation capacity and impede response during wildfire events. Road infrastructure is also susceptible to damage from fire, falling trees, and post-fire erosion or slope failure. Mitigation measures include roadside fuel reduction, maintaining clear vertical and horizontal clearance, improving signage and wayfinding, and identifying priority evacuation routes for targeted treatment. Coordinated planning among transportation agencies, fire departments, and emergency managers is essential to ensure that road systems function effectively during emergencies.

Table 17. Critical Infrastructure Types and Wildfire Mitigation Actions

Infrastructure Type	Primary Wildfire Vulnerabilities	Representative Mitigation Actions
Water Infrastructure	Loss of power to pumps, damage to storage tanks and treatment facilities, limited fire flow, contamination, and restricted access during wildfire events	Maintain defensible space around tanks, pump stations, and treatment facilities; harden facilities with ignition-resistant materials; ensure adequate fire flow and hydrant spacing; install backup power supplies; coordinate with fire agencies to identify priority water assets for protection
Communications Infrastructure	Damage to towers and repeater sites, power outages, signal disruption from fire and smoke, limited site access	Conduct vegetation management around communications sites; harden structures against ember exposure; provide redundant power and communication pathways; improve site access for maintenance and emergency response; coordinate across public safety and private providers to enhance system redundancy
Electrical Infrastructure	Ignition risk from power lines, damage from fire and falling trees, service interruptions affecting emergency systems	Maintain vegetation clearance in utility corridors; implement infrastructure hardening or undergrounding where feasible; improve access for inspection and emergency repair; coordinate with utility wildfire mitigation plans; prioritize protection of assets supporting water, communications, and medical services
Road Infrastructure	Limited evacuation capacity, restricted emergency access, roadside vegetation hazards, damage from fire and post-fire erosion	Reduce roadside fuels along evacuation routes; maintain vertical and horizontal clearance; improve signage and wayfinding; identify and prioritize critical evacuation corridors for treatment; coordinate transportation, fire, and emergency management agencies to address access and safety constraints

Roles and Responsibilities for Critical Infrastructure Protection

Effective protection of critical infrastructure from wildfire requires coordinated action among infrastructure owners, public agencies, emergency responders, and land management partners. While specific responsibilities vary by infrastructure type and jurisdiction, wildfire resilience is most successfully achieved when roles are clearly defined and complementary.

Infrastructure Owners and Operators

Owners and operators of critical infrastructure—including water districts, utilities, communications providers, and transportation agencies—are primarily responsible for maintaining, hardening, and operating their facilities in a manner that reduces wildfire vulnerability. This includes conducting routine maintenance, managing vegetation within established rights-of-way or facility boundaries, ensuring compliance with applicable regulations, and implementing system-specific wildfire mitigation measures such as backup power, fire-resistant materials, and redundancy. Infrastructure owners are also responsible for participating in pre-fire planning, sharing asset information with emergency responders, and supporting post-fire damage assessment and restoration.

Fire Agencies and Emergency Responders

Fire departments, fire agencies, and emergency response agencies play a central role in identifying infrastructure assets critical to wildfire suppression, evacuation, and life safety. Their responsibilities include providing input on priority assets for protection, advising on defensible space and access requirements, and integrating infrastructure considerations into response planning and evacuation strategies. During wildfire incidents, fire agencies coordinate tactical protection efforts where feasible and support infrastructure operators with situational awareness and access coordination.

County and Local Governments

County departments, cities, and special districts support infrastructure protection through land use planning, ordinance development, emergency management, and interagency coordination. Local governments facilitate collaboration among infrastructure owners, fire agencies, and land managers; support evacuation planning and public notification; and pursue funding opportunities that enhance infrastructure resilience. Counties also play a key role in integrating infrastructure protection priorities into broader wildfire preparedness, hazard mitigation, and recovery planning efforts.

State and Federal Agencies

State and federal agencies—including CAL FIRE, Cal OES, Caltrans, the U.S. Forest Service, Bureau of Land Management, and other land management entities—provide regulatory oversight, technical guidance, funding, and implementation support in addition to wildfire response. These agencies assist with fuels management on public lands adjacent to infrastructure, support regional planning and coordination, and administer grant programs that fund mitigation projects. State and federal partners also support post-fire recovery and infrastructure repair through disaster assistance programs.

Utilities and Private Service Providers

Electric, gas, telecommunications, and broadband providers have specialized responsibilities related to wildfire ignition prevention and system reliability. These entities develop and implement wildfire mitigation plans, manage vegetation along corridors, harden equipment, and coordinate with emergency managers on power shutoffs, restoration timelines, and public communications. Close coordination with local governments and fire agencies is essential to balance wildfire risk reduction with community needs during high fire danger conditions.

Community Organizations and Fire Safe Councils

Fire Safe Councils, non-profit organizations, and community groups play a supporting role by facilitating coordination, education, and project development. These organizations often serve as connectors between infrastructure owners, agencies, and residents, helping to identify vulnerabilities, pursue grant funding, and implement complementary mitigation projects such as roadside fuel reduction or defensible space near infrastructure assets.

Amador County Wildfire Collaborators - coordination and CWPP implementation

The Amador County Wildfire Collaborators (ACWC) is a partnership network made up of agencies, organizations, departments, and community groups working on wildfire resilience across Amador County.

ACWC composition

Amador County and city elected officials and government departments especially local Fire Protection Districts and Fire Departments, the Office of Emergency Management, Transportation and Public Works, Code Enforcement and Air Resources Board represent the interests of public safety, infrastructure and regulatory compliance. Land management agencies and private forest and rangeland owners, especially Eldorado National Forest, Bureau of Land Management, Sierra Pacific Industries, Pacific Gas and Electric and East Bay Municipal Utility District manage for wildfire risk reduction and resiliency within their properties. Amador Fire Safe Council, Amador Resource Conservation District, CAL FIRE, Natural Resource Conservation Service, University of California Cooperative Extension and other partners support management of non-industrial private lands which surround and contain the populated areas of the county.

Together through the **Amador County Wildfire Collaborators (ACWC)**, groups including those mentioned above collaborate to plan, maintain and expand wildfire mitigation efforts.

Primary Goals of the ACWC

- Coordinate and support implementation of the Community Wildfire Protection Plan (CWPP).
- Share project updates, funding opportunities, successes, and challenges.
- Foster collaborative development of multi partner wildfire resilience projects.
- Develop Project Pipeline and shared monitoring and maintenance vision/goals.
- Provide a mechanism for consistent communication.

- Strengthen relationships between fire personnel, local jurisdictions, and community partners

- Annual Review of CWPP progress through providing annual metrics for success and information on individual organizations' progress towards goals.

Authority

ACWC will not have authority or governance power over any partner group. Participation is collaborative, voluntary, and focused on information sharing and coordination.

Facilitation

Currently the AFSC has funding to serve as the role of coordinator, convener, and facilitator for the ACWC. AFSC will provide assistance in the facilitation of the annual CWPP review.

Meeting Structure

Collaboration Meetings: Meetings are held three times per year, strategically scheduled around fire season to ensure local, state, and federal fire personnel can participate.

Proposed Role of Subcommittees

As the Amador County Wildfire Collaborators (ACWC) begin coordinating implementation of the Community Wildfire Protection Plan (CWPP), there may be opportunities to form voluntary, topic focused subcommittees to enhance collaboration on specific action areas. These subcommittees would be informal working groups, created only when partners identify a shared need or benefit. Their purpose is to support deeper coordination, reduce duplication of effort, and strengthen alignment across agencies, organizations, and community partners.

- Leadership / Administration Committee
- Outreach & Education Committee
- Fuels Reduction Project Committee
- Mapping/GIS Committee
- Defensible Space & Home Hardening Committee

Wildfire Response and Suppression Capabilities

An assessment of the wildfire response and suppression capabilities within the Amador County CWPP was undertaken to evaluate whether the current resources, organization, and strategies are appropriate for expected wildfire, and if not, what requires improvement. Effective wildfire response in Amador County depends on coordinated interagency planning, reliable infrastructure, and accurate situational awareness that improve firefighter access and operational success. The following categories were identified as requiring improvement to strengthen the County's wildfire response and suppression capabilities across multiple levels—parcel, community, and landscape.

Emergency Water Supply and Infrastructure

Reliable water access is critical for structural defense and extended attack operations. Expanding emergency water storage and hauling infrastructure, which aligns with the Local Hazard Mitigation Plan (LHMP), was identified as a strategic improvement to water availability .

Additionally, ensuring accurate, up-to-date, and collaboratively shared fire hydrant mapping countywide improves dispatch accuracy and on-the-ground response effectiveness . Maintaining a complete, GIS-based hydrant inventory supports pre-incident planning, tactical water sourcing, and mutual aid response.

GIS, Mapping, and Decision Support

Modern wildfire response relies heavily on accurate geospatial information. Key improvements include establishing and funding a full-time GIS position dedicated to hazard mitigation and emergency planning. Efforts like this enhance pre-fire planning, evacuation modeling, project prioritization, and operational decision-making. Consolidated, publicly accessible mapping tools also support transparency and coordination across agencies and landowners.

Communications Systems Hardening

Resilient communications infrastructure is essential during wildfire incidents, particularly under Public Safety Power Shutoff (PSPS) conditions or during extended emergency operations. Hardening and enhancing cellular and repeater communications infrastructure countywide, as well as upgrading and replacing countywide emergency radio communications systems will improve firefighter safety, ensure continuity of command, and support coordination among fire, law enforcement, EMS, and public works agencies.

Strategic Fuel Breaks and Landscape Treatments

Fuel reduction is a foundational suppression support strategy. The Plan identifies fuel break networks designed to facilitate safe and effective wildfire suppression. Landscape-scale fuel breaks—often located along ridgelines, major access routes, or strategic containment features—provide anchor points for suppression operations and help moderate fire behavior. Community-scale fuel reduction projects reduce fire intensity at the wildland-urban interface, improving structure defense conditions. In addition, improved monitoring and maintenance will ensure treatment effectiveness over time. Without sustained maintenance, fuel breaks lose operational value; consistent tracking supports long-term suppression readiness.

Ingress/Egress Improvements

Safe evacuation and responder access are critical life-safety components of wildfire response. Key improvements include identification and mapping of single ingress/egress communities; road construction and rehabilitation planning through the Regional Transportation Plan (RTP), prioritizing projects based on evacuation designation and safety criteria; roadside vegetation monitoring and maintenance along private roads, county-maintained roads, and state highways; and continued implementation of the Tree Mortality Program to address hazard trees along roadways. These efforts would collectively improve emergency vehicle access, reduce evacuation bottlenecks, and minimize roadway ignition hazards during wildfire events.

Fiscal Resources

Funding to support CWPP implementation may be obtained from a variety of federal, state, and local grant programs. Larger-scale projects are most commonly supported through competitive grant opportunities, while smaller or more targeted actions may be funded through local or utility-based programs. The funding sources listed below represent commonly used programs for wildfire preparedness, mitigation, response capacity, and recovery activities; however, this list is not exhaustive.

Federal Emergency Management Agency (FEMA) programs provide several key funding opportunities for fire protection and hazard mitigation. The Assistance to Firefighters Grant Program (AFG) offers competitive funding to career and volunteer fire departments and eligible organizations to improve their capacity to protect public safety and firefighter health. Related programs under AFG include the Staffing for Adequate Fire and Emergency Response (SAFER) grants, which support the hiring, retention, and training of frontline firefighters, and Fire Prevention and Safety (FP&S) grants, which fund community risk reduction, fire prevention education, and firefighter safety research. FEMA also administers the Building Resilient Infrastructure and Communities (BRIC) program, a pre-disaster hazard mitigation program that supports proactive investments in resilience-focused infrastructure and planning. In addition, the Hazard Mitigation Grant Program (HMGP), administered in California by Cal OES, provides funding for projects and plans that reduce the long-term impacts of natural hazards following disaster declarations.

At the state level, CAL FIRE administers multiple grant programs that directly support wildfire mitigation, forest health, and community resilience initiatives aligned with CWPP goals. These include California Climate Investments (CCI) programs such as the Forest Health Program, Urban and Community Forestry grants, and Fire Prevention grants, as well as the California Forest Improvement Program (CFIP) and Volunteer Fire Assistance funding. The California Fire Safe Council, in partnership with the U.S. Forest Service, administers State Fire Assistance (SFA) funding through its Grants Clearinghouse program. These funds support hazardous fuels reduction on non-federal lands, CWPP development and updates, and community education and outreach activities in at-risk areas.

Additional funding opportunities are available through infrastructure and transportation-related programs. The California Department of Transportation (Caltrans) offers Sustainable Communities Planning Grants and Strategic Partnerships Grants, which may be used to support wildfire evacuation studies, evacuation planning, and multimodal transportation improvements that enhance emergency response and community safety.

Utility-sponsored programs may also provide important implementation support. Pacific Gas & Electric (PG&E) administers vegetation management and fuel reduction grant programs that assist Fire Safe Councils, public agencies, and partner organizations with wildfire prevention

and fuels management projects, including Wildfire Safety and Preparedness grants and Fire Safe Council Fuel Reduction Program funding.

Collectively, these funding sources provide a diverse toolkit to support CWPP implementation across planning, prevention, mitigation, preparedness, and response activities. Leveraging multiple funding streams, coordinating grant applications among partners, and aligning projects with funder priorities will be critical to sustaining long-term wildfire resilience efforts throughout the planning area.

Potential Grant Funding Sources

Assistance to Firefighters Grant Program (AFG)

The Assistance to Firefighters Grant Program, administered by the Federal Emergency Management Agency (FEMA), provides competitive funding to career and volunteer fire departments and eligible organizations. The program is designed to improve the health and safety of both the public and firefighting personnel by supporting the purchase of firefighting equipment, personal protective equipment, vehicles, training, and operational enhancements. AFG funds may also be used to strengthen departmental capabilities related to wildfire response, emergency communications, and interagency coordination.

Staffing for Adequate Fire and Emergency Response (SAFER) Grant

The SAFER Grant Program, also administered by FEMA, focuses on increasing or maintaining the number of trained, frontline firefighters available in local communities. Funding may be used to support the hiring and retention of firefighters, including volunteer recruitment and retention initiatives. SAFER grants help fire departments meet national staffing, response, and operational standards, thereby improving response effectiveness during wildfire and other emergency incidents.

Fire Prevention and Safety (FP&S) Grants

Fire Prevention and Safety Grants are a component of FEMA's Assistance to Firefighters Grant Program and are intended to reduce injuries and fatalities related to fire and fire-related hazards. These grants support community-based fire prevention programs, wildfire risk reduction education, smoke alarm initiatives, and firefighter safety research and development. FP&S funding is particularly well suited for public outreach, education, and prevention-focused actions identified in the CWPP.

Building Resilient Infrastructure and Communities (BRIC)

The Building Resilient Infrastructure and Communities program is FEMA's pre-disaster hazard mitigation grant program, authorized under the Stafford Act. BRIC supports states, tribes, and local governments in undertaking hazard mitigation projects that reduce risk from natural hazards, including wildfire. Eligible activities include planning, infrastructure improvements, and innovative mitigation projects that emphasize long-term resilience, multi-benefit outcomes, and partnerships. BRIC prioritizes proactive investment to reduce future disaster losses and enhance community resilience.

Hazard Mitigation Grant Program (HMGP)

The Hazard Mitigation Grant Program provides funding to support hazard mitigation projects and planning efforts following a federally declared disaster. In California, HMGP is administered

by the California Governor's Office of Emergency Services (Cal OES). Eligible applicants include state agencies, local governments, special districts, and certain private non-profit organizations. HMGP funds may be used for wildfire mitigation planning, defensible space projects, fuel reduction, and other measures that reduce the long-term risk to people, property, and infrastructure.

CAL FIRE Fire Prevention Grant Program

The CAL FIRE Fire Prevention Grant Program provides funding for wildfire prevention activities that reduce the risk of wildfire to communities. Eligible activities include hazardous fuels reduction, wildfire prevention planning, education and outreach, and defensible space projects. This program is a primary funding source for CWPP implementation in California and supports projects on both public and private lands, with an emphasis on protecting communities in high and very high fire hazard severity zones.

California Climate Investments (CCI) – Forest Health Program

The CCI Forest Health Program, administered by CAL FIRE, funds projects that improve forest health and resilience while reducing wildfire risk and supporting climate adaptation goals. Eligible activities include fuels reduction, forest restoration, reforestation, and landscape-scale forest management projects. Funding prioritizes projects that deliver multiple benefits, such as greenhouse gas reductions, watershed protection, habitat enhancement, and community wildfire resilience.

California Climate Investments (CCI) – Urban and Community Forestry Grant Program

This CAL FIRE-administered program supports tree planting, maintenance, and urban forestry planning efforts that improve community resilience, public safety, and environmental conditions. In wildfire-prone areas, these grants may be used to support vegetation management planning, community education, and strategic tree management that reduces fire risk while maintaining ecological and social benefits.

California Climate Investments (CCI) – Fire Prevention Program

The CCI Fire Prevention Program provides funding for wildfire prevention activities that reduce the likelihood and severity of wildfires while supporting climate resilience objectives. Eligible activities include fuel reduction, defensible space, wildfire prevention planning, and public education. The program places emphasis on projects that protect vulnerable communities and reduce greenhouse gas emissions associated with catastrophic wildfire events.

California Forest Improvement Program (CFIP)

The California Forest Improvement Program provides financial assistance to private forest landowners for forest management practices that improve forest health and productivity. Eligible activities include fuels reduction, reforestation, forest stand improvement, and resource protection. CFIP supports long-term stewardship that reduces wildfire risk while maintaining ecological and economic values on private lands.

Volunteer Fire Assistance (VFA) Program

The Volunteer Fire Assistance Program provides funding to support volunteer and rural fire departments that protect communities in the wildland-urban interface. Administered through

CAL FIRE in partnership with the U.S. Forest Service, VFA funding may be used for training, equipment purchases, and wildfire preparedness activities that enhance local response capacity.

California Fire Safe Council – U.S. Forest Service State Fire Assistance (SFA) Grants

Through a master agreement with the U.S. Forest Service, the California Fire Safe Council administers State Fire Assistance funding via its Grants Clearinghouse program. These grants support hazardous fuels reduction on non-federal lands, CWPP development and updates, and community wildfire education and outreach. The program emphasizes creating fire-adapted communities and restoring resilient landscapes through local, community-driven projects.

PG&E Vegetation Management and Fuel Reduction Grant Programs

Pacific Gas & Electric offers grant programs that support wildfire prevention and fuels reduction efforts in high-risk areas. These programs provide funding to Fire Safe Councils, public agencies, and non-profit organizations for vegetation management, fuel reduction, and community wildfire preparedness projects. PG&E funding is intended to complement utility wildfire mitigation efforts while supporting local risk reduction initiatives.

Caltrans Sustainable Communities Planning Grants

The Sustainable Communities Planning Grant Program, administered by the California Department of Transportation, supports local and regional planning efforts that advance state transportation and sustainability goals. These grants may be used to fund wildfire evacuation studies, evacuation route planning, and transportation system improvements that enhance emergency preparedness and community resilience.

Caltrans Strategic Partnerships Grants

The Strategic Partnerships Grant Program funds collaborative planning efforts that address transportation deficiencies on the state highway system. A subcategory of this program supports transit- and multimodal-focused planning projects, including those related to wildfire evacuation, emergency access, and interregional coordination. These grants can support CWPP actions related to evacuation planning and critical transportation infrastructure resilience.

Sierra Nevada Conservancy Wildfire and Forest Resilience Grant

The Sierra Nevada Conservancy (SNC) Wildfire and Forest Resilience Grant Program funds projects that reduce wildfire risk and strengthen forest and watershed resilience across the Sierra-Cascade region. The program supports activities such as fuel reduction, forest restoration, and prescribed fire that protect communities while improving ecosystem health. Funded in part through California's Proposition 4 climate bond, the program provides millions of dollars for multi-benefit projects that enhance landscape resilience and advance statewide wildfire and climate goals.

Sierra Nevada Conservancy Community Resilience Grant

The Sierra Nevada Conservancy (SNC) Community Resilience Grant Program supports planning and implementation projects that strengthen the long-term environmental, economic, and social resilience of communities in the Sierra-Cascade region. It provides funding for capacity building, technical assistance, and collaborative efforts that help local governments, tribes, and nonprofit organizations prepare for and recover from challenges such as wildfire,

climate change, and economic transitions. The program emphasizes community-driven solutions that build local capacity, workforce development, and partnerships to support sustainable and resilient rural communities.

Sierra Nevada Conservancy Landscape Grant Program (Pilot)

The Sierra Nevada Conservancy (SNC) Landscape Grant Program (Pilot) funds large, collaborative projects that restore forest health and reduce wildfire risk across entire landscapes in the Sierra-Cascade region. The pilot program aligns funding from multiple partners—such as state and federal agencies—into large grants that support coordinated portfolios of restoration projects implemented over 5–10 years. By investing at a landscape scale, the program aims to accelerate forest restoration, protect communities and critical resources, and increase resilience to climate-driven wildfire across multi-jurisdictional areas.

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Appendix A: CWPP Working Group Members and Stakeholders

Table A1. Amador CWPP Working Group members

CWPP Working Group Members and Stakeholders		
Agency / Organization	**Primary Contact**	**Title**
Federal Government		
U.S. Forest Service - Eldorado National Forest		
	James Thornock	District Fire Management - Division Chief-1
	Ryan Waggoner	Forest Fire Planner
	Ronnie Martinez	Public Information Officer
Bureau of Land Management		
	Beth Brenneman	Project Manager Fire/Fuels
	Burns Brimhall	Assistant District FMO
	Jorge Pacheco	Fire Prevention/ Mitigation/ Education Specialist
State / Tribal Governments		
California Department of Forestry and Fire Protection		
	Mike Blankenheim	Unit Chief (through December 2025)
	David Wood	Unit Chief (as of December 2025)
	Jeff Hoag	Assistant Chief
	Mike Boyce	Assistant Chief
	Megan Sheeline	Unit Forester
California State Parks		
	Lee Eal	Central Valley District's Cultural Resources Manager and Chaw'se Park Manager
	Richard Rappaport	District Forester, Forester I
	Heather Reith	Natural Resources Manager - Central Valley District
	James Suero	District Forester, Forester II
University of California Cooperative Extension		
	Dan Macon	Livestock and Natural Resources Advisor
	Scott Oneto	Farm Advisor
Tribal Nations		
Buena Vista Band of Mi-Wuk Indians	Michael DeSpain	COO
Buena Vista Band of Mi-Wuk Indians	Jeff Cutri	CEO
Ione Band of Mi-Wuk Indians	Jereme Dutschke	Cultural Resources Coordinator

CWPP Working Group Members and Stakeholders		
Agency / Organization	**Primary Contact**	**Title**
Jackson Rancheria	Crystal Myers	CEO
Local Jurisdiction Departments		
Planning / Building Department		
Amador County Transportation Commission	John Gedney	Executive Director
Kirkwood Meadows Public Utility District	Rick Ansel	General Manager
Fire Department / Fire Protection Districts		
Amador FPD	Kayla Dale	Public Information Officer
Amador FPD	Rob Ebling	Battalion Chief
Amador FPD	Aaron Watkins	Battalion Chief
Amador FPD	Robert Withrow	Fire Chief
City of Ione	Ken Mackey	Fire Chief
City of Ione	James Bennet	Engineer
City of Jackson	Ryan Pidgeon	Fire Chief
City of Jackson	Robert Greathouse	Fire Captain
Sutter Creek FPD	Dominic Moreno	Fire Chief
Jackson Valley FPD	Randy Makemson	Fire Chief
Kirkwood Volunteer Fire Department (KVFD)	Rick Ansel	Fire Chief
Public Works Department		
Amador County Public Works	Jeff Christman	Director
Amador Air District		
	Herminia Perry	Air Pollution Control Officer
Local Elected Officials - Amador County Board of Supervisors		
District 1	Patrick Crew	Supervisor
District 2	Dan Epperson	Supervisor
District 3	Jeff Brown	Supervisor
District 4	Logan Carnell	Supervisor
District 5	Brian Oneto	Supervisor
Amador County Office of Emergency Services		
	Matthew Girton	Sheriff, Coordinator
Elected Officials / other Local Leadership		
Amador City	Dave Groth	City Manager
City of Ione	George Lee	City Manager

CWPP Working Group Members and Stakeholders		
Agency / Organization	**Primary Contact**	**Title**
City of Jackson	Carl Simpson	City Manager
City of Plymouth	Victoria McHenry	City Manager
City of Sutter Creek	Tom Dubois	City Manager
City of Sutter Creek	William Watson	Project Manager
Local Fire / Forestry and Natural Resource Groups or Organizations		
Agriculture		
Amador County	Eric Mayberry	Agricultural Commissioner
Amador County	Barry Clark	Deputy Agricultural Commissioner
Amador Fire Safe Council		
	Todd Bertwell	Natural Resources Project Manager
	Amanda Watson	Executive Director
Forest Management Groups		
Sierra Pacific Industries	Christopher Dow	South Sierra Vegetation Management Specialist
Sierra Pacific Industries	Jay Francis	South Sierra Area Manager
Mother Lode Land Trust	Ellie Routt	Executive Director
Amador Resource Conservation District (ARCD)		
	Steve Cannon	Board President
	Todd Bertwell	Natural Resources Project Manager
	Amanda Watson	Executive Director
Upper Mokelumne River Watershed Authority (UMRWA)		
	Richard Skykes	Executive Officer
	Megan Layhee	Environmental Consultant
Prescribed Burn Associations (PBA)		
El Dorado Amador PBA	Morgan Galleano	Coordinator
Critical Infrastructure Companies or Districts		
Electric / Power Utilities		
Pacific Gas & Electric	Todd Crawford	Public Safety Specialist
Pacific Gas & Electric	Ty McCartney	Wildfire Strategy & Engagement
Pacific Gas & Electric	Sashi Sabaratnam	Wildfire & Climate Resiliency
Pacific Gas & Electric	Matt Waverly	Natural Resource Management
Pacific Gas & Electric	Wes Whited	Natural Resource Management
Water Utility Districts		
Amador Water Agency	Rick Ferriera	Operations and Engineering Manager
Amador Water Agency	Susan Peters	Board of Directors

CWPP Working Group Members and Stakeholders		
Agency / Organization	**Primary Contact**	**Title**
East Bay Municipal Utility District	Charles Beckman	Manager of Watershed and Recreation
Kirkwood Meadows Public Utility District	Rick Ansel	General Manager

Appendix B: Applicable Plans and Regulations

Plans and Regulations reviewed to inform the CWPP planning process and content development. The updated list reflects applicable local plans and regulations. State legislation should also be monitored for any additional impacts on CWPP planning and regulatory considerations.

