



Association of Bay Area Governments



Technical Assistance
for Local Planning

HOUSING

WILDFIRES - PRESERVATION & PROTECTION OF HOMES

What's New?

Welcome! Please change your Zoom name to:

Your Name, Organization/Jurisdiction

MTC-ABAG Resilience Planning

October 27, 2025

Agenda

01

INTRODUCTION

Welcome, introductions, and overview of the webinar.

02

PANEL 1: HOME HARDENING PROGRAMS

Learn about innovative programs to advance home hardening from the State of California and Marin County.

03

PANEL 2: NEW MAPS & BUILDING CODES

Speakers will highlight recent changes to wildfire codes and share how local communities can adapt them to meet their specific needs.

04

CONCLUSION

Share your experiences, ideas, and perspectives on next steps after this webinar.

Background

This workshop builds on the **2021-22 ABAG Wildfire Cohort Workshop Series**



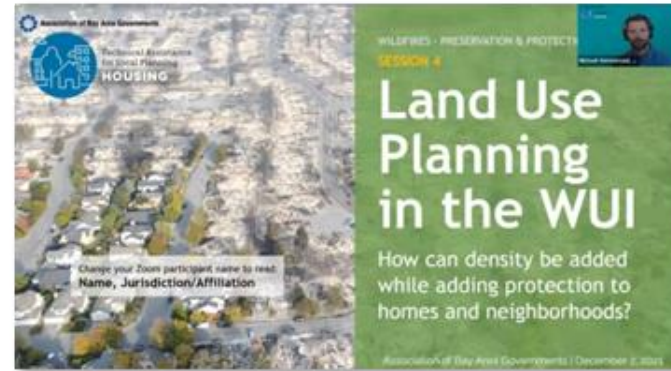
Michael Germeraad
Principal Resilience Planner



Kate Lyons
Assistant Resilience Planner



Perrin Milliken
Resilience Planning Fellow



RESOURCE GUIDE #7 Wildfire Programs & Policies for Housing Element Updates

The Bay Area and much of California are working to simultaneously address challenges of housing affordability and production as well as climate change adaptation. In many circumstances the solutions are complementary, but in others an approach to address one issue area can present challenges for the other. The Wildland Urban Interface (WUI) is one area where that tension can arise.

The Resource Guide includes six sections:

- (1) Common wildfire and housing challenges in the San Francisco Bay Area
- (2) Approaching wildfire policies and programs in the Housing Element update
- (3) Summary table of sample Housing Element policies and programs
- (4) Additional background and resources for sample policies and programs
- (5) ADU case studies for tackling housing challenges in the WUI
- (6) Resources from the Wildfire/Housing Work Group

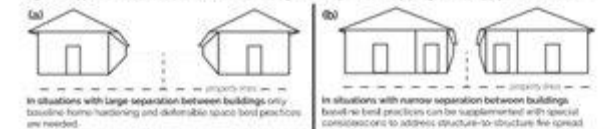
Jurisdictions are encouraged to edit sample policies for use in their community and reference linked resources to strengthen policy and program development.

Common wildfire and housing challenges in the San Francisco Bay Area

How can homes with narrow setbacks be made more resilient for a wildfire-adapted environment?

The Bay Area has many neighborhoods with moderate housing density, high lot coverage, and narrow setbacks situated in or near the WUI. Large property setbacks are one wildfire adaptation approach to reduce the likelihood of radiant heat and direct flame ignition between homes, but small setbacks increase flexibility to accommodate needed housing. To meet the challenge of a housing crisis while also mitigating risk to wildfire, jurisdictions may need to implement innovative policies and programs that consider specific approaches to reduce structure-to-structure wildfire spread for pre-existing properties or for new/expanded development. In communities where setbacks are narrow, jurisdictions may need to take a leading role in this work by expanding development regulations in the WUI.

Figure 1: Approaches to reduce structure-to-structure ignitions in parcels with (a) large setbacks, (b) narrow setbacks.



Figures: Snapshots of 2021 webinar and resources guides.

Today's Goals


Gather city/county planners and wildfire professionals and experts to discuss what's new at the intersection of wildfires and housing.

Learn from local and state experts that outline current requirements, programs, and best practices.



Scope: Why Wildfire & Housing?

- ABAG has led a large suite of housing technical assistance over the last four years.
- Wildfires are a key planning consideration for many Bay Area jurisdictions.
- There have been many significant code, mapping, and resource updates since the 2021-22 ABAG Wildfire Cohort.
- Later, we'll gather feedback about what other technical assistance you'd like to see from ABAG.



Over the past decade, for every 100 homes built in California, roughly 5 have been destroyed by wildfire. The trend holds true in the nine-county Bay Area.

Actions that make existing and new housing resilient can help meet housing goals.

Covered Today

Reducing the ignitability of homes thro

- Home hardening programs
- Building codes and ordinances

Not Covered Today

Other important wildfire risk reduction actions not covered in this session inclu

- Fuels and landscape management
- Notification and evacuation
- Fire suppression
- Preparedness, response, and recov

Grey Areas

Defensible space and land use planning overlap with today's topics but are not primary focus.

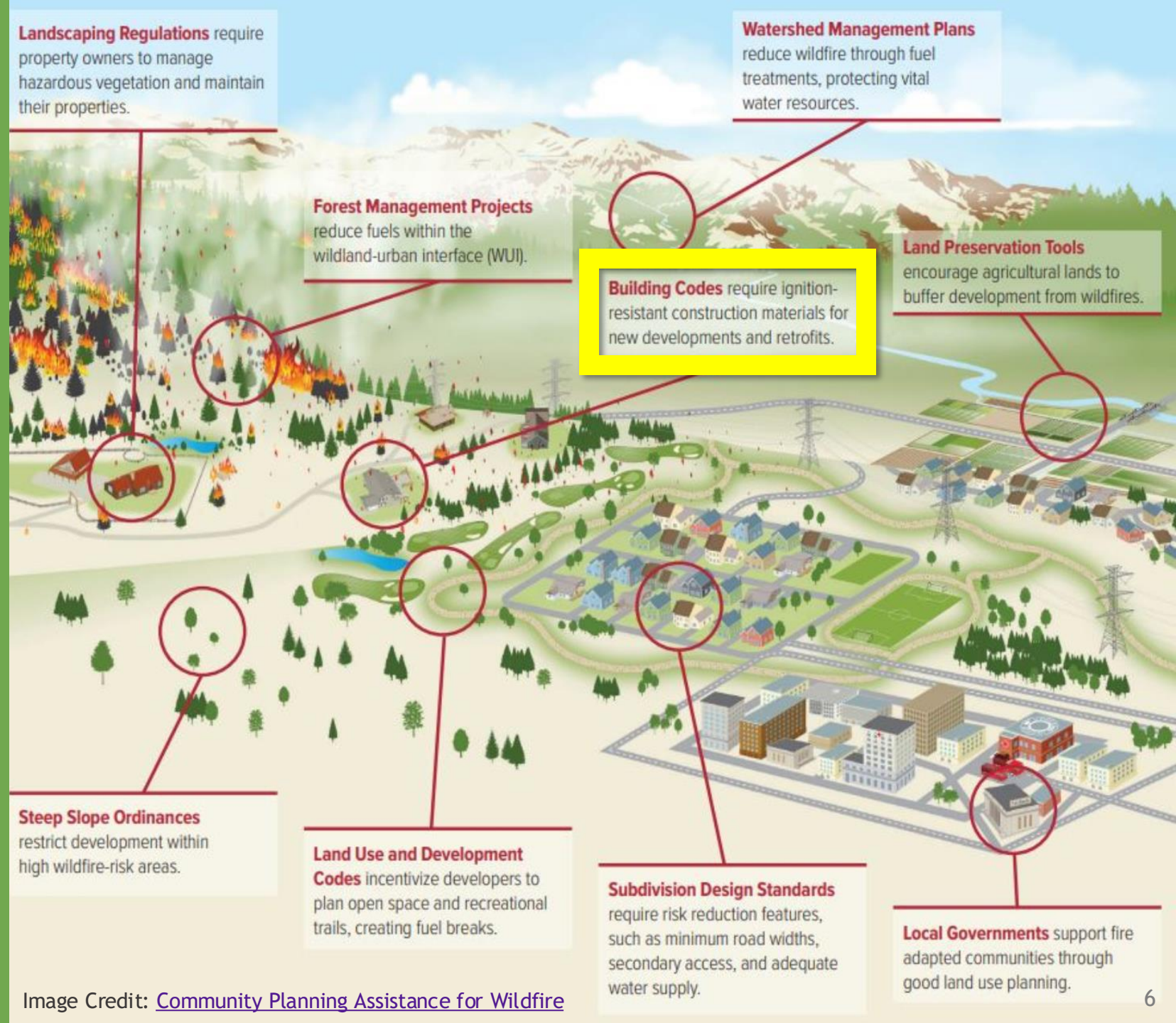


Image Credit: [Community Planning Assistance for Wildfire](#)

PANEL 1

HOME HARDENING PROGRAMS

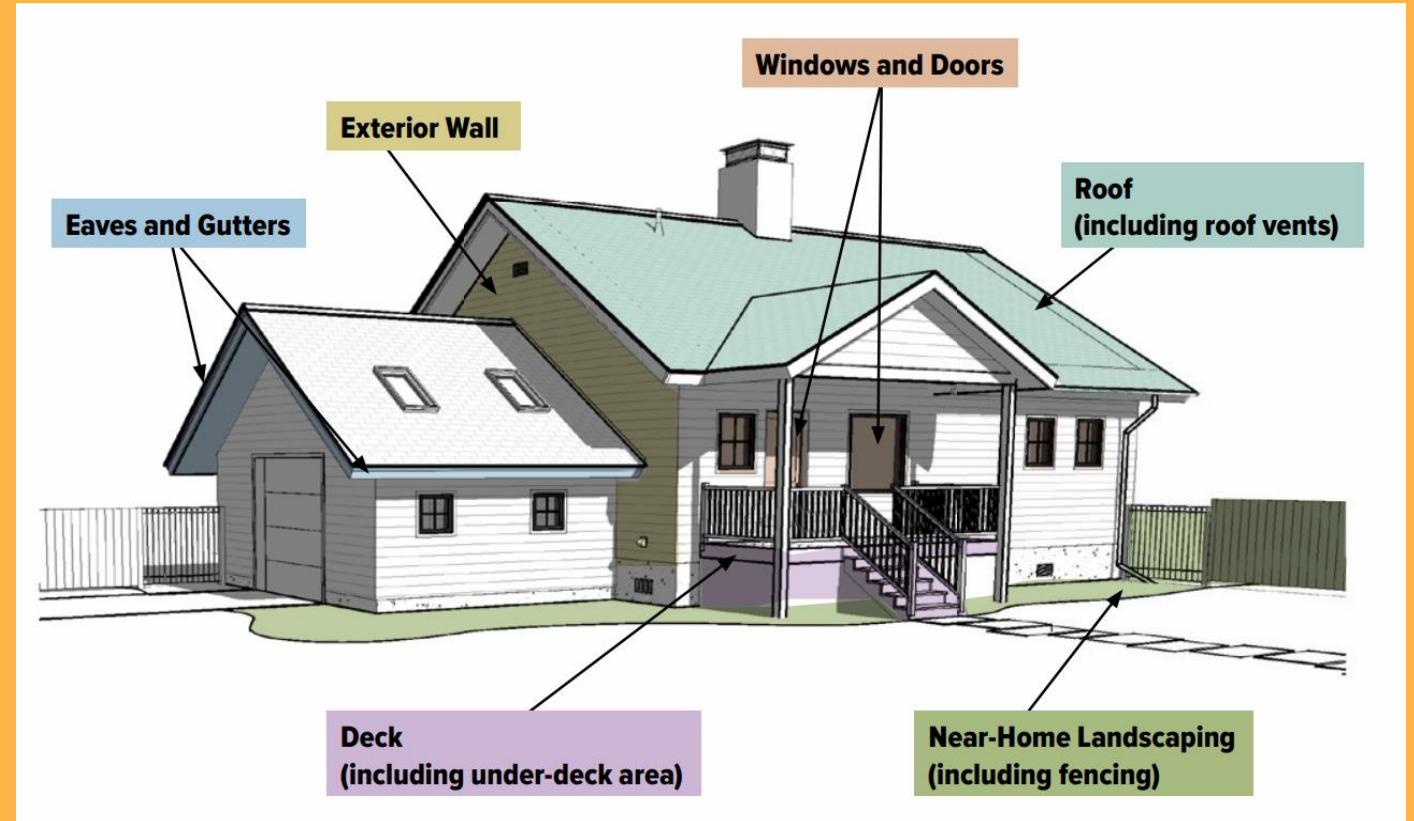


Image Source: [Headwaters Economics Report](#)

Wildfire home ignitions are characterized by 3 types

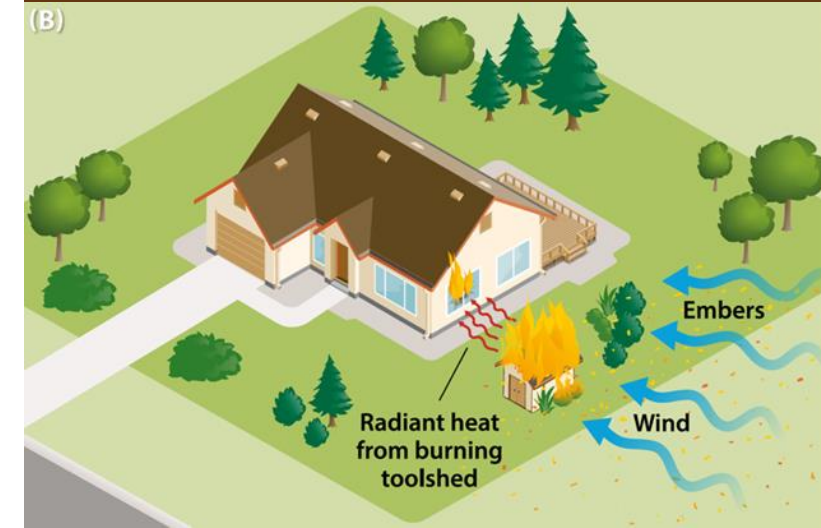
Direct Flame Contact



Embers



Radiant Heat



Certain measures focus on reducing ignitions from one pathway. Home survival requires a coupled approach.

