

Monrovia Community Wildfire Protection Plan

November 4, 2014

CITY OF MONROVIA | 415 SOUTH IVY AVENUE, MONROVIA, CA 91016



CITY OF MONROVIA
Community Wildfire Protection Plan
Document Organization

Executive Summary/Action Plan —A stand-alone digest of the chapters below. Also includes the signature page.

Chapter 1, Plan Introduction—An introduction to the document, the planning area, and the City of Monrovia Fire Department.

Chapter 2, City of Monrovia Fire Safe Planning Process—Summarizes the process used to develop this Fire Plan.

Chapter 3, Wildfire: Current Environment and Behavior—Introduces wildfire concepts and issues in the planning area, including a summation of a fire behavior analysis.

Chapter 4, Fire Ecology and Management of Vegetation Types—Summarizes the common vegetation types found in the planning area, their fire ecology, and conservation and fuel management considerations.

Chapter 5, The Home Ignition Zone – Explains how home ignition can be avoided using best management practices in building construction, retrofitting and landscaping; also summarizes existing building codes and discusses the Ready, Set, Go evacuation program.

Chapter 6, Community Features—Describes the community-planning milieu; includes a discussion of land ownership and management.

Chapter 7, Fire Protection Organizations—Summarizes current fire protection resources, agreements and wildfire operational objectives in the City of Monrovia.

Chapter 8, Risk Assessment: Identifying and Evaluating Assets at Risk—Summarizes assets at risk and the community risk assessment process and results.

Chapter 9, Monrovia Fire Safe Action Plan—Identifies actions to reduce risks from wildfire and provide a more sustainable fire safe environment.

Chapter 10, Facilitating Monrovia Fire Safety in the Long Term—Outlines a monitoring strategy and long-term steps to maintain and update this plan.

Appendices—Supporting documents for this Fire Plan.

**Monrovia Community Wildfire Protection Plan
Executive Summary and Action Plan**

I.	Signature Page	ii
II.	Executive Summary and Action Plan Introduction	v
II.A.	Plan Goals, Introduction, and Background.....	v
II.B.	Fire Planning Process Overview.....	vii
II.C.	Fire Safety, Defensible Space, and the Home Ignition Zone	x
II.D.	Monrovia Risk Assessment	xi
III.	Monrovia Fire Safe Action Plan	xii
III.A.	Existing Projects and Actions.....	xii
III.B.	Action Plan Summary.....	xiv
III.C.	Prioritized Fuel Reduction Treatments.....	xv
IV.	Facilitating Monrovia Fire Safety in the Long Term.....	xv
IV.A.	Monitoring and Maintenance.....	xvi
IV.B.	Updating This Plan	xvii
V.	Acknowledgments.....	xvii

I. Signature Page

The Monrovia Community Wildfire Protection Plan:

- Was collaboratively developed. Interested parties and federal land management agencies managing land in the vicinity of Monrovia have been consulted.
- Identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect Monrovia.
- Recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

The following entities mutually agree with the contents of this Community Wildfire Protection Plan:

Oliver Chi, City Manager, City of Monrovia

Christopher Donovan, Fire Chief, City of Monrovia

J Lopez, Assistant Chief,
Natural Resources Section, Forestry Division, Prevention Services Bureau,
County of Los Angeles Fire Department

The following stakeholders participated in the development of this CWPP:

Christopher Donovan, Fire Chief
City of Monrovia

Helmut Scherer, Resident
Monrovia Fire Zone

Cheryl Baines, Neighborhood Leader
Monrovia Area Partnership

Brenda Trainor, Monrovia Business Owner; Member
**Monrovia Community Emergency Response Team
(CERT)**

William Beebe, Planning Commissioner
City of Monrovia

Anthony Villalobos, Trask Boy Scouts Camp Caretaker
San Gabriel Valley Boy Scout Council

Gloria Crudginton, Community Services
Commissioner, **City of Monrovia**

Joannie Yuille, Neighborhood Leader
**Monrovia Area Partnership; Planning Commissioner,
City of Monrovia**

Tom Dittmar, Community Services
Commissioner, **City of Monrovia**

Scott Lowden, Fuels Battalion Chief
Angeles National Forest

Suzanne Dobson, Resident Monrovia Fire Zone,
Coordinator, **Monrovia Community
Emergency Response Team (CERT)**

Kerri Zessau, Acting Recreation Division Manager,
Department of Community Services,
City of Monrovia

Scott Haberle, former Deputy Fire Chief,
City of Monrovia

Rachel Wing, Management Assistant,
City of Monrovia

Barbara Radford, Neighborhood Leader
Monrovia Area Partnership

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II. Executive Summary and Action Plan Introduction

The Monrovia Community Wildfire Protection Plan (CWPP) is a living document, aimed at protecting life safety, homes and infrastructure adjacent to and surrounding Monrovia's natural hillside.

The concept of Community Wildfire Protection Planning arose from the 2003 Healthy Forests Restoration Act in which, amongst other actions, recommended steps to make communities fire resilient was encouraged.

The Monrovia Hillside Wilderness Preserve Resource Management Plan (RMP) supports the CWPP as a natural next step in implementing best management practices related to protecting Monrovia's hillsides and natural resources in our efforts to create a fire safe community.

II.A. Plan Goals, Introduction, and Background

Monrovia is a community at the Wildland-Urban Interface, popularly called the WUI. This is where human development meets the wildland areas. As a result, we acknowledge that Monrovia is a community at risk from wildfire and that damage or expense to our community may increase if we do not take steps to mitigate those hazards related to wildfire.