Table B1. Applicable Plans and Regulations

Applicable Plans and Regulations	
Resource Title (and applicable sections)	**Additional Notes or Links**
Federal Plans	
Healthy Forests Restoration Act	https://www.govinfo.gov/content/pkg/COMPS-1123/pdf/COMPS-1123.pdf
Disaster Mitigation Act (Stafford Act)	https://www.fema.gov/sites/default/files/2020-03/stafford-act_2019.pdf
National Fire Plan	https://www.fs.usda.gov/database/budgetoffice/NFP_final32601.pdf
National Cohesive Wildland Fire Management Strategy	https://www.forestsandrangelands.gov/documents/strategy/strategy/CSPhaseIIINationalStrategyApr2014.pdf
Wildland Fire Mitigation and Management Commission Report	https://www.usda.gov/sites/default/files/documents/wfmmc-final-report-09-2023.pdf
State Plans	
2018 Strategic Fire Plan for California (Board of Forestry and Fire Protection)	https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/bof-website/regulations/documents-associated-with-regulations/2018-strategic-fire-plan-approved-08_22_18.pdf?rev=8a738f11cadc4ff2800f61a6cee18af5&hash=F3CCC9D2FC2BCEA238EDA4C80CD04727
California's Wildfire and Forest Resilience Action Plan (2021)	https://wildfiretaskforce.org/wp-content/uploads/2022/12/californiawildfireandforestresilienceactionplan.pdf
California State Hazard Mitigation Plan (2023)	(This was already linked) https://www.caloes.ca.gov/wp-content/uploads/Hazard-Mitigation/Documents/2023-California-SHMP_Volume-1_11.10.2023.pdf
Public Resources Code Division 4. Forests, Forestry and Range and Forage Lands	https://leginfo.legislature.ca.gov/faces/codes_displayexpandedbranch.xhtml?tocCode=PRC&division=4.&title=&part=&chapter=&article=&nodetreepath=7
California Code of Regulations Title 14. Natural Resources Division 1.5 Department of Forestry and Fire Protection Title 24. Building Standards Code	Title 14, Division 1.5 Title 24 Part 2 Title 24 Part 2.5 Title 24 Part 9

Part 2 – California Building Code (Chapter 7A) Part 2.5 – California Residential Code Part 9 – California Fire Code Part 12 – California Referenced Standards Code	Title 24 Part 12
California Government Code Title 5. Local Agencies Title 7. Planning and Land Use	Title 5 Title 7
California Health and Safety Code Division 12. Fires and Fire Protection	HSC Division 12
California Environmental Quality Act	https://www.califaep.org/docs/CEQA_Handbook_2021.pdf
Local Plans	
General Plan	https://www.amadorcounty.gov/departments/planning/general-plan-update-draft-environmental-impact-report-and-draft-general-plan
Municipal Code	Amador County Code
Multi-Jurisdictional or Local Hazard Mitigation Plan	Amador County Local Hazard Mitigation Plan Update (May 2020)
Utility Wildfire Mitigation Plan	CA Office of Energy Infrastructure - 2025 Wildfire Mitigation Plan Updates Website
Emergency Management Plan	Amador County Office of Emergency Services Plans and Documents Website
CAL FIRE Unit Fire Plan	2025 Strategic Fire Plan - Amador-El Dorado Unit
Community / Urban Forestry Plan	The Mokelumne Amador Calaveras Forest Health and Resilience Project (formerly The Forest Projects Plan)
Local CWPPs	High Country CWPP - 2016 Pine Grove CWPP - 2013 Pioneer/Volcano CWPP - 2011 Amador County CWPP Part 1 - 2004 Amador County CWPP Part 2 - 2004
Evacuation Plan	Amador County Evacuation Procedures Website Amador Fire Safe Council Evacuation Preparedness Website

Appendix C: Public Outreach and Engagement

C.1 Purpose and Approach to Outreach and Engagement

Public outreach and engagement were central to the development of the Amador County Community Wildfire Protection Plan (CWPP). As a community-based planning effort, the CWPP's effectiveness depends on meaningful opportunities for residents to learn about the planning process, provide local knowledge and input, and review how technical analyses and recommendations align with community values and priorities. Engagement was therefore designed not as a single event, but as a sustained, countywide effort to support transparency, participation, and shared ownership of the plan.

Figure C1.

Direct public outreach was conducted through multiple complementary methods, with an emphasis on geographic equity, accessibility, and varied engagement formats. Public meetings were held across all five County Supervisor Districts to ensure countywide coverage and to provide residents with locally relevant opportunities to participate. In addition, field trips are planned to support on-the-ground discussion of wildfire hazards, fuel conditions, access constraints, and suggested mitigation strategies. These in-person engagement efforts were supported by a publicly accessible project website [https://www.amadorfiresafe.org/amador-county-cwpp] that served as a centralized hub for CWPP information, updates, meeting announcements, and supporting materials. The Amador County Fire Safe Council (AFSC) played a critical role in outreach by promoting engagement opportunities through its website, email distribution lists, local newspaper notices, and radio communications, helping to reach residents who may not otherwise engage through formal planning channels.

An important component of public engagement was an online survey that allowed participants to identify community concerns using map-based input, written comments, and photographs. This tool enabled residents to provide location-specific information and observations that are difficult to capture through meetings alone. The survey received 69 submissions distributed across

Amador County, reflecting participation from both upcountry and lower elevation communities and demonstrating broad geographic engagement. Together, these outreach methods provided multiple, accessible pathways for community members to contribute to the CWPP and ensured that public input informed both the analytical work (i.e. *mappable* data from the community) and the resulting recommendations.

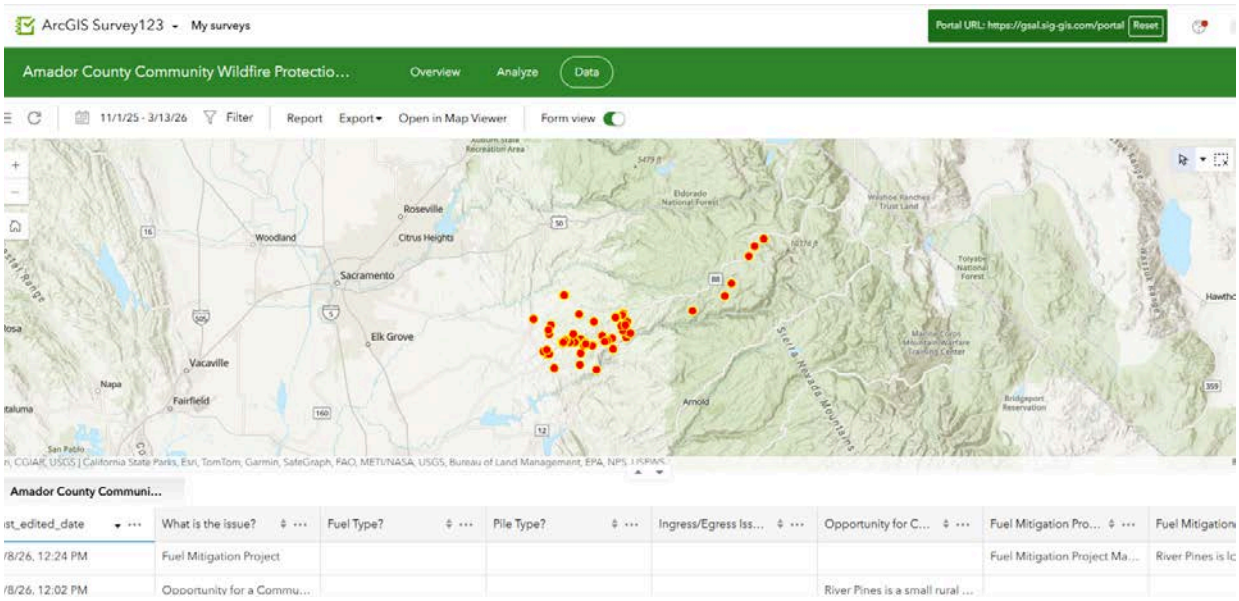


Figure C2.

The CWPP Steering Committee and Working Group provided an essential layer of engagement through structured collaboration and stakeholder coordination. These In addition to the abovementioned groups include representatives from agencies and organizations involved in land management, fire protection, utilities, water supply, transportation, and economic activity, offering perspectives that complement public input and support implementation feasibility. While not a substitute for community outreach, the Steering Committee and Working Group functioned as conduits for information exchange through their professional roles and everyday interactions within the community, reinforcing and extending the reach of formal engagement efforts. Together, these direct and indirect engagement pathways supported a CWPP that is both technically grounded and informed by the lived experience of Amador County residents.

C.3 Public Outreach and Community Engagement Activities

C.3.1 County Supervisor District Community Meetings

To ensure broad geographic representation and locally relevant engagement, public community meetings were held in each of Amador County's five County Supervisor Districts. These meetings provided in-person opportunities for residents to learn about the CWPP process, review preliminary findings, and share local knowledge, concerns, and priorities related to wildfire risk, preparedness, and mitigation. Meetings were scheduled at accessible community venues and coordinated with the respective County Supervisor to reinforce the connection between community input and county-level decision-making.

The Supervisor District meetings served as the first opportunity for direct, face-to-face public outreach in the CWPP development process, and were intentionally distributed across western

Amador County and upcountry communities. A total of fifty-seven residents participated in the meetings. In addition to residents, many meetings were attended by local fire officials and representatives from the Amador County Fire Safe Council and Amador County Resource Conservation District, creating opportunities for dialogue between community members, emergency responders, and implementing organizations.

Table C1. County Supervisor District Community Meetings

District	Supervisor	Date	Time	Location	City
District 1	Patrick Crew	November 10, 2025	6:00–8:00 p.m.	Amador County Administrative Building	Jackson
District 2	Logan Carnell	November 5, 2025	6:00–8:00 p.m.	Volcano Communications Center	Pine Grove
District 3	Jeff Brown	November 1, 2025	11:00 a.m.–1:00 p.m.	Pioneer Community Veterans Hall	Pioneer
District 4	Dan Epperson	November 4, 2025	6:00–8:00 p.m.	Tackle Box Café	Lake Amador
District 5	Brian Oneto	November 6, 2025	6:00–8:00 p.m.	Plymouth City Hall	Plymouth

C.3.1.1 Key Themes and Observations from Supervisor District Meetings

Several themes emerged across the Supervisor District community meetings, reflecting both shared countywide concerns and district-specific perspectives.

Concerns related to homeowner's insurance availability and rising premiums were raised at nearly every meeting. Many participants expressed that increasing insurance costs, policy non-renewals, or coverage limitations have become a primary motivator for engaging with wildfire mitigation and preparedness efforts. Related to this, community members frequently referenced media coverage of major wildfires over the past decade, both within Amador County and in neighboring counties, noting that these events have heightened awareness of wildfire risk and contributed to a sustained sense of urgency. In addition to concerns about direct fire impacts, participants emphasized the cumulative effects of wildfire on air quality and smoke exposure, including prolonged periods of degraded air, public health impacts, and disruptions to daily life.

Figure C3.

Community members also cited impacts to travel and recreation, such as road closures, reduced access to outdoor areas, and lost economic activity tied to tourism and seasonal use, as well as broader effects on quality of life and overall well-being. Together, these experiences reinforced the perception that wildfire risk extends beyond immediate fire footprints and includes longer-term social, economic, and health consequences that influence community preparedness and support for mitigation efforts.

Participants also raised questions and concerns about how fuel treatments are implemented, particularly regarding residual material left on site, disturbance of forest soils, and perceived impacts to forest floor conditions. In some cases, soil disruption and post-treatment aesthetics were cited as sources of dissatisfaction or skepticism, underscoring the importance of clear communication about treatment objectives, methods, and expected outcomes.

Overall, community members demonstrated a high level of local knowledge and engagement, with many participants expressing interest in taking action and understanding how to participate in or support mitigation efforts. At the same time, some residents conveyed feelings of being overwhelmed by the scale of the wildfire problem or frustrated with perceived gaps in response, funding, or follow-through.

Local fire chiefs and fire district representatives attended several meetings and shared concerns related to the distribution of resources across the county, particularly in western Amador County where wildfire risk is often driven by grass and brush fuels rather than forested conditions. These discussions highlighted perceived disparities in attention and funding relative to more heavily forested areas and created space for candid dialogue about operational challenges and priorities.

While some interactions were strongly worded or complaint-oriented, the meetings ultimately served as productive forums for relationship-building and information exchange. Participants were able to connect directly with representatives from the Amador County Fire Safe Council and Amador County Resource Conservation District, including Todd Bertwell, Natural Resources Project Manager, and Amanda Watson, Executive Director. These interactions helped clarify roles and responsibilities, identify appropriate points of contact, and create pathways for

continued involvement by community members who expressed concerns or dissatisfaction. Collectively, the Supervisor District meetings supported greater mutual understanding and helped ground the CWPP in both technical considerations and lived community experience.

C.3.2 Public Project Web Map

A public-facing project web map was developed to provide transparency into the CWPP planning process and to allow community members to follow how wildfire hazard, risk, and mitigation priorities were assessed across Amador County. The web map presents the key spatial datasets used in the CWPP, including wildfire hazard indicators, mitigation opportunity layers, and Highly Valued Resources and Assets (HVRAs), organized in a clear and intuitive structure that mirrors the step-by-step analytical approach used to develop the plan.

The web map is structured to guide users through the process of identifying areas of greatest concern by integrating fire likelihood, fire behavior, and community-defined values. By displaying how these layers interact spatially, the map helps illustrate how priority areas for mitigation were identified—focusing on locations where targeted treatments can provide the greatest benefit for protecting community assets in a cost-effective and timely manner. This geospatial approach supports an understanding of how limited resources can be strategically applied to reduce wildfire risk in a heavily forested, rural county.

The project web map is hosted as a publicly accessible resource on the AFSC website and serves as a central engagement tool throughout CWPP development. Map layers and outputs have been used consistently in public meetings, presentations, and briefings to support discussion and interpretation of technical analyses. By making the underlying data and analytical framework visible and accessible, the web map supports informed community participation and helps bridge the gap between technical wildfire modeling and community understanding.

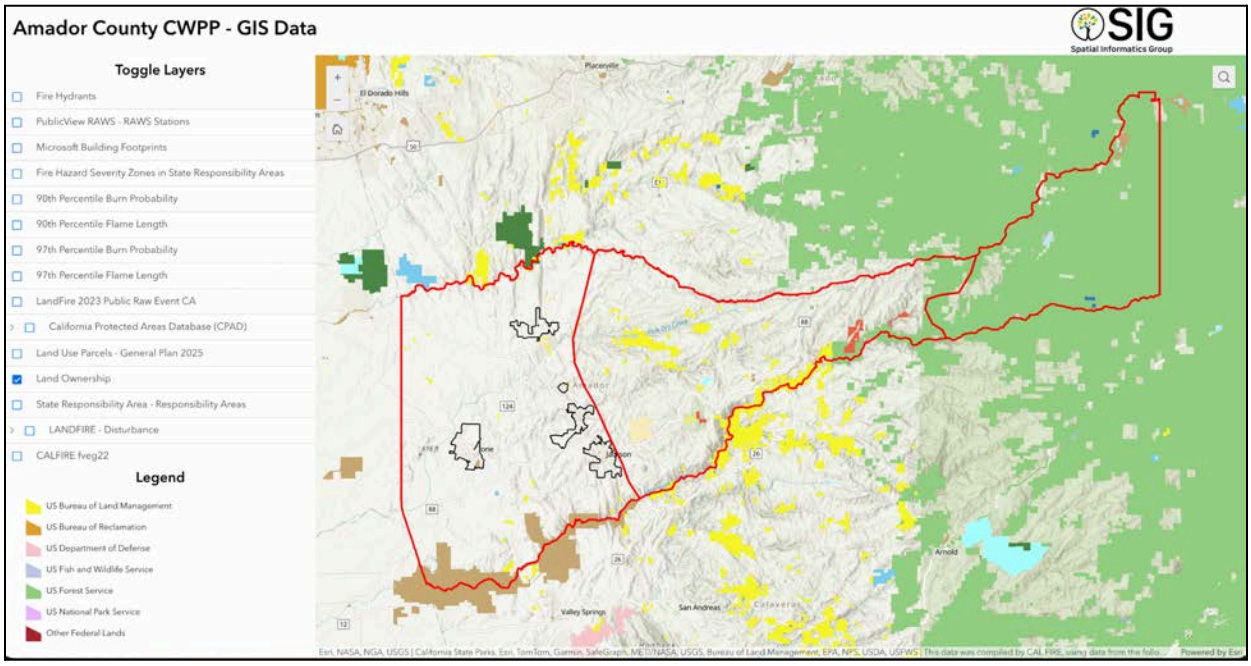


Figure C4. Public Webmap: https://gsal.sig-gis.com/portal/apps/experiencebuilder/experience/?id=4d8a2179d6874e618fa8de8e504a8a30&draft=true

In addition to the core datasets displayed in the project web map, the CWPP planning process also incorporated outputs from advanced treatment planning platforms to explore and refine mitigation strategies. Results from these platforms were integrated into the public web map to allow community members to view proposed treatment scenarios alongside other key metrics. While some analytical outputs were developed using Vibrant Planet, a proprietary software platform that requires licensing to access directly, publicly accessible treatment scenarios developed using Planscape are available for public exploration.

C.3.3 Planscape Scenarios

Planscape was used in parallel with Vibrant Planet as part of the CWPP treatment planning and evaluation process. The primary purpose of incorporating Planscape was to provide Amador County with a free, publicly accessible, and continuously available platform for exploring and refining wildfire mitigation strategies beyond the formal CWPP development timeline. While Vibrant Planet served as the primary treatment planning platform for the project, Planscape was intentionally included to ensure that the county and community retain long-term access to treatment planning tools should licensed software become unavailable in the future.

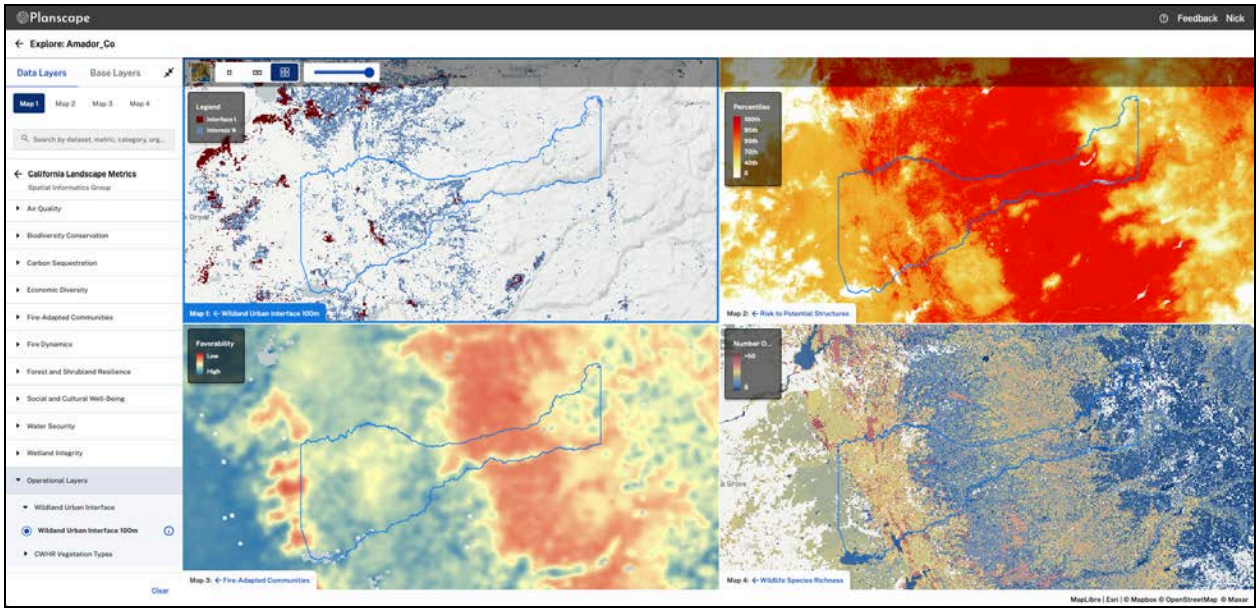


Figure C5.

For Amador County, Planscape provides unlimited public access and regular (biannual) updates, allowing community members, local partners, and county staff to continue engaging in treatment planning, scenario exploration, and priority refinement over time. Making this platform available supports continued community participation and transparency by enabling users to view, iterate on, and compare treatment strategies at no cost. In addition, running Planscape alongside Vibrant Planet allowed for a comparative analysis between two similar planning frameworks, strengthening confidence in identified priority areas and providing an opportunity to compare assumptions, outputs, and treatment patterns across platforms. Planscape scenarios were shared with the community through public meetings and the project web map, reinforcing its role as both a planning resource and a public outreach tool.

C.3.4 Online Survey With Map-Based Feedback

An online survey was implemented to provide a flexible, accessible way for community members to share wildfire-related concerns and priorities throughout Amador County. The survey was designed to complement in-person meetings by allowing participants to contribute input asynchronously and to provide location-specific information that may not emerge during public forums.

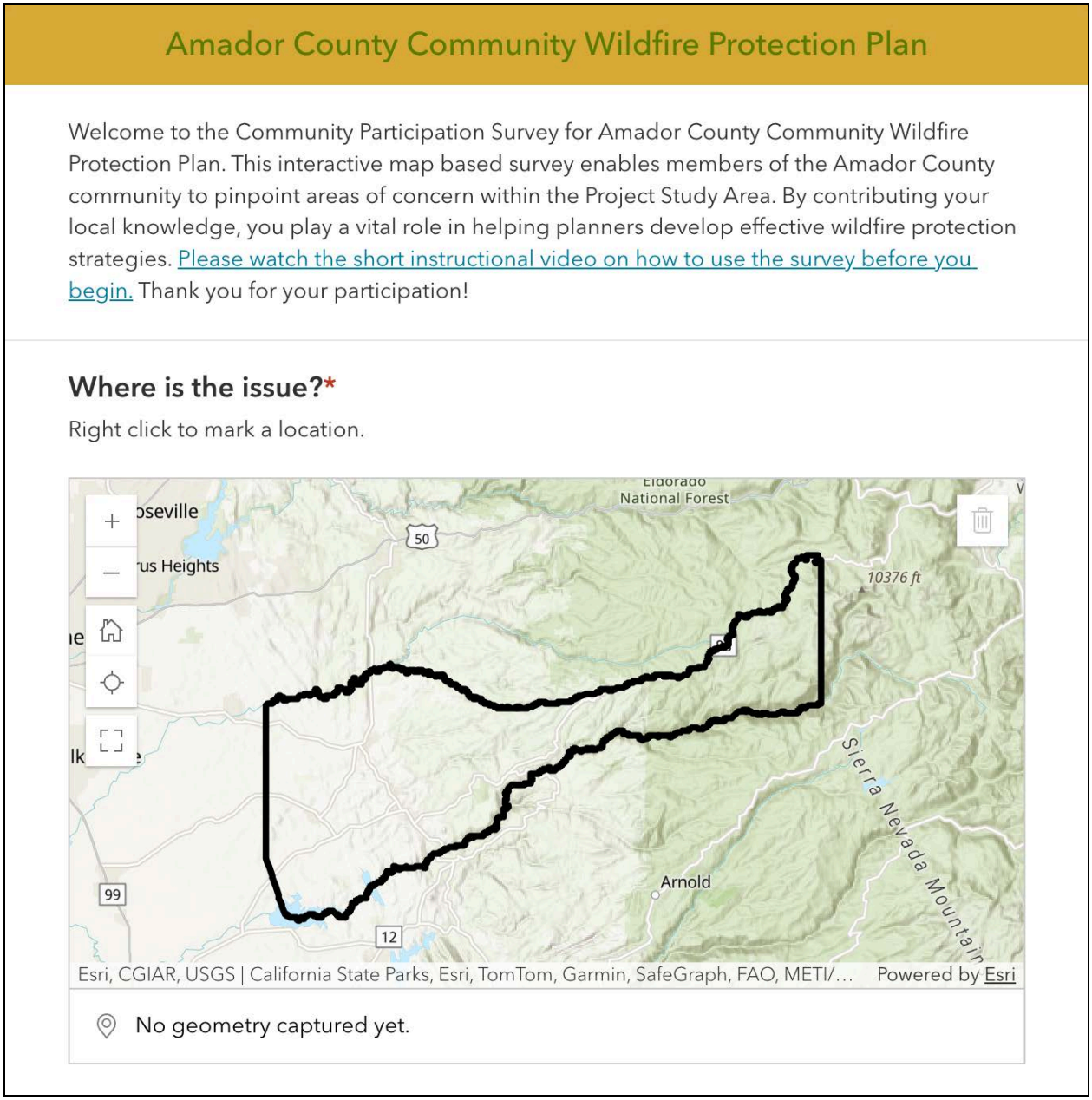


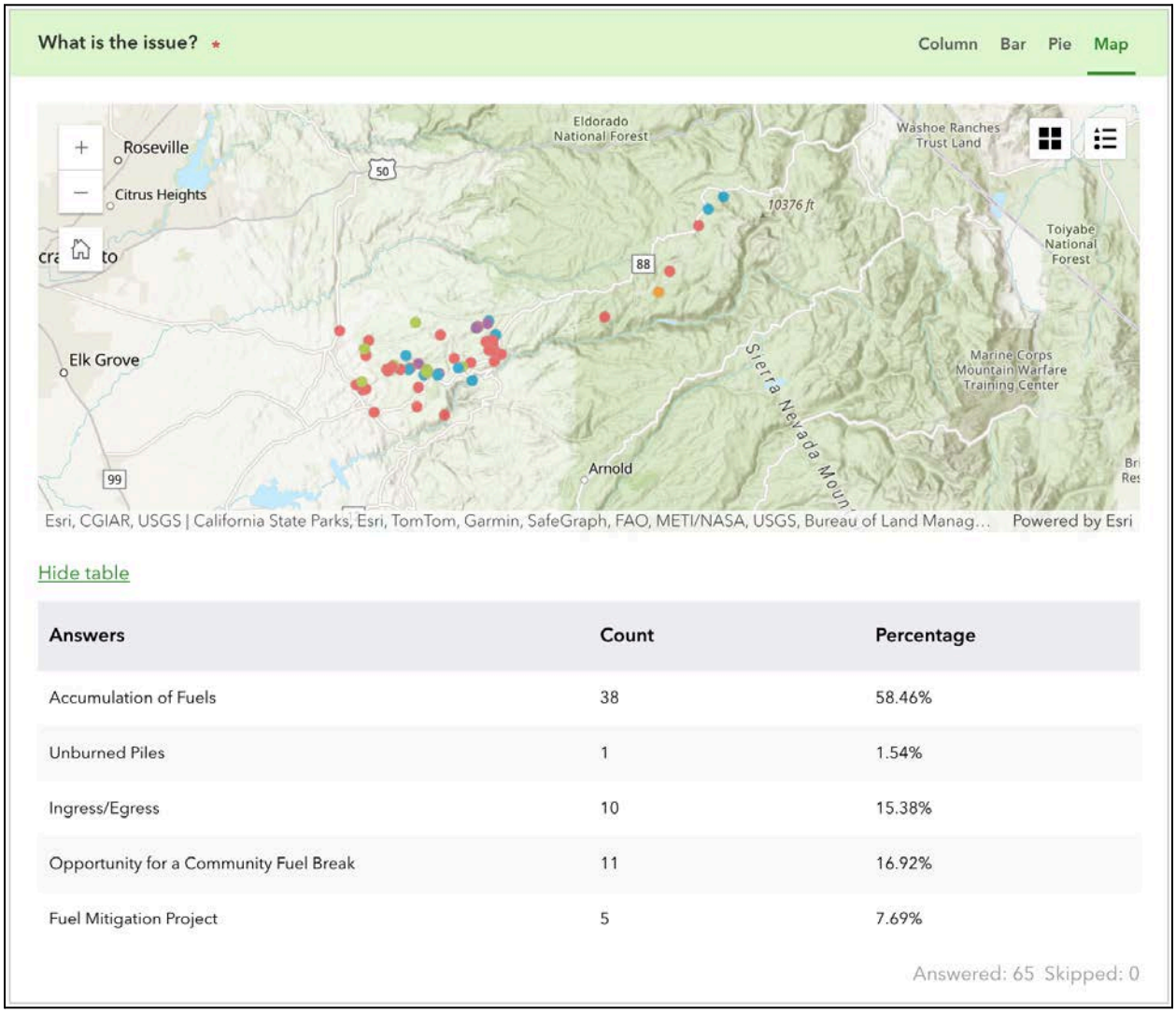
Figure C6.