- **Home hardening:** Construction materials and design features
- **Defensible space:** Vegetation and other combustibles - selection, location, and maintenance.

PANEL 1 HOME HARDENING PROGRAMS



J. Lopez

Executive Director,
*California Wildfire Mitigation
Program Authority*

- *How is the CWMP program funded?*
- *Lessons learned*
- *Recommended resources*



Anne Crealock

Planning and Program Manager,
*Marin Wildfire Prevention
Authority*

- *How is the MWPA program funded?*
- *Lessons learned*
- *Recommended resources*

October 27, 2025



Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES



California Wildfire Mitigation Program Authority

Home Hardening Initiative



MTC-ABAG, Wildfire and Housing - What's New?

J. Lopez, CWMP Authority, Executive Director

CWMP Pilot Program Background



CAL FIRE and Cal OES Partnership

- 2019 bill (AB 38) required the formation of a JPA.
- 2021-22 the California Wildfire Mitigation Program Authority was established and the board was formed.
- 2023 FEMA awarded first HMGP grants.

Goals of CWMP Authority is to:

- Develop and administer a comprehensive wildfire mitigation program.
- Encourage cost-effective wildfire structure hardening and retrofitting.
- Facilitate vegetation management and create and maintain defensible space.
- Be a model for other programs (See [Wildfire Community Hardening Framework](#))

Program Vision

- Develop a robust program model that empowers and enables California communities to create successful wildfire home hardening programs.
- Neighborhood and Communitywide hardening approach
- Locally-led programs with state support
- Targeting low income and socially vulnerable homeowners. All project area members are able to participate.



Neighborhood, "Cluster" Hardening Approach

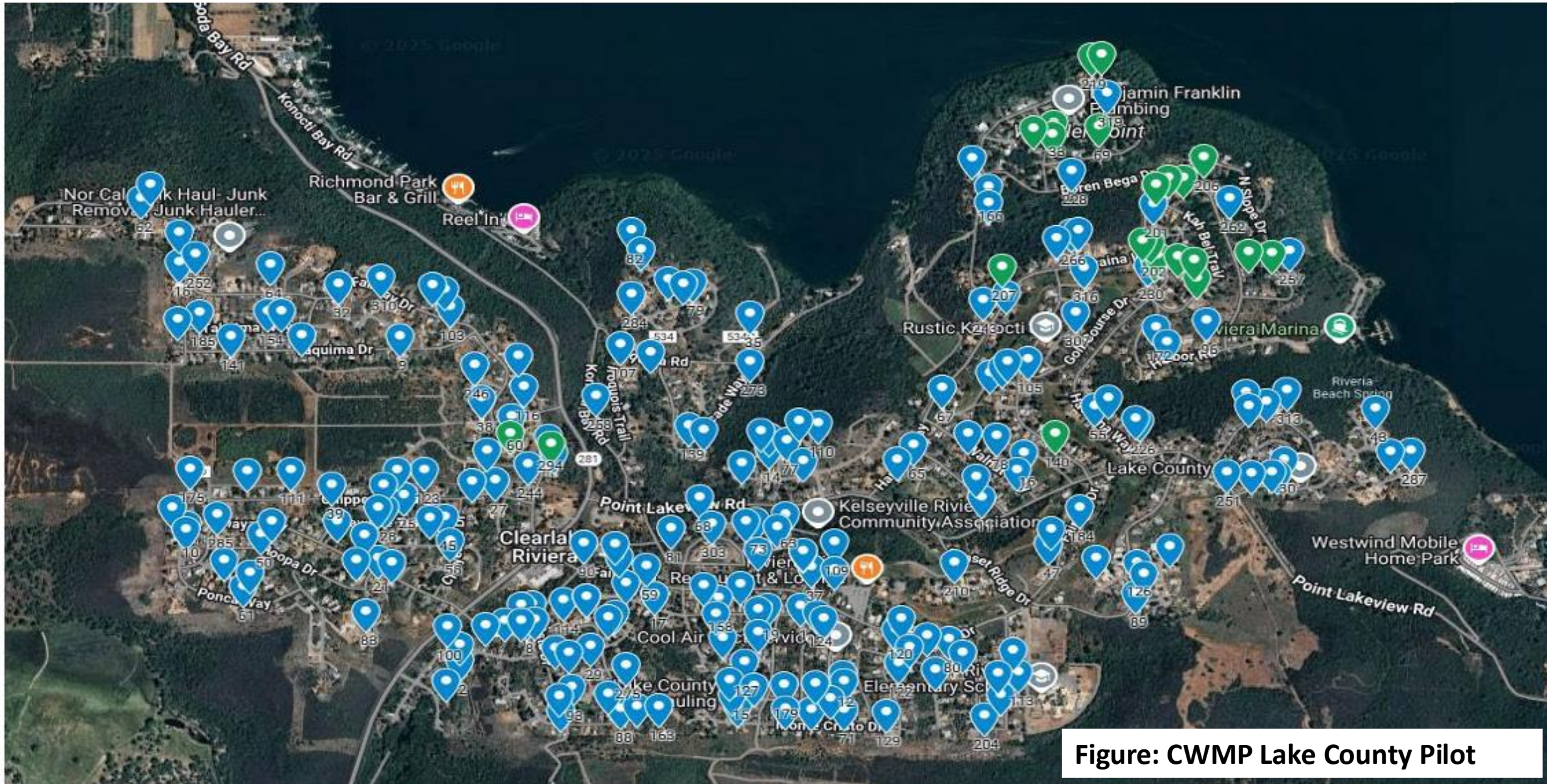
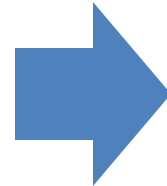
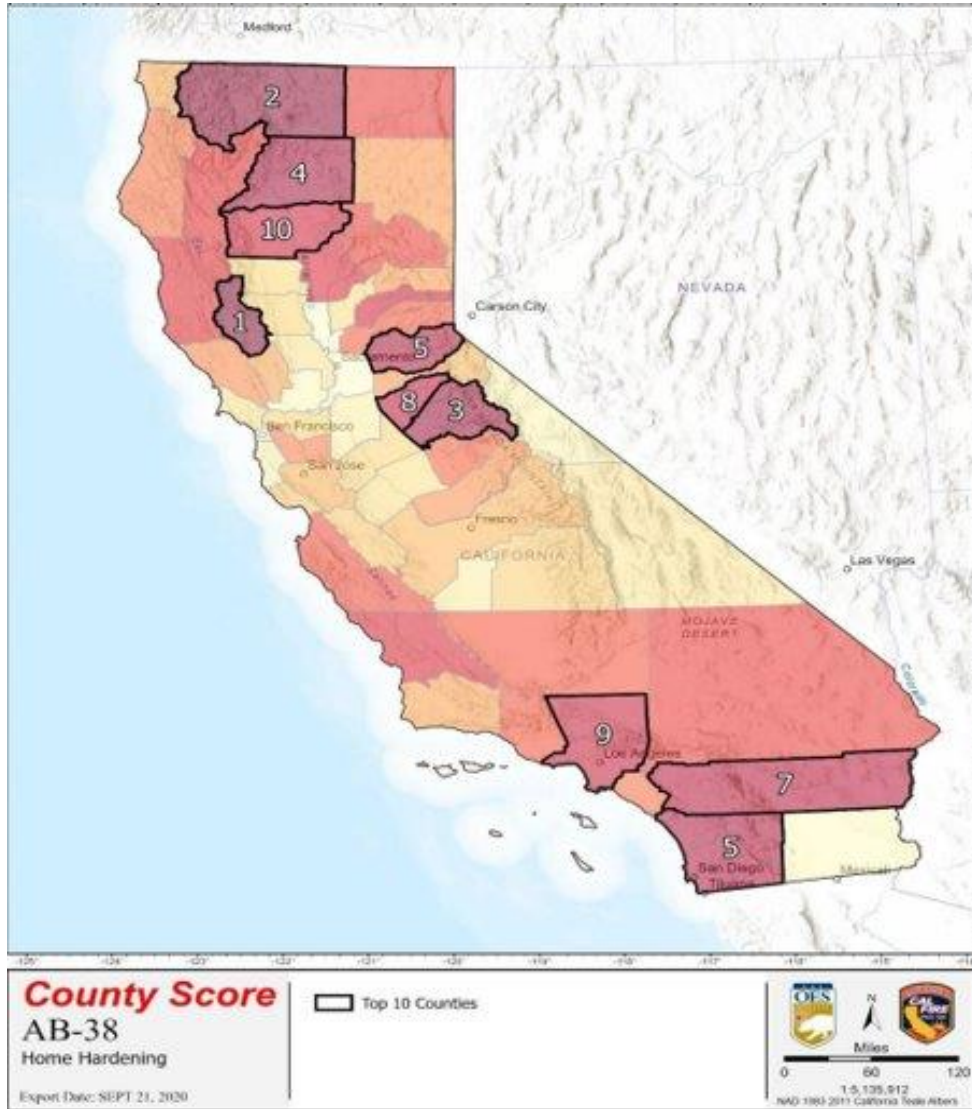


Figure: CWMP Lake County Pilot

How the Pilot programs are Funded

| Subrecipient | Local Match | State Match | Federal Match | Total |
|--------------------|--------------|----------------|----------------|---------------|
| Lake | \$0 | \$2M (10%) | \$20M (90%) | \$22M |
| San Diego | \$0 | \$6M (25%) | \$18M (75%) | \$24M |
| Shasta | \$0 | \$6M (25%) | \$18M (75%) | \$24M |
| Siskiyou | \$0 | \$4M (100%) | \$0 | \$4M |
| El Dorado | \$1M (5%) | \$1M (5%) | \$22M (90%) | \$24M |
| Tuolumne | \$0 | \$2M (10%) | \$18M (90%) | \$20M |
| Total Award | \$1M | \$21M | \$95M | \$117M |

Currently 6 Pilot Project Areas



October 27, 2025



Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES



California Wildfire Mitigation Program Authority

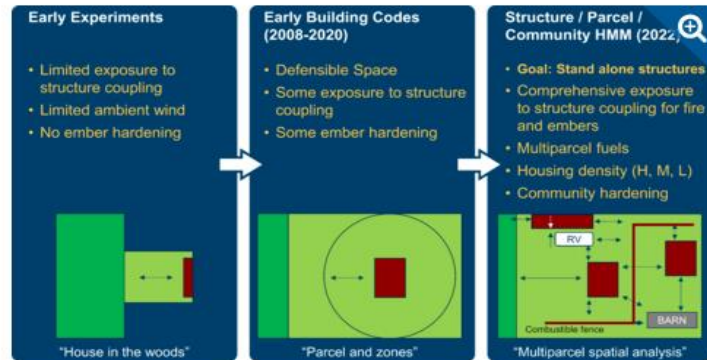
Home Hardening Initiative



Methodology

Hazard Mitigation Methodology (HMM)

THE EVOLUTION OF STRUCTURE PROTECTION



[NIST WUI website](#)

HOW IS HMM DIFFERENT FROM TRADITIONAL CODES AND STANDARDS?

HMM is a spatial approach, not a parcel-centric approach. Current building codes and standards specify minimum hardening requirements, that add value in reducing losses in certain conditions. For example, the fire-hardened structure on the left, compliant with an existing WUI building code, survived the exposure from the burning shed. The non-hardened structure on the right ignited within minutes of exposure.



Photos from NIST experiments show the effects of a burning shed located 15 ft from the primary structure.

