

Marin Wildfire Prevention Authority

Adapting to a Future with More Fire

Marin Water Board of Directors
March 14, 2024

Mark Brown – Executive Officer



MWPA Origin: Lessons Learned from 2017 North Bay Wildfires



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.”*

Key Recommendations

Form a Joint Powers Authority

- No single agency exists to coordinate fire prevention efforts
- Need to integrate county-wide prevention and risk reduction work
- Need an ongoing source of funding

MWPA Origin: Campaign & Election



- Civic leaders and Fire Chiefs campaigned Cities/Town Councils/Fire Districts for formation of a Joint Powers Authority
- JPA to be funded by **\$0.10/square foot parcel tax**
- **17 of 19 agencies** agreed to join
- **Measure C** – Marin Wildfire Prevention Authority received 70.8% voters' support in March 2020

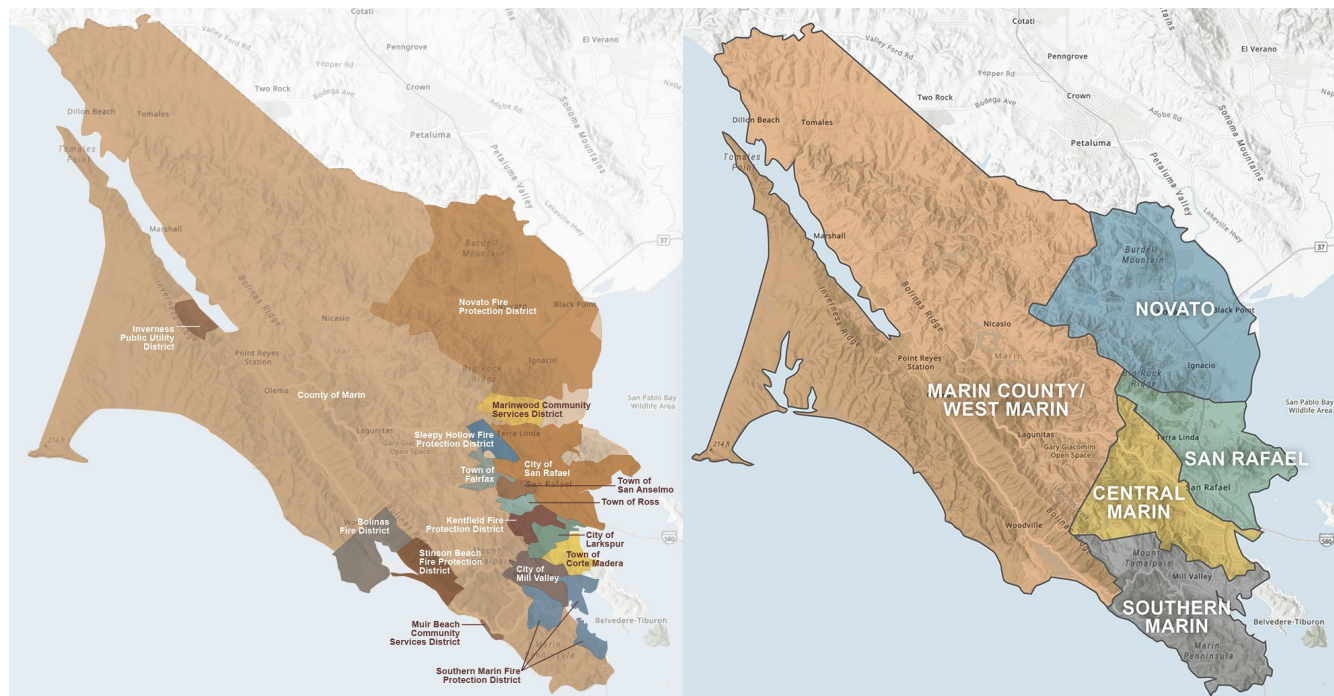


Marin County Measure C		
Result	Votes	Percentage
✔ Yes	75,638	70.80%
No	31,200	29.20%



MWPA Structure

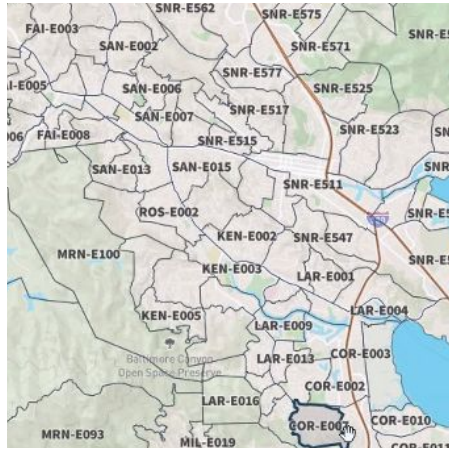
- City Managers and Fire Chiefs built the format of the JPA and wrote the Joint Powers Agreement language
 - 17 Member Agencies
 - Board of Directors
 - Operations Committee
 - Advisory / Technical Committee
 - Citizens Oversight Committee
- Guided by Marin County CWPP and other modeling, data, studies
- Recognizes climate change as an accelerant and ecological resilience as a solution
- Active engagement with land management agencies, environmental nonprofits, and other stakeholders





Reduce Wildfire Fuels

Vegetation Management and Local Wildfire Prevention Mitigation



Improve Evacuation Systems

Wildfire Detection, Alert, and Evacuation Program Improvements



Reduce Risks to Homes

Defensible Space Evaluations (1/3 annually) and Home Hardening



Educate the Public

Public outreach and education about fire prevention, preparedness, and risk reduction