The survey enabled respondents to identify areas of concern using a map-based interface, submit written comments, and upload photographs. This approach allowed participants to document site-specific conditions, propose potential mitigation actions, and share local knowledge in a format that could be directly integrated into the CWPP planning process. Survey submissions included mapped locations of concern, annotated treatment ideas, photographs, and narrative descriptions.

The survey was distributed through multiple outreach channels, including announcements at public meetings, links on the CWPP project website, and outreach conducted by the Amador County Fire Safe Council through its website, email distribution lists, and other media. The

survey was open from September 20, 2025, through [insert close date] and remained available throughout much of the CWPP development process to allow continued public participation.

As of this writing, the survey has received approximately 65 submissions distributed across Amador County, spanning western communities and upcountry areas. The majority of submissions (approximately 60%) identified accumulation of fuels as the primary concern. Other commonly cited categories included unburned piles, ingress and egress constraints, opportunities for community fuel breaks, and proposed fuel mitigation projects. Collectively, these submissions provided geographically diverse, site-specific input that informed the identification of priority areas and supported alignment between technical analyses and community-identified needs.



Answers	Count	Percentage
Accumulation of Fuels	38	58.46%
Unburned Piles	1	1.54%
Ingress/Egress	10	15.38%
Opportunity for a Community Fuel Break	11	16.92%
Fuel Mitigation Project	5	7.69%

Answered: 65 Skipped: 0

Figure C7.

Appendix D: Wildfire Simulation Inputs and Summary

D.1 Fuels

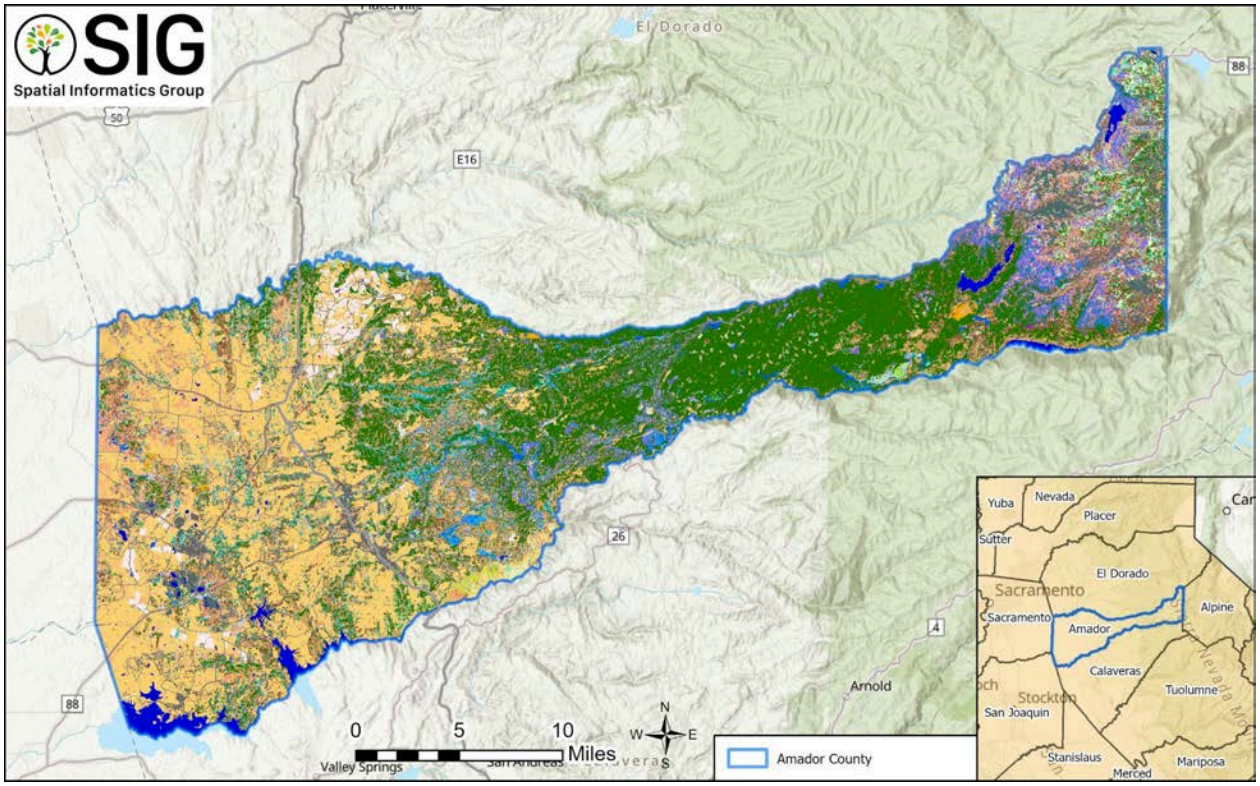
Descriptions of the fuel models and the acreage represented by each are provided in Table D1 and illustrated in Figure D1. Approximately 46,000 acres (3%) of Amador County is classified as non-burnable. Of the flammable vegetation and fuels, approximately 102,000 acres (26%) are Very High Load, Dry Climate Timber-Shrub. The next most prevalent fuel model is Low Load, Dry Climate Grass (GR2) (85,000 acres; 2%) and Moderate Load, Dry Climate Grass-Shrub (GS2) (51,000; 13%). Note that LANDFIRE fuel model descriptors shown in Table 7 are representative of 2024 conditions, subject to climatic changes, and can vary within and across years.

Table D1. Summary of Amador County Fuel Models, Acres, and Descriptions.

Fuel Type	FBFM40	Acres	Percent	Description
Non-Burnable	NB1	19,542	5.0%	Urban/Developed
	NB3	5,857	1.5%	Agricultural
	NB8	7,958	2.1%	Open Water
	NB9	12,545	3.2%	Bare Ground
Grass	GR1	2,934	0.8%	Short, Sparse Dry Climate Grass
	GR2	84,957	21.9%	Low Load, Dry Climate Grass
	GR3	1,897	0.5%	Low Load, Very Coarse, Humid Climate Grass
Grass-Shrub	GS1	3,288	0.8%	Low Load, Dry Climate Grass-Shrub
	GS2	51,445	13.3%	Moderate Load, Dry Climate Grass-Shrub
Shrub	SH1	97	0.03%	Low Load Dry Climate Shrub
	SH2	905	0.2%	Moderate Load Dry Climate Shrub
	SH3	4	0.001%	Moderate Load, Humid Climate Shrub
	SH4	25,584	6.6%	Low Load, Humid Climate Timber-Shrub

	SH5	8,207	2.1%	High Load, Dry Climate Shrub
	SH7	13	0.003%	Very High Load, Dry Climate Shrub
Timber Understory	TU1	5,379	1.4%	Low Load Dry Climate Timber-Grass-Shrub
	TU2	1,235	0.3%	Moderate Load, Humid Climate Timber-Shrub
	TU3	11,007	2.8%	Moderate Load, Humid Climate Timber-Grass-Shrub
	TU5	102,561	26.4%	Very High Load, Dry Climate Timber-Shrub
Timber Litter	TL1	151	0.04%	Low Load Compact Conifer Litter
	TL2	1,823	0.5%	Low Load Broadleaf Litter
	TL3	9,572	2.5%	Moderate Load Conifer Litter
	TL4	11,015	2.8%	Small downed logs
	TL5	2,264	0.6%	High Load Conifer Litter
	TL6	9,768	2.5%	Moderate Load Broadleaf Litter
	TL7	3,297	0.8%	Large Downed Logs
	TL8	2,901	0.7%	Long-Needle Litter
	TL9	1,686	0.4%	Very High Load Broadleaf Litter
Slash Blowdown	SB2	40	0.01%	Moderate Load Activity Fuel or Low Load Blowdown
Total Acres		**387,933**	**100%**	

Key: FBFM40 = Scott and Burgan 40 Fire Behavior fuel models.



Legend for Figure D1

- Amador County

FBFM40

- Urban/Developed
- Agricultural
- Open Water
- Bare Ground
- Short, Sparse Dry Climate Grass
- Low Load, Dry Climate Grass
- Low Load, Very Coarse, Humid Climate Grass
- Low Load, Dry Climate Grass-Shrub
- Moderate Load, Dry Climate Grass-Shrub
- Low Load Dry Climate Shrub
- Moderate Load Dry Climate Shrub
- Moderate Load, Humid Climate Shrub
- Low Load, Humid Climate Timber-Shrub
- High Load, Dry Climate Shrub
- Very High Load, Dry Climate Shrub
- Low Load Dry Climate Timber-Grass-Shrub
- Moderate Load, Humid Climate Timber-Shrub
- Moderate Load, Humid Climate Timber-Grass-Shrub
- Very High Load, Dry Climate Timber-Shrub
- Low Load Compact Conifer Litter
- Low Load Broadleaf Litter
- Moderate Load Conifer Litter
- Small downed logs
- High Load Conifer Litter
- Moderate Load Broadleaf Litter
- Large Downed Logs
- Long-Needle Litter
- Very High Load Broadleaf Litter
- Moderate Load Activity Fuel or Low Load Blowdown

Figure D1. Scott and Burgan 40 Fire Behavior Fuel Models

D.2 Landscape Profile

The Amador County topographic analysis was conducted using the LANDFIRE topographic rasters for elevation, slope, and aspect (LANDFIRE 2025). The majority of Amador County terrain is rough with higher elevations in the Sierra Nevada mountains that occupy a significant portion of the county(Figure D2). The terrain in Amador County is predominantly between South and West (circular mean aspect 220°, R-value 0.163, circular variance 0.837) which should result in lower mean fuel moisture than if the slopes were predominantly North and East facing (Figure D4). It should be noted that in **Figure D5.** no color signifies flat terrain.

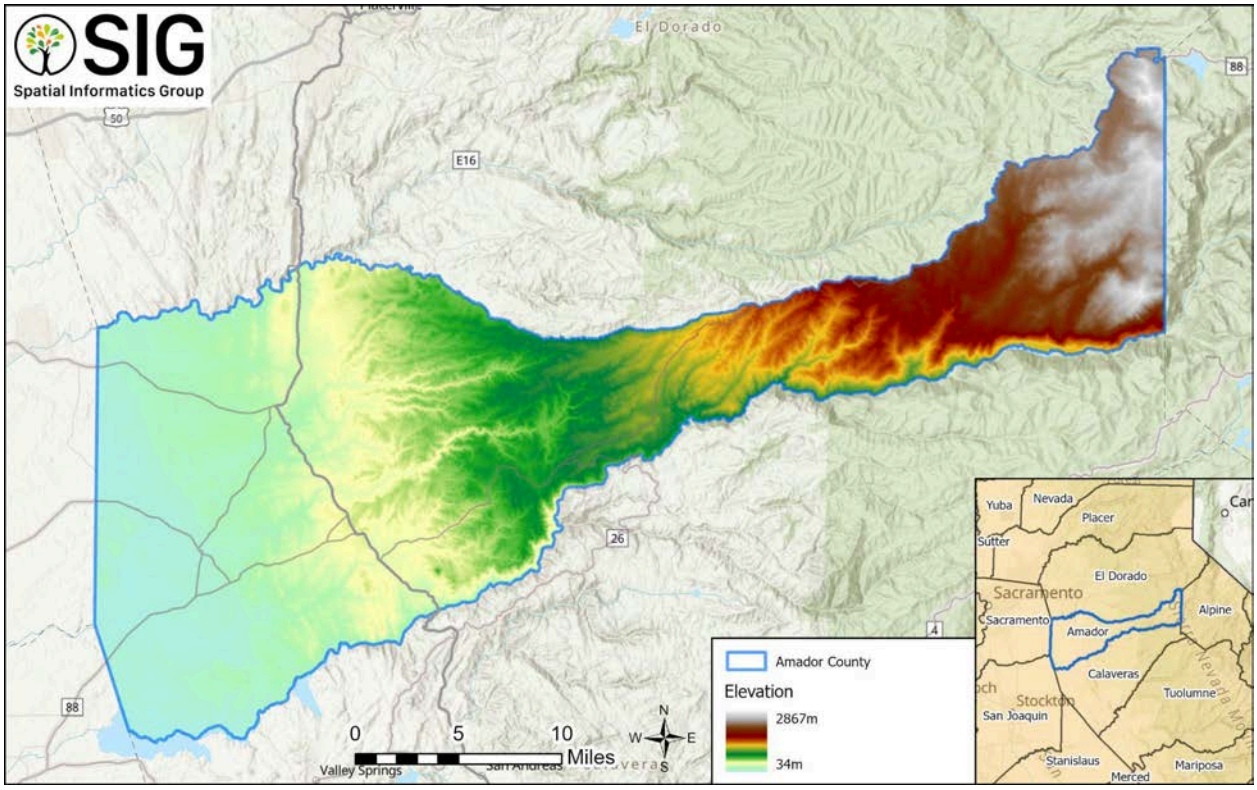


Figure D2. Elevation

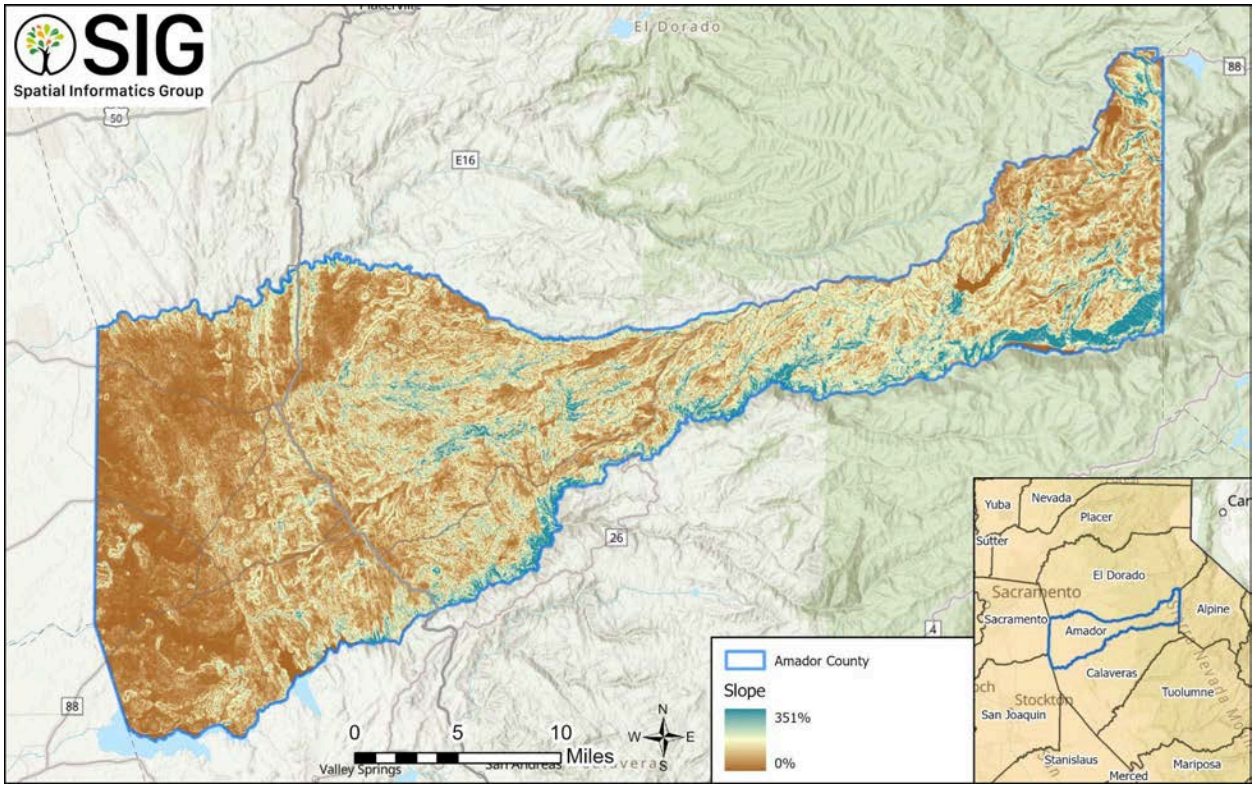


Figure D3. Slope

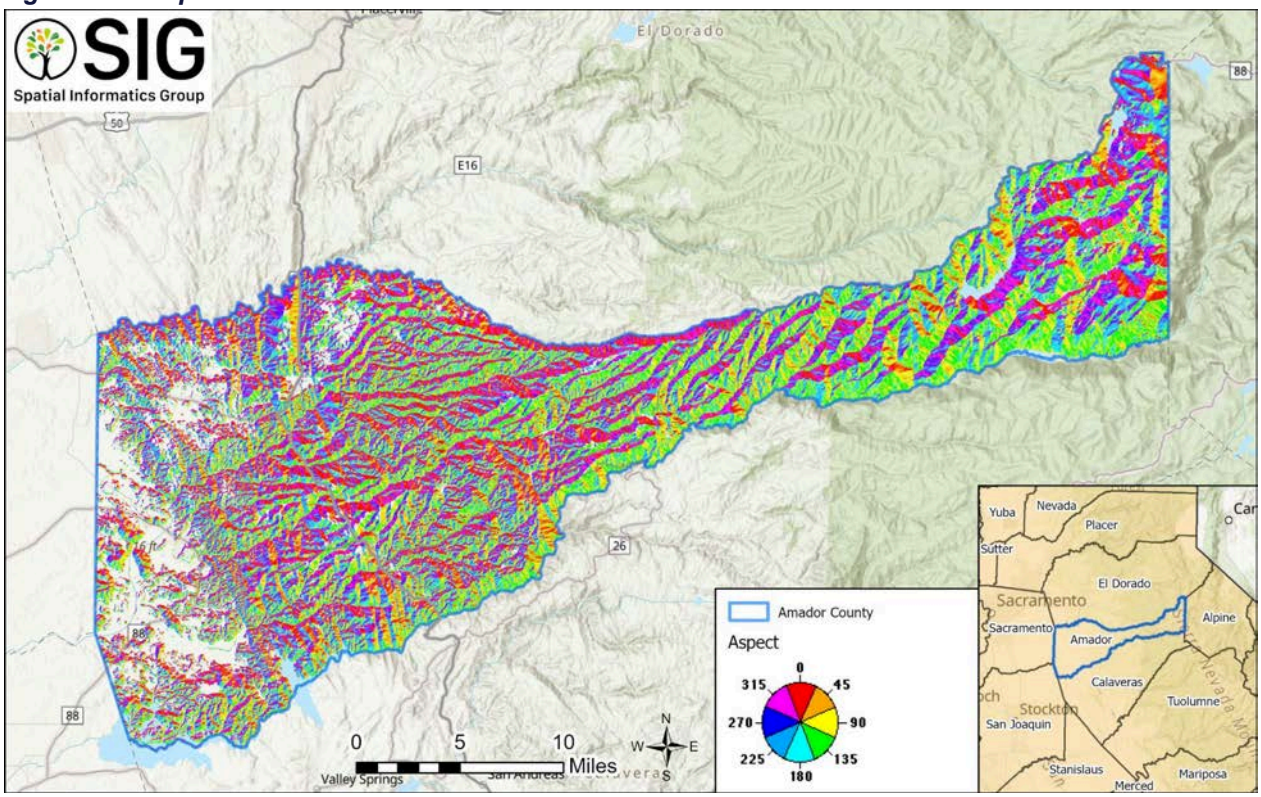


Figure D4. Aspect

D.3 Weather Summary

Amador County is within Fire Weather Zones 217, 219, 267 and 269 (National Weather Service Western Region 2025). Wildfire-related weather in the area centers around hot, dry, windy conditions typically in the late summer and early fall. The combination of wind, heat, and dryness turns all vegetation types into explosive fuel for large wildfires.

The nearest weather data sources were considered for this analysis, namely CFA, Mount Zion, Beaver, and Campo SECO Remote Automated Weather Stations (RAWS). All four RAWS are located in or near Amador County were selected for analysis because they had a complete period of record to use in computing National Fire Danger Rating System (NFDRS) fire danger indices (Figure D5). These stations are part of an established network of RAWS owned and maintained by counties, and both federal and state agencies. The four stations were combined into a “Special Interest Group” (Amador County SIG) for analysis in FF+ which allows a more rigorous analysis of the entire area. The Amador County SIG has recorded weather observations since 1999 with data recorded hourly each day. Weather observations from 2016 to 2024 (8-year period) were used for this analysis**.** Table D2 shows detailed site parameters for the four RAWS that compose the Amador County SIG.

Table D2. Amador County SIG RAWS Information.

May 15th-Nov 1st 2012-2024		Weather Stations									
		Campo Seco		CFA RAWS		Mt Zion		Beaver		Mean	
Wx Percentile		90	97	90	97	90	97	90	97	90	97
Fuel Moisture	1hr	3	3	3	2	3	3	3	2	3	3
	10hr	4	3	4	3	3	3	3	3	4	3
	100hr	7	6	6	5	5	4	5	5	6	5
	1000hr	8	8	7	7	6	5	6	6	7	7
	Herb	3	3	3	2	3	3	3	2	3	3
	Woody	60	60	60	60	60	60	70	70	63	63
Wind	Wind Speed	10	12	9	12	5	6	4	4	7	9
	Gust Speed	26	31	17	21	11	13	13	14	17	20
	Wind Direction	299	320	298	315	269	280	256	269	281	296

Key: ft = feet; ID = unique identification number; NESDIS = National Environmental Satellite, Data, and Information Service; NFDRS = National Fire Danger Rating System; NWS = National Weather Service; RAWS = Remote Automated Weather Station.

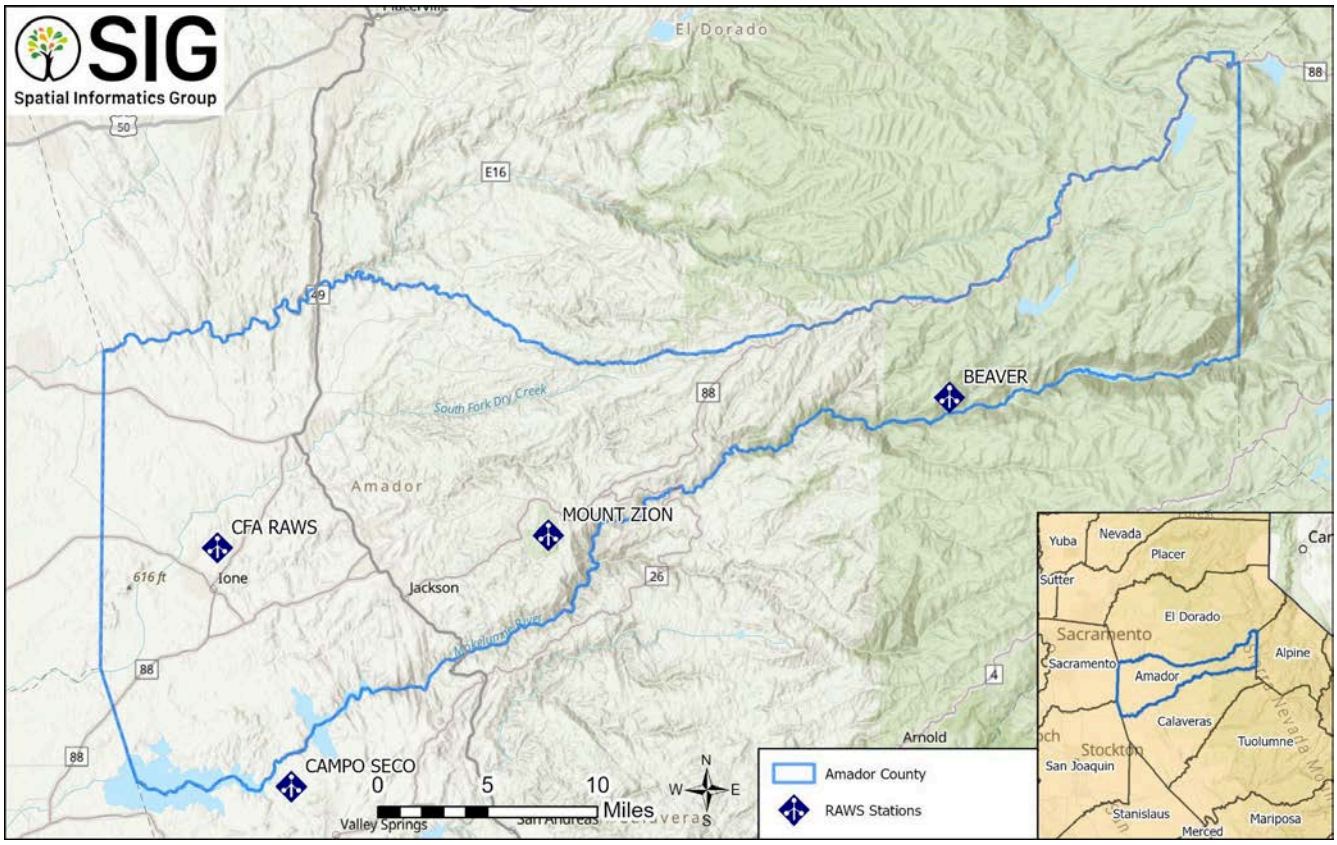


Figure D5. Amador County SIG RAWS Locations.

D.4 Energy Release Component and Burning Index

The National Wildfire Coordinating Group (NWCG) classifies the RAWS in Amador County SIG as representative of Fuel Model B – California Chaparral (NWCG 2025a). Weather data from Amador County SIG were input into FireFamily Plus (FF+) software to determine NFDRS fire danger indices. FF+ is a software package used to calculate fuel moistures and fire danger indices, like Energy Release Component (ERC) and Burning Index (BI), using hourly or daily fire weather observations from RAWS.

ERC is a measure of potential heat or energy released from wildfires occurring during active burning portions of the year. ERC changes gradually as live and dead fuel conditions dry out and is a good indicator of overall wildfire potential, danger, and staffing needs. Burning Index is a measure of fire intensity which combines Spread Component (how fast a fire will spread) and ERC to relate how fire behavior impacts fire containment efforts. The BI is generally 10 times the flame length of a fire. Both ERC and BI are critical in determining potential fire danger and resistance to suppression efforts should an ignition occur under elevated conditions.

Figure D6 and Figure D7 show FF+ results for ERC and BI using Amador County SIG data for the period 2016 to 2024. ERC and BI are shown on the Y-axis (0 to approximately 120 and 220, respectively). The analysis period was set at 1-day intervals. Statistical analysis of the data is plotted with averages represented by the gray line. The red and blue lines represent the maximum and minimum values, respectively, recorded for a given day within the 8-year analysis period.

The graph also shows an approximate green-up period around mid-January. Green-up is defined as the beginning of a new cycle of plant growth. Shortly after green-up occurs, live and dead fuels slowly start to dry out and become available to burn as the summer progresses. This analysis indicates that fire season generally lasts from mid-April through September when ERC and BI values are elevated. Rainfall, or lack thereof, can alter the duration of fire season.