[LINK: Hazard Mitigation Methodology \(NIST\)](#)

CWMP's Minimum Quality Standards (MQS)

- CWMP has over one hundred minimum quality standards to guide partial and full retrofits for home hardening and defensible space.
 - Include standards for roofs, vents, decks, fences, exterior siding, windows and more.
- MQSs provide direction to project participants on the program's expectation of standards of quality for materials and performance of work.
- They comply with state, national, and international codes and requirements from similar programs.
- [MQS Table](#) | [MQS Visual Guide](#)

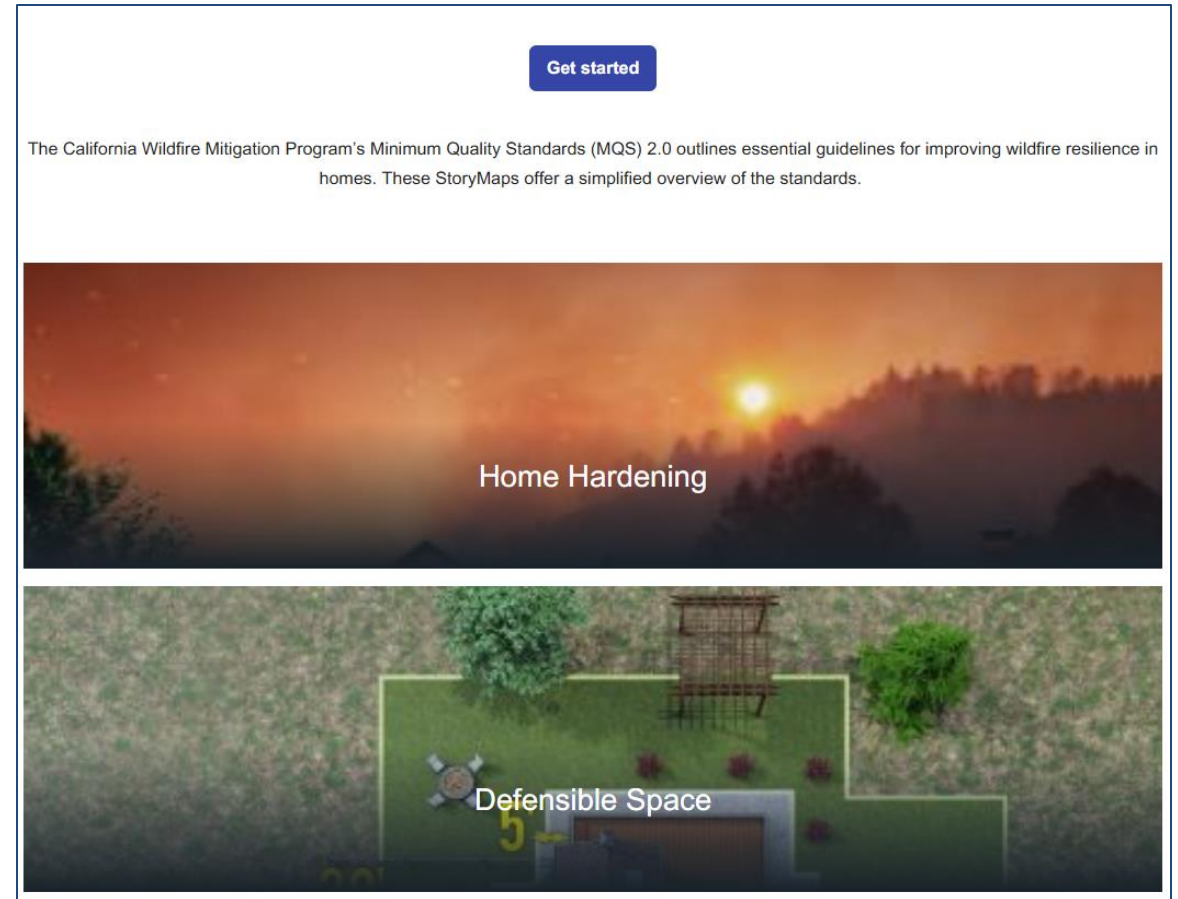


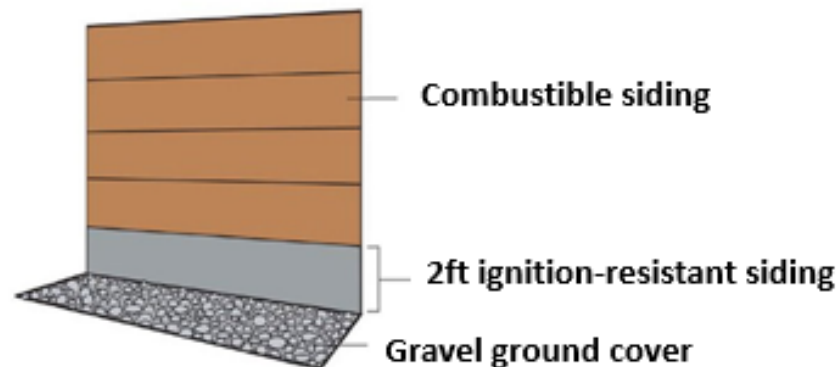
Figure: Screenshot of the MQS visual story map guide.

MQS Example – Home Hardening

Exterior Wall Partial Replacement Retrofit

Retrofit Description: Replacing flammable exterior coverings within 2 feet of the ground with ignition-resistant materials. This retrofit aims to decrease vulnerability to embers, direct flames, and radiant heat. Typical risk areas are gaps, holes, ground-level spaces, and corners. This retrofit is a temporary measure until a complete exterior covering replacement can be done.

MQS: Includes links to relevant sections of the building code to ensure the partial retrofit is done in compliance with relevant standards.



MQS Example – Defensible Space

Zone 0, Ember Resistant Zone

Retrofit Description: The "Zone 0 Ground Vegetation Removal" mitigation measure includes removing all combustible materials and ground covers within five feet (5 ft.) from each structure and installation of hardscape.

MQS: Ground level vegetation is removed within Zone 0 which extends five feet (5 ft.) from each structure or, if applicable, an attached deck. Combustible materials are removed and replaced with hardscape.



CWMP Cost Share and Addressing Homeowner Cost

- CWMP prioritizing highest impact and lowest cost retrofits
- CWMP supports all residents with full support for low and moderate income households.

| Income | Cost Share |
|---|---------------------------|
| Lower Income (less than 80% AMI) | 0% homeowner 100% CWMP |
| Moderate Income (80%-120% AMI) | 0% homeowner 100% CWMP |
| Greater than moderate income but less than 2x median income (120%-200% AMI) | 10% homeowner 90% CWMP |
| Greater than 2x median income (200%+ AMI) | 25% homeowner 75% CWMP |

[Table: Cost Share Determination](#)

Program Process



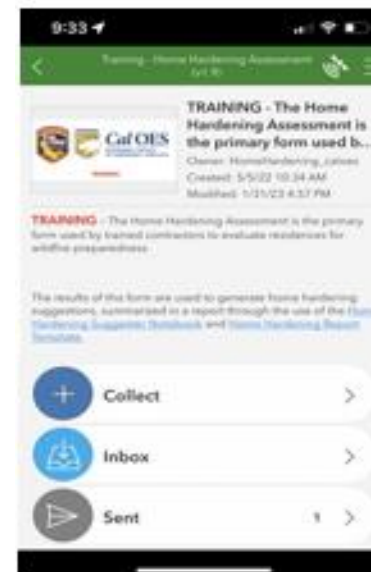
Each pilot community has a local organization leading the work. CWMP outlines [roles and responsibilities](#) for all parties.

CWMP provides assessor training and developed Minimum Quality Standards (MQS) to guide contractor work.

Homeowners apply through the CWMP website and confirm their eligibility, importantly confirming their home is in the CWMP project area.

Trained assessors use the CWMP Assessment Application.

Local qualified contractors' complete retrofits using CWMP Minimum Quality Standards (MQS) based on the approved Scope of Work created by the assessors.



Every noble work is at first impossible.

Every noble work is at first impossible.

~Thomas Carlyle

Standing a program from the Ground Up

Challenges:

- FEMA Allowable Activities
- Contractors
- Permitting
- Materials
- Social Acceptance

Opportunities:

- Non-Issue Parcels
- Batching
- CWMP Allowable Activities



October 27, 2025



Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES



California Wildfire Mitigation Program Authority

Implementation Examples



J. Lopez, CWMP Authority, Executive Director

Decking Retrofits



Re-screening Window Screens



Removing the Combustible Skirting

0-5-Foot Zone





Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES



California Wildfire Mitigation Program Authority

Home Hardening Initiative



Thank you!

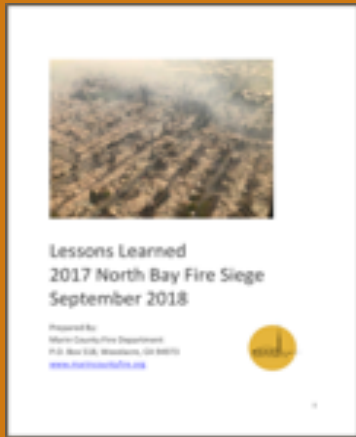


Marin Wildfire Prevention Authority: House-Out Approach

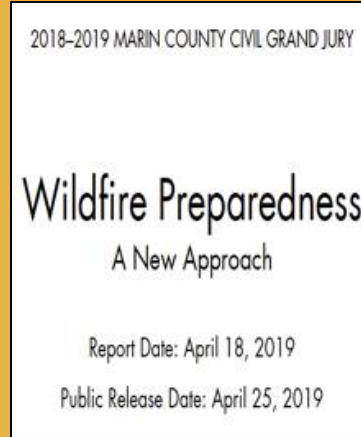
MTC-ABAG
October 27, 2025

Anne Crealock – Planning and Program Manager

Origins of the MWPA



2018 **Lessons Learned from the 2017 North Bay Fire Siege Report** *“When fires started October 8th the only thing separating Marin County from their neighbors to the north was simply an ignition source.”*



2019 **Marin Civil Grand Jury Report on Wildfire Preparedness** *“...the creation of a joint powers authority to coordinate a comprehensive, consistent approach to pre-ignition planning.”*



2020 **Measure C Passed.** *Civic leaders and Fire Chiefs campaigned for formation of a Joint Powers Authority (JPA) and a \$0.10/sqft parcel tax. Passed with 70.8% support.*



2020-2030 **JPA launched with funding.** Includes 17 member agencies and includes a board of directors comprised of elected officials, an operations committee with city managers and fire chiefs, and advisory and community oversight committees.

JPA Funding Breakdown



2020-2030 Funding Allocations

JPA Core

60% Supports: cross-jurisdictional projects, wildfire detection and evacuation program improvements, vegetation management/fire hazard reduction, grants management, and public education

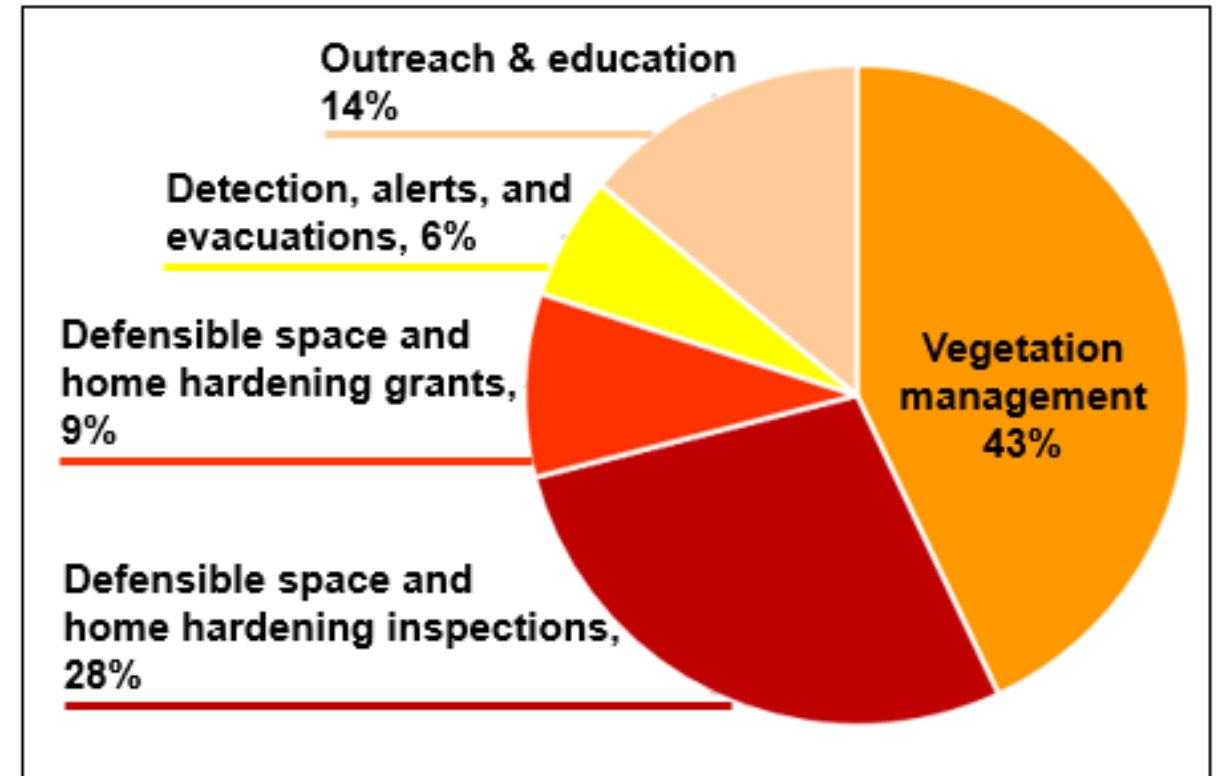
Defensible Space Evaluations and Home Hardening

20% Individual Agencies can administer.