Provide Grants to Residents

Grants to modify homes and partnerships to collaborate and augment funds

MWPA Funding Allocations

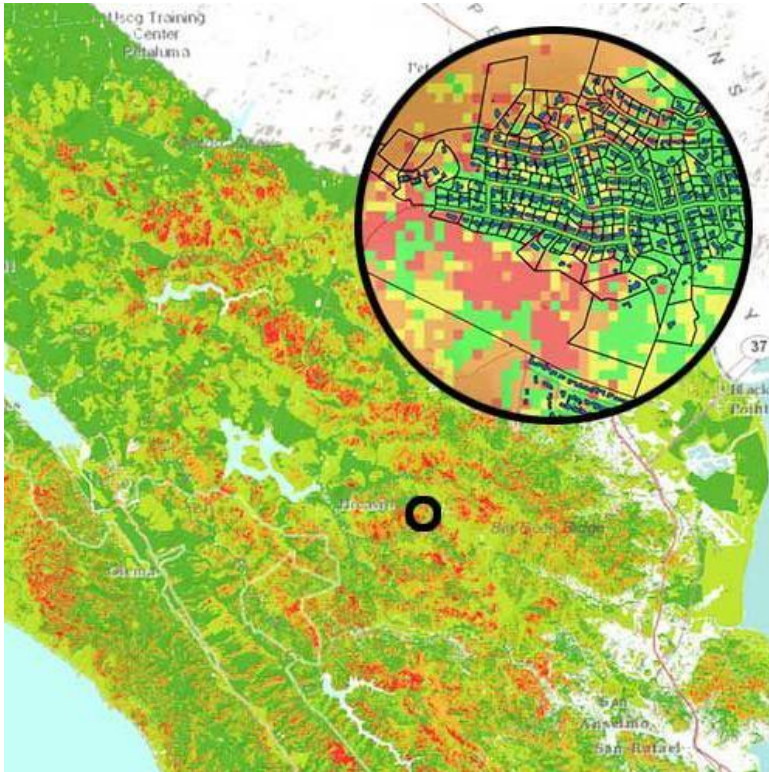


Program Area	% of funds
JPA Core: Cross-Jurisdictional Projects Wildfire Detection & Evacuation Program Improvements, Veg Management/Fire Hazard Reduction, Grants Management, Public Education	60%
Defensible Space Evaluations and Home Hardening (agencies can administer)	20%
Community-Level Wildfire Prevention Mitigation Local jurisdiction fire prevention issues with no funding. Enhanced fire patrols for problem areas, additional fire hazard reduction work, evac route parking issues	20%

Measure C tax was approved for ten years: 2020-2030
~\$21M in revenue per year



Emphasizing importance of individual homes in preventing disaster



Parcel-level data



Harden Homes



Defensible Space



Defensible Space Evaluations

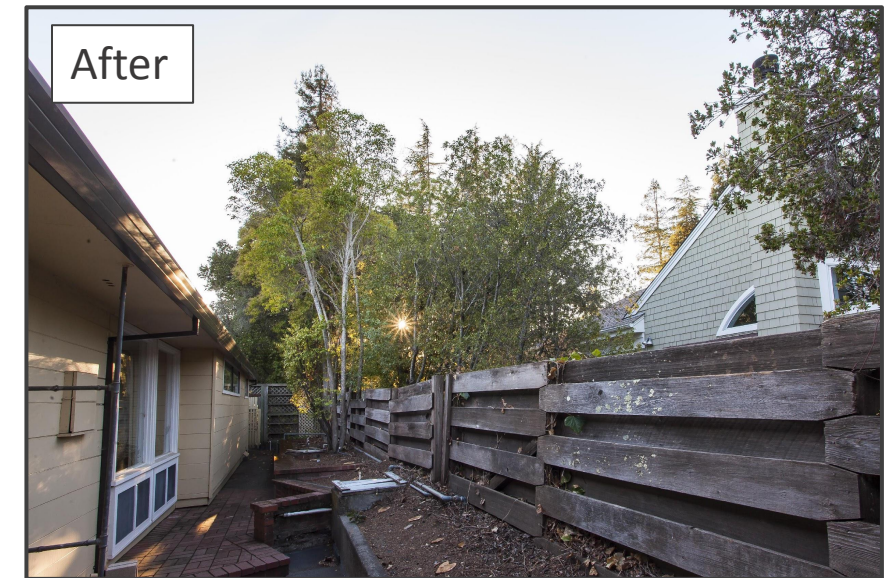
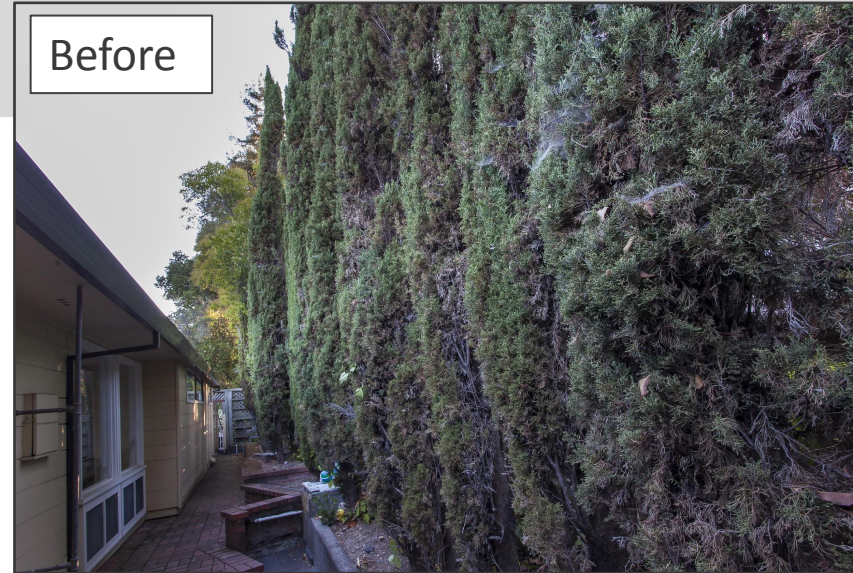
- Nearly 30,884 inspections performed in 2023 (approximately 75,000 residential properties)
 - 6,750 hours of one-on-one engagement
- 60% took action
- Direct Connect to IBHS Wildfire Prepared Home Designation
- Safer from Wildfire Regulations