The Monrovia CWPP evaluates the risks and hazards and then sets forth actions that the community can undertake to reduce risks of wildfire and/or minimize damage if a wildfire occurs, while creating an educational resource to help interpret the emerging science of wildfire protection.

Monrovia's CWPP was developed in the context of a particular commitment to protecting unique community environmental and historic preservation values. Based on the mandate from the RMP, and recognizing that in our community natural resource management and wildfire safety are linked, the CWPP evaluates strong fire safety actions with needed environmental stewardship to strike a balance unique to Monrovia.

Finally, this CWPP was prepared to meet the definition set forth under the Healthy Forests Restoration Act, which provides improved access to Federal and State grant resources.

To that end, the Monrovia CWPP was developed collaboratively, addressing vegetation and structural ignitability while providing prioritized recommendations for building sustainability, defensible space, and fuel reduction projects.

Fire Safe Objectives

In order to effectively take on fire protection, it is important to understand how fire works. Fire is manipulated by fuel, oxygen and heat.

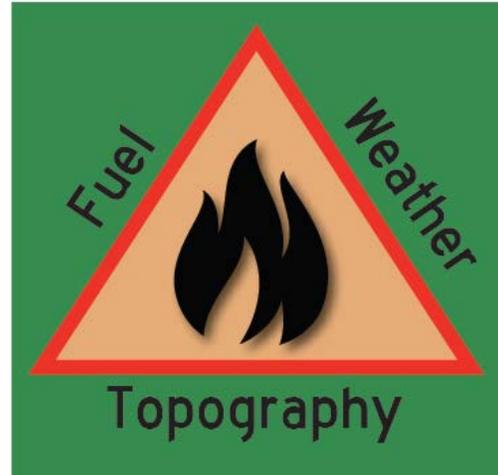
Once ignited, the key to determining how big or fast a brush fire will grow is based upon three major factors: Topography, Fuel and Weather.

TOPOGRAPHY: Southwest facing slopes and steeper terrain, like those found in Monrovia hillsides, are more prone to fire.

FUEL: This refers to how much there is to burn and how easily it ignites. The drier the vegetation, the harder the fire will be to control.

WEATHER: The combination of heat, humidity and wind. Fire season is an approximation at best. Heat, drought and wind may occur every month of the year in California.

EMBERS: The products of combustion that are a major hazard in wildfires, especially those wind-driven events. Some embers can travel several miles, causing wildfires to spread, making them difficult to control.



Monrovia hillsides are dominated by shrub-like vegetation called chaparral. Development around this natural vegetation influences natural fire cycles with emphasis on control as a key fire department strategy.

Chaparral is a much-misunderstood type of vegetation. One of the myths is that chaparral “should” burn frequently in less-intense fires. This myth is a carry over from timber stands, which can be protected from conflagrations by frequent burn-offs. But frequent burns cause chaparral to be replaced by weedy fields, which carry both environmental and fire hazards. Management of chaparral in Monrovia hillsides is taken up in detail in this CWPP.

Removal of large swaths of native vegetation – also known as landscape-level fuel treatment – is not recommended in Monrovia. Based on currently-recognized best practices, we focus on individual homeowner responsibility, and creating defensible space around buildings, roads and infrastructure.

The concept of fire season is changing – we can no longer count on fire season to be limited to the summer and fall months. Instead, fire season is becoming a 12-month phenomenon. The CWPP proposed ways that our fire prevention strategies can adjust to this fact.

Monrovia has rare vegetation requiring special protection; among those is the federally protected Braunton’s milk-vetch. The critical habitat for this plant is along the Lower Clamshell Motorway, an emergency access corridor. CWPP recommends a plan for maintenance of both the motorway and the milk-vetch, in consultation with wildlife authorities.