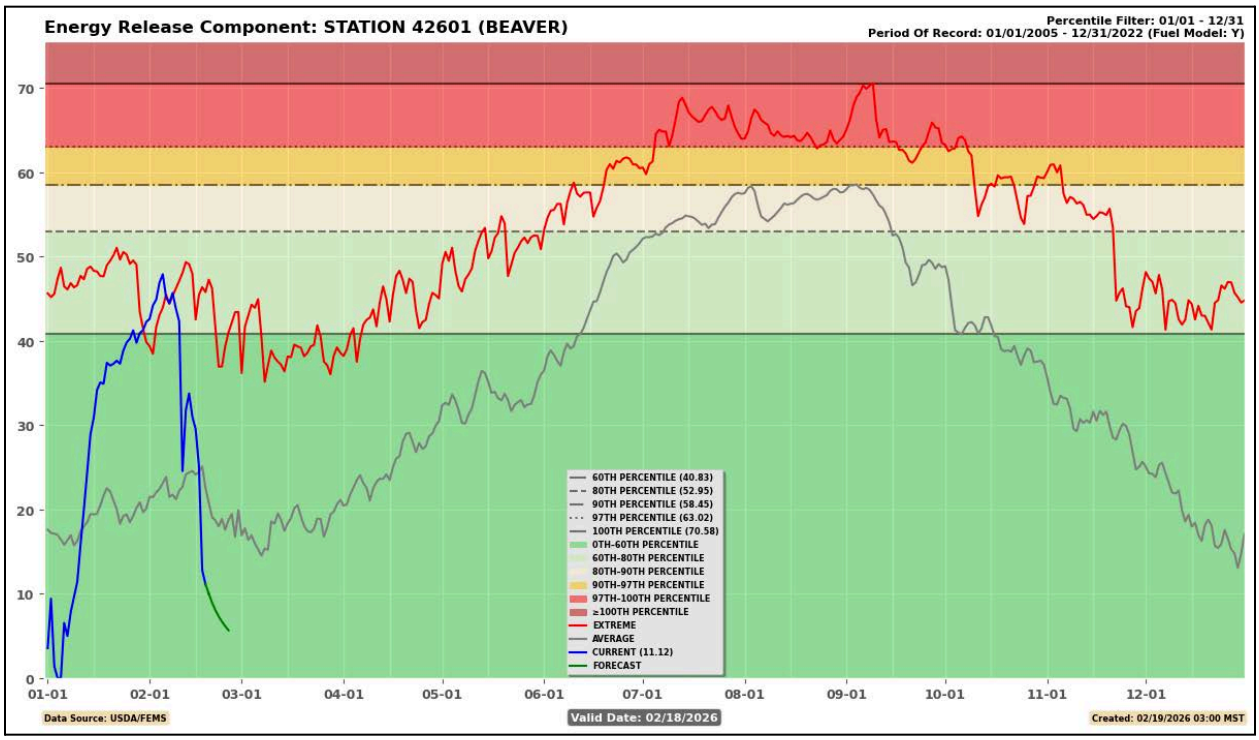


Figure D6. Energy Release Component

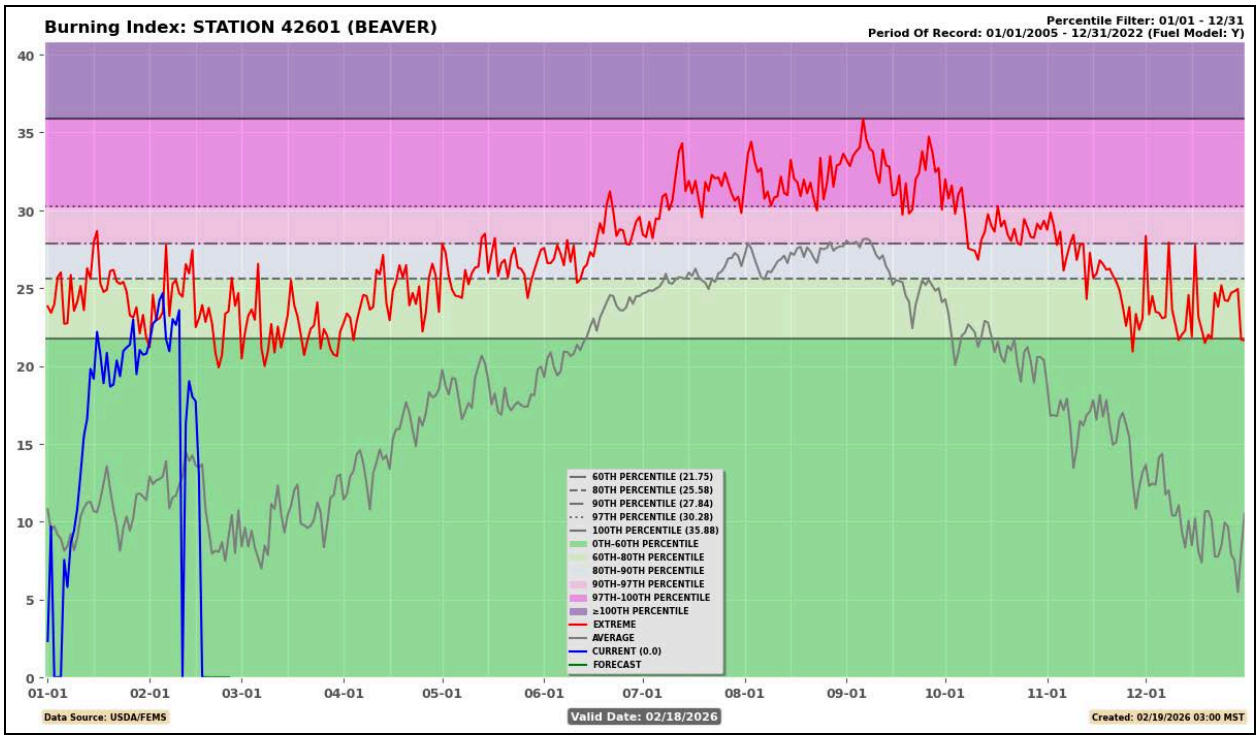


Figure D7. Burning Index

D.5 Winds

Of the three primary drivers of wildfire behavior (wind, fuels, and topography), wind typically has the greatest impact on rates of wildfire spread and spread direction. Historical wind data for the Amador County area were collected from Amador County SIG for daytime hours (0800 to 1900) during the same 8-year period as the ERC and BI analysis. FF+ used this data to generate a wind rose (Figure D8). Wind roses show the frequency with which winds blow from a particular direction at a particular speed. The length of each spoke is proportional to the amount of time that the wind blows from that direction (NRCS 2025).

The Amador County SIG wind rose shows that daytime winds are typically from the west-southwest and southwest about 36% of the time. Wildfires that ignite in the county and that escape initial attack under these conditions would likely spread up-slope in a northeasterly direction.

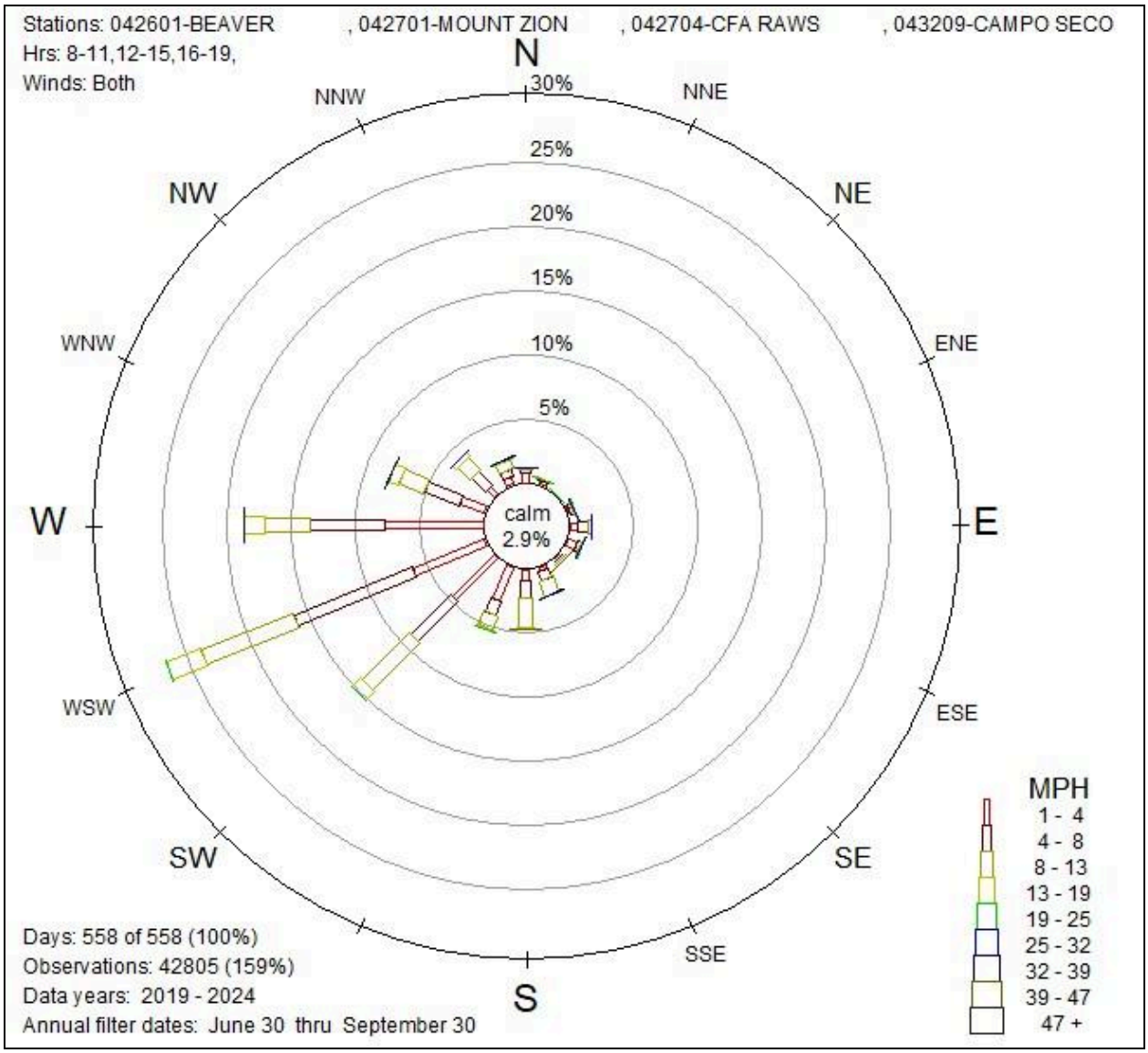


Figure D8. Wind Rose for Amador County SIG.

D.5.1 Critical NFDRS Indices

Fire modeling and analysis were completed using the 50th and 97th percentile weather conditions and NFDRS indices calculated from Amador County SIG data. These percentiles represent very high to extreme fire danger conditions (Table D3). The results from FF+ were used as inputs in FlamMap (USFS 2025) for wildfire behavior simulation and subsequent output analysis.

Table D3. Critical NFDRS Indices from Amador County SIG.

NFDRS Index	90th Percentile	97th Percentile
Max Temp (°Fahrenheit)	99	105
Min RH (%)	12	9
Windspeed (mph)	6	6
Wind Gust Speed (mph)	13	15
1-Hr. Fuel Moisture (%)	3	3
10-Hr. Fuel Moisture (%)	4	3
100-Hr. Fuel Moisture (%)	6	5
1000-Hr. Fuel Moisture (%)	7	6
Woody Fuel Moisture (%)	63	63
Herbaceous Fuel Moisture (%)	4	3
Ignition Component[2] (%)	51	59
Burning Index[3]	91	98
Energy Release Component	108	115

Notes:

1) Ignition Component is a rating of the probability that a firebrand will cause an actionable fire. The Ignition Component can range from 0, when conditions are cool and damp, to 100 on days when the weather is dry and windy. When the Ignitions Component value is 0, a single firebrand will not start a wildland fire requiring suppression action. For a value of 50, there is a 50% probability that a single firebrand could start a wildfire requiring suppression action.

2) Key: Hr = hour; ID = identifier; mph = miles per hour; NFDRS = National Fire Danger Rating System; RAWS = Remote Automated Weather Station; RH = relative humidity.

Appendix E: Community HVRA Prioritization and Risk Assessment Inputs and Summary

E.1 Relative Importance Values

Relative importance refers to the assigned weight or priority given to each HVRA, reflecting its perceived value or sensitivity in the landscape. According to Scott et al. (2013), relative importance values are critical for scaling and comparing the potential effects of wildfire across a diverse set of HVRAs. For Amador County, for each zone, each HVRA category was assigned a score between 1 (low) - 5 (high) importance by Amador County stakeholders and averaged across respondents. Weights were assigned for each sub-HVRA based on data from Vibrant Planet and to be consistent with their methodology. This allowed for a final ranking from highest to lowest relative importance.

Tables E3-E5 include the HVRA Relative Importance values.

Relative importance values are used in conjunction with fire exposure metrics (notably burn probability and flame length outputs derived from wildfire simulations) and response functions to compute the NVC caused by wildfire. The result of the NVC analysis is helpful in prioritizing risk mitigation actions.

E.2 Response Functions

In the context of QWRA, a response function is a means to generally estimate the impact of wildland fire – beneficial or detrimental - on sub-HVRAs, based on the intensity of the fire exposure. Response functions link modeled fire behavior outputs (such as flame length) to the expected change in value of a sub-HVRA, typically expressed as a relative percentage of gain (benefit) or loss (Scott et al. 2013). For instance, a response function for residential structures may show increasing levels of damage with increasing flame length, while a response function for a fire-adapted habitat may show ecological benefits at low intensities and losses or damage at higher fire intensities. A foundational question asked when identifying a response function related to a specific sub-HVRA is – “if this sub-HVRA were exposed to this fire intensity (say flame length of 2 to 4 feet), what are the likely fire effects on that sub-HVRA?”

For Amador, response functions were identified by Vibrant Planet and for additional sub-HVRAs by SIG for each sub-HVRA and reflect how that group of resources or assets (i.e., sub-HVRA) generally respond to different levels of fire intensity. For each combination of sub-HVRA and flame length, Table E1 and Tables E2 were used to help decide whether a flame length category would be relatively “beneficial” (+1 [slightly] to +3 [extremely]), “neutral” (0), or “detrimental” (-1 [slightly] to -3 [extremely]) to a sub-HVRA. Table E2 aided in interpreting expected fire behavior/effects on a sub-HVRA where low severity was defined as generally less than 25% mortality, moderate severity covered from 25-90% mortality, and high severity was greater than 90% mortality. Examples of fire behavior are given for forested vegetation, but the intensity gradient represented in Tables E3-E5 was applied to other vegetation types as well as buildings and infrastructure related sub-HVRAs.

Table E1. Response function scoring method used by WSP in determining relative beneficial or detrimental effects on each sub-HVRA.

Response Function Score	Response Function Description
-3	Highly detrimental to sub-HVRA
-2	Moderately detrimental to sub-HVRA
-1	Slightly detrimental to sub- HVRA
0	No beneficial or detrimental effect on sub-HVRA (neutral)
1	Slightly beneficial to sub-HVRA
2	Moderately beneficial to sub-HVRA
3	Highly beneficial to sub-HVRA

Table E2. Flame Length Categories Used in Defining Fire Intensity

Intensity	Flame Length (ft)	Description of General Fire Behavior and Effects
Low	0–2	Scorch height 5–20 ft; typically low severity; surface fire in low fuel load and/or mild conditions. Fire consumes or kills surface fuels, small shrubs, or seedlings.
	2–4	Scorch height 10–40 ft; typically low-to-moderate severity; surface fire in moderate fuel load and/or moderate weather conditions. Fire consumes or kills surface fuels, shrubs, and smaller trees.
Moderate/ Elevated	4–6	Scorch height 20–60 ft; typically moderate severity; surface fire in moderate fuel load and moderate-to-severe conditions. Fire consumes or kills surface fuels, shrubs, and smaller trees, as well as individual mature trees.
	6–8	Scorch height 30–80 ft; typically moderate-to-high severity; some surface fire transitioning to canopy fire in moderate-to-heavy fuel load and moderate-to-severe conditions. Fire consumes or kills surface fuels, shrubs, and smaller trees, and some smaller clumps of mature trees.
Extreme	8–12	Scorch height 50–100 ft; typically high severity; some surface fire transitioning to canopy fire in moderate-to-heavy fuel load and moderate-to-severe conditions. Fire burns hot, killing larger clumps of mature trees as well as consuming understory and surface fuels.
	>12	Scorch height exceeds tree height; high severity; crown fire in heavy fuel load in moderate-to-severe conditions. Fire burns hot, killing nearly all mature trees in a wider area, as well as consuming understory and surface fuels.

Table E3. HVRA weighting: Amador West

CWPP HVRA Priorities Risk Weighting - West										
HVRA	**Sub-HVRA**	**Weight**	**Sub-Category Weight**	**Combined Weight**	**Wildfire Threat Impact**					
Wildfire Threat Impact: Beneficial impact: (1 least beneficial to 100 most beneficial) No impact: 0 Negative impact: (-1 least negative impact to -100 most negative impact)					Extreme	Very High	High	Moderate	Low	Very Low
Assets										
	Structures	4.9	3	54.5	-90	-80	-60	-40	-20	-10
	Utilities	4.9	3.9	71.4	-82.9	-71.9	-52.9	-31.4	-18.1	-10.4
Biodiversity										
	Aquatic/Riparian Animal Species	4.9	5.5	100	24.1	26.5	23.9	24.4	24.1	21.8
	Woodland Plant Species	4.9	5.5	100	-90	-90	-40	20	60	40
Ecological Commodity										
	Agriculture	3.5	3.5	45.7	-30	-30	-10	-10	10	10
	Foresty	3.5	3.5	45.7	-100	-67.2	-26.6	-21.9	-8	-4.2
Recreation										
	Recreation Areas	1.9	4	62	-30	-20	-10	-5	0	0
	Recreation Infrastructure	1.9	1.5	10.5	-30	-20	-10	-5	0	0
Safety										
	Communications	4.8	3.5	62	-50	-40	-30	-10	0	0
	Protection	4.8	4	70.9	-100	-90	-80	-60	-30	-10
	Safety Zones	4.8	4.5	79.7	-30	-20	-15	-10	-5	0
	Services	4.8	4	70.9	-92.5	-80	-60	-40	-22.5	-12.5
Science & Culture										
	Cultural Resources	2.6	5.6	55.1	-95	-95	-70	-25	5	2.5

	Monitoring	2.6	6.3	6.2	-77.5	-65	-45	-30	-12.5	-7.5
Water										
	Hydro-geo morphology	3.6	5.5	74.4	-70	-70	-30	-10	-10	-10
	Surface Water	3.6	1.5	20.3	-88.8	-68	-41.3	-13.8	8	13
	Watershed	3.6	4.5	60.8	-60	-30	-10	5	10	10
Wildlands Health										
	Forest Vegetation	2.9	5	53.6	-90	-50	0	0	10	10
	Riparian Vegetation	2.9	3	32.2	-100	-89.5	-67.9	-64.4	-65.7	-65.7

Table E4. HVRA weighting: Amador Central

CWPP HVRA Priorities Risk Weighting - Central										
HVRA	**Sub-HVRA**	**Weight**	**Sub-Category Weight**	**Combined Weight**	**Wildfire Threat Impact**					
Wildfire Threat Impact: Beneficial impact: (-1 least beneficial to 100-5 most beneficial) No impact: 0 Negative impact: (-1 least negative impact to -1005 most negative impact)					Extreme	Very High	High	Moderate	Low	Very Low
Assets										
	Structures	4.3	3	47.6	-90	-80	-60	-40	-20	-10
	Utilities	4.3	3.9	62.3	-82.9	-71.9	-52.9	-31.4	-18.1	-10.4
Biodiversity										
	Aquatic/Riparian Animal Species	2.5	5.5	51.3	24.1	26.5	23.9	24.4	24.1	21.8
	Woodland Plant Species	2.5	5.5	51.3	-90	-90	-40	20	60	40
Ecological Commodity										
	Agriculture	3.3	3.5	42.4	-30	-30	-10	-10	10	10
	Foresty	3.3	3.5	42.4	-100	-67.2	-26.6	-21.9	-8	-4.2
Recreation										
	Recreation Areas	1.8	4	26.1	-30	-20	-10	-5	0	0

	Recreation Infrastructure	1.8	1.5		-30	-20	-10	-5	0	0
Safety										
	Communications	5	3.5	65.3	-50	-40	-30	-10	0	0
	Protection	5	4	74.6	-100	-90	-80	-60	-30	-10
	Safety Zones	5	4.5	83.9	-30	-20	-15	-10	-5	0
	Services	5	4	74.6	-92.5	-80	-60	-40	-22.5	-12.5
Science & Culture										
	Cultural Resources	2	5.6	42	-95	-95	-70	-25	5	2.5
	Monitoring	2	6.3	46.6	-77.5	-65	-45	-30	-12.5	-7.5
Water										
	Hydro-geomorphology	3.8	5.5	76.9	-70	-70	-30	-10	-10	-10
	Surface Water	3.8	1.5	21	-88.8	-68	-41.3	-13.8	8	13
	Watershed	3.8	4.5	62.9	-60	-30	-10	5	10	10
Wildlands Health										
	Forest Vegetation	3.8	5	69.9	-90	-50	0	0	10	10
	Riparian Vegetation	3.8	3	42	-100	-89.5	-67.9	-64.4	-65.7	-65.7

Table E5. HVRA weighting: Amador East

CWPP HVRA Priorities Risk Weighting - East										
HVRA	**Sub-HVRA**	**Weight**	**Sub-Category Weight**	**Combined Weight**	**Wildfire Threat Impact**					
Wildfire Threat Impact: Beneficial impact: (-1 least beneficial to 100-5 most beneficial) No impact: 0 Negative impact: (-1 least negative impact to -1005 most negative impact)					Extreme	Very High	High	Moderate	Low	Very Low
Assets										
	Structures	4.4	3	49.2	-90	-80	-60	-40	-20	-10

	Utilities	4.4	3.9	64.5	-82.9	-71.9	-52.9	-31.4	-18.1	-10.4
Biodiversity										
	Aquatic/Riparian Animal Species	2.6	5.5	53.3	24.1	26.5	23.9	24.4	24.1	21.8
	Woodland Plant Species	2.6	5.5	53.3	-90	-90	-40	20	60	40
Ecological Commodity										
	Agriculture	3.2	3.5	41.8	-30	-30	-10	-10	10	10
	Foresty	3.2	3.5	41.8	-100	-67.2	-26.6	-21.9	-8	-4.2
Recreation										
	Recreation Areas	3	4	44.8	-30	-20	-10	-5	0	0
	Recreation Infrastructure	3	1.5	16.8	-30	-20	-10	-5	0	0
Safety										
	Communications	4.4	3.5	57.4	-50	-40	-30	-10	0	0
	Protection	4.4	4	65.6	-100	-90	-80	-60	-30	-10
	Safety Zones	4.4	4.5	73.8	-30	-20	-15	-10	-5	0
	Services	4.4	4	65.6	-92.5	-80	-60	-40	-22.5	-12.5
Science & Culture										
	Cultural Resources	2.6	5.6	54.5	-95	-95	-70	-25	5	2.5
	Monitoring	2.6	6.3	60.6	-77.5	-65	-45	-30	-12.5	-7.5
Water										
	Hydro-geomorphology	3.6	5.5	73.8	-70	-70	-30	-10	-10	-10
	Surface Water	3.6	1.5	20.1	-88.8	-68	-41.3	-13.8	8	13
	Watershed	3.6	4.5	60.4	-60	-30	-10	5	10	10
Wildlands Health										
	Forest Vegetation	3.2	5	59.7	-90	-50	0	0	10	10
	Riparian Vegetation	3.2	3	35.8	-100	-89.5	-67.9	-64.4	-65.7	-65.7

E.3 Calculating Net Value Change

Conditional weighted net value change C(wNVC) assumes fire occurrence somewhere on the landscape and incorporates the previously discussed modeled flame lengths, response functions, and weighted relative importance values to produce mappable wildfire risk information for each sub-HVRA. In contrast, E(wNVC) is based on annual burn probability and therefore represents expected weighted NVC. C(wNVC) eliminates the additional challenge of needing to calibrate fire behavior models to produce annual burn probability by assuming that a wildfire occurs somewhere on the landscape during the period of interest (such as 1 year).

Appendix F: Vibrant Planet Scenario Development, Results, and Priority Project Areas

F.1 Overview

This analysis aligns wildfire mitigation planning in Amador County with community-identified values, with a focus on improving safety outcomes and protecting life, property, and critical community assets. The Vibrant Planet platform was used to integrate community priorities with quantitative wildfire hazard and risk information to support consistent, defensible planning.

The analysis begins at the countywide scale, providing a unified view of wildfire hazard, risk, and valued resources across Amador County. From this perspective, results are refined into Distinct Management Areas (DiMAs) that reflect differences in vegetation, fire behavior, development patterns, access, and community priorities. These DiMAs support prioritization and strategy development while maintaining alignment with CWPP recommendations.

An example project is included to demonstrate how DiMA-level priorities and CWPP guidance can be translated into project-scale planning using Vibrant Planet.

F.2 Subdivision of Amador County into DiMAs

Amador County was divided into three Distinct Management Areas (DiMAs)—West, Central, and East—based on differences in vegetation, fuels, population distribution, working lands, safety constraints, and water-resource patterns. Refinements of the DiMA boundaries were guided by input from the CWPP Steering Committee.

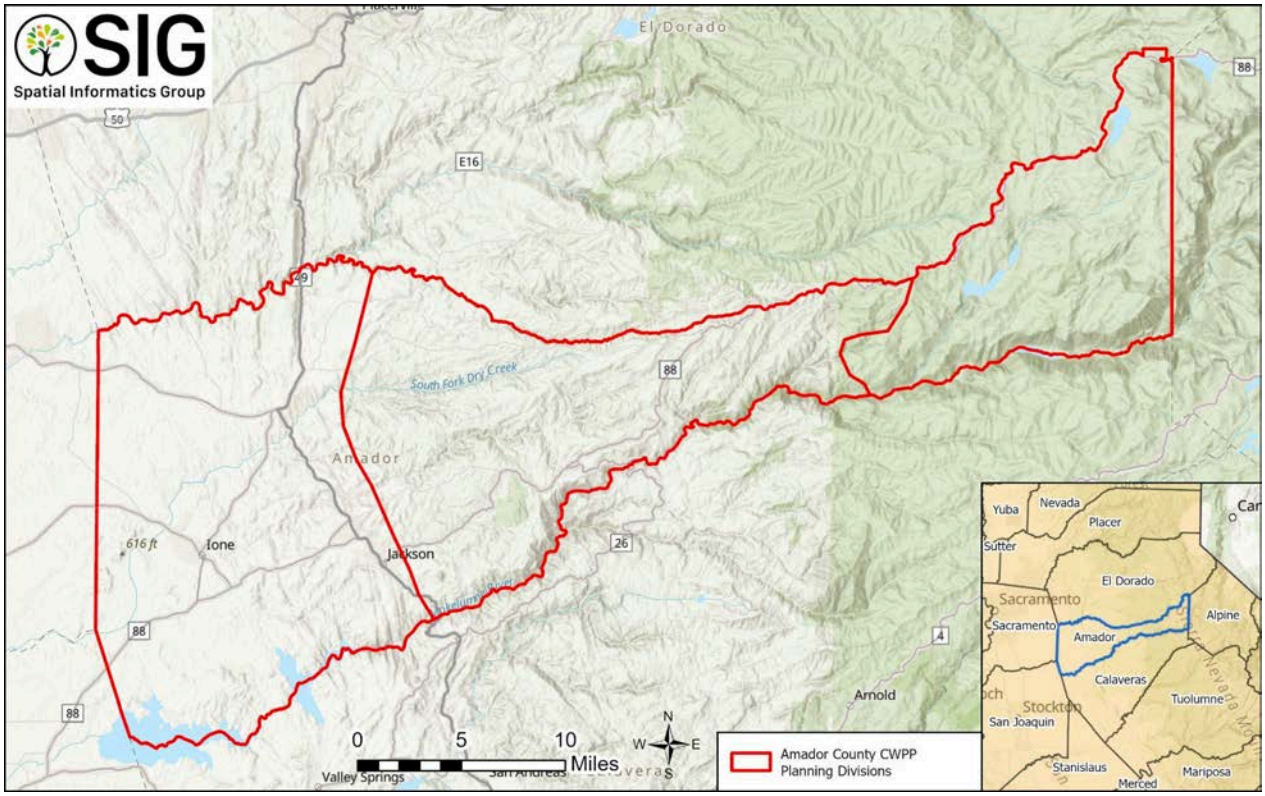


Figure F1: Amador County showing West, Central, and East DiMA CWPP Planning Divisions.