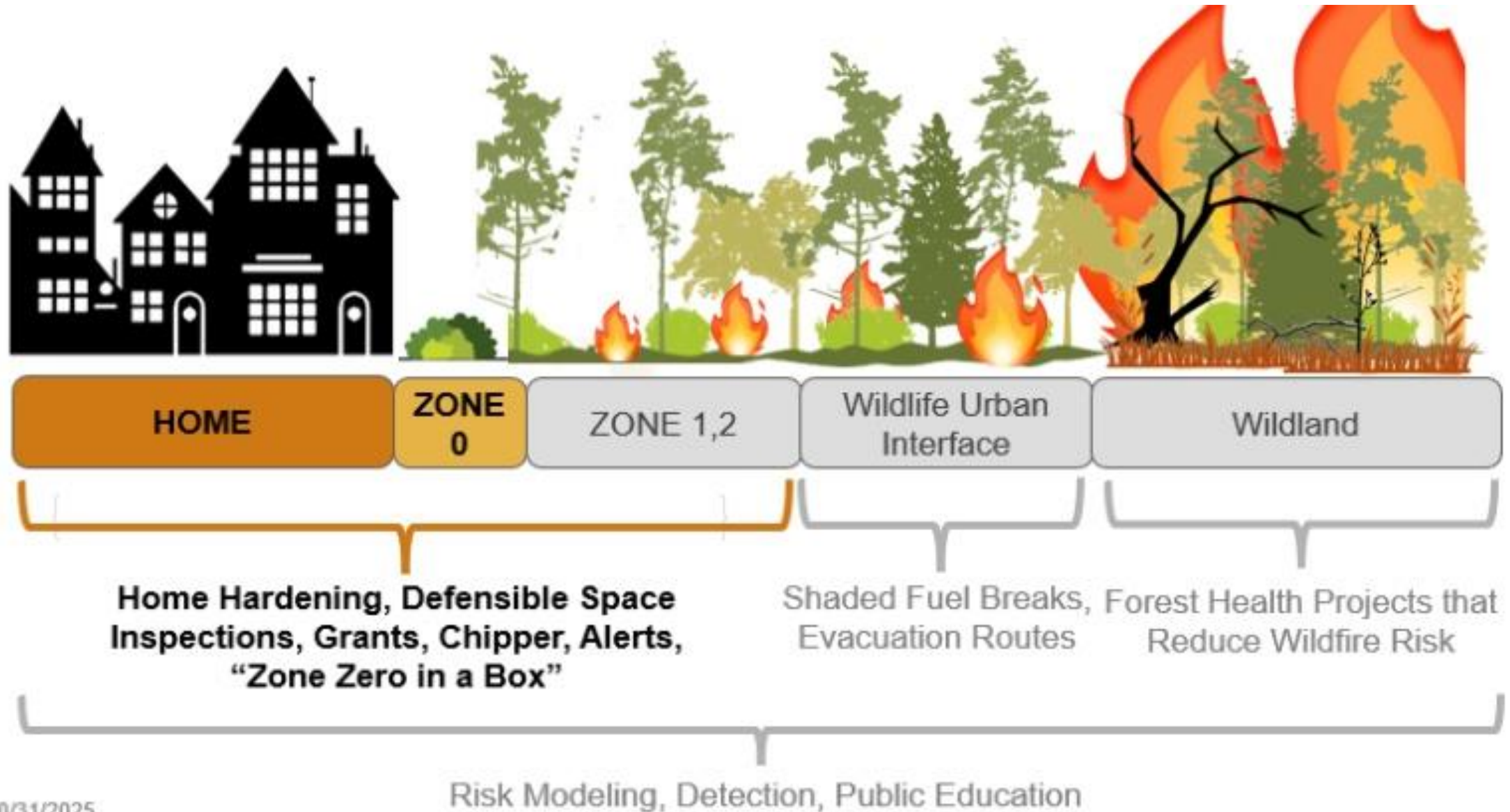
Community-Level Wildfire Prevention Mitigation

20% Supports: Local fire prevention activities with no funding, enhanced fire patrols in problem areas, additional fire hazard reduction work, and evacuation route parking issues.

FY2025-2026 Budget (\$22.8M) by Goal



House-Out Approach



Defensible Space and Home Hardening Evaluations



- Approx. \$5.7M in FY25-26
- Every home inspected by trained inspectors every 2-3 years (with focus on Wildland Urban Interface – WUI)
- Inspectors are employed by Marin Wildfire Member Agencies
- 32,000+ inspections performed in 2025
- 150,000+ since 2020 (including re-inspections)
- Inspect from public right-of-way
- If granted access, full 360 inspection
- Residents get a wildfire risk report to access photos, recommendations/requirements



Defensible Space and Home Hardening Evaluations Continued



- Data is collected in the **FireAside app**, with individual discoveries listed for each property.
 - Data for individuals is not shared without permission but aggregate data is used to model risk and risk reduction over time
 - Opportunity for resident to choose to share data for IBHS Wildfire Prepared Home Designation, Safer from Wildfire Regulations
- Thousands of hours of one-on-one engagement
- Resident is more likely to take action if:
 - Walks with inspector during inspection
 - Receives a customized report with photos rather than a generic list of recommendations
 - Lives within a Firewise community

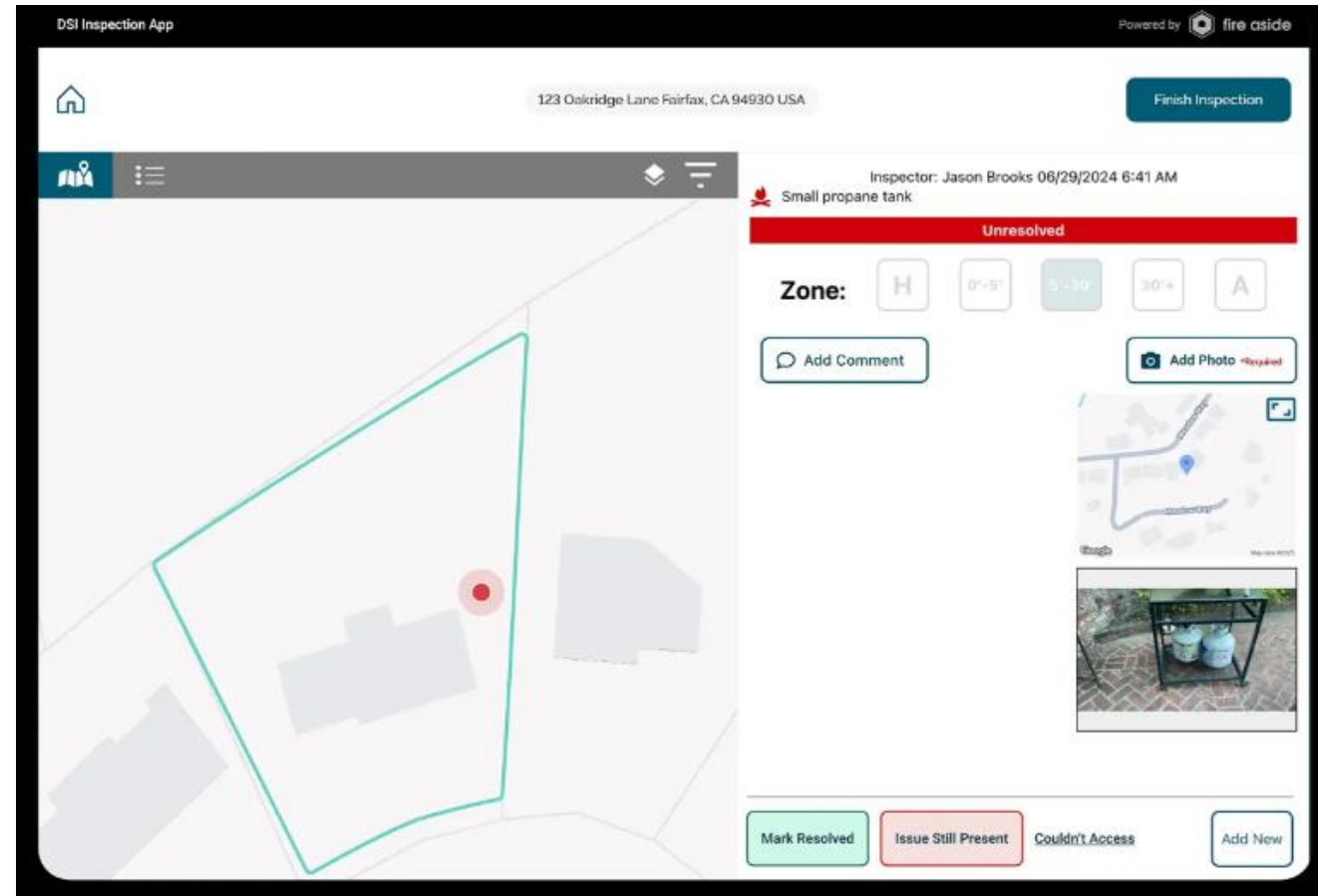


Figure: Screenshot of FireAside App.

Resident Grant Program

- Inspection report includes link to apply
- Resident grants available for:
 - Defensible space: Zone Zero vegetation work
 - Home hardening: replacement of vents, gutter guards, and fence connections to homes.
- Approx \$900,000 budgeted per year
- Up to \$1,500 reimbursement per property per year
- Eligibility:
 - Completed a full inspection
 - Age OR Income (Over 65 or 120% median income)
- Tightened eligibility and covered items to reduce number of residents turned away

11/5/2025

WILDFIRE RISK EVALUATION PROGRAM YOUR PERSONALIZED GUIDE

We **CAN** lower risks of wildfire if we all do our part. **Here's how:**



1. Your home is evaluated for wildfire risks by your local fire department annually. A detailed report shows you what needs to be done to lower your risks.



2. Review your report online or request a copy be mailed to you. Go to marinwildfire/dspace.org or call (415) 275-1185 for help and resources.



3. Reduce your risks. The report includes an action plan, starting with the highest risks. Do the work over time and mark your progress on your report.

KEEP UP THE GOOD WORK!
ONGOING MAINTENANCE IS KEY
TO REDUCING WILDFIRE RISK



WILDFIRE RISK NOTICE



Your local fire department evaluated your property for wildfire hazards.

View Your Wildfire Risk Report

The customized Report will be available for review 24 hours after the evaluation. It provides steps to reduce wildfire risk and improve your safety. Please open your report, review the findings, and access resources. **Some actions may be required by law.**

View your report online at
marinwildfire.org/dspace

ACCESS CODE

| | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|

Need your report mailed to you?

Email dspace@marinwildfire.org
or call (415) 275-1185

Office hours: Mon–Thu, 8:30am–4:30pm



FOLLOW UP EVALUATIONS MAY OCCUR AFTER 30 DAYS



This program is provided by your local fire department and Marin Wildfire Prevention Authority, funded by Tax Measure C (2020).



Resident Grant Program: Eligible Items



Vents



Gutter Guards



Vegetation in Zone Zero (0-5ft)



Combustible to Non-combustible Fence Connections



Chipper Program

- Free to all JPA residents
- Encourages residents to do their own defensible space work around the home
- Inspection report includes direct link to sign up
- 30 week season rotating through each of 5 geographic zones 6 times
- Approximately 4,700 pick-ups and 15,000 cubic yards of material in 2024



Upcoming Chipper Events

Marin Wildfire Prevention Authority provides free "chipper days" for residents living in Marin's Wildland Urban Interface areas.

[REGISTER FOR FREE PICK-UP](#)

Zone Zero in a Box



- New pilot program funded through the Marin Community Foundation (\$728K over 2 years)
- Marin Wildfire will have contractors and staff on hand to guide residents Zone Zero work (0-5 ft) before regulatory requirements take effect:
 1. **Full service, upper income:** Marin Wildfire staff coordinates contractor / work, resident may choose from several options for items such as hardscaping, and residents pay fee for service
 2. **DIY:** Marin Wildfire staff provides contractor list, recommendations, resources and individual resident coordinates / pays for work
 3. **Economy of Scale:** Organized neighborhoods (such as those in Firewise communities) coordinate multiple neighbors to participate, contractor provides discount, Marin Wildfire coordinates contractor / work
 4. **Full service, low income:** Marin Wildfire coordinates work, resident does not pay



Thank you

Anne Crealock
Planning & Program Manager
marinwildfire.org

Q&A

Don't be shy! Ask away!