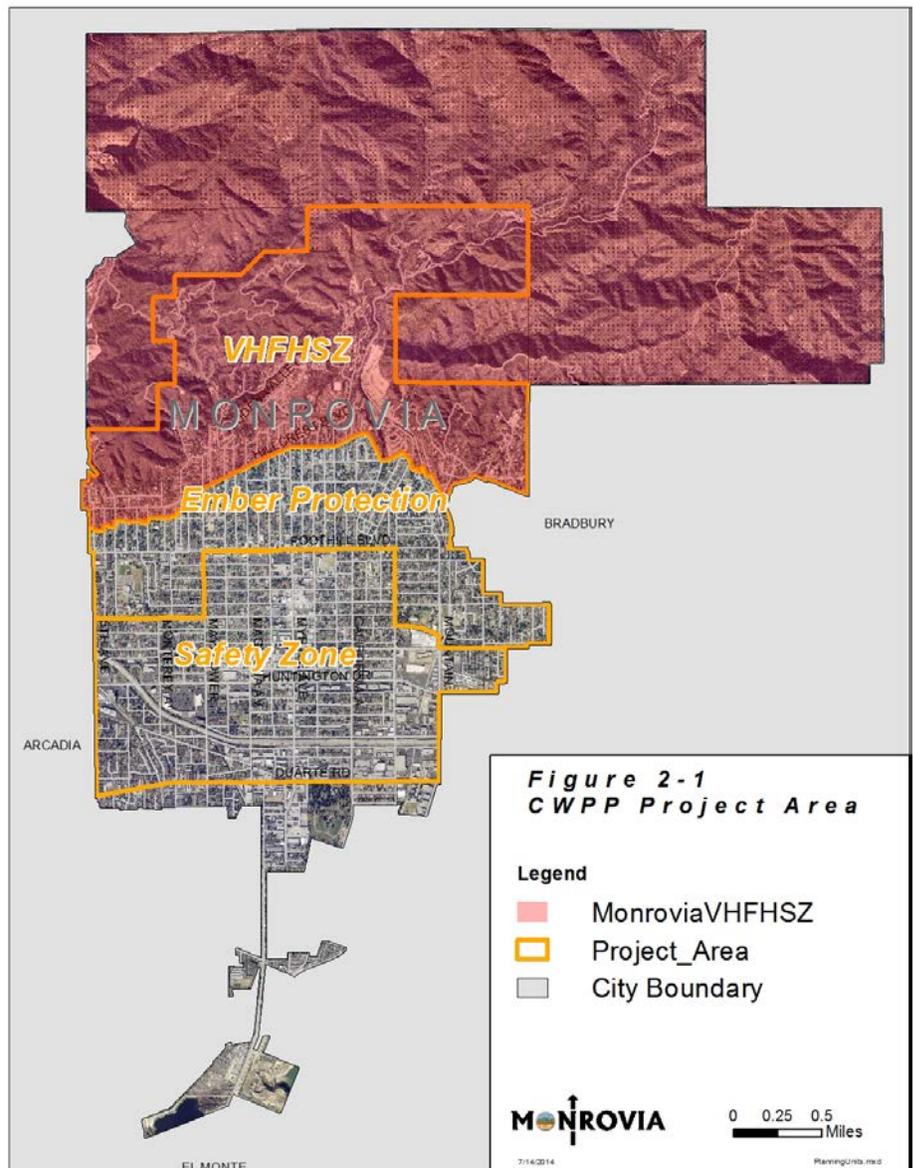
II.B. Fire Planning Process Overview

Fire Planning Area Boundaries

This CWPP covers the Monrovia Wildfire Protection Planning Area (Planning Area), in the City of Monrovia, Los Angeles County, California. The Planning Area totals 2,683 acres and incorporates the Monrovia Very High Fire Hazard Severity Zone (VHFHSZ), as recommended for the local jurisdiction by the California Department of Forestry and Fire Protection (CalFire) and adopted by the Monrovia City Council in June, 2008. In addition, the Planning Area includes a bordering area, referred to as the “Ember Protection Zone,” and a support area, referred to as the “Safety Zone.”

Planning Process Summary

Development of this CWPP used a collaborative process of 2 ½ years, involving 19 public meetings. A 10-member Advisory Group guided the process, defining a project area and subdividing that into planning units. Public workshops were held in each of the planning units and the city as a whole.



Participants to these workshops were asked to provide input on:

- Assets at Risk from Wildfire
- Wildfire Hazards
- Mitigation Strategies

PARTICIPATORY PROCESS

Fire Chief Advisory Group Meetings	Community Meetings	Neighborhood Meetings	
September 12, 2012	October 22, 2012	West	June 26, 2013
November 7, 2012	February 25, 2013	W. Central	June 20, 2013
December 5, 2012	April 29, 2013	E. Central	June 25, 2013
March 6, 2013	Stakeholder Meeting	East	June 23, 2013
April 3, 2013			
May 22, 2013	February 21, 2013		
October 9, 2013	Monrovia Historic Preservation Group Meeting		
November 6, 2013			
January 23, 2014			
February 19, 2014	October 20, 2013		

COMMUNITY WILDFIRE PROTECTION PLAN TEAM

Name	Organization	Name	Organization
Christopher Donovan	Monrovia Fire Department	Audra Tellez	Monrovia Fire Department
Scott Haberle	Monrovia Fire Department	Rachel Wing	Monrovia Fire Department
Cheryl Baines	Monrovia Area Partnership (MAP)	Barbara Radford	Monrovia Area Partnership (MAP)
William Beebe	Planning Commission	Helmut Scherer	Resident in Very High Fire Hazard Severity Zone (VHFHSZ)
Gloria Crudgington	Community Services Commission; Measure A/B advocate	Brenda Trainor	Community Emergency Response Team (CERT)
Tom Dittmar	Community Services Commission	Anthony Villalobos	Trask Boy Scouts Camp caretaker
Suzanne Dobson	Community Emergency Response Team (CERT) Coordinator; Resident in Very High Fire Hazard Severity Zone (VHFHSZ)	Joannie Yuille	Monrovia Area Partnership (MAP)

STAKEHOLDER REPRESENTATIVES

Name	Organization	Name	Organization
Kim Bosell	LA County Dept. of Parks & Recreation	Susan Motander	Firesafe Monrovia
Karen Herrera	City of Duarte	Daniel Sanchez	Abundant Life Fellowship C.C. Monrovia
Hector Inzunza	Monrovia Hillside Wilderness Preserve	Ahmed Solomon	Southern California Edison
Kevin R. Kearney	City of Bradbury	Battalion Chief Barry Spriggs	Arcadia Fire Department
Dorothy Kelty	Firesafe Monrovia	Lieutenant Dennis Woodbury	California Highway Patrol
Battalion Chief Scott Lowden	United States Forest Service	Nancy Zack	Monrovia Garden Club
Kelly Middleton	LA County Vector Control	Kerri Zessau	Monrovia Department of Community Services

PUBLIC EDUCATION GUEST SPEAKERS

Guest Speaker	Title	Topic
J. Lopez	Acting Assistant Chief, Forestry Division, County of Los Angeles Fire Department	CWPP Process
Dan Cooper	Biologist; Principal, Cooper Environmental Monitoring	Protecting Biological Resources
Sabrina Drill	Natural Resources Advisor for University Cooperative Extension, Los Angeles and Ventura Counties	Vegetation Management
Pat Durland	Principal, Stone Creek Fire, LLC	Structure Hardening

II.C. Fire Safety, Defensible Space, and the Home Ignition Zone

Defensible space is the required space between a structure and the wildland area that, under normal conditions, creates a sufficient buffer to slow or halt the spread of wildfire to the structure. It protects the home from igniting due to direct flame or radiant heat. Defensible space is essential for structure survivability during wildland fire conditions. Creating defensible space is based on zones at increasing distances from the home. Closest to the home we need to remove all combustible materials, while farther away, we only need to modify conditions to reduce the intensity of fire.