Key characteristics distinguishing the DiMAs include:

West DiMA

- Least forested DiMA in the county, dominated by herbaceous cover, hardwood woodlands, shrublands, and agricultural lands, with only small, isolated pockets of coniferous forest.
- Most populated portion of the county, containing all incorporated cities, including Jackson, Sutter Creek, Ione, Amador City, and Plymouth.
- DiMA boundary was drawn to keep incorporated city boundaries intact.
- Land ownership is almost entirely private, with the lowest proportion of government-owned land compared to the Central and East DiMAs.
- Contains two major reservoirs that supply water to the eastern Bay Area: Pardee Reservoir and Camanche Reservoir.
- Includes multiple fire stations and local fire departments supporting structural and wildland response.
- Evacuation routes are present but more dispersed than in the Central DiMA, reflecting lower fuel continuity and generally less hazardous vegetation conditions.

Central DiMA

- Transitional landscape moving upslope from west to east, shifting from hardwood woodland, shrub, and herbaceous vegetation into dense conifer forest.

- Elevated fire hazard and fire risk driven by continuous fuels, increasing forest density, and extensive wildland–urban interface conditions.
- Predominantly privately owned land, including significant private industrial timberlands, with smaller areas of BLM, Forest Service, Tribal lands, and State Parks.
- High concentration of structures, particularly west of the Highway 88 corridor, resulting in widespread WUI exposure across much of the DiMA.
- Numerous unincorporated communities, including Buckhorn, Volcano, Red Corral, Pine Grove, Clinton, Amador Pines, Lockwood, and Fiddletown.
- Complex evacuation route network in the western portion of the DiMA reflecting WUI complexity.
- Multiple fire stations and response facilities distributed throughout the area.
- Major infrastructure along the southern county boundary, including dam, hydroelectric facilities, and transmission lines associated with the Mokelumne River drainage, and canals.
- Recreation opportunities, including State Parks, trail networks, fishing, boating, and historic/educational points of interest.

East DiMA

- High-elevation, alpine landscape with extensive exposed granite, and areas classified as barren or other.
- Vegetation dominated by conifer forest, with limited hardwood and herbaceous vegetation confined to canyon bottoms.
- Almost entirely federally owned land, including a wilderness area; limited private ownership, mostly concentrated on the western end of the DiMA, and small pockets of State land.
- Headwaters of the Mokelumne River, containing major water supply and hydropower infrastructure, including Salt Springs Reservoir and associated transmission lines.
- Concentrated recreation, including skiing, hiking, mountain biking, fishing, boating, and camping; includes a portion of Kirkwood Ski Resort and community.
- Low population and structural density, with small clusters of development in Kirkwood Meadows, Silver Lake, and a few reservoir areas.
- One fire station serves the DiMA, resulting in limited emergency services, long response times, and seasonal access constraints due to snow.
- Contains a significant concentration of designated critical habitat for threatened and endangered species, a condition not present elsewhere in the county.

F.3 Scenario Development

Scenario development was conducted through multiple iterations using the Vibrant Planet platform. Final scenarios were structured to reflect different priorities across the West, Central, and East DiMAs, while maintaining a consistent analytical framework.
Across the three DiMA scenarios, core priorities and constraints were standardized. These included an emphasis on risk reduction, use of planning-area-scale normalization, inclusion of the full DiMA extent in each scenario, and a consistent project configuration of ten projects per

DiMA, each approximately 3,000 acres in size. This standardized structure ensures that differences among scenarios reflect value-based prioritization rather than changes in scale or methodology.
Within this framework, emphasized objectives were adjusted by DiMA based on direction from the CWPP Steering Committee. These adjustments reflect documented regional differences in values, hazards, and resources and are summarized in the emphasized objectives table below (Table F1).

Set Priorities:

- Opportunity Emphasis: Risk Reduction
- Normalization: Planning Area Scale Normalization
    - Planning-Area-Scale Normalization justification: this setting allows each DiMA's internal priorities (e.g., population density, water infrastructure, fuel conditions) to rise to the surface without being suppressed by conditions in the other regions)
- Include area in scenario: Yes

Emphasize Objectives:

- Each scenario (West, Central, East) received a distinct Emphasis Objective weighting based directly on Relative Importance Questionnaire results (see Table F1)

Table F1: Relative importance scores by DiMA.

	West Amador	Central Amador	East Amador	Grand Total	NOTES
Assets	5	4	4	5	AVERAGE of ASSETS (e.g. homes, businesses, energy and water infrastructure, other features of the built environment)
Safety	5	5	4	5	AVERAGE of SAFETY (e.g. ingress/ egress routes, cell towers, emergency service stations, other health and safety areas)
Recreation	2	2	3	2	AVERAGE of RECREATION (e.g. trails, recreation areas such as campgrounds and ski resorts)
Biodiversity	2	3	3	2	AVERAGE of BIODIVERSITY (e.g. important habitat, nesting and denning sites, rare plant areas)
Ecological Commodity	4	3	3	3	AVERAGE of ECOLOGICAL COMMODITY (e.g. managed timberlands, ranching and grazing areas)
Wildlands Health	3	4	3	3	AVERAGE of WILDLANDS HEALTH (e.g. forest vegetation, riparian vegetation, or other areas representing function and resilience)
Water	4	4	4	4	AVERAGE of WATER (e.g. lakes, rivers, streams)
Science & Culture	3	2	3	2	AVERAGE of SCIENCE & CULTURE (e.g. monitoring stations, historic structures, archaeological sites)

Relative importance scores were assigned by DiMA based on survey respondents' demonstrated area of knowledge, professional involvement, and geographic focus within Amador County. The survey included a question asking respondents to self-identify the area(s) of the county in which they have direct expertise or professional involvement. Responses were weighted accordingly (e.g., respondents whose work primarily focuses on the West DiMA informed that DiMA's scores, while respondents with direct responsibility or experience in the East DiMA, such as Kirkwood-area fire leadership, informed that DiMA's scores). This approach ensures that emphasized objectives reflect place-based knowledge of local values, landscape conditions, hazards, and community-defined priorities specific to each DiMA, consistent with CWPP requirements.

F.3.1 Recommended Management

Vibrant Planet provides eight distinct management recommendations:

Complex Mechanical Removal

Mechanical treatments that remove vegetation using multiple methods or equipment types, often combining thinning, biomass removal, mastication, or piling to address complex fuel conditions.

Herbicides

The application of chemical treatments to control or suppress targeted vegetation, typically used to manage invasive species or limit competing regrowth following disturbance or mechanical treatment.

Herbivory

The use of managed grazing (e.g., livestock) to reduce fine fuels and vegetation biomass. This treatment primarily affects surface and ladder fuels and is highly dependent on access, timing, and operational feasibility.

Manual

Vegetation treatment conducted using hand crews and hand tools, such as chainsaws or brush tools. Manual treatments are typically applied in areas with access constraints, sensitive resources, or where mechanized equipment is not feasible.

Mechanical Rearrangement

Mechanical treatment that alters the spatial arrangement of fuels without removing biomass from the site, such as mastication or chipping where material is redistributed on the ground surface.

Mechanical Removal

Mechanical treatment that removes vegetation from the site entirely, including thinning, biomass extraction, or hauling of treated material. This category reduces fuel loads by reducing total biomass.

Revegetation

Active establishment or reestablishment of vegetation following disturbance or treatment, including planting or seeding, intended to support desired ecological conditions or reduce future hazard.

Rx Fire (Prescribed Fire)

The intentional application of fire under controlled conditions to reduce fuel loads, modify fire behavior potential, and support ecological processes consistent with land management objectives.

Set Constraints

- Size per project - Acres: 3,000 acres
- Budget per project - $: 9,000,000
- Number of projects: 10

Rationalization: We selected a 3,000-acre project size as a practical intermediate scale to simplify subsequent planning beyond the scope of the CWPP, with the understanding that each area could be subdivided into smaller implementable projects as needed. The $9 million budget reflects an assumed $3,000 per acre cost, which is consistent with the higher end of treatment costs observed in comparable landscapes. Finally, we limited scenarios to 10 projects—rather than VP's default 25—to reduce fragmentation and create fewer, larger planning units that are more manageable for refined planning in later stages.

A note on iterative development

Initial scenario runs followed Vibrant Planet's recommended management options across all DiMAs. Upon review of treatment acreage by method, iterative runs were conducted in the West DiMA after approximately 70,202 acres were assigned to herbivory treatments. Current research and operational experience do not support the feasibility of implementing herbivory at this scale. Additional scenarios were therefore developed excluding herbivory to evaluate alternative, more realistic treatment options. Comparative analysis showed strong agreement (83%) in prioritized treatment locations between herbivory and non-herbivory scenarios, with limited spatial variation (Figure. F2). Based on these results, herbivory was retained as a viable treatment option but excluded from the final West DiMA scenario used for CWPP recommendations. The original herbivory-inclusive scenario remains available within the platform for reference.

Figure F2. Close-up of the southeastern portion of the West DiMA consensus area of treatments with and without herbivory. Consensus areas are dark green, Non-consensus areas are light green.

F.4 Scenario Outputs

This section summarizes the treatment scenarios developed for the West, Central, and East DiMAs using the emphasized objectives described in Table F1. For each scenario, the primary outputs reported here include Resilience Opportunity Efficiency, a Land Ownership Distribution table (Table F2, Table F5, Table F8), a Distribution of Management Methods table (Table F3, Table F6, Table F9), and Financial Estimates associated with the selected treatment portfolio (Table F4, Table F7, Table F10). These outputs are intended to show how proposed treatments align with locally prioritized values within each planning area. Additional scenario details and supporting breakdowns are available within the Vibrant Planet platform, but are not reproduced here because they are more useful for iterative planning and implementation than for summary reporting.

Note the report format used for West DiMA outputs will be used in the subsequent sections and should be referred to for explanations on output details.

West DiMA

The map below shows the West DiMA planning area and the 10 projects identified within it during scenario development. These projects represent the priority treatment areas selected based on the emphasized objectives used in Vibrant Planet.

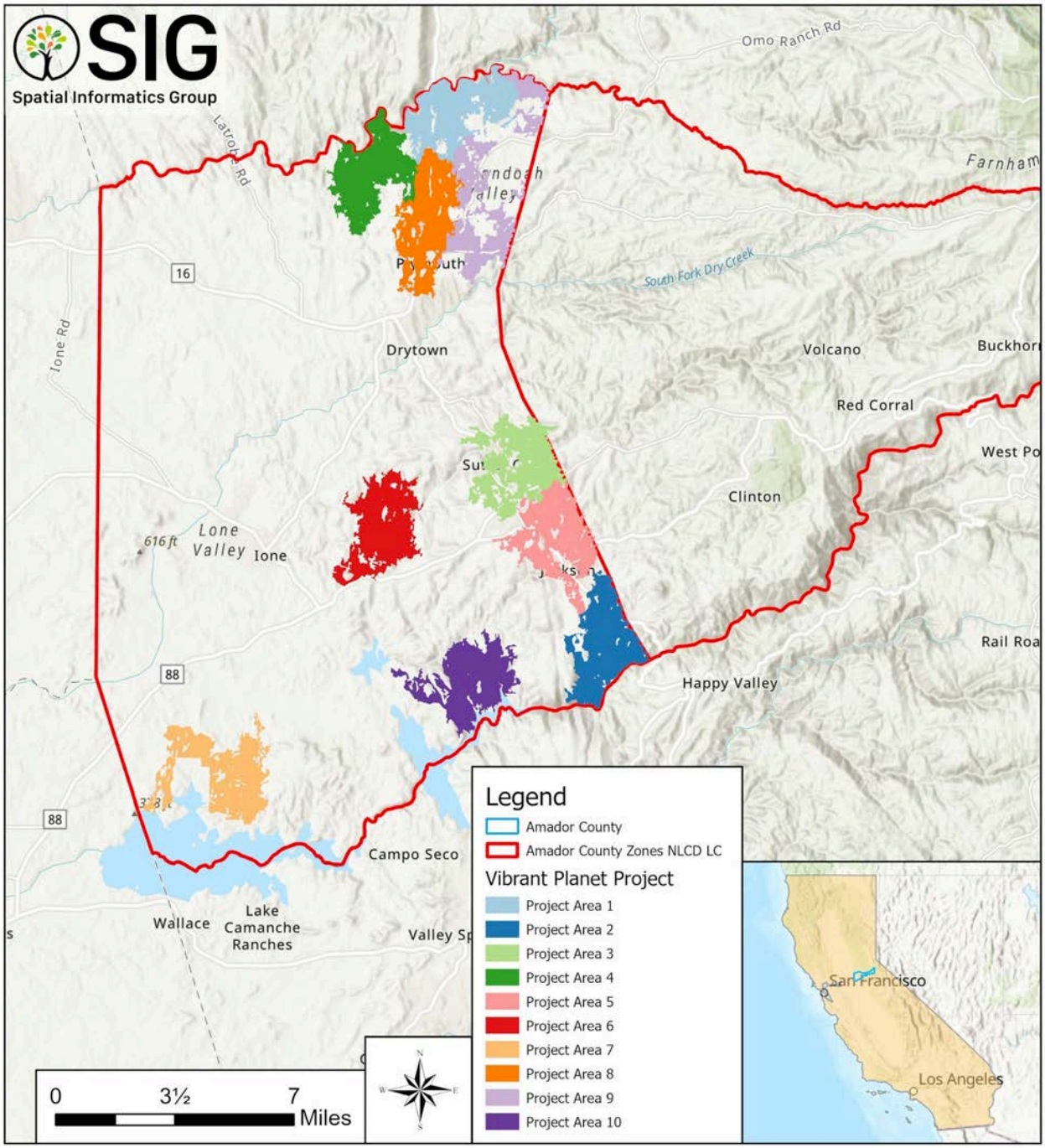


Figure F3. West DiMA project areas identified through the scenario planning process.

Resilience Opportunity Efficiency

The graph below illustrates how individual projects contribute to overall Emphasized Resilience Opportunity (RO) in the West DiMA scenario. It shows the share of total acres treated relative to the share of maximum RO achieved, along with the cumulative distribution of RO gains across

the treatment portfolio. These results help show how effectively the scenario concentrates treatment in areas most closely aligned with prioritized objectives.

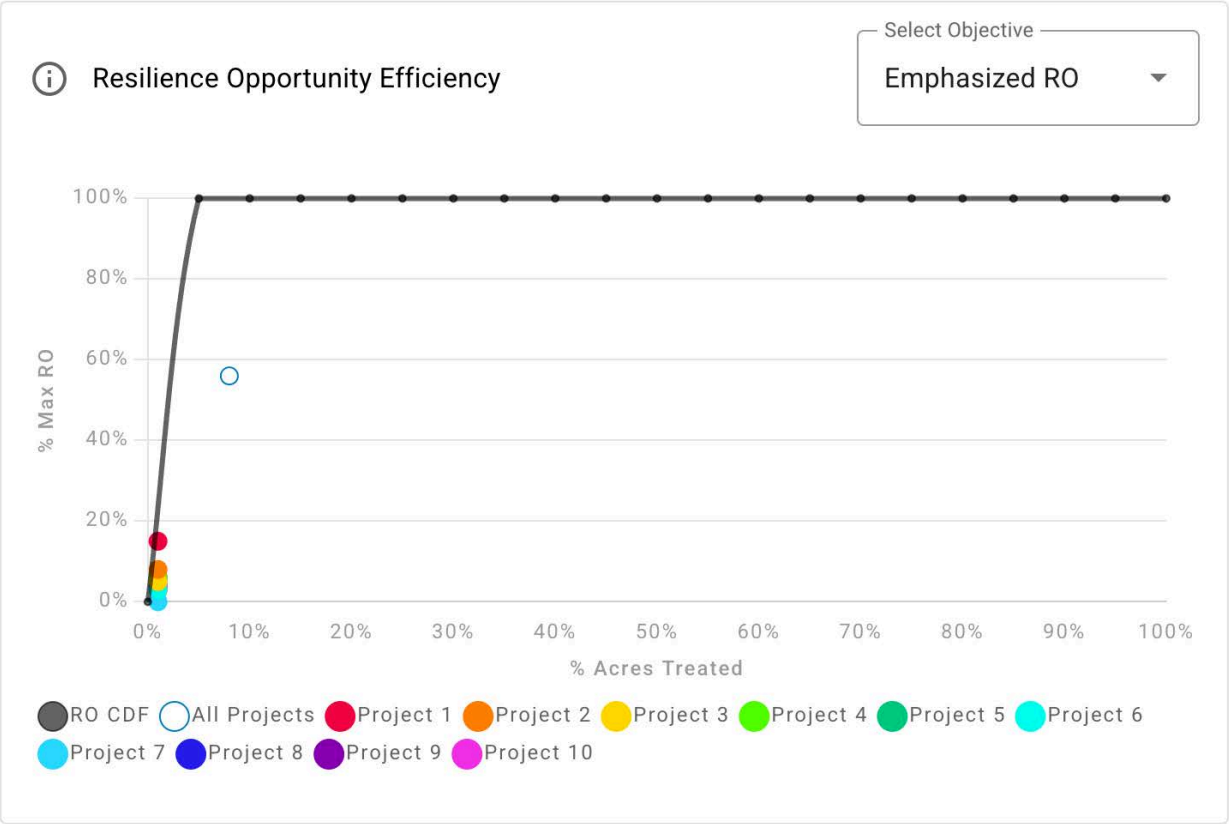


Figure F4. West DiMA project Resiliency Opportunity Efficiency

Land Ownership Distribution

Table F2. West DiMA ownership categories within the proposed treatment areas.

Bureau of Land Management	0%	100 Acres
Local Government	0%	136 Acres
Non-Governmental Organization	1%	179 Acres
Other Landowners	99%	29,720 Acres

Distribution of Management Methods

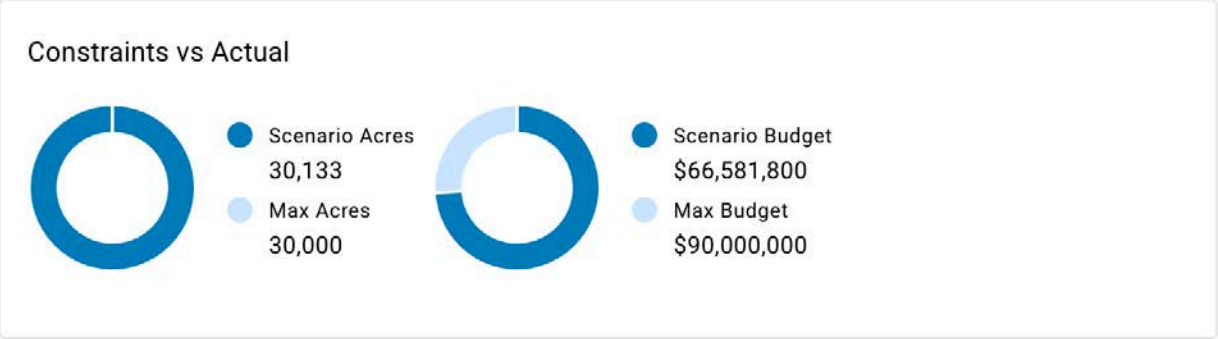
Table F3. West DiMA recommended treatment approaches, proportion of acreage and acreage assigned to each treatment approach.

Complex Mechanical Removal	4%	1,241 Acres
Manual	15%	4,516 Acres
Mechanical Rearrangement	46%	13,713 Acres
Mechanical Removal	29%	8,632 Acres
Rx Fire	7%	2,033 Acres

Financial Estimates

Table F4. West DiMA estimated treatment costs associated with the proposed project portfolio.

Total Acres	30,133
Estimated Gross Cost	$68,154,300
Estimated Product Benefit	$1,572,500
Estimated Net Cost	$66,581,800
Estimated Cost/Acre	$2,210



Central DiMA

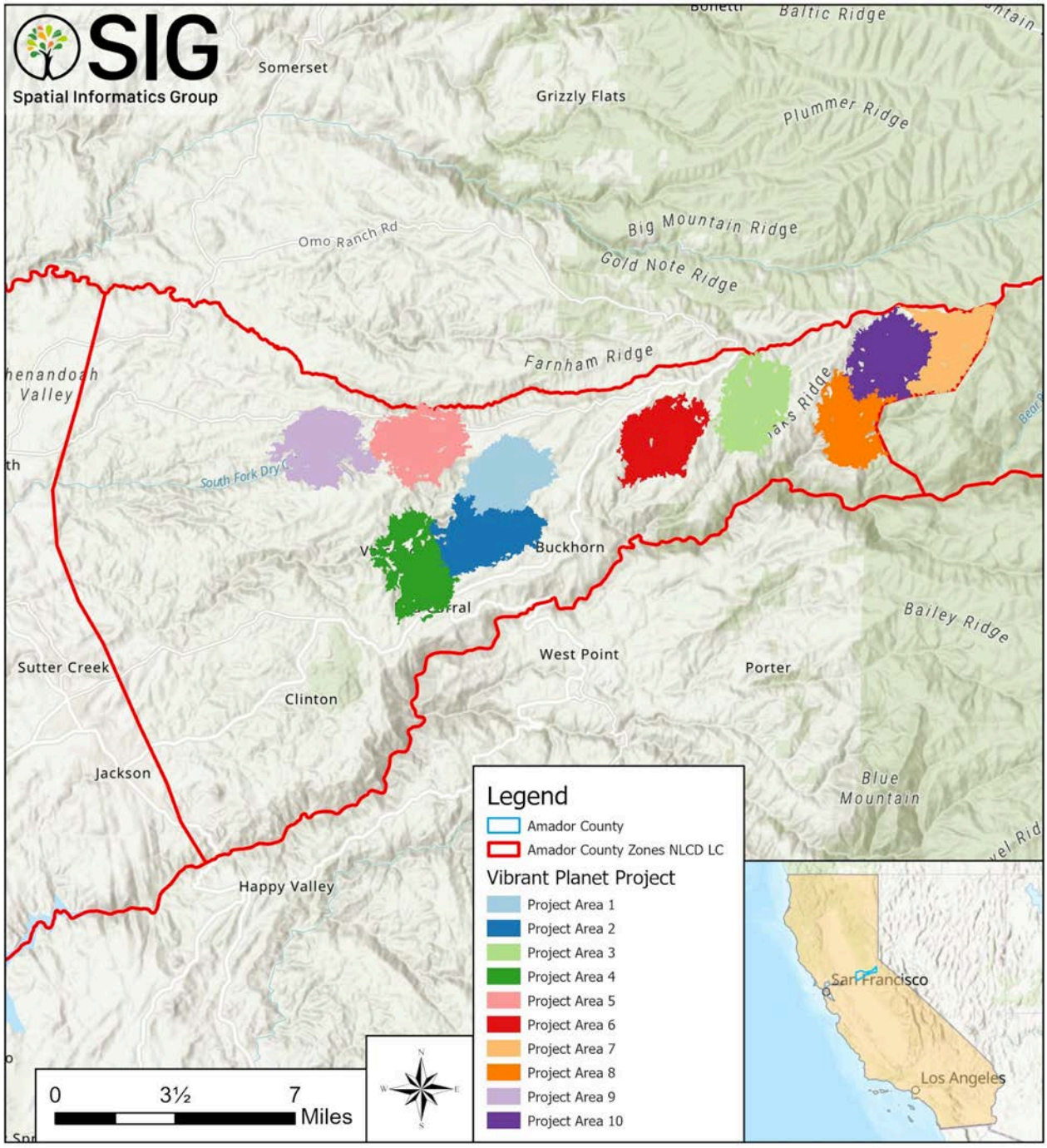


Figure F5. Central DiMA project areas identified through the scenario planning process.

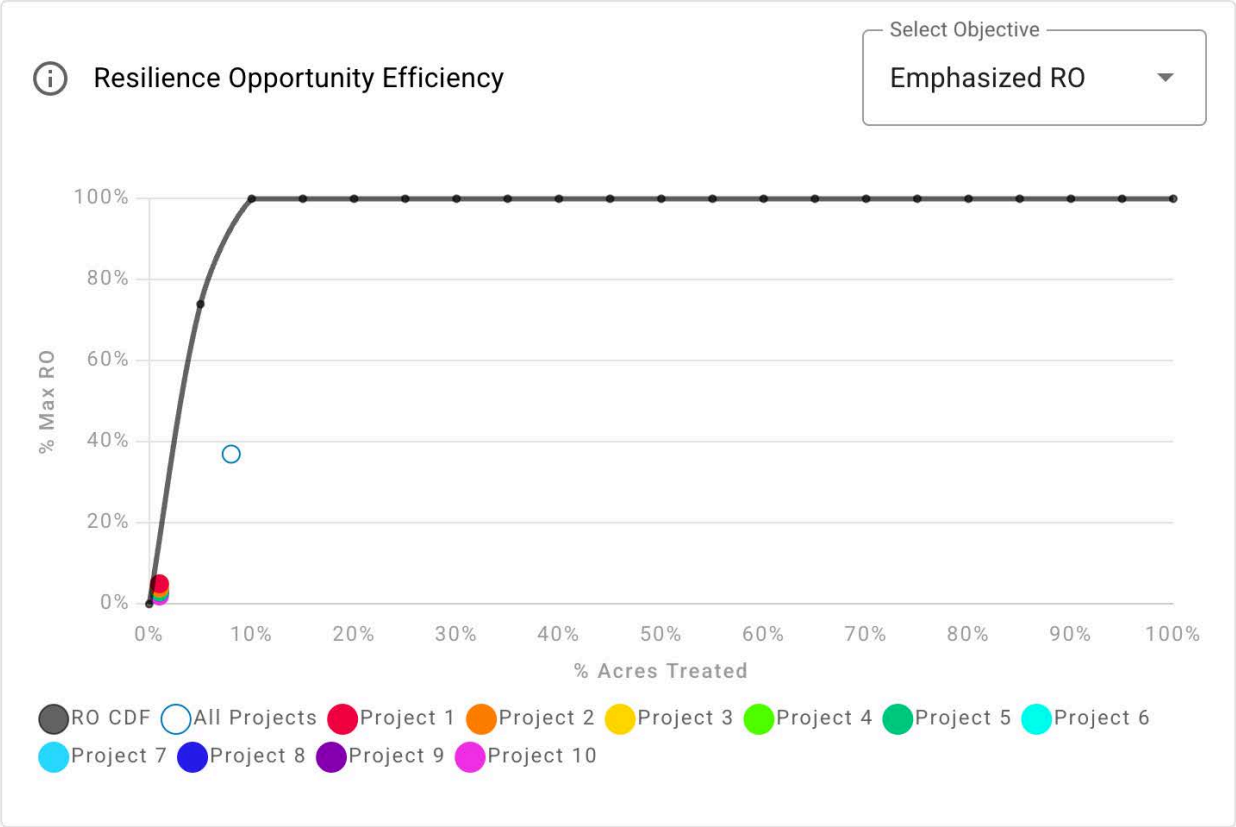


Figure F6. Central DiMA project Resiliency Opportunity Efficiency

Land Ownership Distribution

Table F5. Central DiMA ownership categories within the proposed treatment areas.