House-Out Approach



Resident Grant Program

- Direct link from DSpace Evaluation Program
- Defensible Space Grants:
 - Up to \$1,000 per property – no match required.
- Home Hardening Grants:
 - Up to \$5,000 per property – some items require 50% match.
- \$800K allocated for FY 23/24 & \$800K for prior, FY 22/23
- \$595,000 in Measure C funds awarded through the grant program this year has inspired an additional \$8,806,000 of resident investment, a 1:15 ratio.
- Next FY, the program will emphasize direct assistance - hazards cited in defensible space inspections may be mitigated directly by MWPA contractors.



MWPA Grants may be available to help ([learn more](#))

[Click here to start your application](#)

House-Out Approach

Chipper Program

- Free to all residents
- Direct link from our DSpace Evaluation Program
- 2022 Season:
 - All residents have up to 2 pick-up days available to them
 - 3,307 pick-ups
 - 10,507 cubic yards removed (1,051 dump trucks)
- 2023 Season:
 - All residents have up to 5 pick-up days available to them
 - 4,454 pick-ups
 - 14,253 cubic yards removed (1,426 dump trucks)
 - Increase of 35% over previous year



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](#)



 WEBINAR

EVACUATIONS & WARNINGS: HOW TO SURVIVE A WILDFIRE

Tuesday, August 25 @ 6pm

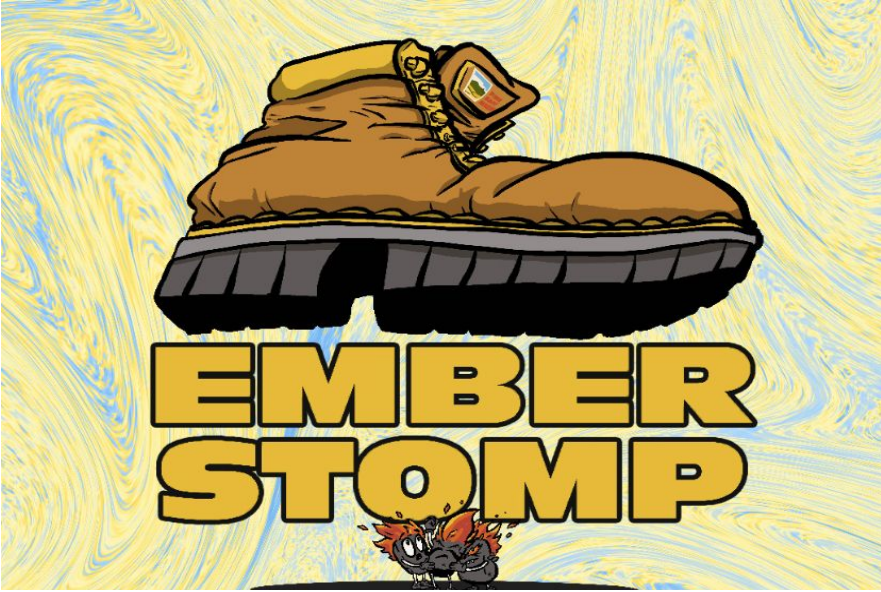
It's Time to Prepare!



**PREPARE FOR WILDFIRE
COMMUNITY WORKSHOPS**

MARIN COUNTY

**FIRE Safe
MARIN**  MARIN WILDFIRE
PREVENTION AUTHORITY



Vegetation Management



Vegetation Management & Environmental Compliance

- Developed an environmental compliance program that incorporated standard practices (Project Design and Implementation Features) into all vegetation management projects to ensure protection of sensitive resources.
- Significant input from environmental organizations.
- Started with “low hanging fruit”: projects with big wildfire risk reduction benefits but that would still qualify for exemptions under the California Environmental Quality Act (CEQA) such as roadside work along evacuation routes