Hardening of the home itself is just as important. Construction materials together with the quality of the defensible space surrounding it are what gives a home the best chance to survive a wildland fire. Embers from a wildland fire will find the weak link in a home's fire protection scheme and gain the upper hand because of a small, overlooked or seemingly inconsequential factor. Every measure you take to strengthen your home's defenses will increase your home's survivability during a wildland fire. The areas that are most of concern are:

- ✓ **Roof**
- ✓ **Eaves**
- ✓ **Vents**
- ✓ **Windows**
- ✓ **Doors**
- ✓ **Balconies and Decks**
- ✓ **Walls**

The **Ready, Set, Go!** Program promotes home hardening, defensible space, and family preparedness so that residents will be aware of hazards and be ready to evacuate if the need should arise.

II.D. Monrovia Risk Assessment

Monrovia has 1,450 homes in the very high fire zone and 3,500 homes in the ember zone, meaning there are 4,950 homes at some level of risk from wildfire. The following criteria are key in mitigating wildfire risk within the community:

- ✓ **STRUCTURAL IGNITABILITY AND URBAN FUEL**: Most of Monrovia WUI homes were built prior to the WUI building codes. Older homes that haven't been retrofitted and/or are poorly maintained are at highest risk. Excessive vegetation and storage of combustible materials are major contributors to risk and an equally great challenge.
- ✓ **FIRE HAZARD SEVERITY**: Based on weather, vegetation and topography, we may experience fires any where from mild to very severe. The severe, wind-driven ones defy suppression efforts, therefore Monrovia has adopted the Ready, Set, Go! program to help residents prepare for the possibility of evacuation.
- ✓ **RISK OF WILDFIRE OCCURRENCE**: Most long-term Monrovia residents will experience one or more fires in their lifetime. Among the causes ignition, arson draws the most attention because it tends to occur in severe wind conditions, but power lines, power equipment and vehicles are more common causes of WUI fires.
- ✓ **EVACUATION VULNERABILITY**: Narrow winding roads hamper evacuation and emergency access. Monrovia has several issues with this – maintenance of the Lower Clamshell Motorway, marginally adequate access via Lotone and portions of Norumbega. Early, orderly evacuation - per Ready, Set, Go – is key to avoid blockage of emergency routes.
- ✓ **FIRE PROTECTION SUPPORT**: MFD and our mutual aid partners are equipped and trained to provide fire protection to residents, given the following support:
 - **Water supply** – at this time, our City hydrant network is well-supplied for emergencies
 - **Defensible space** – the brush clearance program is highly successful on the fire season model, but will be challenged in the future due to the observed lengthening of the fire season
 - **Access and Timely Evacuation** – Evacuation planning and the community emergency notification system is effective at supporting access and evacuation

III. Monrovia Fire Safe Action Plan

This plan identifies twelve (12) program areas, and over 50 specific proposed actions to reduce hazards and risks from wildfire and decrease structural ignitability. The following sections and tables summarize these proposed actions. They were identified through a collaborative public process.

III.A. Existing Projects and Actions

The City of Monrovia has been very successful over the past decade in obtaining competitive grant funding from the California Fire Safe Council, which has generously supported a number of projects:

California Fire Safe Council Grant Funded Projects					
Grant #	Initial Funding Year	Name	Total Grant Amount	City In-Kind Match	Status
07UFS9811	2006	Fire Wise Goat Assisted Fuel Reduction Program	\$51,000	\$5,100	complete
07UFS9677	2006	Firewise Fuel Reduction Program	\$45,000	\$5,000	complete
08UFS0057	2008	Firewise Fuel Reduction Program	\$67,500	\$7,500	complete
09UFS0144	2009	Firewise Fuel Reduction Program	\$67,500	\$22,500	complete
10UFS0544	2010	Fuel Reduction/CWPP Program	\$327,565	\$42,855	complete
13UFS0066	2013	Monrovia Ready Set Go	\$118,678	\$121,799	open
TOTAL			\$677,243	\$204,754	

Other past and current partners have included the Federal Emergency Management Agency (FEMA), which has funded hazard mitigation planning, and Rio Hondo Fire Academy, which has conducted major fuel reduction and risk assessment projects in Monrovia in coordination with training wildland fire cadets.

The City of Monrovia and our neighboring communities have current projects that contribute to the goals of this CWPP. The following actions are already taking place in the planning area:

Table 9-1. Existing Projects (Ongoing and Recent)						
Organization	Project Name	Type of Project	Project Description	Funding	Start Date	Finish Date
City of Monrovia	Monrovia Ready Set Go	Fuels Management Planning and Public Education	Removal of hazardous City and residential trees in Fire Zone; Evacuation planning; public education/outreach regarding evacuation and Ready, Set, Go program.	CA FSC Grant	2012	2015
City of Monrovia	Fuel Reduction/CWPP Project	Fuels Management Planning and Public Education	Removal of hazardous City and residential trees in Fire Zone; residential chipper program; weed abatement; wildfire mitigation planning; public education/outreach regarding the Home Ignition Zone and Firewise Landscaping.	CA FSC Grant	2010	2012
City of Monrovia	Maintenance of Lower Clamshell Motorway	Fuels Management infrastructure maintenance	Annual grading of 3-mile long Lower Clamshell Motorway	Cooperative agreement w/ LA Co Fire	Un-known	2010 (halted due to concern for endangered species)
City of Monrovia	Phos-Chek application	Fuels Management	Application of fire retardant Phos-Chek along roads in Fire Zone	Un-known	Un-known	Halted due to concern for environmental impact
City of Bradbury	City of Bradbury Fire Hazard Reduction Plan, Stage 2	Education, Fuel Treatment	Details not available	CA FSC Grant	2014	
United States Forest Service	Trask Camp	Fuels Management	Hazardous fuels reduction around the Camp Trask boy scout camp. Thinning, brush cutting, chipping, Pruning of trees.	Federal Hazardous Fuels, WFHF	2012	2013; future maintenance TBD
United States Forest Service	Angeles National Forest Defensible Space Project	Fuels Management	Expanding Hazard Reduction for landowners with habitable structures within 200 feet of the forest boundary. Project will establish defensible space around structures to the extent necessary to comply with state and county fire codes. Web Link: http://www.fs.fed.us/nepa/nepa_project_exp.php?project=35149		2014	2024
United States Forest Service	Sawpit Canyon Road	Fuels Management	Vegetative manipulation of 110 acres by hand thinning and chipping to provide defensible space around the road system		2015	2016

III.B. Action Plan Summary

In the course of community meetings, a list of twelve (12) program areas were developed, each of which has potential actions that bring the Community Wildfire Protection Plan to life:

The Action Plan Outline at the end of this Executive Summary lists over 50 actions within the above 12 program areas that are proposed for this Community and Wildfire Protection Plan. The actions are prioritized as first or second tier in priority, based on community input.

BUILDING SUSTAINABILITY	The most important step to prevent loss from fire is hardening the home. Monrovia encourages homeowners to mitigate the risk of wildfire loss by building, retrofitting, and maintaining roofs, eaves, vent openings, and windows to fire-safe standards.
DEFENSIBLE SPACE	Federal and State guidelines, developments in fire science and the trend towards longer fire seasons point to a need to regularly examine the defensible space program to codify Monrovia best practices.
PUBLIC ENGAGEMENT & EDUCATION	Studies of risk management behavior show that knowledge of the risk, accepting responsibility, and believing in the ability to mitigate hazards are the main drivers towards changing behavior. Monrovia Fire aims to enhance engagement and understanding of wildfire risk and mitigation based on this CWPP.
FOSTER FIREWISE COMMUNITIES	The National Firewise Communities program provides resources and incentives for grassroots neighborhood groups to collaboratively take responsibility for making neighborhoods safer.
COMMUNITY EMERGENCY RESPONSE TEAM	Monrovia CERT comprises over 25 trained, committed and trusted community members who can be an effective force in spreading safety messaging. The CWPP deepens their involvement.
READY, SET, GO!	The Ready, Set, Go! program has been adopted by the Monrovia Fire Department to support evacuation and preparation policies. The CWPP expands the scope of this outreach and education.
EMERGENCY ACCESS ROUTES	Life safety requires ability to evacuate readily and the CWPP calls on the regular maintenance and improvement of emergency access and egress.
SAFE LANDSCAPE & URBAN FORESTRY	The CWPP takes into account the Sustainable and Fire Safe Landscaping practices that promote best management of urban landscapes on residential properties.
VEGETATION MODIFICATION ON PUBLIC LAND	Continue to ensure adequate road clearances and defensible space buffers on City land, while seeking to reduce maintenance costs and optimize community land benefits.
VISITOR MANAGEMENT ON PUBLIC LAND	Maintain a patrol presence on public lands within the fire zone, especially during windy conditions.
WILDLAND-URBAN INTERFACE PLANNING	Where homes are located too close to their property line, the defensible space encroaches onto neighbors as well. The CWPP calls to make providing for defensible space a required part of the design process for new developments.
POST-FIRE PLANNING	Most experts agree that Southern California communities should expect to experience wildfire. The CWPP plans for short and long-term stabilization and rehabilitation of burned areas in Monrovia.

III.C. Prioritized Fuel Reduction Treatments

One key component of a CWPP is to identify and prioritize proposed fuel reduction treatment projects. Proposed projects should identify the community, structure, or other at-risk value to be protected by the project, the treatment goal and methods to be used, the approximate acreage, and the landowner. Projects should be ranked by priority. Of the 50 proposed projects in this CWPP, nine (9) are fuel treatment projects. These are listed in a table at the end of this section. They have been assigned to either Tier I or Tier II priority levels.

IV. Facilitating Monrovia Fire Safety in the Long Term

This CWPP represents a framework for wildfire hazard mitigation actions that the community can implement as resources become available, and based on the community's priorities and City Council direction. This framework will also enable us to take advantage of opportunities for grant funding and partnerships with other organizations.

The Monrovia Fire Department will be principally responsible for the implementation of this plan, as approved and directed by City Council. To support the Department in monitoring the progress of this plan, the Fire Chief will continue to request the service of the members of the Fire Chief's CWPP Advisory Group, which has played a vital role in the development of this plan. The Advisory Group will meet periodically to review the plan's progress and recommend improvements in the plan's implementation.

Reviews of this plan should address the following basic questions:

- Is the plan still relevant, i.e. have the findings regarding risks and hazards changed significantly due to changes in demographics, environmental changes, etc.?
- Which projects have been completed and which have not been completed? What resources were needed to complete the projects, and what benefits has the community received from these? Are the pending projects still needed? If so, what are the obstacles to completing them?
- Are there any additions that should be made to the plan – new concerns to address or new projects to propose?
- Are the risk mitigation methods proposed in this CWPP still the best, or are there new findings or methods in structure hardening, defensible space, public education or other advances that we should incorporate into our plan?