Bureau of Land Management	3%	751 Acres
Non-Governmental Organization	3%	782 Acres
Other Landowners	81%	23,114 Acres
US Forest Service	14%	4,009 Acres

Distribution of Management Methods

Table F6. Central DiMA recommended treatment approaches, proportion of acreage and acreage assigned to each treatment approach.

Complex Mechanical Removal	21%	5,961 Acres
Herbivory	0%	67 Acres
Manual	14%	3,978 Acres
Mechanical Rearrangement	36%	10,389 Acres
Mechanical Removal	22%	6,371 Acres
Rx Fire	7%	1,890 Acres

Financial Estimates

Table F7. Central DiMA estimated treatment costs associated with the proposed project portfolio.

Total Acres	28,656
Estimated Gross Cost	$95,819,800
Estimated Product Benefit	$8,450,000
Estimated Net Cost	$87,369,800
Estimated Cost/Acre	$3,050

East DiMA

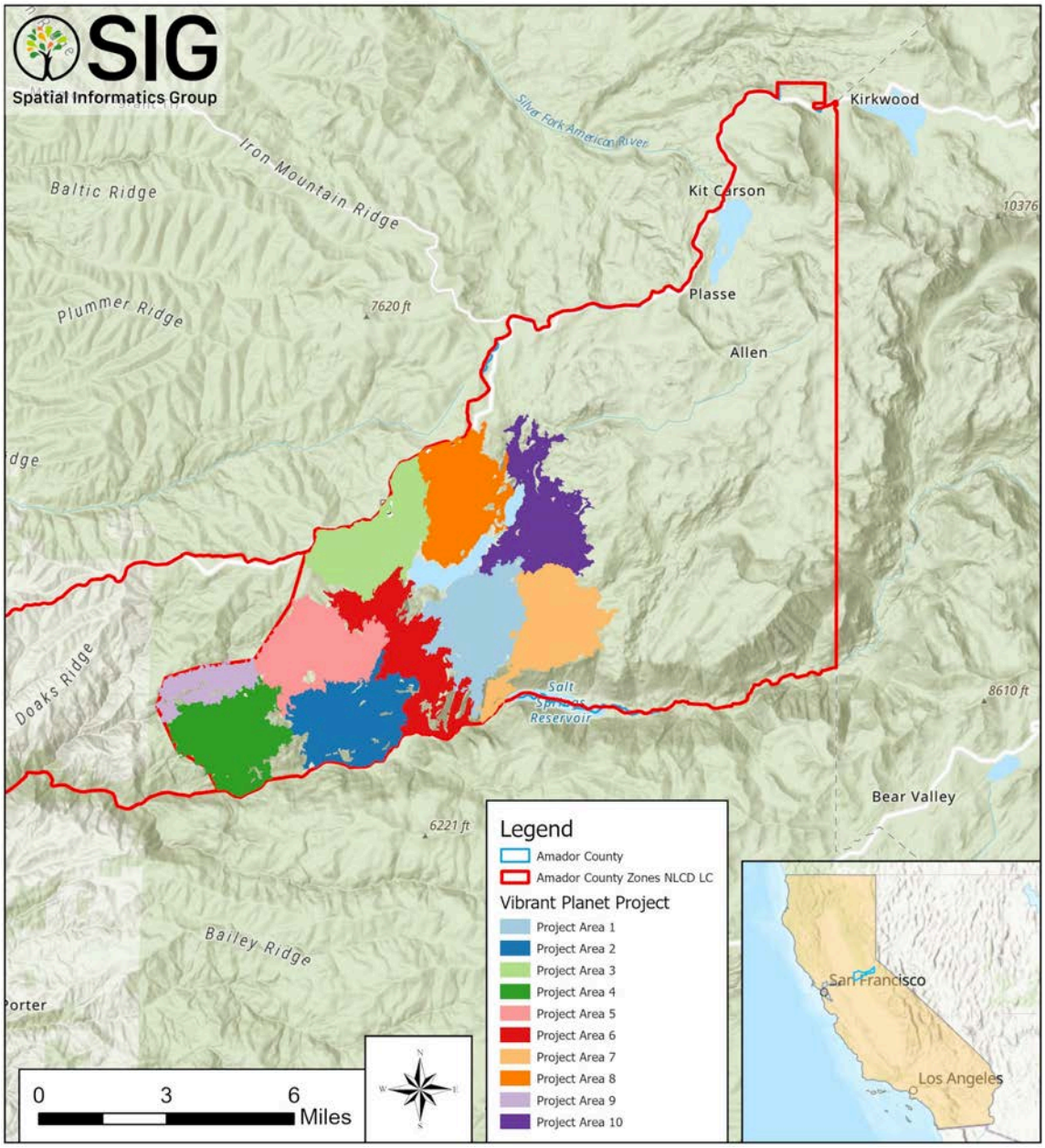


Figure F7. East DiMA project areas identified through the scenario planning process.

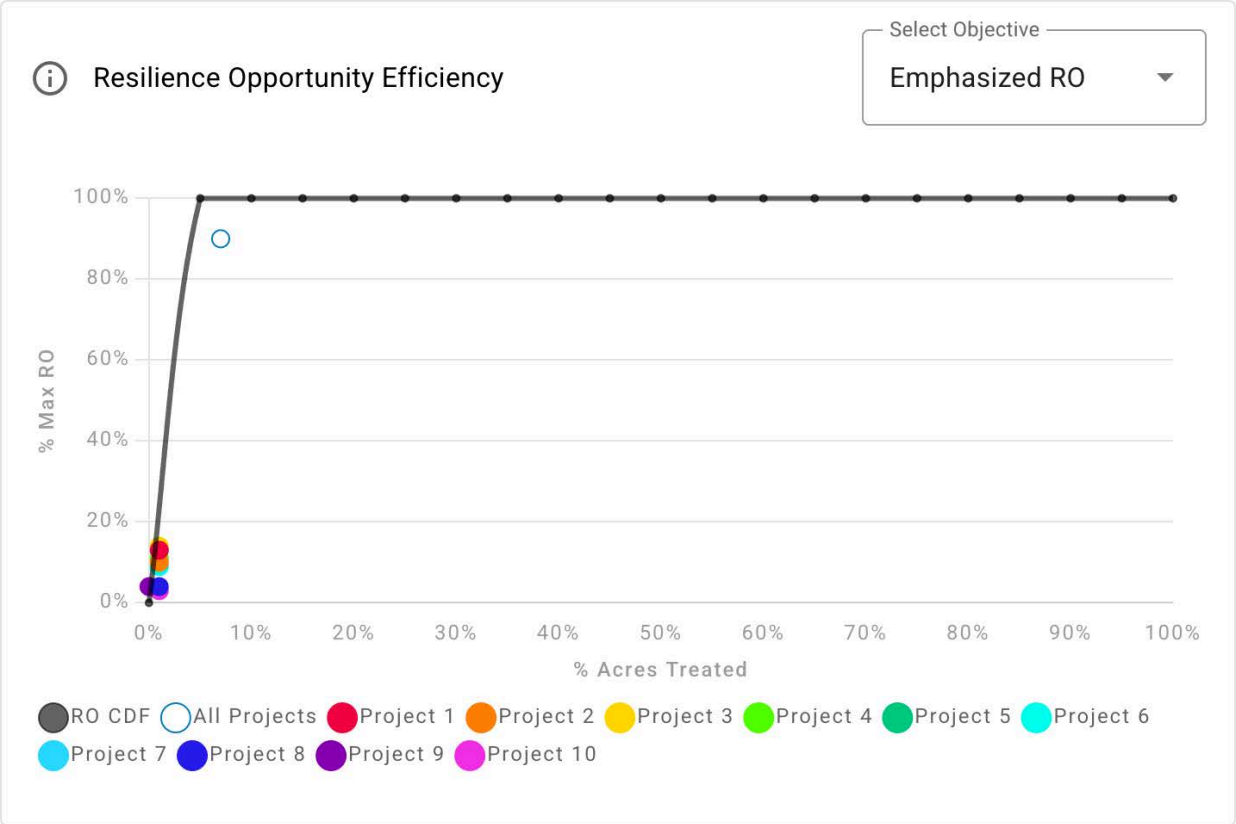


Figure F8. East DiMA project Resiliency Opportunity Efficiency

Land Ownership Distribution

Table F8. East DiMA ownership categories within the proposed treatment areas.

Other Landowners	17%	4,754 Acres
US Forest Service	83%	23,358 Acres

Distribution of Management Methods

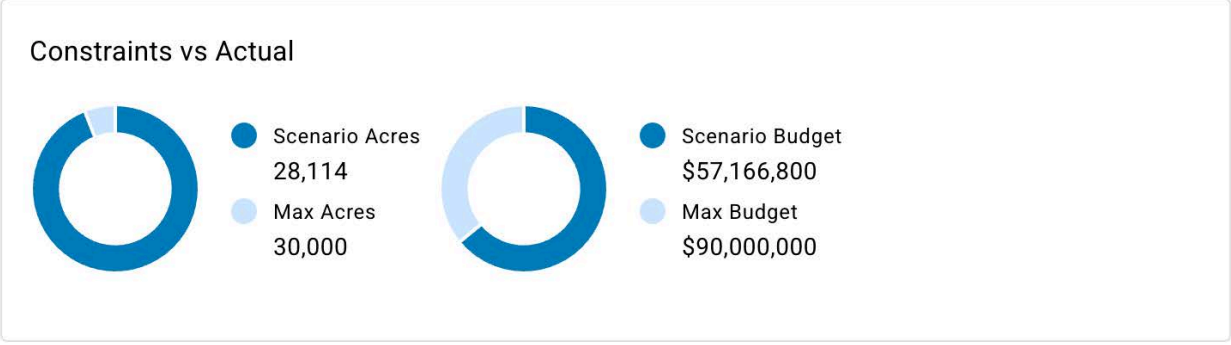
Table F9. East DiMA recommended treatment approaches, proportion of acreage and acreage assigned to each treatment approach.

Complex Mechanical Removal	5%	1,465 Acres
Herbivory	0%	34 Acres
Manual	22%	6,102 Acres
Mechanical Rearrangement	20%	5,595 Acres
Mechanical Removal	32%	9,108 Acres
Rx Fire	21%	5,808 Acres

Financial Estimates

Table F10. East DiMA estimated treatment costs associated with the proposed project portfolio.

Total Acres	28,114
Estimated Gross Cost	$64,448,800
Estimated Product Benefit	$7,282,000
Estimated Net Cost	$57,166,800
Estimated Cost/Acre	$2,030



F.5 Countywide Proposal Outcomes

In this section, all projects from the three DiMA scenarios are combined into a single proposal representing the full treatment portfolio across Amador County. This step allows the platform to evaluate landscape-scale outcomes of the proposed treatments, including wildfire hazard reduction, ecosystem service impacts, changes in acres by hazard class, and cumulative

Resilience Opportunity Efficiency. These metrics provide a countywide view of how the proposed treatments influence wildfire behavior and risk across the entire planning area.

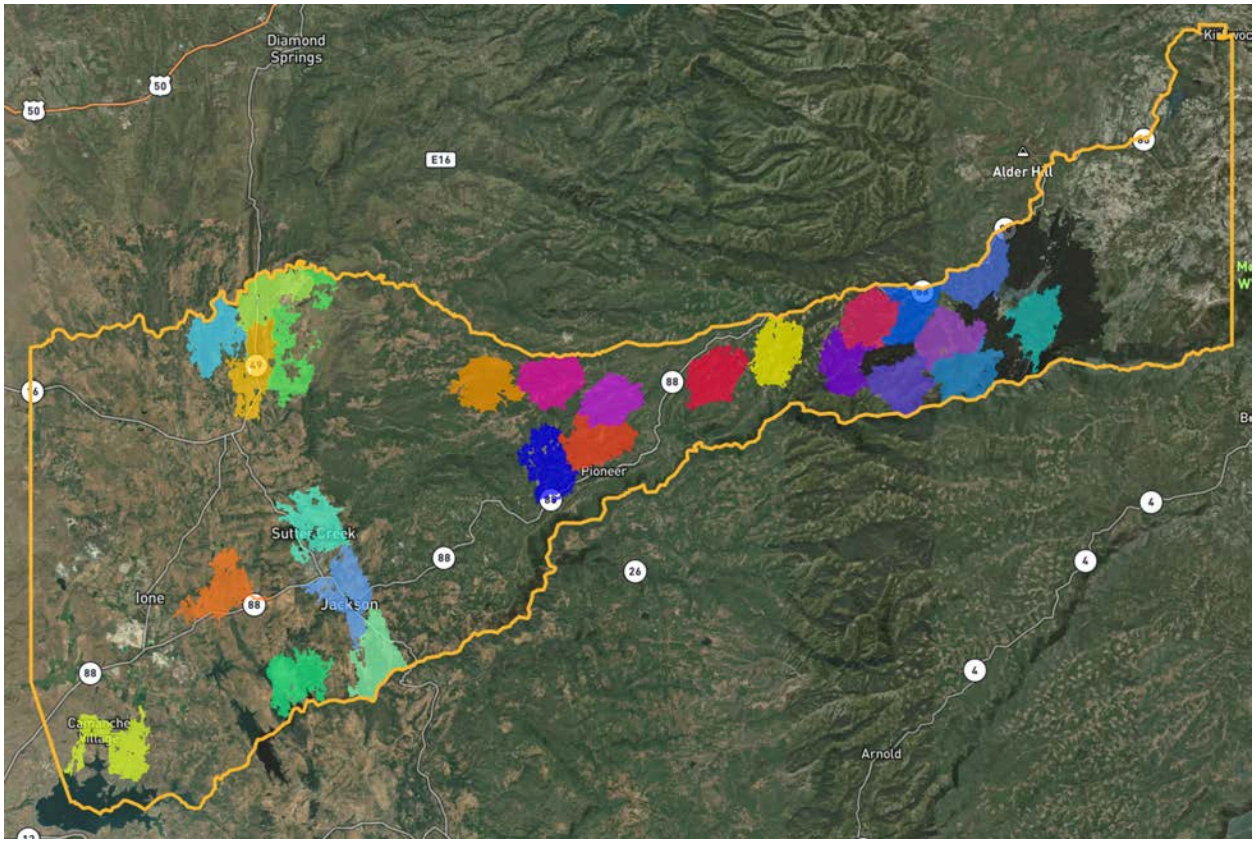


Figure F9. CAPTION HERE

Wildfire Hazard Metrics

The table below summarizes modeled wildfire behavior metrics before and after implementation of the combined treatment portfolio. These metrics describe how the proposed treatments influence wildfire intensity, spread potential, and expected area burned across the county (Table F11).

Table F11. Wildfire Hazard Metric by Action, No Action, and Change

Wildfire Hazard Metric	Description	No Action	Post Action	Change	Percent Change
Total Wildfire Hazard	Hazard is a combination of how likely an area is to burn and the intensity at which it burns. High hazard may reflect either frequent fire or high flame lengths. A reduction in hazard is beneficial for many SARAs, but not necessarily all SARAs.	0.885	0.511	-0.374	-42%

Characteristic Flame Length (Feet)	Flame lengths represent fire intensity. A reduction in flame length will also result in a reduction in wildfire hazard. Many resources, but not all, respond poorly to high-intensity fires.	7.4	5.7	-1.7	-23%
Estimated 10-year Burn Probability	Burn probability (BP) shows how likely an area is to burn sometime in the next 10 years. A higher BP means fire is more likely in an area.	9.36%	7.89%	-1.47%	-16%
Expected Annual Acres Burned	Using BP, this metric indicates how many acres are expected to burn in a single year. Note that this metric does not reflect intensity.	3,807	3,151	-656	-17%
Expected Acres Burned within 10 Years	Similar to the metric above, this indicates how many acres are expected to burn within 10 years.	35,495	29,925	-5,570	-16%
Rate of Spread (Chains per Hour)	Spread rate indicates how quickly a fire will grow. A reduction in spread rate often increases fire management opportunities and corresponds to lower intensities.	13.9	11.8	-2.1	-15%
Rate of Spread (MPH)	Similar to the metric above, but spread rate is expressed in miles per hour (MPH) rather than chains per hour.	0.174	0.148	-0.026	-15%

Wildfire Impact for Ecosystem Services

This table summarizes the modeled change in ecosystem service values associated with wildfire under existing and treated conditions. The metrics estimate how wildfire is expected to affect the combined value of resources represented in the emphasized objectives and how those outcomes change following treatment (Table F12).

Table F12. Ecosystem Service Metrics by Action, No Action, and Change

Ecosystem Services Value Change Metric	Description	No Action	Post Action	Change
Predicted Value Change if Wildfire Occurs	Every SARA in an Objective can respond differently to wildfire, but this metric shows how the combined value of all SARAs in an Objective (or combined Objectives if applicable) changes if a wildfire happens.	-17.40%	-2.00%	15.40%

Wildfire Impact (Expected Value Change)	Similar to the metric above, but burn probability is also incorporated to estimate how likely value change is across the management area, estimating the likely impact of wildfire on an Objective.	-3.00%	-0.30%	2.70%

Acres by Hazard Class

This table summarizes how treatment shifts the distribution of wildfire hazard across the landscape. Reductions in higher hazard classes correspond to increases in lower hazard classes, reflecting a modeled redistribution of wildfire hazard following treatment (Table F13).

Table F13. Hazard Class Acres by Action, No Action, and Change

Hazard Class	No Action	Post Action	Change	Percent Change
Highest	10	5	-5	-50%
High	103,717	50,246	-53,471	-52%
Moderate	242,462	268,633	26,171	11%
Low	26,134	53,175	27,041	103%
Very Low	4,118	4,296	178	4%
Little to None	2,920	3,006	86	3%

Cumulative Resilience Opportunity Efficiency

The graph below summarizes the cumulative Resilience Opportunity Efficiency for the combined countywide proposal (Figure F10). While the graphs presented earlier showed project performance within individual DiMA scenarios, this graph reflects the aggregated performance of all projects across the three DiMAs. By evaluating the full treatment portfolio together, this output illustrates how effectively the combined set of projects captures resilience and opportunity benefits across the broader landscape.

Figure F10. Cumulative Resilience Opportunity Efficiency

F.6 Conclusion

The scenario analysis presented in this report demonstrates how the Vibrant Planet platform can support CWPP-level planning by integrating community priorities with spatial wildfire hazard information. By subdividing Amador County into three Distinct Management Areas (DiMAs), the analysis allowed treatment priorities to reflect regional differences in vegetation, development patterns, wildfire risk, and community values.

Within each DiMA, scenario development identified priority treatment areas that align with emphasized objectives derived from stakeholder input. These scenarios produced a structured set of candidate projects that balance risk reduction with other community priorities such as water resources, biodiversity, recreation, and infrastructure protection.

When these projects are evaluated together as a single countywide proposal, the modeled results indicate meaningful reductions in wildfire hazard, flame length, burn probability, and expected acres burned. These outcomes illustrate how coordinated treatment implementation across multiple planning areas can influence wildfire behavior and risk at the landscape scale.

The scenarios presented here are not intended to represent final implementation plans. Rather, they provide a defensible, data-informed starting point for identifying priority treatment areas and organizing projects for future planning, funding, and implementation. These treatment areas can also be used as a basis for comparison with other planning efforts. For example, the CAL FIRE Amador–El Dorado Unit (AEU) consensus treatment polygon dataset was overlaid on the Vibrant Planet treatment areas (Fig. X) for comparison.

This comparison shows areas of agreement between the two datasets, particularly within portions of the Central DiMA and parts of the West DiMA. While the spatial overlap is not exact, this is expected because the emphasized objectives, planning assumptions, and spatial scope differ between the two planning efforts. Despite these differences, the observed overlap suggests meaningful opportunities for coordination and collaborative implementation.

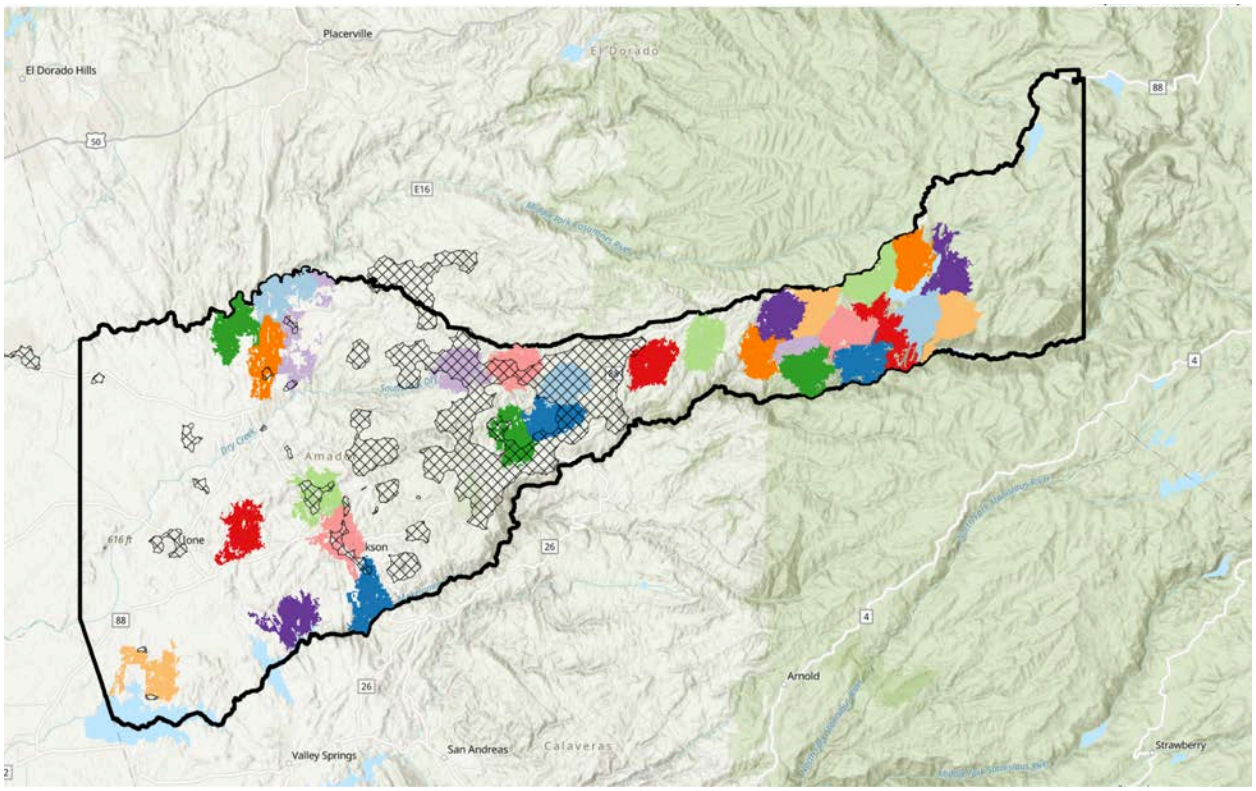


Figure F11. Comparison of CWPP proposed treatment areas (colored) with CAL FIRE AEU consensus treatment areas (cross-hatched) in Amador County.

F.7 Project-Scale Scenario Development Example

The DiMA scenarios presented above identify priority treatment areas at the landscape scale. These areas can also be used as starting points for more detailed project-level planning within the Vibrant Planet platform. To illustrate this process, Project 1 from the Central DiMA scenario—located near Amador Pines northwest of Highway 88—was extracted and defined as its own planning area. The boundary of this treatment area was used to create a new scenario, allowing the project to be analyzed independently from the broader countywide prioritization process.

Figure F12. Project 1 from the Central DiMA scenario, located near Amador Pines northwest of Highway 88.

Once defined as its own planning area, the project can be evaluated using the same scenario-development workflow applied at the county scale. Multiple scenarios can be tested by adjusting emphasized objectives, opportunity emphasis (e.g., risk reduction, resilience, or restoration), and treatment assumptions. This allows planners to explore how different priorities influence treatment placement and management recommendations within the project area.

When the same emphasized objectives and opportunity emphasis used in the original Central DiMA scenario are applied to this smaller planning area, the model tends to recommend treatment across most of the project footprint. This outcome is expected because the area was originally selected based on its strong alignment with those priorities. In other words, the prioritization step has already occurred, and the model confirms that treating much of the area would capture the targeted resilience and opportunity benefits.

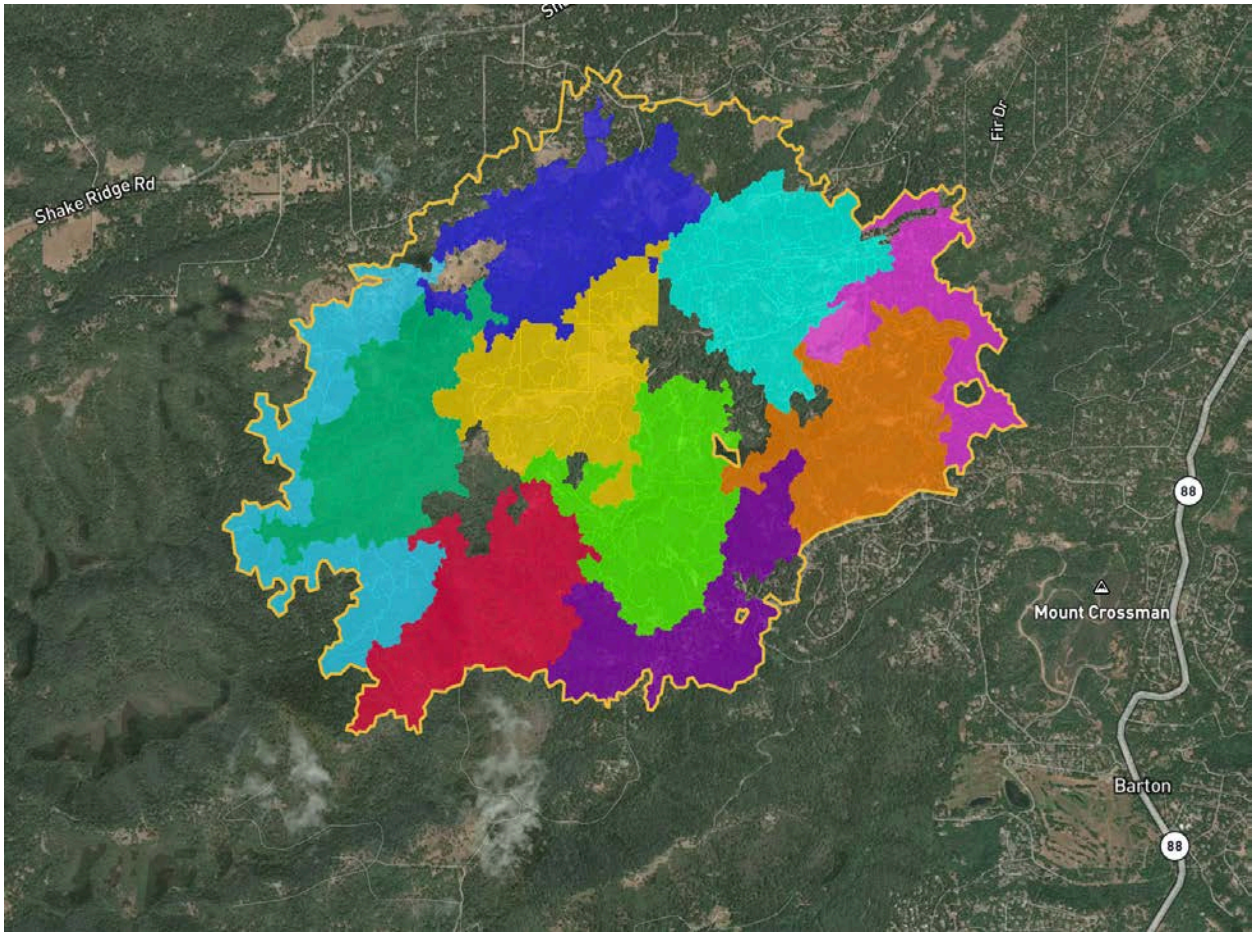


Figure F13: Project-scale scenario results for Project 1 in the Central DiMA.

