

Executive Summary

Emerald Bay Community Association Community Wildfire Protection Plan (CWPP) – Action Plan

The Community Wildfire Protection Plan (CWPP) for Emerald Bay establishes a comprehensive, phased strategy to reduce wildfire risk, protect lives and property, and enhance long-term community resilience. Recognizing the community’s location within a Very High Fire Hazard Severity Zone (VHFHSZ), the Action Plan prioritizes near-term and long-term initiatives focused on structural hardening, vegetation management, evacuation readiness, infrastructure improvements, and funding.

Purpose and Goals

The CWPP’s primary goal is to identify and implement practical, prioritized actions that minimize wildfire impacts. The plan emphasizes collaboration between the community, public safety agencies, and adjacent landowners to reduce hazards through:

- Home hardening and ignition resistance
- Expanded defensible space and fuel modification
- Emergency notification enhancements
- Code and standards improvements
- Evacuation planning and access management
- Strategic funding and grant acquisition
- Long-term vegetation and tree risk management

Priority Actions (Near-Term)

1. Home Hardening (Priority 1)

Given the risk of ember intrusion and direct flame exposure, the highest priority is reducing structural ignitability. The plan encourages retrofitting vulnerable features such as roofs, vents, eaves, decks, windows, and garages.

Key actions include:

- Expanding inspection and compliance efforts
- Promoting cost-sharing and grant programs
- Integrating structure inspections with defensible space programs

- Educating residents on cost-effective retrofit measures
- Exploring triggers for mandatory upgrades during remodels

Improving individual homes reduces not only personal risk but also the likelihood of structure-to-structure fire spread.

2. Expanded Fuel Modification Zones (Priority 2)

Currently, fuel modification extends up to 170 feet along the northern and western perimeters. Fire modeling indicates that extreme fire behavior may occur within 400 feet of the community boundary.

The plan proposes:

- Gradually expanding fuel modification up to 400 feet where feasible
- Coordinating with California State Parks and County of Orange Parks
- Selective thinning and pruning between 170 and 400 feet
- Installing lower-flammability vegetation such as opuntia and coast live oak

The objective is to reduce fire intensity and create a broader buffer between wildland fuels and residential structures.

In addition, homeowners will be encouraged to strengthen defensible space practices, especially within the immediate 0–5 foot “Zone 0” area around structures.

3. Emergency Siren and AI Camera System (Priority 3)

To improve emergency communication during wildfire events or power outages, the plan proposes installing an outdoor emergency siren system with potential AI-enabled fire detection capabilities.

This includes:

- Finalizing the location of the siren and AI camera system (Sweany Reservoir area identified as optimal)
- Coordinating approvals with relevant agencies
- Integrating with broader emergency communication systems

4. Codes and Standards (Priority 4)

The plan recommends ongoing monitoring and potential adoption of enhanced fire-safe building codes and defensible space standards, including:

- Encouraging retrofits consistent with Chapter 7A standards

- Requiring remodels to meet current fuel modification requirements
- Increasing compliance with defensible space regulations
- Conducting annual surveys and enforcement of vacant lot maintenance

5. Access and Evacuation Improvements (Priority 5)

Due to narrow roads, limited access points, and reliance on Pacific Coast Highway for evacuation, improving evacuation safety is critical.

Key strategies include:

- Promoting registration with AlertOC
- Maintaining roadside vegetation clearance
- Managing parking and traffic during Red Flag conditions
- Identifying fallback staging areas
- Improving evacuation route signage

Emerald Bay is located within Laguna Beach Evacuation Zone 12.

Ongoing and Long-Term Initiatives

Funding Strategy

Securing funding is essential for implementation. The plan encourages pursuing grants from:

- CAL FIRE
- Federal Emergency Management Agency (HMGP, BRIC, and post-fire grants)
- State Fire Assistance and Coastal Conservancy programs

The community will research and apply for grants supporting vegetation management, structural hardening, and wildfire resilience planning.

Tree Management and Vegetation Strategy

The plan outlines proactive management of publicly maintained trees, particularly along evacuation corridors, including:

- Crown raising and thinning
- Removal of hazardous or structurally deficient trees

- Ongoing inspections
- Development of a fire-adaptive landscape manual

Homeowners will receive educational guidance on tree maintenance to reduce ladder fuels and crown fire potential.

Additional Wildfire Defense Measures (Long-Term)

The CWPP recommends evaluating supplemental infrastructure options such as:

- Perimeter water cannons
- Pool-based water pump systems
- Expanded hydrant and pipeline infrastructure

Feasibility, cost, water supply, and effectiveness under extreme conditions must be analyzed before implementation.

Conclusion

The Emerald Bay CWPP Action Plan provides a structured, risk-based roadmap for wildfire mitigation. Immediate priorities focus on strengthening homes, expanding defensible space, and improving emergency notification systems. Longer-term efforts address vegetation management, infrastructure resilience, evacuation safety, and sustainable funding.

Through coordinated action, resident participation, and strategic investment, the community hopes to significantly reduce wildfire risk and enhance long-term resilience in a high-hazard environment.