IV.A. Monitoring and Maintenance

To track progress in any of the program areas identified, a form such as this will be used:

Action Item	Priority	Status	Accomplishments	Challenges	Partners Involved	Follow-up
✓ Building Sustainability						
✓ Defensible Space Code and Process						
✓ Public Engagement and Education						
✓ Firewise Communities						
✓ CERT Involvement						
✓ Ready, Set, Go						
✓ Emergency Access Routes						
✓ SAFE Landscape BMPs						
✓ Vegetation Modification on Public Land						
✓ Visitor Management on Public Land						
✓ Wildland-Urban Interface Planning						
✓ Post-Fire Planning						

IV.B. Updating This Plan

No plan is ever permanent. This plan was written in 2014 based on current conditions and best available information. The field of fire safety is rapidly changing. It is likely that new developments will occur in the coming years. Therefore, it will be important to review this plan at least every five years and update it as needed. Copies of this plan will be available for public review at the Monrovia Fire Department Headquarters, 141 E. Lemon Avenue and online via the City's website.

V. Acknowledgments

An extensive collaborative project such as this requires contribution, dedication, and commitment from a number of people. We would like to give a special thank you to the following people, without whom this project would have never succeeded.

The following people contributed to the successful creation of this Community Wildfire Protection Plan. We thank them for their participation:

Fire Planning Committee Members

- Cheryl Baines, Monrovia Area Partnership, Neighborhood Leader
- William Beebe, City of Monrovia, Planning Commissioner
- Gloria Crudginton, City of Monrovia, Community Services Commissioner
- Tom Dittmar, City of Monrovia, Community Services Commissioner
- Suzanne Dobson, Community Emergency Response Team, CERT Coordinator
- Barbara Radford, Monrovia Area Partnership, Neighborhood Leader
- Helmut Scherer, Monrovia Fire Hazard Zone, Resident
- Brenda Trainor, Community Emergency Response Team, CERT Member
- Anthony Villalobos, San Gabriel Boy Scout Council, Trask Scout Camp Caretaker
- Joannie Yuille, Monrovia Area Partnership, Neighborhood Leader

Other Partners

- Anna and Richard Armstrong, Armstrong and Walker, Landscape Architects
- Alexis Bakofsky, City of Monrovia, Public Information Officer
- John Bennett, Rio Hondo Fire Academy Captain
- Kim Bosell, Los Angeles County Natural Areas, Superintendent
- Angie Chen, CERT, Team Member
- Mitch Cochran, City of Monrovia, Information Systems Manager

- Dan Cooper, Cooper Environmental Monitoring, Biologist
- Sabrina Drill, UC Cooperative Extension, Natural Resource Advisor
- Pat Durland, Stone Creek Fire, Principal
- Pat Dunlap, CERT, Team Member
- Bruce Eckstrom, CERT, Team Member
- Mark Harvis, CERT, Team Member
- Karen Herrera, City of Duarte, Deputy City Manager
- Sister Maura Hurley, The Maryknoll Sisters
- Hector Inzunza, City of Monrovia, Park Ranger
- Kevin Kearney, City of Bradbury, Management Analyst
- Dorothy Kelty, Firesafe Monrovia
- J Lopez, Los Angeles County Fire Department, Deputy Forester
- Scott Lowden, Angeles National Forest, Battalion Chief
- Katie Martel, California Fire Safe Council, Grants Manager
- Kelly Middleton, San Gabriel Valley Mosquito and Vector Control, Public Information Officer
- Susan Motander, Firesafe Monrovia
- Roger and Candy Northrup, Hidden Valley Homeowners Association
- Drew Ready, Council for Watershed Health, Sustainable Landscapes Program Manager
- Daniel Sanchez, Abundant Life Fellowship, Pastor
- Ahmed Solomon, Southern California Edison
- Barry Spriggs, Arcadia Fire Department, Battalion Chief
- Eugene Suk, City of Monrovia, Park Ranger
- Audra Tellez, Monrovia Fire Department, Administrative Clerk II
- Annette and Gordon Wilson, CERT, Team Members
- Dennis Woodbury, California Highway Patrol, Lieutenant
- Andy Zack, CERT, Team Member
- Nancy Zack, CERT, Team Member
- Kerri Zessau, Monrovia Community Services, Acting Division Manager

A special acknowledgement is given to the late Cathy Brooke, Monrovia, fire safety advocate, and Grants Manager with the California Fire Safe Council.

This document is based on the Sierra Nevada Community Conservation and Wildfire Protection Plan Guidebook, written by Tracy Katelman, Marko Bey, Susan Britting, and Carol Rice. Some text in this document is taken directly from the Guidebook. For more information on the Guidebook, see forevergreenforestry.com/SierraConservationCWPP.html