J. Lopez,
CWMP



Anne Crealock,
MWPA



Ask your question by raising your hand by clicking on the hand icon

or

Type your question in the chat



PANEL 2

NEW MAPS & BUILDING CODES







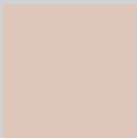
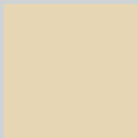
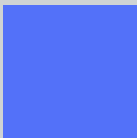
 ASSOCIATION OF BAY AREA GOVERNMENTS
METROPOLITAN TRANSPORTATION COMMISSION

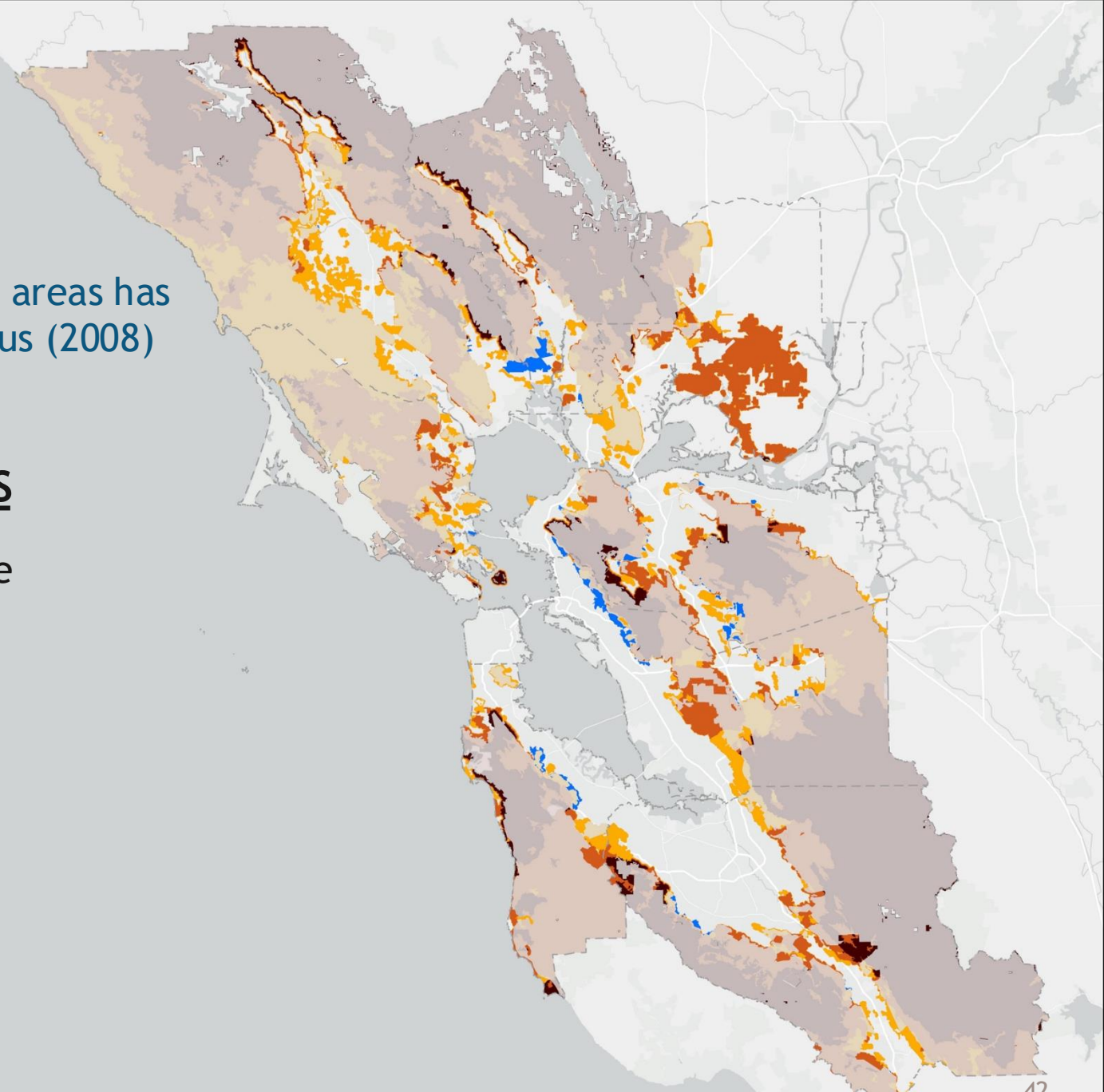
 Technical Assistance
for Local Planning
HOUSING

New Fire Hazard Severity Zone Maps (2025)

Across the region, wildfire hazard coverage in local areas has increased by 415,000 acres compared to the previous (2008) maps.

LEGEND: 2025 FIRE HAZARD SEVERITY ZONES

| | Very High | High | Moderate |
|---|---|--|---|
| New areas covered by 2025 maps |  |  |  |
| Area covered by 2008 & 2025 maps |  |  |  |
| Area covered by 2008, but not 2025 maps |  | | |



LEGEND

 Historic Burn
Perimeter
(Past 75 Years)

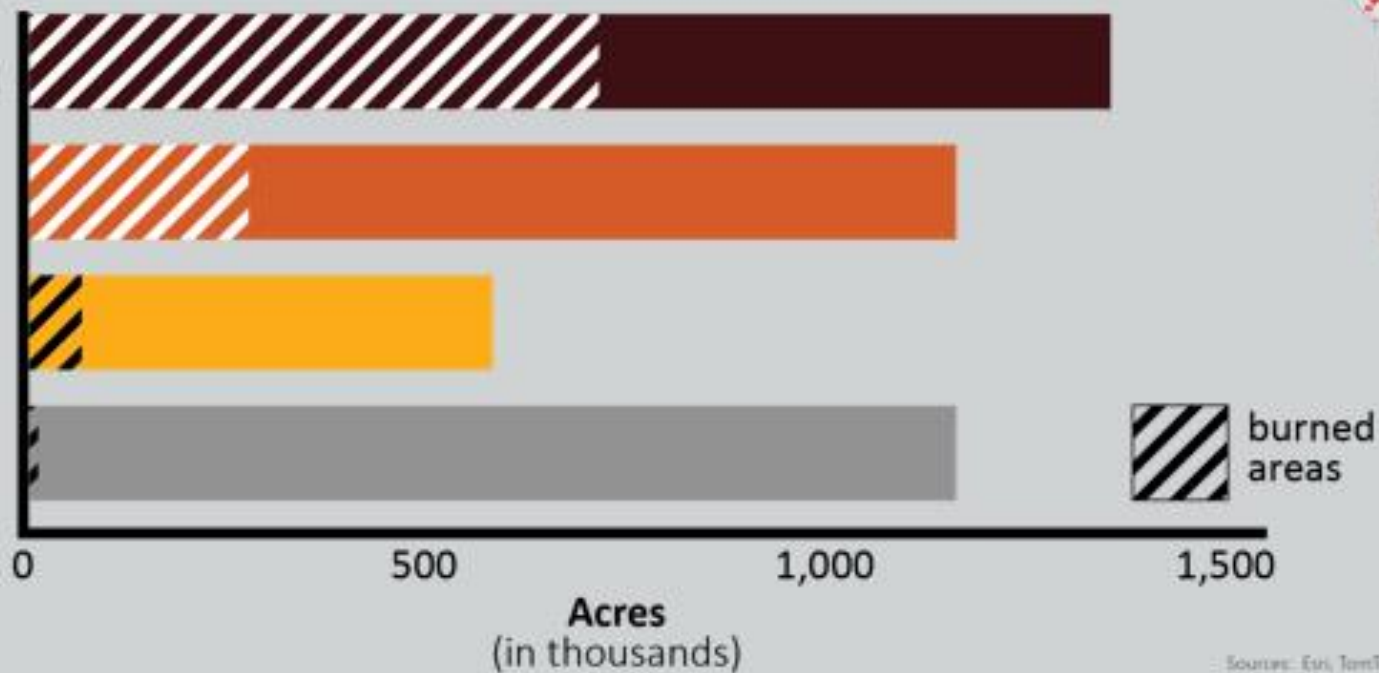
Figure: Share of FHSZ that has burned.

53% of Very High
areas have burned

23% of High
areas have burned

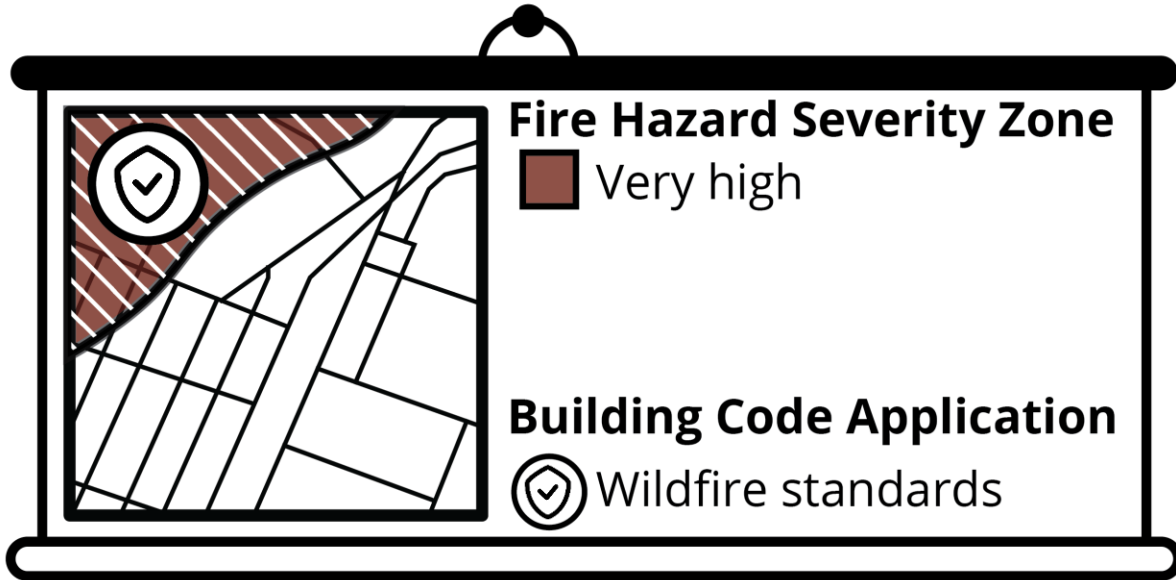
11% of Moderate
areas have burned

1.2% of Not Rated
areas have burned

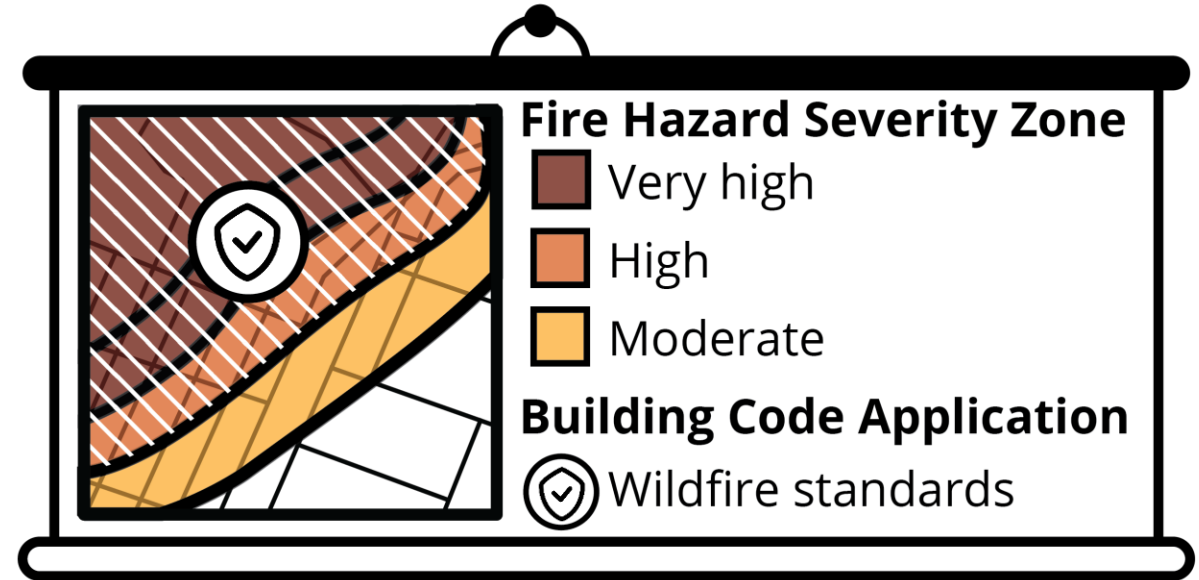


Recent state changes expand where wildfire building standards apply and how wildfire risk is mapped locally.