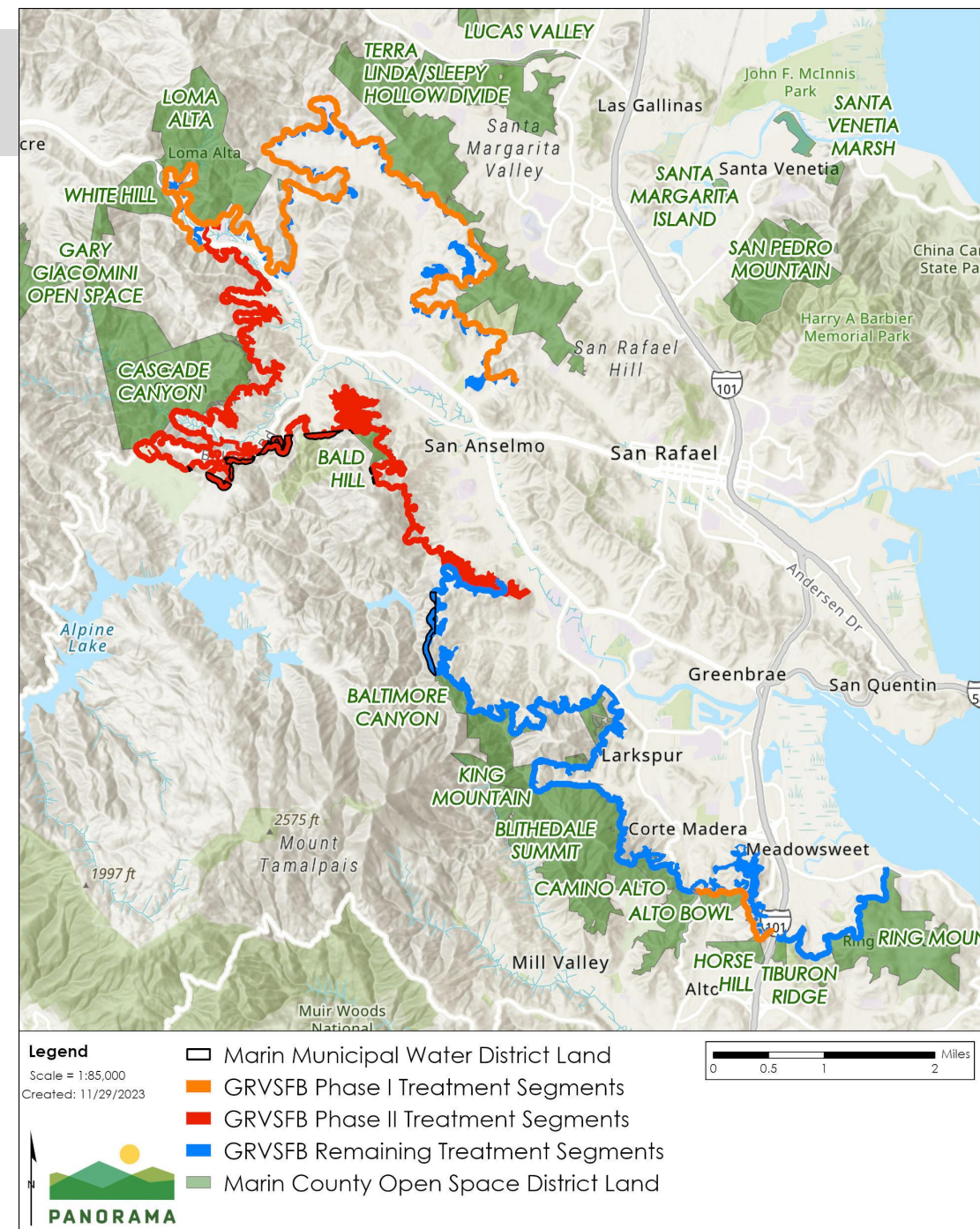
Shaded Fuel Breaks

- Linear shaded fuel breaks function as expanded defensible space zones between homes and wildlands in Wildland Urban Interface
- California Environmental Quality Act compliance for shaded fuel breaks ranges from exemptions to PSA/Addendum under the California Vegetation Treatment Program EIR
- Several levels of community engagement.

Vegetation Management

Example Project: Greater Ross Valley Shaded Fuel Break

- 38 miles in length
- Width generally 100-200 ft, up to 300 ft
- Enhanced defensible space between homes and wildlands
- Public and private lands (approx. 1,700 parcels):
 - County/unincorporated
 - City of Larkspur
 - City of Mill Valley
 - Town of Fairfax
 - Town of Ross
 - Town of Corte Madera
 - Town of San Anselmo
 - Kentfield
 - Marin County Open Space / Parks
- Approx 21 miles complete (Phase 1 and portion of Phase 2)





Vegetation Management

Greater Ross Valley Shaded Fuel
Break, post-treatment





**Photo: Alan Dep, Marin Independent Journal
Lassen Fire, September 2021, San Rafael, California**

- Genasys/Ladris AI Evacuation Planning Platform
- Long Range Acoustic Devices (LRAD)
- NOAA Radios
- Evacuation Ingress/Egress Risk Assessment
 - Worked with large team of consultants and technical advisory team to perform ingress/egress risk assessment of all roadways in JPA
 - Started with State-of-the-Science review of wildfire evacuations: factors leading to civilian fatalities in previous incidents.
 - Use those factors to inform future projects in Marin



Evacuation Literature Review

Components of a successful evacuation:

1. Immediate identification of wildfire threat and ongoing understanding of the fire's behavior
2. Timely and successful dissemination of evacuation alerts and communications
3. Timely and organized departure of residents and the public
4. Safe and efficient evacuation (generally along roads)
5. Arrival at designated or pre-determined safe spaces unharmed