Prioritized Fuel Reduction Proposed Projects

Value(s) at Risk	Project	Treatment goal*	Acres (Approx.)	Treatment Method	Agency/Landowner	Priority	Time Table
Lower Clamshell Motorway/ Braunton's Milkvetch Critical Habitat	Repair and Maintain Lower Clamshell Motorway pending U.S. F&WS approved plan	To repair current degraded condition, and as necessary to maintain road, grade 3 - mile long fire road. Requires U.S. F&WS approval due to critical habitat	5 acres	Mechanical: Biomass Removal, Hand pile; Machine pile.	City of Monrovia; consultation with U.S. F&WS	I	2014-15
Access Roads and Neighborhood Streets	City Road Clearance	Clear 3 miles of roadside of encroaching weeds	3 miles; 8 acres	Mechanical: Biomass Removal, Mowing, Thinning, Chipping	City of Monrovia	I	Annually & ongoing
Access Roads and Neighborhood Streets	City Road Clearance – Street Tree Trimming	As needed for emergency vehicle access: Trim 1,000 City-owned street trees (as needed) on 14 miles of fire zone streets.	14 miles; 35 acres	Mechanical: Biomass Removal, Thinning, Chipping	City of Monrovia	I	As needed & ongoing
Access Roads, Neighborhood Streets	Street Tree Replacement	Remove identified fire-hazardous street trees and replace with safer trees along emergency access routes	60 trees; 15 acres	Mechanical: Tree felling and removal. Biological: replanting with beneficial species	City of Monrovia and US Forest Service	I	Ongoing
WUI Homes and Infrastructure adjacent to Hillside Wilderness Preserve	Manage Defensible Space Overlapping Public Lands	Remove annual weeds and other invasive plants and passively restore area to discourage weed growth	14 to 58 acres (100' to 200' clearance)	Mechanical: Biomass Removal, Mowing, hand pile, lop and scatter, thinning, chipping. Potentially – chemical per approved DPR procedure	City of Monrovia	I	Ongoing
Natural Ecosystems in areas impacted by Madison Fire	Post-Fire Weed Control – Madison Fire	As necessary, remove weed infestations encroaching on area burned in Madison Fire	129 acres	Mechanical: hand pile, lop and scatter, thinning – hand tools only; use protocols to avoid site contamination. Potentially – chemical per approved DPR procedure	City of Monrovia and private landowners	I	

Value(s) at Risk	Project	Treatment goal	Acres (Approx.)	Treatment Method*	Agency/Landowner	Priority	Time Table
WUI Homes and Infrastructure adjacent to public lands	City Tree Removal	Remove identified fire-hazardous trees and replace with safer trees on public lands adjacent to homes and infrastructure	12 trees; 3 acres	Mechanical: Tree felling and removal. Biological: replanting with beneficial species	City of Monrovia and Los Angeles County	II	Ongoing
Residential Properties/Homes	Resident Hazardous Tree Replacement	Remove identified privately owned fire-hazardous trees and replace with safer trees	40 trees; 10 acres	Mechanical: Tree felling and removal. Biological: replanting with beneficial species	private	II	
Natural Ecosystems and Sensitive Habitat in Hillside Wilderness Preserve	Weed control	Remove weeds and other invasive plants that alter the fire ecology of areas of the Preserve	158 acres	Mechanical: Biomass Removal, Mowing, hand pile, lop and scatter, thinning, chipping. use protocols to avoid site contamination Potentially – chemical per approved DPR procedure	City of Monrovia	II	

MONROVIA CWPP ACTION PLAN				
Program Area	Program Description	Task	Priority	Description
Building Sustainability -- Home Ignition Zone (HIZ)	Encourage homeowners to mitigate the risk of wildfire losses by building, retrofitting and maintaining roofs, eaves, vent openings, windows and decks/attachments up to fire safe standards promulgated by NFPA and CA WUI code. RATIONALE: Recent fire science has shown that the most important step to prevent loss is "hardening" of the home, particularly against ember attack.	Home Ignition Zone Education Campaign	I	Implement public information/ engagement campaign focussing on key elements of hardened homes, as described in this CWPP. (Cross-reference with Fire Wise Community and Public Engagement programs).
		Wood Shake Roofs	I	Reach out to owners of remaining wood shake roofs in FZ and EZ to upgrade to fire rated roofs.
		Landmarked Properties	II	Provide advice or other assistance to owners of landmarked properties regarding historical restoration alternatives for fire safety
		Hardened Home Recognition	II	Consider City designation of "hardened home" recognition for homes built or retrofitted to high wildfire safety standard.
Defensible Space Code and Process	Determine best practices for Monrovia's defensible space with potential code amendments. RATIONALE: New Federal and State guidelines, developments in fire science, and the trend toward longer and longer fire seasons, point to a need to regularly examine our defensible space program	Adapting to Climate Change	I	Due to changing climate, consider modifications to the program that will motivate residents to complete clearance before the end of winter and maintain it throughout the dry season.
		Defensible Space Zones	I	Consider subdividing defensible space zones per recommendations of the Institute for Business and Home Safety, to provide for stricter requirements 0-5' from home and ease or eliminate requirements beyond 100' distance, based on recent fire science findings.
		Man-Made Fuels	I	Consider expanding definition of fuels to include man-made fuels as well as vegetative fuels - re-title chapter accordingly.
		Vegetation Modification Standards	I	Review code for any conflicts with landscaping BMPs as presented in this CWPP.
		Vacant Lots	I	Continue to enforce brush clearance requirements on vacant lots.
		Neighboring Jurisdictions	II	Continue relationships and maintain contacts with officials in bordering jurisdictions (Arcadia, Bradbury, LA County, USFS) and assist residents where necessary to help them comply with defensible space requirements in overlapping areas.
		Updated Orientation	II	Update training of inspection staff as defensible space policy or practice evolve.
		Foreclosed Properties	II	Support Community Development Department program of code compliance on foreclosed and abandoned properties.