At the project scale, planners can therefore use the platform to test alternative priorities or refine treatment strategies. For example, scenarios could emphasize protection of nearby residential areas, water resources, or specific ecological objectives. Iterating through these alternative scenarios allows project designers to evaluate tradeoffs among treatment approaches and better align project design with specific implementation goals. From there, the project can be advanced through the same proposal-level workflow described in the previous section to evaluate treatment outcomes, compare alternatives, and support more detailed implementation planning.

Appendix G. Planscape Scenario Development, Results, and Priority Project Areas

Overview

As a companion to the Vibrant Planet analysis, Planscape was used to generate simplified treatment-prioritization scenarios for the three Amador County DiMAs: West, Central, and East. Planscape was included because it is publicly available and can be used by partners after project completion without a software license. The intent was not to replicate the full multi-objective workflow used in Vibrant Planet, but to provide an accessible secondary tool for exploring treatment priorities under single-purpose scenario settings.

Scenario Setup and Shared Parameters

For each DiMAs, three Planscape scenarios were developed using the treatment goals that most closely aligned with the broader CWPP prioritization framework: high probability of high-intensity fire, wildlife species richness, and WUI / built environment fire risk. Planscape allows only one treatment goal per scenario, so each objective was run separately. This produced nine total scenario runs across the three demonstration areas.

To maintain consistency across runs, the same core settings were applied in each demonstration area. Final scenarios used the large stand size option, equivalent to 500-acre stands, excluded Protection Status 1 lands (i.e.: wilderness areas), applied a maximum slope of 45 percent, and used a maximum road distance of 440 yards. Each run targeted 10 project areas at 3,000 acres each using the default treatment cost setting. Planscape's guidance notes that project areas are generated from the selected treatment goal together with the scenario constraints and exclusions.

Interpreting Planscape Relative to Vibrant Planet

Planscape and Vibrant Planet serve different planning functions. Vibrant Planet is better suited to integrated prioritization in which multiple community values and resource concerns are considered at the same time. Planscape, by contrast, is useful for isolating a single planning objective and identifying where that objective is most strongly expressed under a fixed set of constraints. The Planscape guide notes that different treatment goals can produce very different project areas within the same planning area, which is why multiple scenario types are worth running side by side.

This distinction is useful in practice. Single-priority scenario planning can provide added clarity around one objective at a time, while multi-priority planning is better for balancing competing values across the landscape. In the Amador County runs, the Planscape scenarios were most useful as a screening tool to highlight places that become more apparent when one objective is isolated, particularly in the East demonstration area.

Scenario Maps and Priority Project Areas

The figures in this appendix show the treatment polygons and associated hex-grid outputs generated for each Planscape scenario. Because Planscape ranks project areas independently

for each treatment goal, the mapped outputs should be read as objective-specific priority areas within each demonstration area rather than as a single countywide treatment recommendation. Project Area 1 represents the highest-ranked area for the selected objective in that scenario, with lower-ranked project areas descending to Project Area 10.

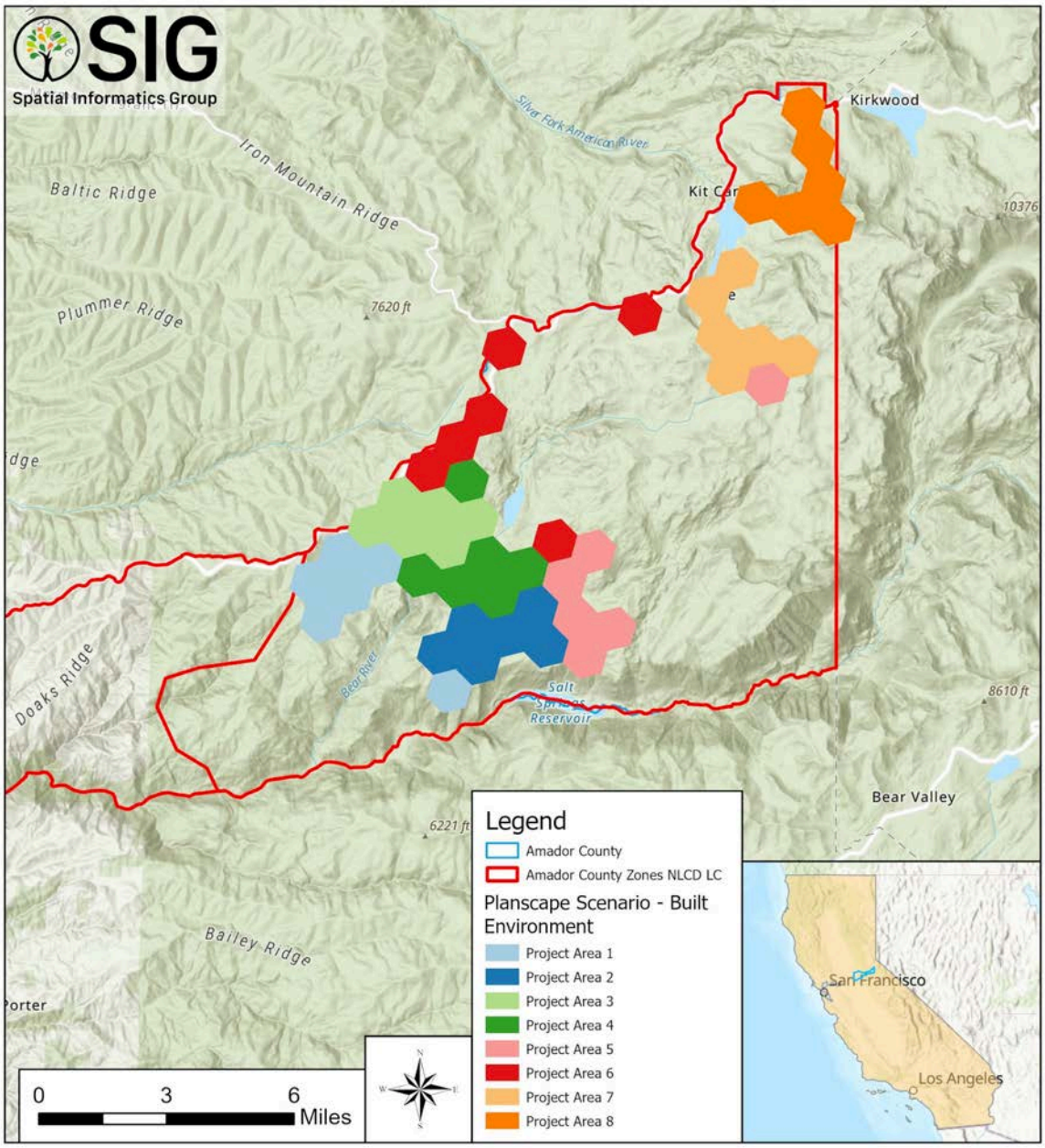


Figure G1: Planscape priority project areas for the built environment scenario in the East DiMA.

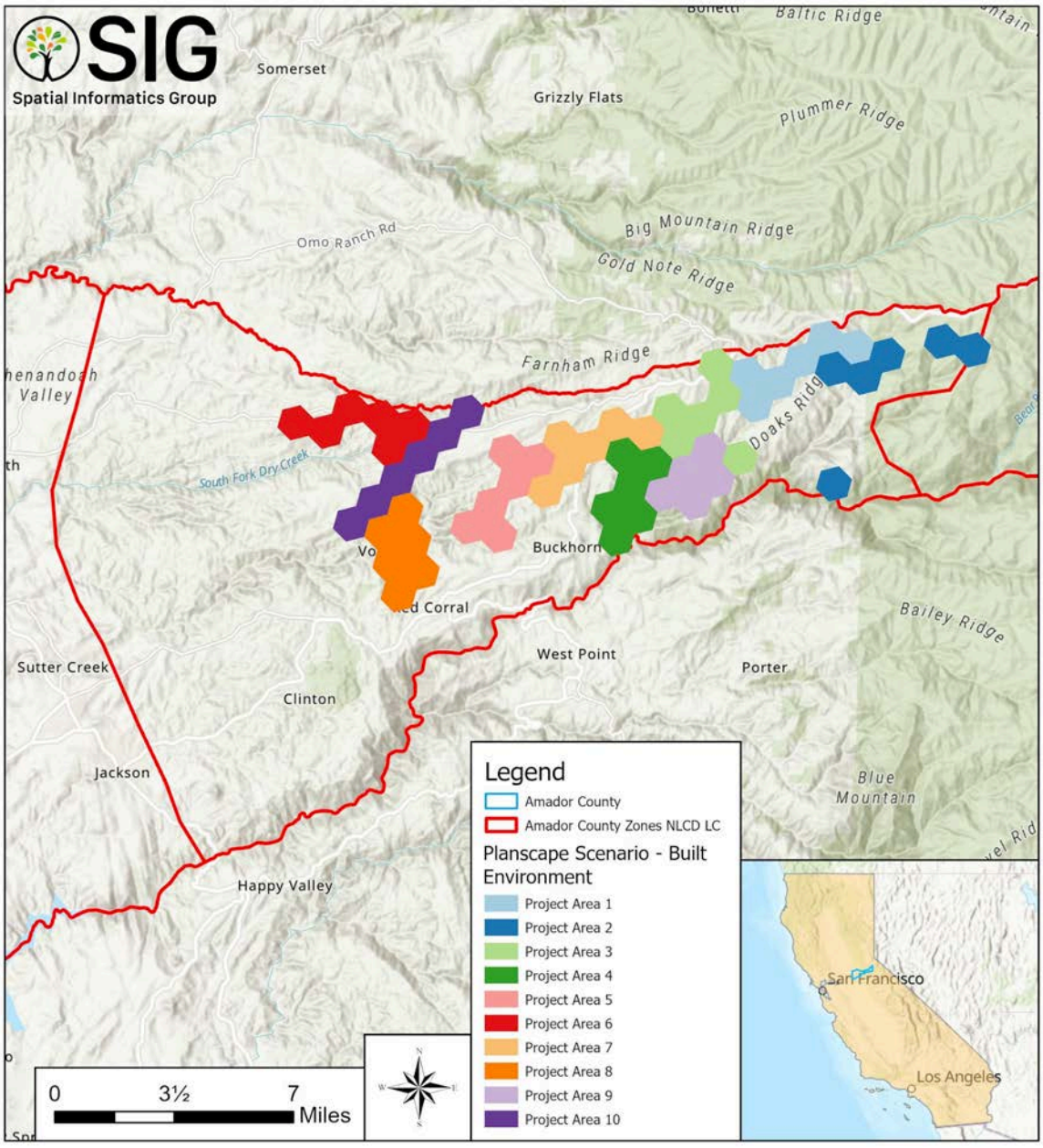


Figure G2: Planscape priority project areas for the built environment scenario in the Central DiMA.

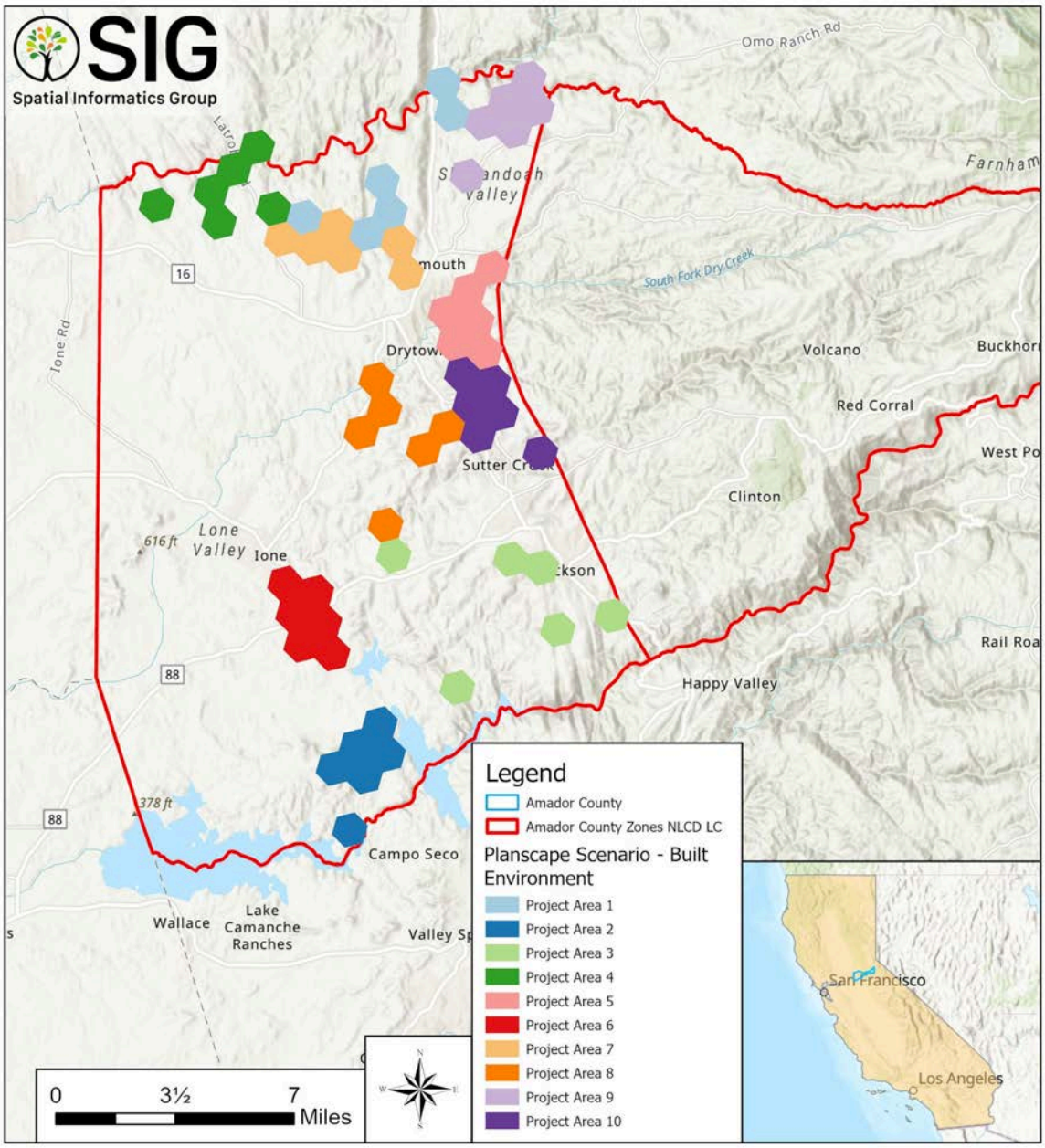


Figure G3: Planscape priority project areas for the built environment scenario in the West DiMA.

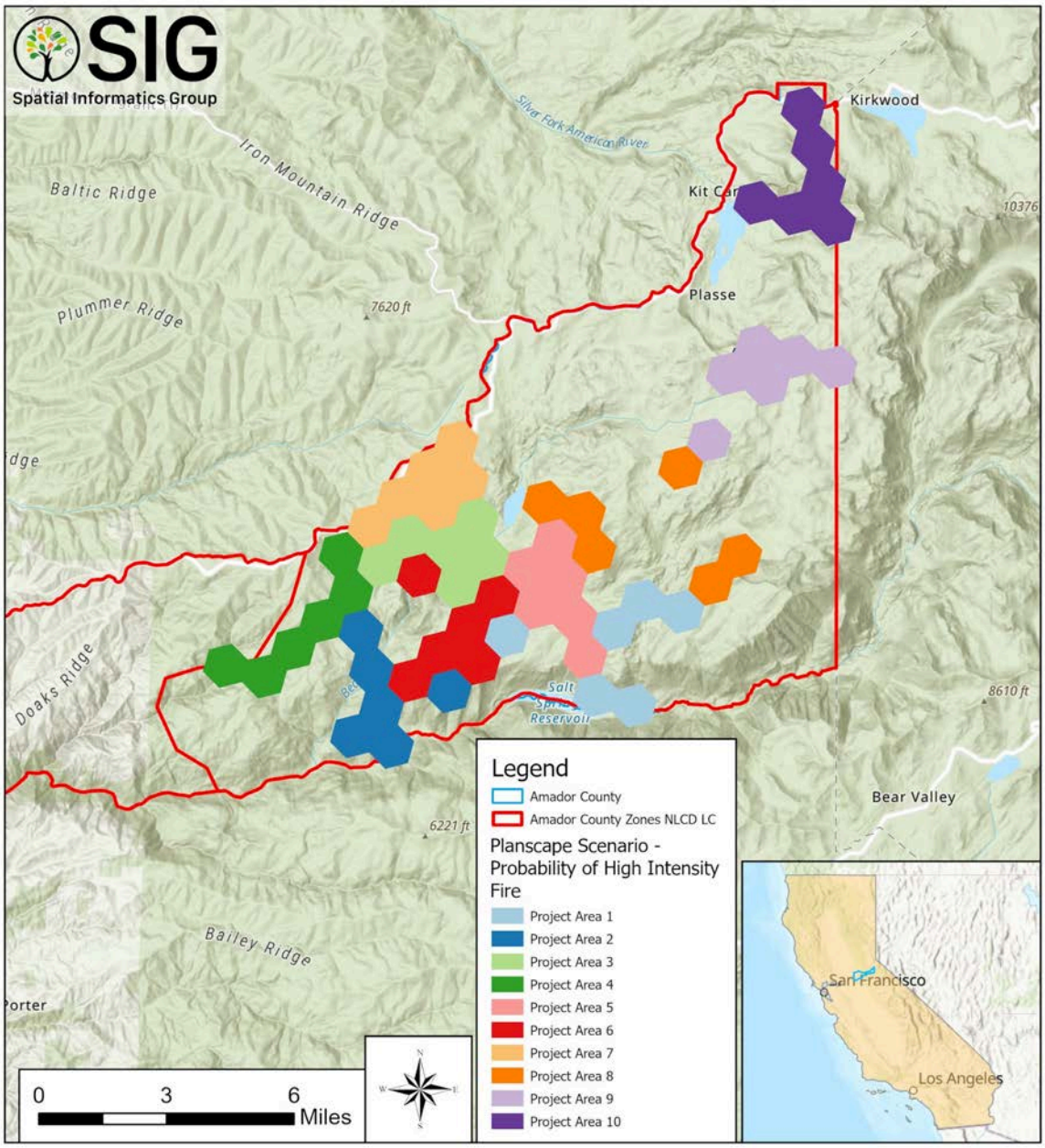


Figure G4: Planscape priority project areas for the probability of high intensity fire scenario in the East DiMA.

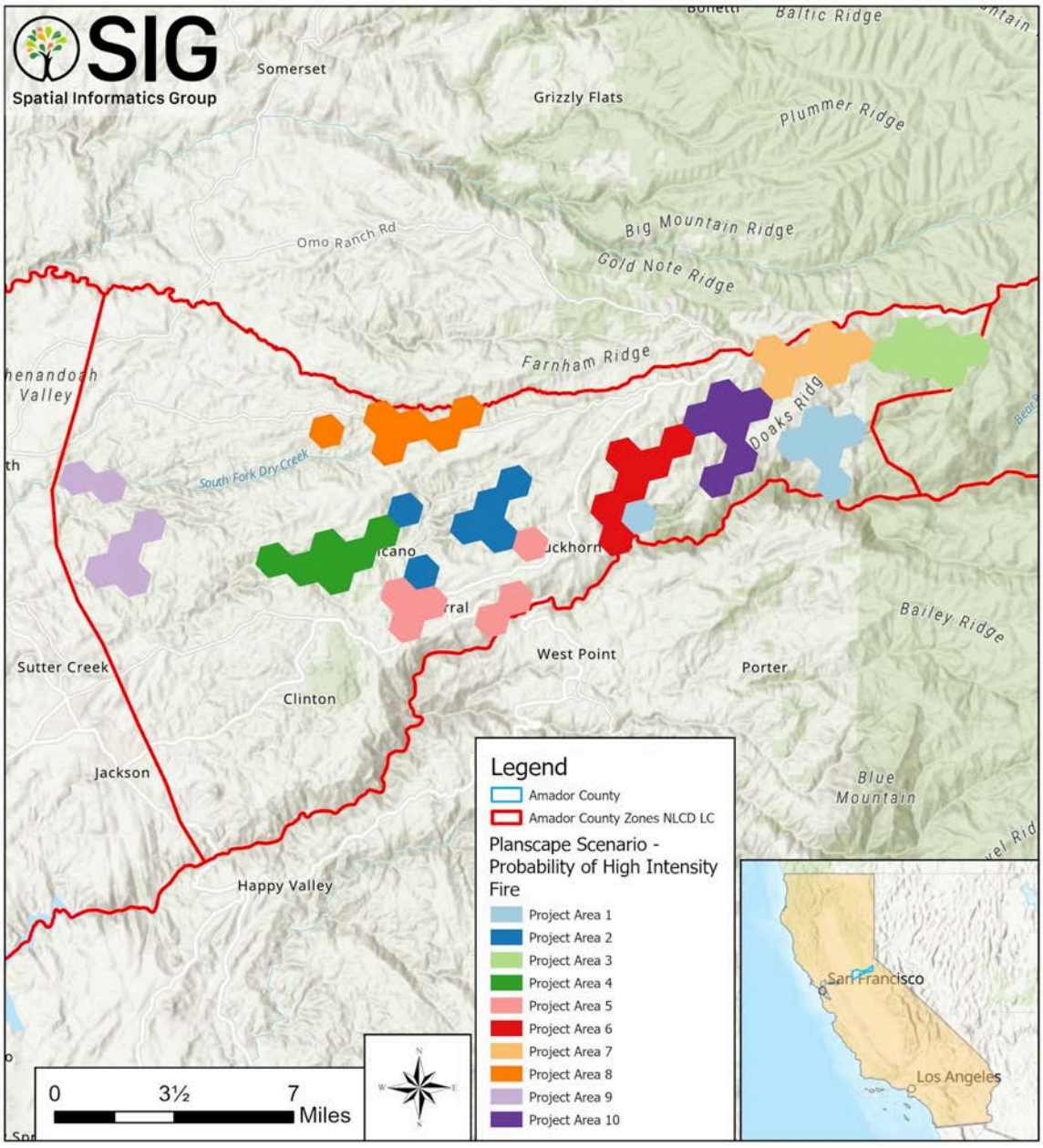


Figure G5: Planscape priority project areas for the probability of high intensity fire scenario in the Central DiMA.

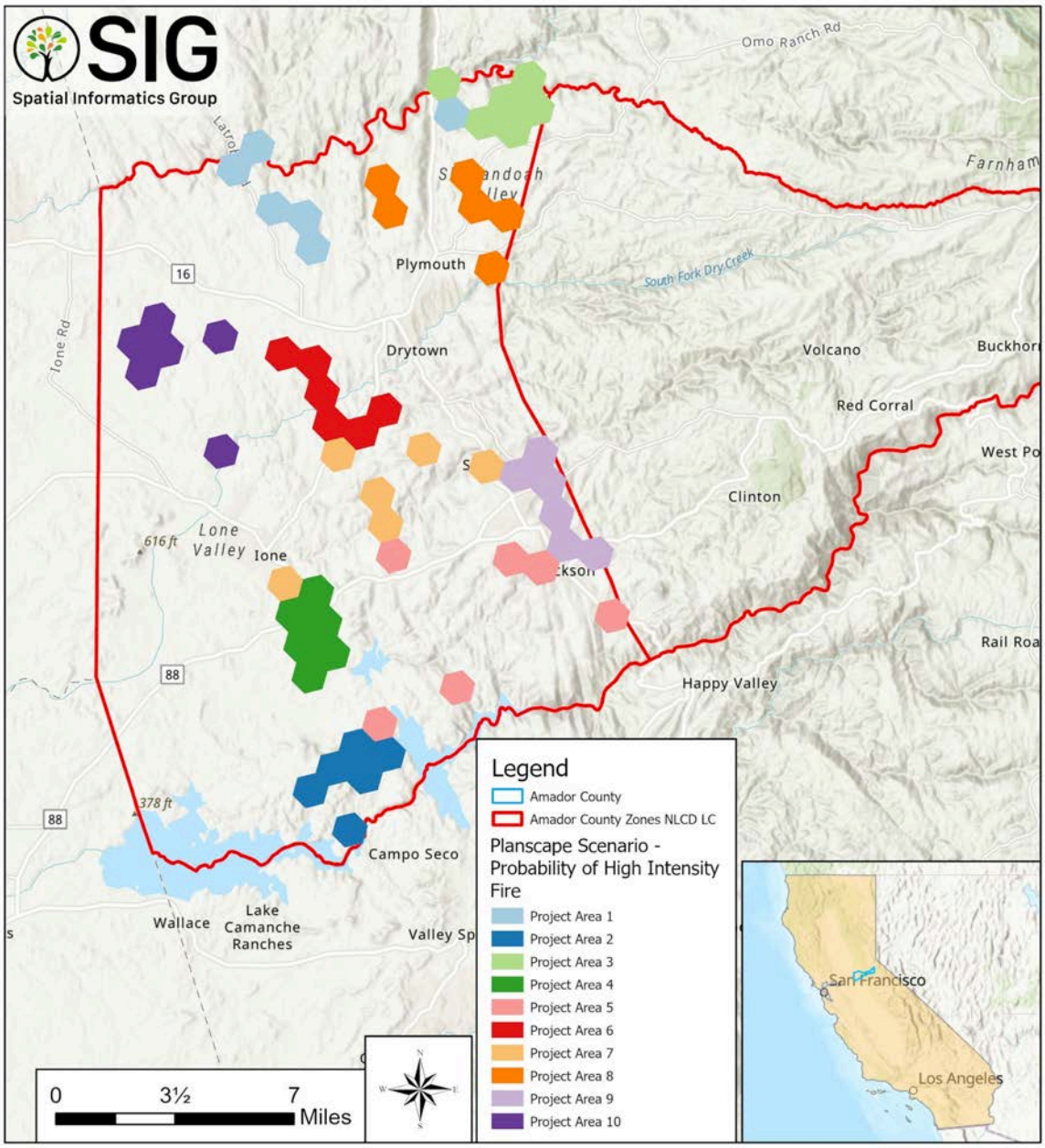


Figure G6: Planscape priority project areas for the probability of high intensity fire scenario in the West DiMA.