Prior Condition, 2008-2024

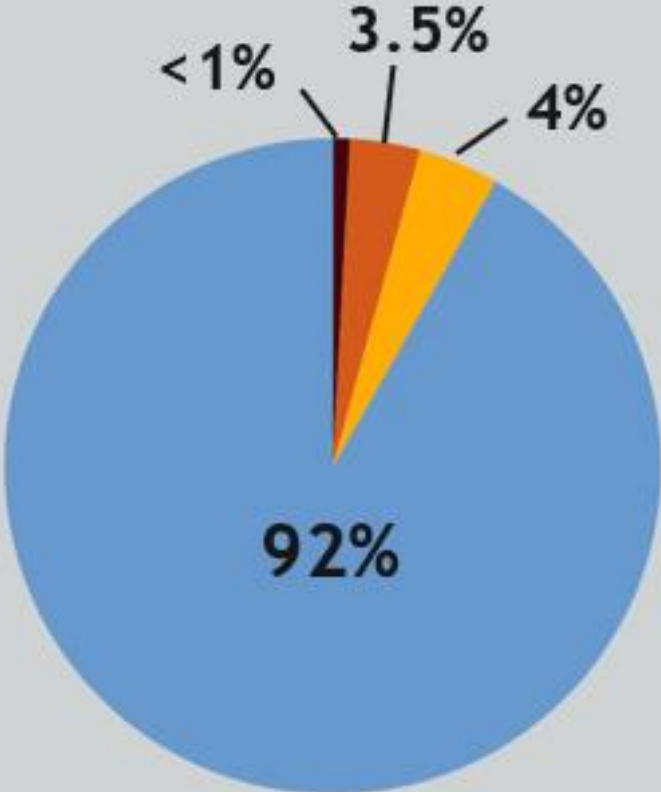


Future Condition, 2026 Onward



Most new housing units in the Bay Area have been built outside FHSZs

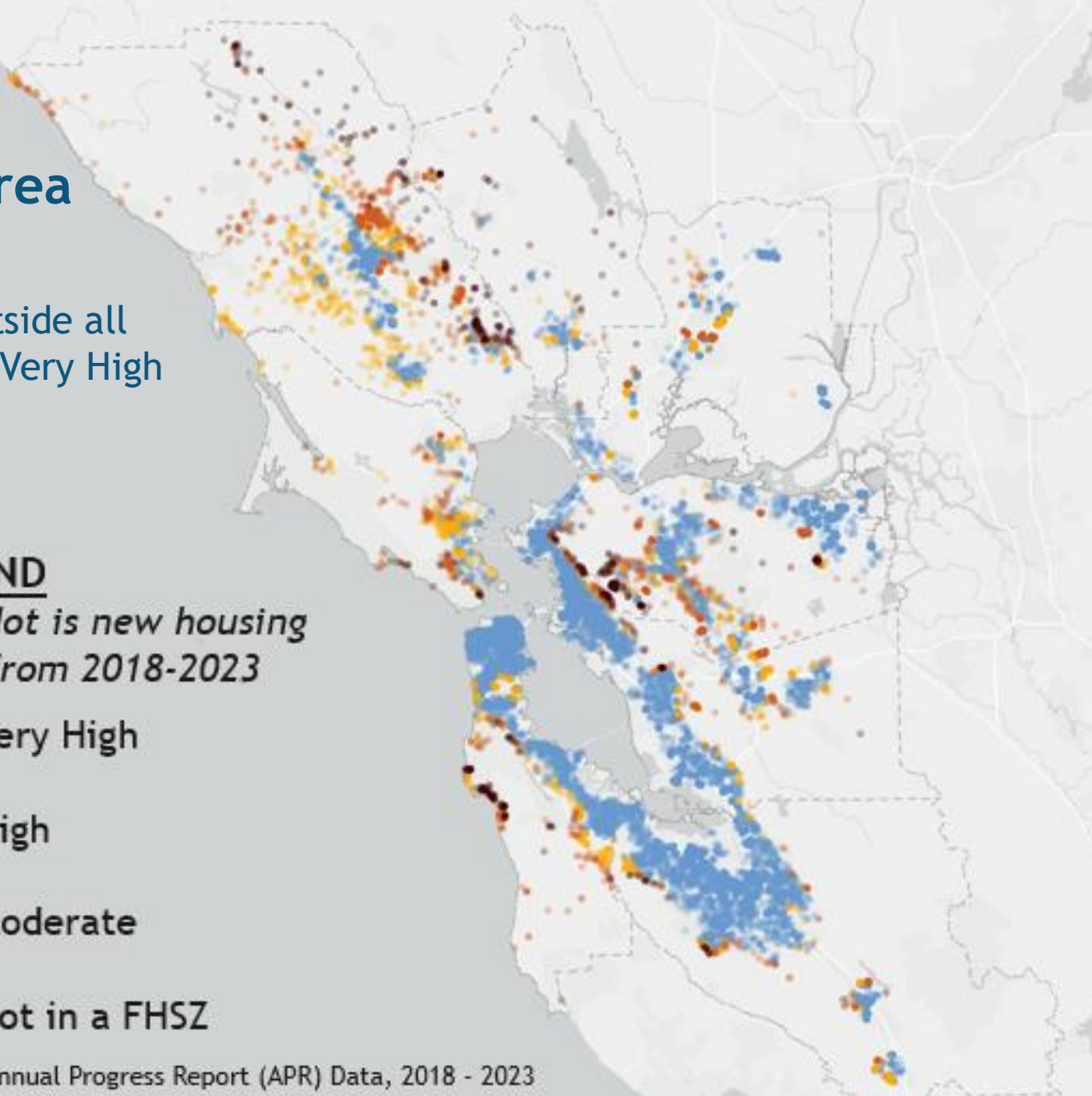
92% of housing built between 2018 and 2023 was outside all FHSZs. Less than 1% of new housing was built in the Very High Zone.



LEGEND
Each dot is new housing built from 2018-2023

- Very High
- High
- Moderate
- Not in a FHSZ

Source: Annual Progress Report (APR) Data, 2018 - 2023



PANEL 2 NEW MAPS & BUILDING CODES



Crystal Sujeski

CalFIRE Division Chief: Code Development and Analysis

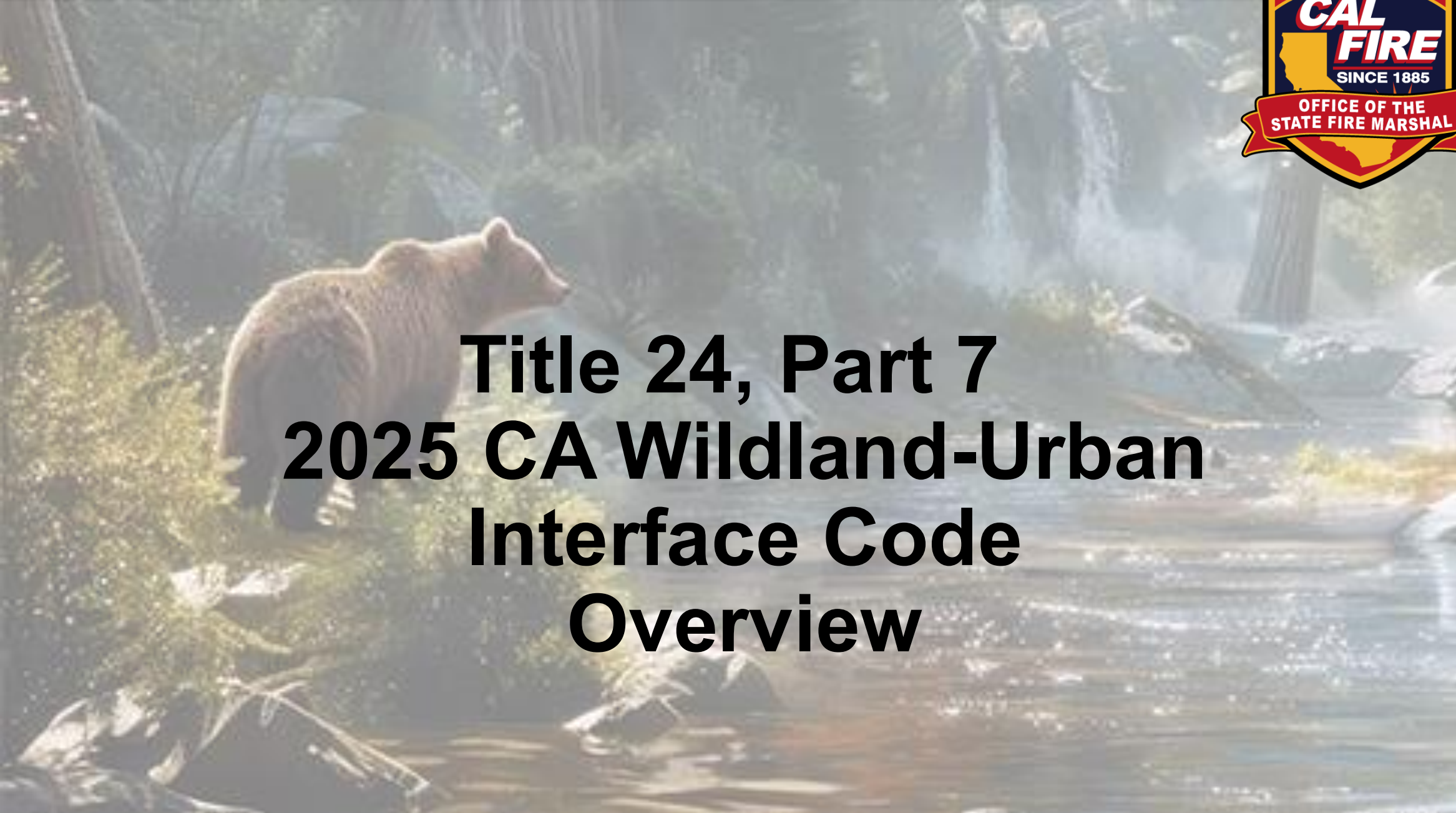
- Where does the building code apply?
- Where has it changed?
- When will changes take effect?
- How does this impact existing buildings?



Colin Arnold

Assistant Chief: Berkeley Fire Department

- Why did Berkeley decide to add local fire hazard maps?
- How does the EMBER ordinance use special mapping to build on state FHSZs?
- What are the EMBER ordinance requirements.

A brown bear is shown in profile, standing on a rocky bank next to a stream. The bear is looking towards the right. The background is a lush forest with tall trees and a waterfall in the distance. The scene is slightly hazy, suggesting a misty or early morning atmosphere.

Title 24, Part 7 2025 CA Wildland-Urban Interface Code Overview

Catalysts

2011-2021

- 1 of every 8 acres has burned
- 173 lives have been lost
- 43,000+ structures destroyed
- Embers identified as a main contributor to building ignition

2025, Palisades Fire

- 12 fatalities
- 6,800+ structures destroyed, 970 damaged
- \$60B estimated property loss



2025 California Wildland-Urban Interface Code (CWUIC)

What is in the CWUIC 2025 Update?

- **One-Stop-Shop**
- **Title 24, Part 7** brings many codes together to create a single point of reference for protecting the WUI. It includes:
 - CBC Chapter 7A building materials, systems and assemblies
 - CFC Chapter 49
 - CCR Title 14 Minimum Fire Safe Regulations
 - Other Regulations Included: Public Resources Code (PRC), Health and Safety Code (HSC), California Government Code (CGC)
 - Other Topics Included: Fire smart vegetation, International WUI Model Code, exterior design and construction of buildings, retrofitting of buildings, local ordinance, reference matrix, cross references, fire hazard severity zones.
- **CWUIC is an overlay to the CBC, CRC and CFC**



CWUIC Table of Contents

Chapters

1. Scope And Administration
2. Definitions
3. WUI Areas
4. WUI Area Requirements
5. Special Building Construction Regulations
6. Fire Protection Requirements
7. Referenced Standards

Appendices

- A. General Requirements *(not adopted)*
- B. Vegetation Management Plan *(not adopted)*
- C. Community Wildland-Urban Interface Fire Hazard Evaluation Framework *(not adopted)*
- D. Model Ordinance for Fire Hazard Severity Zone Adoption *(not adopted)*
- E. *[reserved]*
- F. Characteristics of Fire Smart Vegetation
- G. Voluntary Home-Hardening Recommendations**
- H. Referenced California Documents *(not adopted)*
- I. Board of Appeals *(not adopted)*



Where does the CWUIC Apply? (Chapter 3)

| Fire Hazard Severity Zone | Construction Requirements ¹ Chapter 5 | Defensible Space Requirements ² Chapter 6 |
|---------------------------|---|---|
| State (SRA) Very High | Applicable | Applicable |
| State (SRA) High | Applicable | Applicable |
| State (SRA) Moderate | Applicable | Applicable |
| Local (LRA) Very High | Applicable | Applicable |
| Local (LRA) High | Applicable (New!) | Not Applicable ³ |
| Local (LRA) Moderate | Not Applicable ^{3, 4} | Not Applicable ³ |

¹ HSC Code 13108.5

² PRC4290(a)

³ Can be designated by a local agency ordinance.

⁴ The State Fire Marshal and the Department of Housing and Community Development shall consider if it is appropriate to expand application of the building standards adopted pursuant to this section to moderate fire hazard severity zones.



What do the requirements apply to? (Chapters 4, 5, & 6)

New Development/Construction – Area Requirements (Chapter 4)

- CWUIC reprints the Fire Safe Requirements from T-14 for roadway design, driveways, gates, road signs, address markers, and fire fighting water supply.

New Construction – Building Requirements (Chapter 5)

- CWUIC applies to new buildings and structures with residential, commercial, educational, institutional, or similar occupancy type use, as well as new buildings and structures accessory to those. It applies to Accessory Dwelling Units (ADUs) because they are habitable buildings.
- CWUIC does **not** apply to certain accessory/agricultural buildings and other special building types ≥50' from an applicable building on the same lot.

Existing Buildings – Building Requirements (Chapter 5)

- CWUIC construction requirements are not retroactive and **do not apply** to existing homes. However, the permitted component of an addition or remodel **do apply**.

New & Existing Buildings – Defensible Space (Chapter 6)

- Shall follow CWUIC regulations for defensible space requirements. Includes specific details on type of vegetation, spacing and massing requirements for shrubs and trees, as well as specifics for fencing, firewood, and outbuildings.



When do requirements apply and when will the code be updated next?