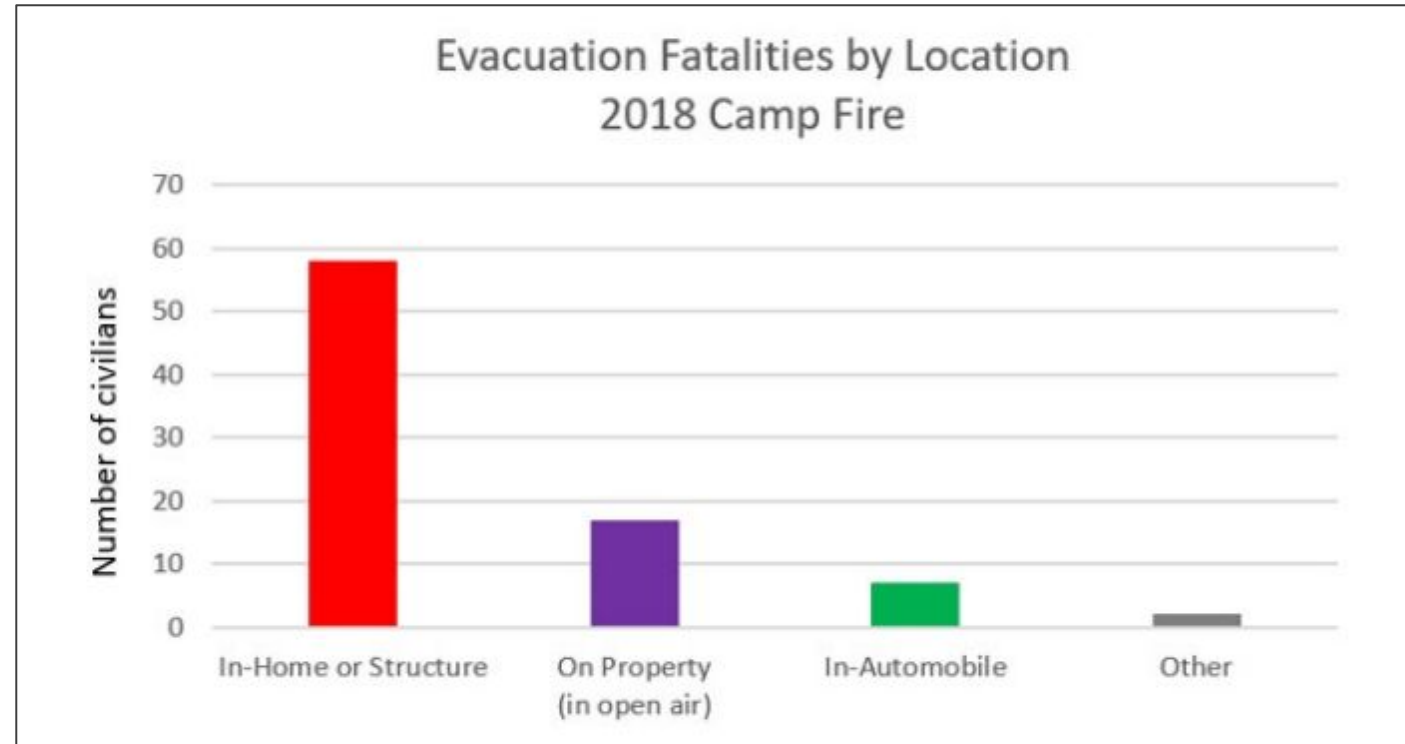
Available at marinwildfire.org



Evacuation Literature Review

Combination of physical and social risk factors affect outcomes. **Most civilian fatalities can be attributed to 3 major factors:**

- Extreme fire behavior near populated areas and evacuation routes (winds, lack of vegetation management)
- Failures and/or delays in alerting and communications systems (cell towers, limited access to technology, distrust of government, public transit, tourists, homeless)
- Delays in evacuee departure (elderly, disabled, long-time residents, pet-owners, etc are especially vulnerable)





Current Conditions Present Evacuation Difficulties

Table ES-2. Fixed and variable risk factors used in the aggregate fire and fuels difficulty score.

Fixed Risk Factors	Variable Risk Factors
Burn Probability	Near-Road Ignitions
Wildfire History	Rate of Spread
Wildland Urban Interface (WUI) Boundaries	Flame Length
Waterway Locations	Hydrant Locations
Structure Density	Key Infrastructure
	Safe Locations

Table ES-3. Fixed and variable risk factors used in the aggregate roadway difficulty score.

Fixed Risk Factors	Variable Risk Factors
Road Slope	Near-Road Flame Length
Road Elevation	High-Collision Roadways
Road Complexity	Key Evacuation Route Intersections
Number of Intersections	Fire Engine Accessibility
Main Evacuation Route	Roadway Condition
Structure Density	
Safe Locations	
Key Infrastructure	
Burn Probability	



Current Conditions Report: Evacuation Difficulty

Table ES-4. Fixed and variable risk factors used in the aggregate communication difficulty score.