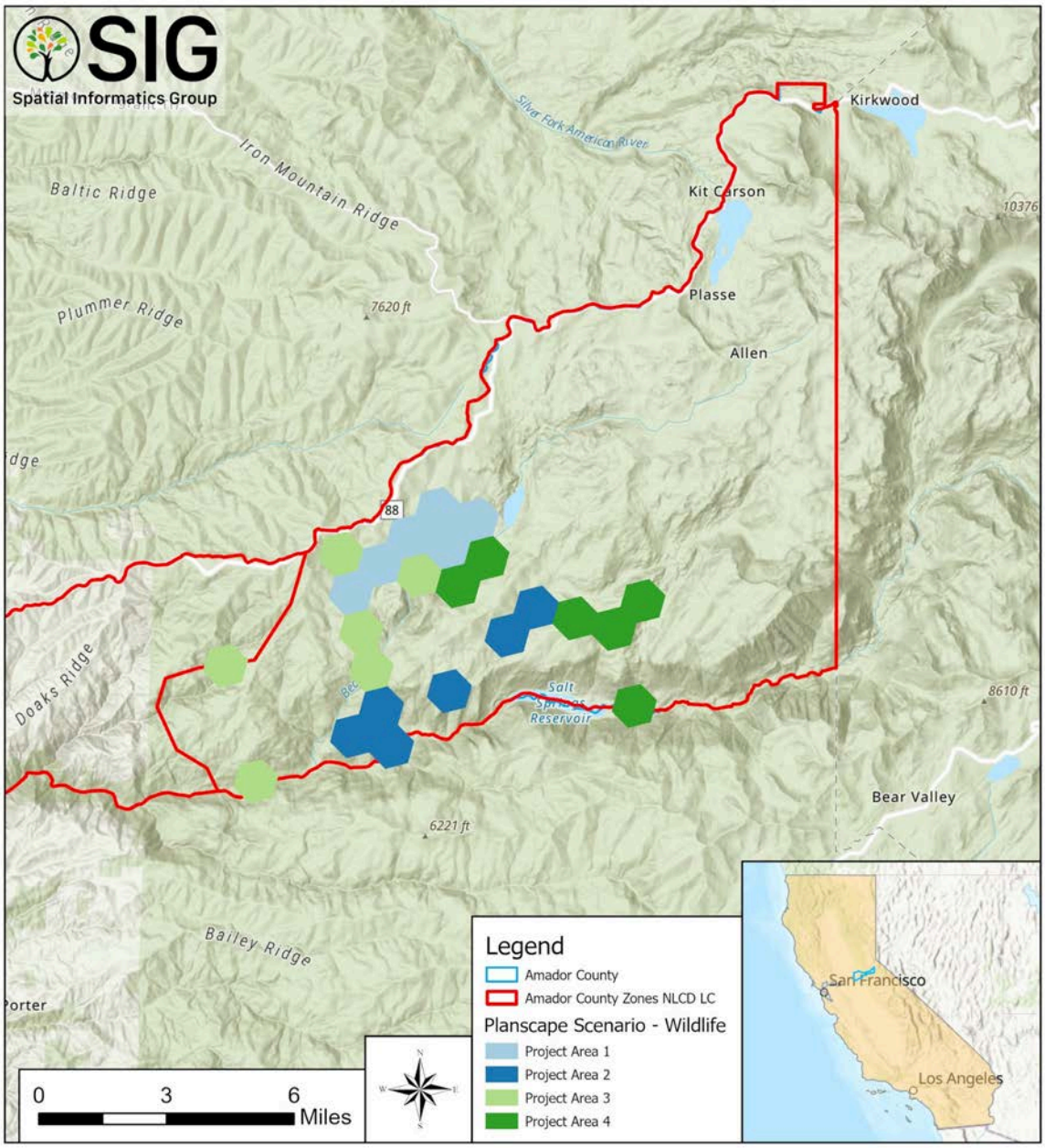


Figure G7: Planscape priority project areas for wildlife scenario in the east DiMA.

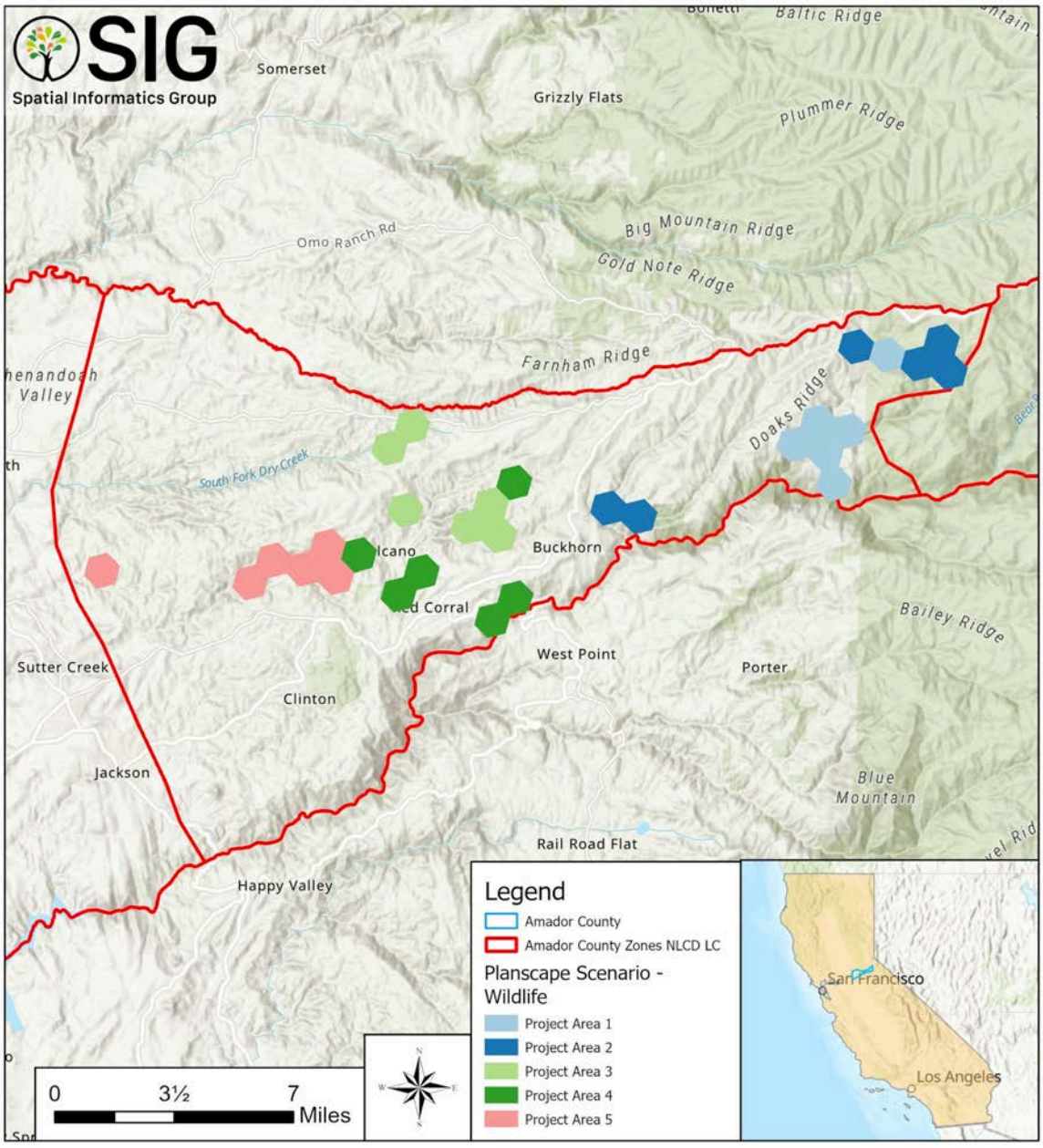


Figure G8: Planscape priority project areas for wildlife scenario in the Central DiMA.

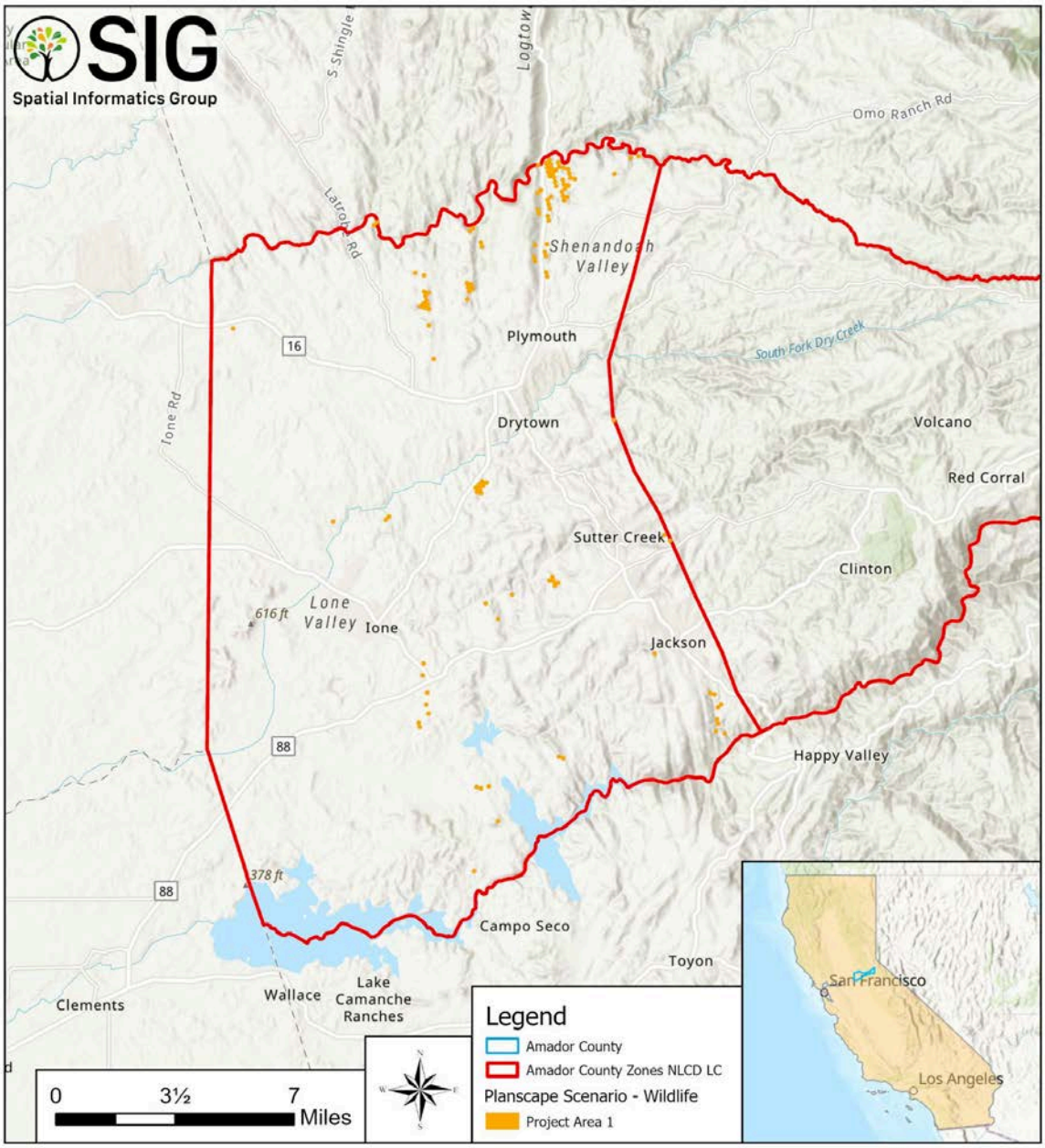


Figure G9: Planscape priority project areas for wildlife scenario in the West DiMA.

Additional Planscape Functionality

Planscape includes substantial additional functionality beyond the scenario-based priority area mapping presented in this appendix. In addition to identifying candidate treatment locations, the platform provides analytic outputs, supporting datasets, and treatment-planning tools that can help users further evaluate why particular areas are being surfaced and how those areas might be developed into future treatment concepts.

Those capabilities were not explored in detail here, as this appendix is limited to the identification and comparison of objective-specific priority project areas across the West, Central, and East DiMAs. However, this work provides a starting point. Amador County and partner organizations can return to the platform as needed to build from these initial scenarios and continue into more applied treatment planning.

Appendix H. Amador County CWPP Field Tour Summary

April 29 & 30, 2026

Contact for follow-up:
Todd Bertwell
Amador Fire Safe Council & Amador Resource Conservation District
todd@amadorrcd.org
209-217-1147

At the conclusion of the CWPP development process, a field tour was held with stakeholders to further inform the Amador County Wildfire Collaborators in working towards the goals identified in the CWPP. The tour was an educational experience for the 35 participants. Some key takeaways from each tour stop were as follows:

Defensible Space & Home Hardening @ Amador Pines

Hosts & Facilitators: Rebecca Pollon, Robin Bell, Jennifer Gobershock, Steve Ogburn, Robert Withrow, Kayla Dale, Jeff Hoag

Challenge: Ability to implement the best Defensible Space and Home Hardening practices remains a challenge even for informed residents. One common element of homes, wooden decks, are too expensive to replace with fire resistant material, and fire-resistant paint or other treatments to apply to existing wooden decks are lacking.

Solution: Beyond replacing the deck, consider more attainable ways to reduce risk, for example by installing fire-resistant composite siding, enclosing the bottom of the deck to prevent embers from lighting flammable material that accumulates underneath it, and pruning vegetation in proximity to the house.

Challenge: A homeowner may maintain their property well but has no control over their neighboring parcel which may remain unmaintained.

Solution: Amador County has approved the Good Neighbor policy within County codes addressing Defensible Space requirements which facilitates cooperation between neighbors to maintain vegetation. However, policy at the County level still has a ways to go to before being an effective enforcement tool. Questions remain to be answered about how much and what portion of a property beyond the currently regulated 100 feet around structures would be required to be maintained.

Solution: CAL FIRE performs Defensible Space inspections to enforce current state-wide requirements 100 feet around structures in the State Responsibility Area. By performing follow-up inspections on properties initially not in compliance, they achieve between 80 and 90 percent compliance by the third inspection. Citations are rarely necessary.

Solution: Amador Resource Conservation District is preparing to open a pilot Defensible Space Assistance Program for eligible residents in need. This would include optional treatment on a neighbor's property within 100 feet of the applicant's house, if the neighbor agrees.

Post-storm recovery @ Amador Pines

Hosts & Facilitators: Rebecca Pollon, Robin Bell, Steve Ogburn, Robert Withrow, Kayla Dale, Jeff Hoag, Todd Bertwell

Challenge: The February 2026 storm caused enormous damage through falling trees and broken tops in the upcountry neighborhoods of Amador County. This large fuel accumulation is compounded by downed wood remaining from the bark beetle infestations of the last decade. Property owners find it difficult if not impossible to remove the large logs, especially where a creek divides the property and cuts off access to the road.

Solution: Forest operations can be expensive. Cost-share programs such as the CAL FIRE CFIP program of the NRCS EQIP program can help reduce the financial burden, but the application and approval processes are lengthy.

Challenge: Forest Practice Rules present a barrier to small landowners to properly manage their property.

Solution: Small private forest landowners may file an exemption with CAL FIRE to reduce the regulatory burden of performing forestry activities on their land. The forms are only a few pages long and in most cases are approved within five working days. Certain types of exemptions require a Registered Professional Forester to oversee, while others don't.

Solution: Exemptions may not cover everything that a landowner wishes to accomplish on their land and a full Timber Harvest Plan may be prohibitively expensive. Advocacy at the State level may allow for reduced regulatory burden in the long term.

CAL FIRE Vegetation Management Program (VMP) @ Shake-Omo VMP

Hosts & Facilitators: Patrick McDaniel, Eric Bither, Jeff Hoag

Challenge: CAL FIRE maintains strategically located fuel breaks using prescribed fire to protect communities and natural resources. CAL FIRE has limited capacity to establish and manage these VMP's everywhere they would be beneficial. Information about specific VMP's and related projects in Amador County (South Division) are included in the CAL FIRE AEU Unit Fire Plan 2025, pages 89-92.

Solution: CAL FIRE, Amador Fire Safe Council and Amador Resource Conservation District are open to collaborating to expand the VMP program in closer proximity to neighborhoods in Amador County.

Challenge: What are the professional opportunities in fire and fuels reduction?

Solution: CAL FIRE actively recruits firefighters on an annual hiring cycle. There are certain basic qualifications. Local fire departments recruit volunteer firefighters who can access training and certifications to qualify for entry positions with CAL FIRE. After gaining experience as a firefighter or other positions with CAL FIRE such Defensible Space Inspector or Public Information Officer, individuals who are interested in other aspects of fire or pre-fire can advance to other opportunities within the agency.

Community Fuel Break planning & maintenance @ Upper Rancheria

Hosts & Facilitators: Ralph Meier, Melody Meier, Julie Harris

Challenge: Private non-industrial lands dominate the Wildland-Urban Interface/Intermix (WUI) where people's homes are most vulnerable to wildfire. Planning community fuel breaks to reduce that risk is extremely challenging since a strategic design crosses many private parcels. For example, the Upper Rancheria Community Fuel Break was planned and implemented with

over sixty landowners. Community leaders spent months following up with their neighbors to obtain Rights of Entry for the project.

Solution: Community organization and dedicated leaders are essential to achieving buy-in from landowners to agree to work being done on their property. Firewise Communities are effective organizations to bring neighbors together around the goal of wildfire mitigation through which landscape-scale fuel reduction can be achieved. Outreach and education by institutions such as CAL FIRE, local fire departments, UC Cooperative Extension, Amador Fire Safe Council, Amador Resource Conservation District and others aim to improve landowners' willingness and ability to manage vegetation and fuels.

Challenge: Maintenance of reduced fuel conditions is essential to extend the longevity of Community Fuel Breaks. The right tools should be used according to site conditions and landowner capacity and budget among mechanical treatment, herbicide, grazing and prescribed fire. In practice, maintenance treatments are inconsistent across landowners; some community leaders involved in such projects estimate that about one in five landowners implement maintenance treatments following grant-funded initial treatments.

Solution: Maintenance of fuel breaks within fragmented ownerships will continue to be a challenge. First, outreach and education as mentioned above should be prioritized to reduce the knowledge barriers that landowners face to manage their properties. Second, future grant funded projects can assist with maintenance as has occurred on the earliest treated fuel breaks: Mitchell Mine and Pine Acres. Third, Amador Fire Safe Council and Amador Resource Conservation District are working to develop a project monitoring protocol to inform future maintenance interventions; this capacity-building effort is funded through Sierra Nevada Conservancy. Finally, future CAL FIRE VMP's may develop to allow for CAL FIRE crews to maintain Community Fuel Breaks where feasible.

Forest Stand Improvement and Prescribed Fire @ Volcano

Hosts & Facilitators: Laura Moser, Mike Hampshire, Susie Kocher

Challenge: Beneficial fire has been excluded from much of the forested landscape for a century, leading to dangerous fuel loads and crowded conditions.

Solution: Mechanical treatments are necessary on most properties before safely introducing fire. While these treatments are often expensive, cost-share programs through CAL FIRE and NRCS exist to help private nonindustrial landowners.

Challenge: Prescribed fire via pile burning and broadcast burning is one of the most effective tools to attain safe levels of forest fuels and maintain healthy forests, woodlands and grasslands. Currently, few private nonindustrial landowners feel comfortable enough to put it into practice safely.

Solution: Prescribed Burn Associations (PBA) such as the El Dorado – Amador PBA and UC Cooperative Extension promote peer-to-peer learning by facilitating burns on private property that anyone interested my volunteer to join. The need for such opportunities is much greater than a single PBA which services two counties can directly provide. Instead, PBA's seek to educate individuals who will then start to use prescribed fire themselves on their properties and associate with their own networks to expand the practice. PBA's seek to promote learning and practice within low-complexity burns under safe conditions; professional organizations such as CAL FIRE have the capacity to handle high-complexity burns.

Challenge: Even after landowners treat fuels on their properties and fire-harden their structures, they still face high wildfire insurance premiums which seem to be based more on regional conditions than conditions specific to a home and its surroundings.

Solution: Continued advocacy and research are necessary. Detailed, localized assessments may contribute to encouraging private insurers into the WUI again in the future.

Targeted Grazing @ Sutter Creek

Hosts & Facilitators: John Allen, Bill Allen, Brian Allen, Dan Macon

Challenge: The historic towns of the Sierra foothills are often surrounded by pasture or grazed woodlands, which in summer and fall may be highly likely to ignite from sources such as Highway 49. Vegetation along highway rights-of-way is managed by CALTRANS, though they are also sources of invasive weeds.

Solution: Targeted grazing utilizes livestock to maintain vegetative fuels at safe levels and shift vegetative composition. It sometimes comes at a cost to production, but ranchers are applying the practice successfully, for example by utilizing adult livestock and excluding calves at the appropriate times. At the example 60-foot wide fuel break between Highway 49 and Sutter Creek, targeted grazing with cattle reduces residual dry matter from 3,500-4,000 lbs/ac before grazing to closer to 500 lbs/ac, which has shown to produce more manageable 3.5-foot flame lengths when ignited. UC Cooperative Extension is actively engaging with ranchers to promote and expand the use targeted and prescribed grazing to meet their multiple goals, including wildfire protection.

Recommendations for livestock management when applying targeted grazing: Grazing livestock should be concentrated in paddocks so that they have to eat everything, but moved frequently to new areas so that they are always coming on to new feed. This allows intensive grazing in the control area while maintaining the livestock in good shape. It has been used successfully with horses and with Weiner calves but with the calves not to the same extent as with adult cattle. With critical timing it provides nutrition while leaving seed to replenish the feed for the following year and to reduce summer weeds.

Electric fences are used with continuous ground wires and a short training period with the livestock under observation. Besides electric fencing that is moved as required, it requires a good water supply to large troughs.

Permanent fencing is very costly and cannot be removed when the job is done. Virtual fencing has been used with some success, but requires greater location precision and lower cost before it can replace the electric fencing.

Challenge: To more intensively and precisely manage livestock for targeted and prescribed grazing, more fencing and watering accommodations are required.

Solution: Virtual fencing is a relatively new option to manage livestock while reducing the need for physical fences. The technology continues to improve, which will make the option more effective and affordable for ranchers in the future. UC Cooperative Extension is trialing the technology and pairing it with innovative grazing practices, preparing to educate and support ranchers when they're ready to adopt it.

Participants	Affiliation
Dan Epperson	Amador County District 2 Supervisor
Brian Oneto	Amador County District 5 Supervisor
Robert Withrow	Amador Fire Protection District
Kayla Dale	Amador Fire Protection District
Amanda Watson	Amador Fire Safe Council, Amador RCD
Gordon Long	Amador Fire Safe Council, Amador RCD
Cailin McLaughlin	Amador Fire Safe Council, Amador RCD
Todd Bertwell	Amador Fire Safe Council, Amador RCD
Steve Ogburn	Amador Pines Firewise Community
Rebecca Pollon	Amador Pines Firewise Community
Robin Bell	Amador Pines Firewise Community
Serena Hangs	Andrews Lupe Ridge Firewise Community
Beth Brenneman	Bureau of Land Management
Jeff Hoag	CAL FIRE Amador-El Dorado Unit
Logan O'Daniel	CAL FIRE Amador-El Dorado Unit
Patrick McDaniel	CAL FIRE Amador-El Dorado Unit
Eric Bither	CAL FIRE Amador-El Dorado Unit
Garrett Hesser	Calaveras Public Utility District
Susan Bragstad	City Council, Amador City
Joey D. Smith	East Bay MUD, UMWRA
Mike Hampshire	Forest landowner
Laura Moser	Forest landowner, USFS (retired)
Sandy Staples	Mayor, Amador City
Julie Harris	Quartz Mountain Firewise Community
John Allen	Rancher
Bill Allen	Rancher
Eric Gardner	Rolling Oaks Firewise Community
Ian Moore	Spatial Informatics Group
Nick Miley	Spatial Informatics Group
Dan Macon	UC Cooperative Extension
Susie Kocher	UC Cooperative Extension
Brian Allen	UC Cooperative Extension
Ralph Meier	Upper Rancheria Firewise Community
Melody Meier	Upper Rancheria Firewise Community
Jennifer Gobershock	Woodland Road Firewise Community

7.4

CITY COUNCIL AGENDA ITEM NO. 7.4

06/25/2026

SUBJECT: Consider a continuing appropriations and expenditures resolution.

DEPARTMENT: City Manager's Office

STAFF: City Manager

TITLE

DISCUSSION AND POSSIBLE ACTION TO APPROVE RESOLUTION 2026-13 OF THE CITY COUNCIL OF THE CITY OF PLYMOUTH AUTHORIZING CONTINUING APPROPRIATIONS AND EXPENDITURES ON THE BASIS OF THE FISCAL YEAR 2025-2026 BUDGET FOR FISCAL YEAR 2026-2027 UNTIL THE ADOPTION OF THE 2026-2027 BUDGET

BACKGROUND

As City staff continues to prepare the budget for Fiscal Year 2026-2027, the City must ensure the continued efficient operations of the City. To that end, Staff is requesting continuing appropriations and expenditures for Fiscal Year 2026-2027 on the basis of 2025-2026 until the 2026-2027 budget can be adopted.

FISCAL IMPACT

The fiscal impact is unknown as monthly costs of operations vary.

RECOMMENDATION

Approve Resolution 2026-13 authorizing continuing appropriations and expenditures for Fiscal Year 2026-2027 on the basis of 2025-2026 until the 2026-2027 budget can be adopted.

ATTACHMENT(S)

1. Resolution 2026-13

RESOLUTION NO. 2026-13

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PLYMOUTH AUTHORIZING CONTINUING APPROPRIATIONS AND EXPENDITURES ON THE BASIS OF THE FISCAL YEAR 2025-2026 BUDGET FOR FISCAL YEAR 2026-2027 UNTIL THE ADOPTION OF THE 2026-2027 BUDGET

WHEREAS, the City of Plymouth ("City") is a municipality within the County of Amador. Pursuant to the Government Code, the City Council has the power to exercise the powers of the City. Said powers include financial matters such as adoption of a budget; and

WHEREAS, City Staff and Consultants are currently in the process of preparing the City's budget for the Fiscal Year 2026-2027, but the proposed budget will not be completed for the City Council's consideration and adoption prior to the commencement of the Fiscal Year 2026-2027; and

WHEREAS, to ensure the continued efficient operation of the City and to ensure the City continues to make routine payments for goods and services, including without limitation payroll and expense disbursements, the City Council desires to authorize the continuing appropriations and expenditures for the Fiscal Year 2026-2027 on the basis of the budget adopted for the Fiscal Year 2025-2026 until the City Council adopts the budget for the Fiscal Year 2026-2027.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF PLYMOUTH DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. Recitals. The above Recitals are true and correct and are incorporated herein by this reference.

SECTION 2. Authorization. The City Manager or designee is authorized and directed to take such actions as are necessary to continue appropriations and expenditures for the Fiscal Year 2026-2027, for all necessary and continuing City operations, based on the budget established for the Fiscal Year 2025-2026, on a proportionate basis, until the City Council's adoption of the budget for Fiscal year 2026-2027

SECTION 3. Effective Date. This Resolution shall be effective immediately after its adoption and will remain effective, unless repealed or until superseded by the adoption of the Annual Budget for Fiscal Year 2026-2027.

PASSED, APPROVED, and ADOPTED at a regular meeting of the City Council this 25th day of June, 2026.

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Don Nunn, Mayor

ATTEST

_____
Victoria McHenry
City Clerk