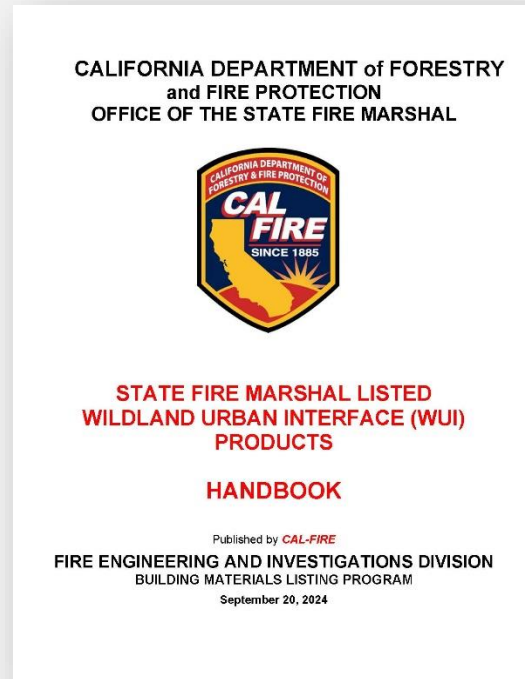
The interim code cycle update may consider changes to non-combustible materials, assemblies, and will incorporate the latest research.



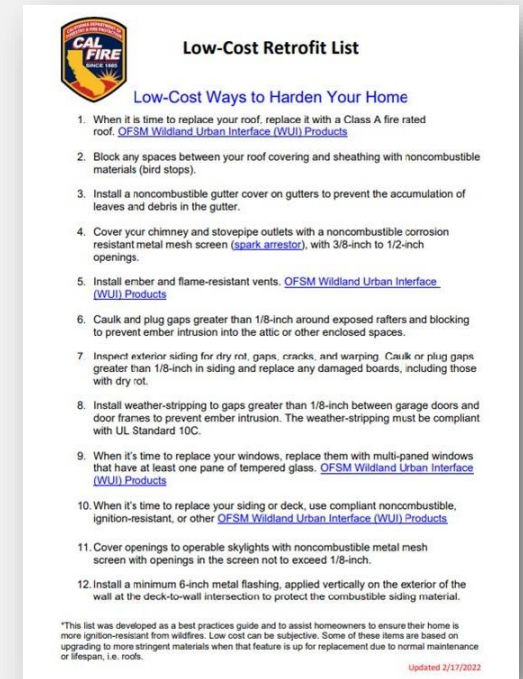
Highlighting a few key resources



[Building Materials Listing Webpage, OSFM](#)



[2022 WUI Listed Products Handbook](#)



[Low-Cost Retrofit List \(2 pages\)](#)



Thank you!

Crystal Sujeski

Crystal.Sujeski@fire.ca.gov

[Subscribe to Newsletter | OSFM](#)



Effective Measures for Berkeley's Ember Resilience

The experience-based, scientifically-validated set of measures that must be undertaken as a whole, at neighborhood scale, if we wish to reduce the risk of loss.



Fire Continues to Exploit Key Vulnerabilities

Maintaining the status quo will continue to result in similar outcomes


| Fire Name | County | Acres | Date | Structures | Deaths |
|---------------|------------------------|---------|---------|------------|--------|
| Lahaina | Maui | 2,170 | 08/2023 | 2,200 | 102 |
| Camp | Butte | 153,336 | 11/2018 | 18,804 | 86 |
| Tunnel | Alameda | 1,600 | 10/1991 | 2,900 | 29 |
| Thomas | Ventura, Santa Barbara | 281,893 | 12/2017 | 1,063 | 23 |
| Tubbs | Napa, Sonoma | 36,807 | 10/2017 | 5,643 | 22 |
| Eaton | Los Angeles | 14,117 | 01/2025 | 7,000+ | 16 |
| North Complex | Plumas, Butte | 318,935 | 08/2020 | 2,352 | 15 |
| Cedar | San Diego | 273,246 | 10/2003 | 2,820 | 15 |
| Palisades | Los Angeles | 23,713 | 01/2025 | 5,000+ | 25 |

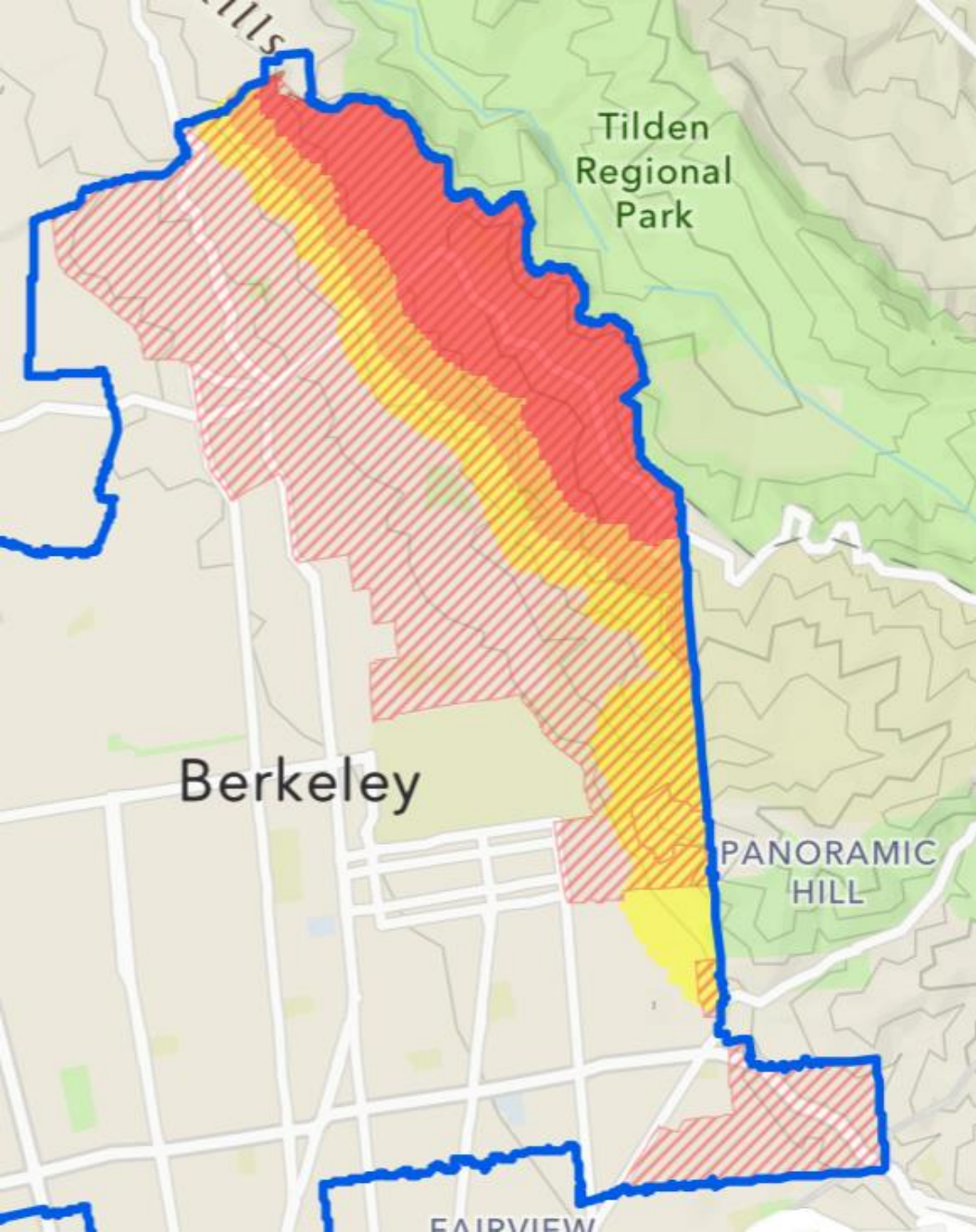
Background on the EMBER Ordinance

Timeline to develop the EMBER Ordinance

- Met with elected officials to confirm interest.
- 1st draft of the ordinance we developed in just two weeks. There were existing resources to pull from.
- 1st draft to council approval took 4 months.
- Final approval to implementation will take 6 months.

Presentation Outline

- **Where** the EMBER Ordinance Applies.
 - **What** the EMBER Ordinance Requires.
 - **When** the EMBER Ordinance will take effect.
- 



Mapping Starting Point

2019 City of Berkeley Adopted FHSZ

 Very High

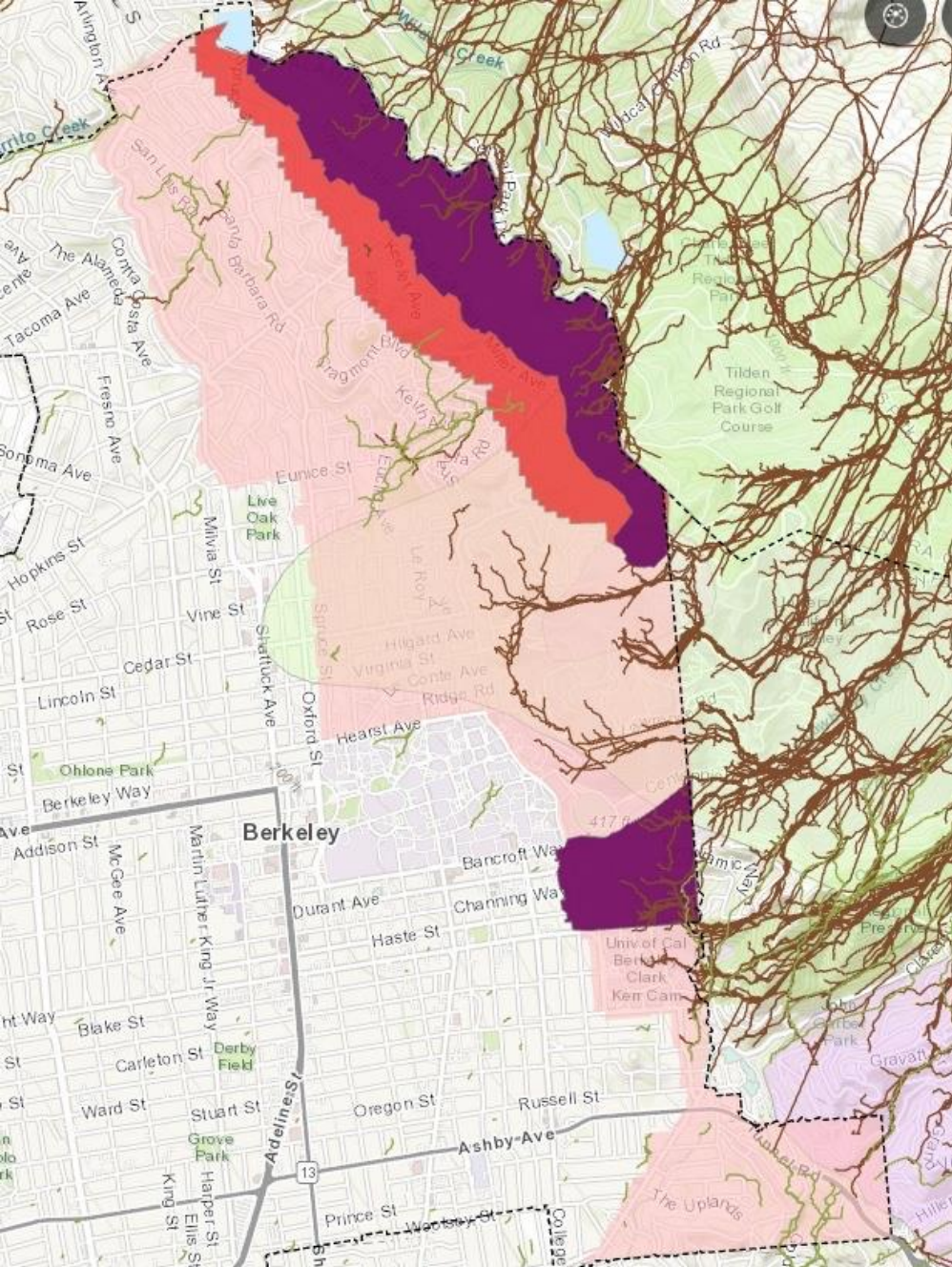
2025 CAL FIRE FHSZ Recommendations

 Very High

 High





 Moderate

The updated maps didn't reflect important local characteristics.



Additional local mapping expanded the CAL FIRE zones and relate to the EMBER Ordinance.

Legend – City of Berkeley Local Mapping (2025)

-  **High Severity Zone**
Home hardening code
-  **Very High Severity Zone**
Home hardening + basic defensible space
State Board of Forestry TBD
-  **Very High Severity Zone & Phase 1 Mitigation Areas**
Home hardening + additional defensible space restrictions (zone zero)
-  **Fire Pathways**

Within the first 5 feet of the home:

- Up to 10 moveable pots of vegetation allowed; only items easily moved on high fire danger days permitted.
- No other vegetation or combustible mulch permitted.
- Portions of fences within 5 feet of, or that connect to, a structure must be non-combustible.
- No climbing vines within 5 feet of structure. Portions of trees within 5 feet of the home (extending to the sky) must be removed. If removal would damage the tree, heavily thinned.

Between 5-30 feet of the home:

- No vegetation that provides a pathway for fire to the home (e.g. hedges, closely spaced plants).
- Plants limited to groupings of 3, with nothing larger than 10' diameter.