Fixed Risk Factors	Variable Risk Factors
Resident Population Tourist Population Elderly Population Child Population Land Use Income Vehicle Ownership Commuting Workers Commuting Students Adult Gender Ratio	Cellular Coverage Region (Data and Voice) Alert Marin Subscriptions Linguistic Isolation Commuting Non-Driving Students

Evacuation Difficulty Map



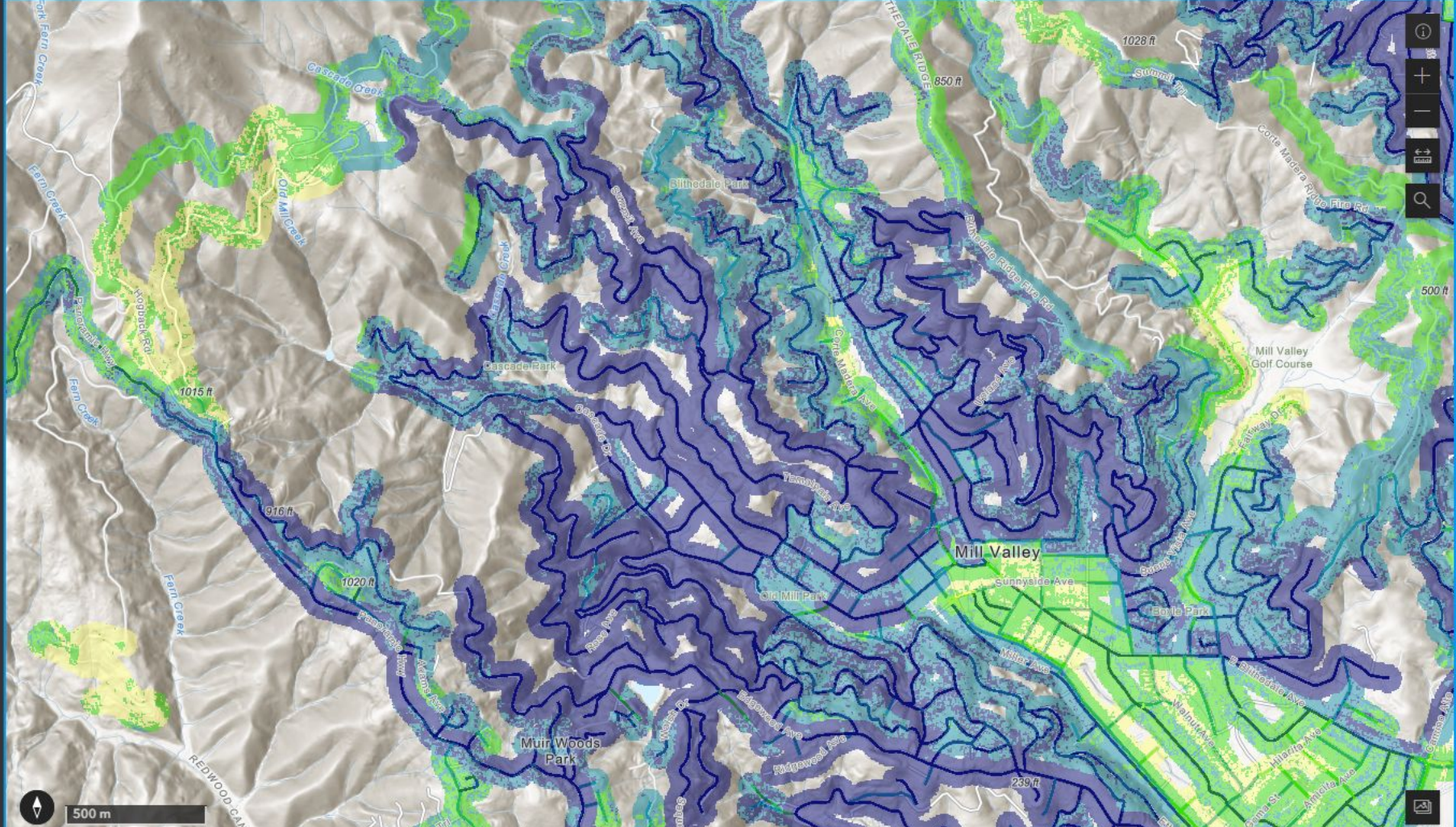
Marin Evacuation Difficulty Map -- Public Viewer Current Conditions Evacuation Risk Assessment Report

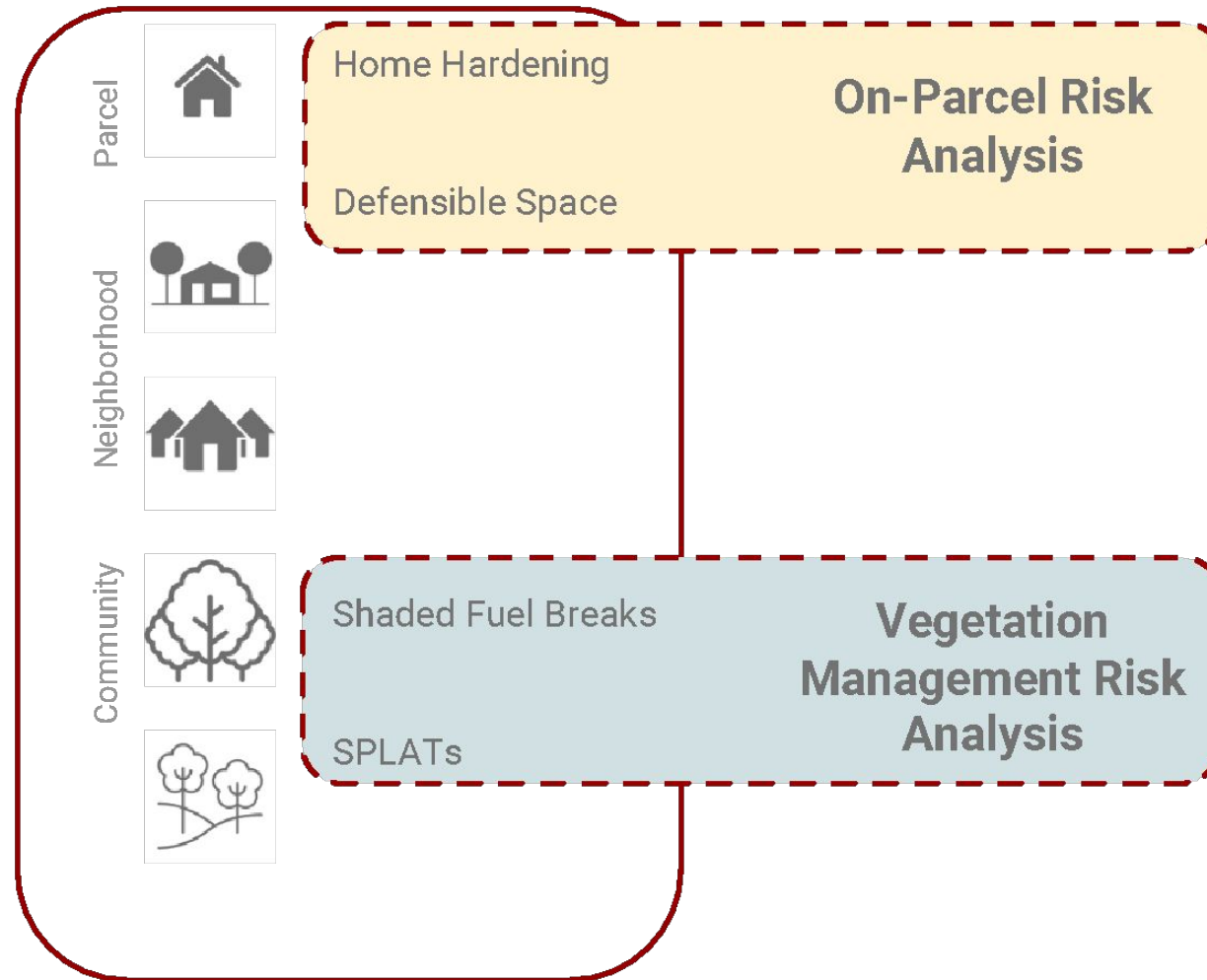


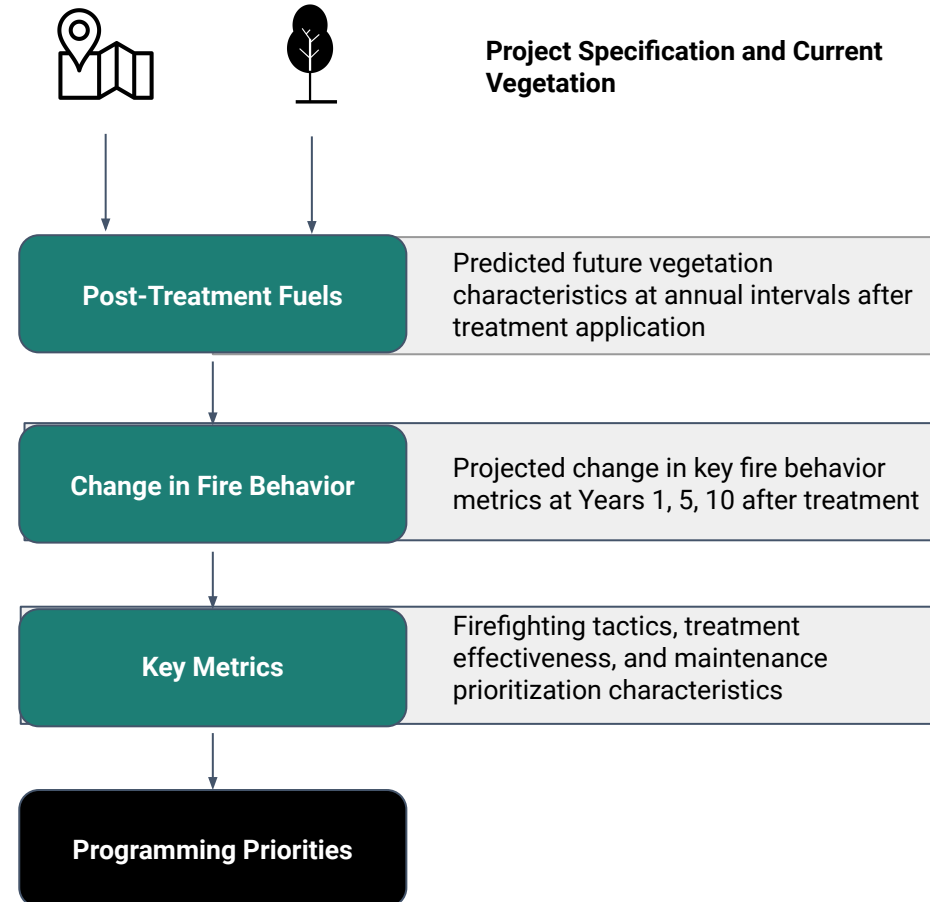
For planning purposes only, do not use in the event of an evacuation. For evacuation status, please visit <https://emergency.marincounty.org>