EMBER Ordinance Defensible Space Enforcement

EMBER Ordinance Building Code Amendments

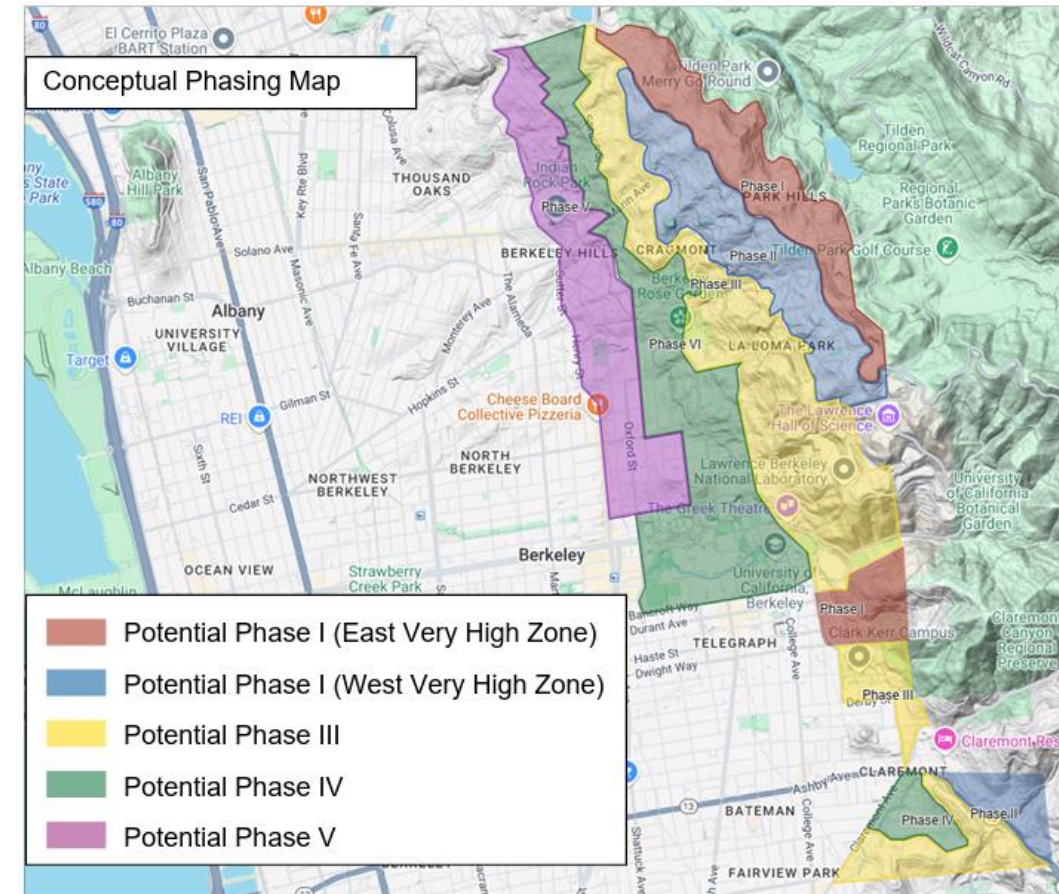
Building code amendments include:

- Close the loophole that allows for the partial replacement of **wood shake roofs**.
- Close the loophole that allows for the partial replacement of **wood shake siding**

The City is researching **incentives, loans** and other opportunities that encourage retrofitting and offset the burden to homeowners

Prioritizing High Risk Areas

- The highest risk areas of the built environment are where ember cast from vegetation along fire pathways is likely.
- Addressing these areas first:
 - Prioritizes enforcement and mitigations with limited resources.
 - Creates a buffer along the edges of the community to help prevent the transition of fire from vegetation to densely spaced structures.



Next Steps



Working Group

- Clarifying Adopted Language
- Tracking and discussing the State process
- Sounding board for outreach and concerns
- Additional public portal



Coaching & Outreach

- Dedicated intern staff to re-build the relationship
- FireWise Ambassador engagement

I'm told I talk too fast...



[More detail is available in the City of Berkeley's Story Map!](#)

Q&A - Panel 2

Don't be shy! Ask away!



Crystal Sujeski,
CAL FIRE



Colin Arnold,
City of Berkeley



Ask your question by raising your hand by clicking on the hand icon

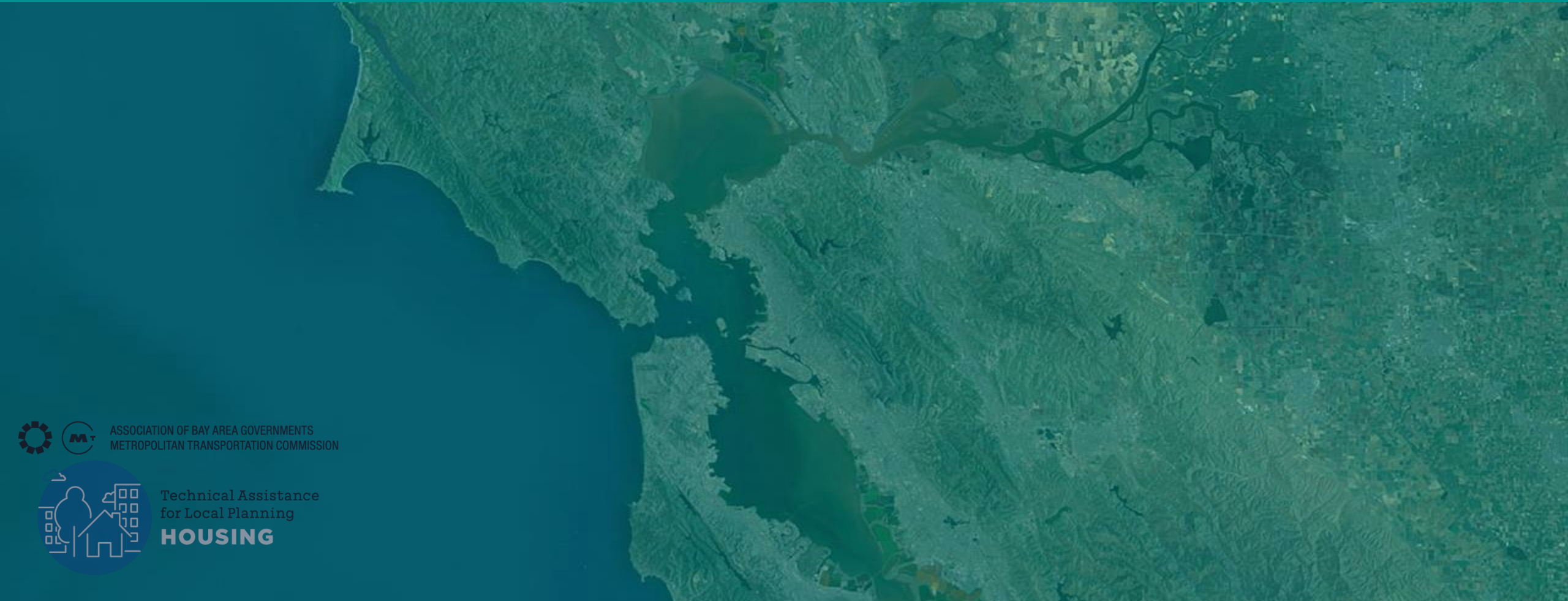
or

Type your question in the chat



Audience Sharing

What has this work looked like in your jurisdiction?



Upcoming Opportunities and Recent Resources

Training & Webinars

- **CALFIRE & Community Wildfire Planning Center**
 - [In Person Training: Land Use Planning for Wildfires in California](#)
 - November 18, El Dorado Hills (nearest to the Bay Area)
- **Institute for Local Government (ILG)**
4 part webinar series [Advanced Wildfire Risk Reduction - Strategies and Tools for Local Governments](#)
 - November 13, A Local Leader's Toolbox
 - January 26, CEQA and How It Impacts Your Wildfire Efforts
 - Prior meeting recordings are available.
- **CivicWell**
 - October 28 (11am - 12pm), [CEQA Reform](#), will provide an overview of AB 130.

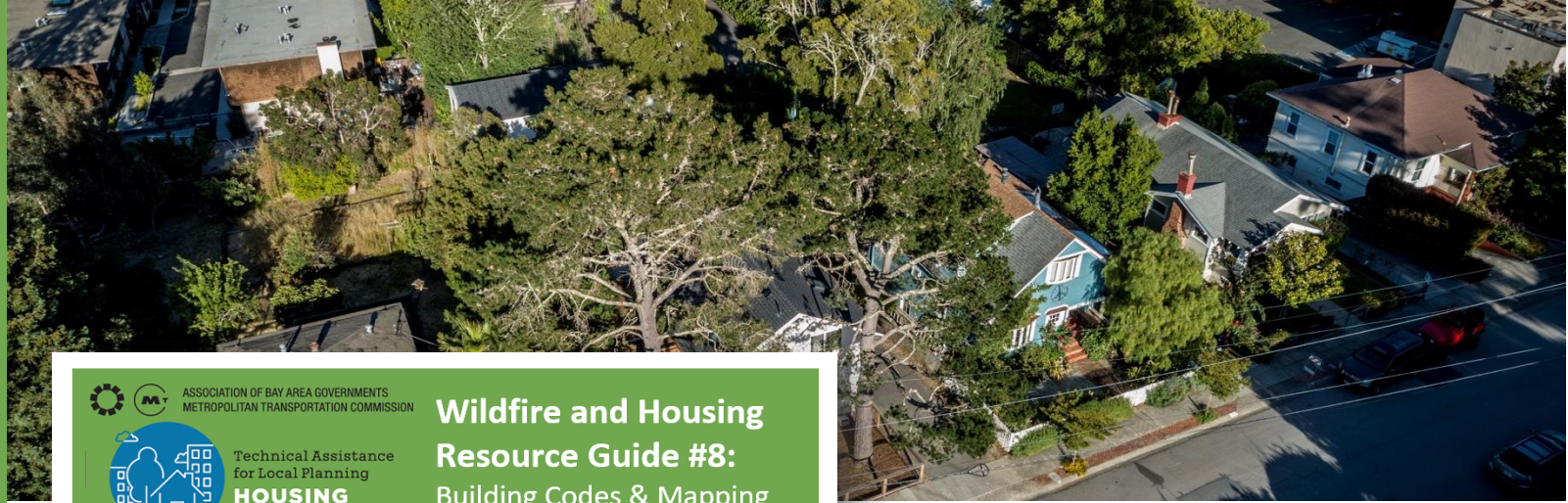
Resources

- **League of California Cities**
 - [City Attorney White Papers: Housing Needs, CEQA & Fire](#) (Oct 2025)
 - [Zone Zero FAQ](#) (Sept 2025)

Resource Guide #8

This document will provide practical resources and examples to accompany this webinar.

It builds on the resource guides from the 2021 workshop series.



Wildfire and Housing Resource Guide #8: Building Codes & Mapping

Introduction – What this Guide Covers

This resource guide provides a synthesized overview of how recent changes are shaping wildfire-resilient housing in California. Organized around key elements of wildfire-housing mitigation, it offers insights into:

- **Where wildfire hazards are mapped**
An update on the state's Fire Hazard Severity Zone (FHSZ) maps, regional trends, and examples of additional local modeling efforts.
- **What building standards apply**
A summary of updates to the state building code, its expanded application across FHSZ zones, and local adjustments to strengthen resilience.
- **What is the cost of home hardening**
Highlight two studies that estimate the cost of implementing home hardening measures in both new residential construction and retrofitting existing homes in California.
- **How communities are addressing existing wildfire risk to housing**
A look at programs that support retrofitting homes in vulnerable areas to reduce wildfire exposure.

Together, these elements provide a snapshot of wildfire-resilient housing efforts and a framework for developing policies and programs that advance fire-adapted communities.

Fire Hazard Severity Zone Mapping

Knowing where wildfires are likely to occur helps communities strategically invest in wildfire resilience measures.

Updated Fire Hazard Severity Zone Maps & Methodology (2025)

CAL FIRE released updated Fire Hazard Severity Zone (FHSZ) maps for Local Responsibility Areas (LRA) in February 2025, replacing maps developed in 2007–2009. The updates incorporate advancements in science and localized climate data, factoring in elements such as fire history, terrain, fuel loads, urban vegetation, wind-blown embers, and flame lengths to estimate the likelihood and behavior of wildfires over a 50-year horizon. CAL FIRE FHSZ maps are developed by the state and adopted by local jurisdictions. In addition, some Bay Area jurisdictions have created their own mapping layers which serve as additional tools for local wildfire planning.

 Click for [CAL FIRE's videos that provide background on how the FHSZ maps are made and used.](#)

How FHSZ maps changed in the Bay Area

In the Bay Area, the FHSZ update changed the landscape of wildfire hazard. The Local Responsibility Area (LRA), primarily incorporated cities and towns, now has 475,000 acres classified by a fire hazard severity, up from only 60,000 acres previously. Much of this jump is because CAL FIRE now maps not just very high zones but also high- and moderate-hazard areas in these maps. The increase is pronounced, but it is not uniform. While some

Includes:

- ✓ Where wildfire hazards are mapped
- ✓ What building standards apply
- ✓ How much home hardening costs
- ✓ How communities are addressing existing wildfire risk to housing

Next Steps

Let us know if you have ideas about how MTC-ABAG can provide meaningful technical assistance in the wildfire and housing space.

We'd love to have a 1:1 meeting with you to discuss!



After the webinar, staff will:

- ✓ **Publish this presentation**, recording, and resource guide to the ABAG Technical Assistance Portal.
- ✓ **Review feedback** from today's polls and chat to identify future technical assistance initiatives.
- ✓ **Share email updates** on new resources and trainings on this topic as we hear about them.

For questions or additional input, please contact Michael Germeraad mgermeraad@bayareametro.gov