- Legend
- Basemap Gallery
- Details
- Layers
- Info

- Marin Mitigation Projects (12/13/23)
- Contextual Information Layers
- Land Ownership
- Combined Aggregate Difficulty Score Map
 - Aggregate Difficulty Score (Fire & Fuels, Communications, and Roadway (50m road buffer area))
- Roadway Difficulty Score
 - Aggregate Roadway Difficulty Score Map
- Fire and Fuels Difficulty Score
 - Aggregate Fire & Fuels Difficulty Score Map
 - Variable Fire & Fuels Layers Difficulty Score Map
 - Fire & Fuels Variable Risk Layers (1: Low Risk; 5: High Risk)
 - Fire & Fuels Fixed Risk Layers (1: Low Risk; 5: High Risk)
- Communication Difficulty Score







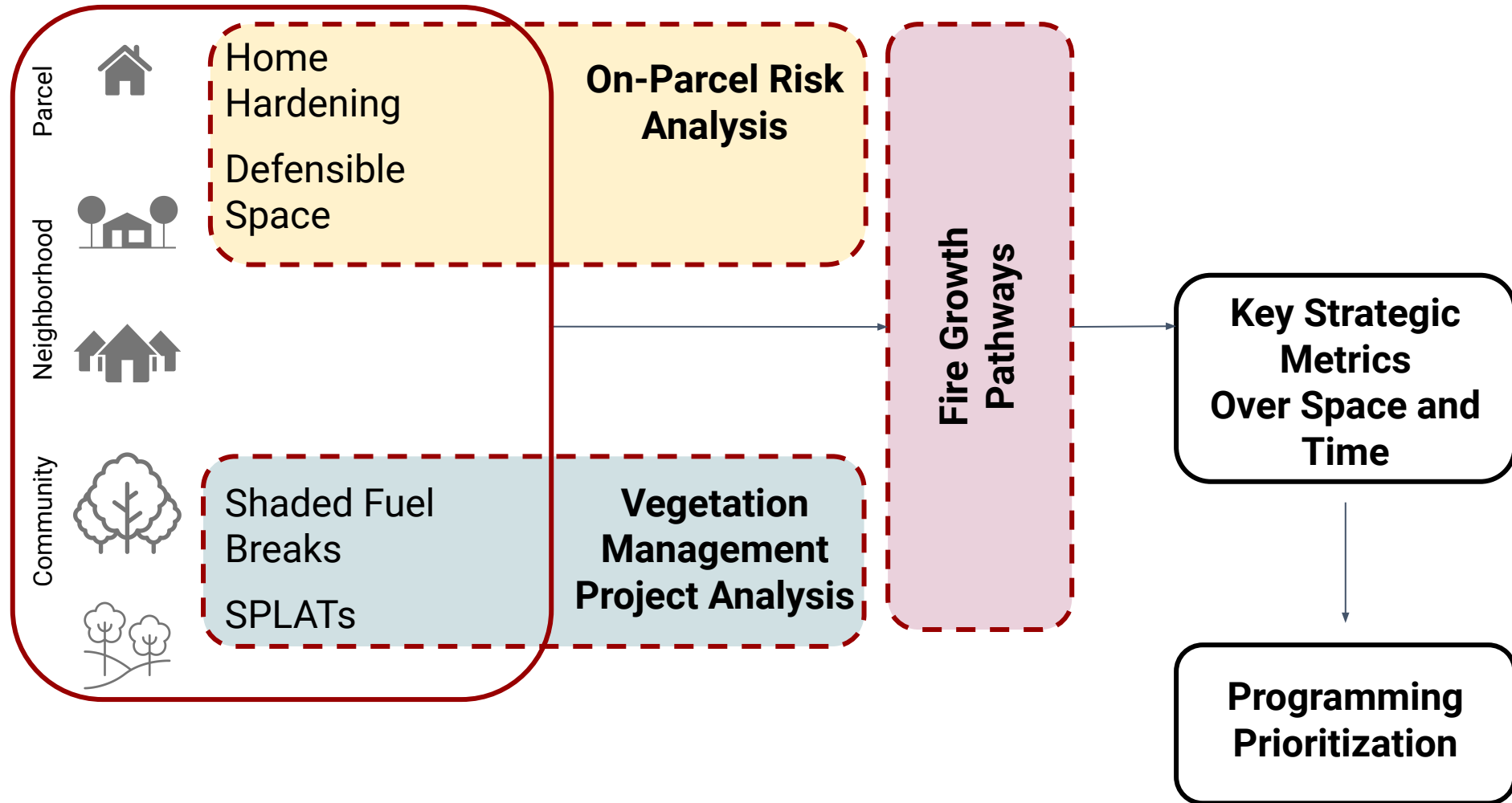


Fire Pathways Modeling

Emerging wildfire modeling technique that delineates fuel, topography, and wind combinations supporting rapid fire growth.



Altering Fire Behavior



Partnering with Marin Water

- Alignment of CWPP/Marin Wildfire Work Plan/BFFIP/
Forest Health Strategy
- Grant Applications
- Intersecting Projects
- Intersecting Public Outreach
- Prescribed Fire





Thank you

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marinwildfire.org