MONROVIA CWPP ACTION PLAN, CONTINUED				
Program Area	Program Description	Task	Priority	Description
Public Engagement and Education	<p>Enhance Monrovia residents' engagement and understanding of wildfire risk and mitigation based on this CWPP.</p> <p>RATIONALE: Studies of risk mitigation behavior show that residents' knowledge of the risk, acceptance of individual responsibility, and belief in their own efficacy to mitigate hazards are the main drivers to changing behavior.</p>	CWPP-Based Information Products	I	Develop and distribute public information products such as brochures, website, video and media content, based on key themes from this CWPP.
		Sponsored Events	II	Seek funding or sponsorship for public events, workshops, training opportunities or neighborhood block parties to promote wildfire preparedness.
		KGEM	II	Partner with KGEM to promote firesafe messaging by means of new or existing video programming.
Firewise Communities (FW)	<p>Promote the establishment of Firewise Communities within Monrovia neighborhoods in the fire zone:</p> <p>RATIONALE: The national Firewise Communities program provides resources and incentives for grassroots neighborhood groups to collaboratively take responsibility for making their neighborhoods more fire safe. Thus, the program can overcome the main barriers to risk</p>	Facilitate Grassroots Groups	I	Offer City technical or support services to facilitate FW application process.
		Publicize Firewise	I	Partner with California Fire Safe Council to publicize program to Monrovia fire zone neighborhoods.
		Incentives for Firewise Communities	II	Consider offering incentives for FW certification or events.
CERT Involvement	<p>Deepen involvement of CERT with implementation of CWPP recommendations</p> <p>RATIONALE: Monrovia's CERT comprises over 40 trained, committed and trusted community members who can be an effective force in spreading safety messaging.</p>	In-House Training	I	Offer/facilitate training modules on wildfire protection to CERT volunteers .
		Outside Training and Conferences	I	Apply for scholarship and grant funding to support outside training or conference attendance by CERT volunteers .
		CERT Coordinator	II	Provide office space for CERT coordinator.

MONROVIA CWPP ACTION PLAN, CONTINUED				
Program Area	Program Description	Task	Priority	Description
Ready, Set, Go! (RSG!)	<p>Promote and strengthen Ready, Set, Go Program.</p> <p>RATIONALE: The RSG program has been adopted by the Monrovia Fire Department to support our evacuation and preparation policies.</p>	Evacuation FAQs	I	Develop a "FAQ on Evacuation" page on City website
		Pre-Fire Planning for Mountain Facilities	I	Prepare/update facility-specific pre-fire and evacuation plan for HWP and HRA and work with USFS and Boy Scouts to prepare similar plan for Trask.
		Operations 101	I	Add a public educational component "Operations 101" to raise awareness and understanding of emergency operations, such as how the EOC works, mutual aid agreements, etc.
		Evacuation Alerts	I	Develop public alert sign-up program for Monrovia residents.
		CERT Evacuation Operations Training	I	Maintain training of CERT volunteer staff in evacuation operations
		Map Book	I	Maintain updated City grid detailed street maps
		Brochure Distribution	II	Continue distribution of Ready, Set, Go brochure via mail and public events.
		Linked Evacuation Information	II	Provide links to Ready, Set, Go information via public safety alert system.
Emergency Access Routes	<p>Maintain and improve emergency access and egress.</p> <p>RATIONALE: Life safety requires ability to evacuate readily; where emergency access crosses critical habitat of endangered species, regulatory approval is required to meet stewardship obligation.</p>	Lower Clamshell Motorway	I	Develop a plan for repair and maintenance of the Lower Clamshell Motorway for emergency access and egress, in consultation with Fish and Wildlife authorities, to assure environmental compliance regarding the endangered Braunton's Milkvetch.
		City Roads	I	Continue City road clearance program.
		Resident Access Clearance	I	Strengthen compliance with requirements for property owners' maintenance of 10' set-back on public and private roads
		Street Tree Replacement	I	Continue street tree program to replace fire-hazardous high maintenance trees with safer trees.

MONROVIA CWPP ACTION PLAN, CONTINUED

Program Area	Program Description	Task	Priority	Description
SAFE Landscape BMPs/Urban Forestry	<p>Adapt to new and changing advice from experts in field of SAFE (Sustainable and Fire Safe) Landscaping. Promote best management practices on residential properties and in the urban landscape</p> <p>RATIONALE: Outdated concepts in fire safe landscaping still hold sway, but the state of the art continues to evolve to provide best practices, as promulgated by the University of California Cooperative Extension and related programs.</p>	Power Tools	I	Use policy changes, such as designation of an earlier brush compliance deadline, or public education/outreach to prevent property owners from using powered landscape tools in fire hazardous weather conditions.
		City Tree Removal	I	Continue to support Public Works' program to replace fire-hazardous and problem City trees. Seek grant funding for tree removal costs.
		Restore Weed-Infested Property	I	Encourage property owners to reverse spread of weedy annual plants in favor of more firesafe landscaping and/or restored native vegetation.
		Landscape Worker Training	I	Consider partnering with the Public Works Department to undertake a training program for landscape workers that would promote SAFE landscaping BMPs, firesafe equipment practices and worker safety.
		Resident Hazardous Tree Replacement	II	Seek funding, and consider additional incentives, to assist residents to remove fire-hazardous trees and choose safer ones from plant palette.
		Hillside Development Plant Palette	II	Update and periodically review the Monrovia hillside development plant palette and the restricted plant list.
		Partner Programs	II	Promote partner programs, such as WaterWise, Smart Gardening, Don't Plant a Pest, Plant Smart, Master Gardeners, etc.
		Club and Nursery Outreach	II	Reach out to Monrovia Garden Club and local nurseries.
		Demonstration Projects	II	Consider seeking funding for high-impact projects, such as development of a demonstration firesafe and WaterWise landscape and/or establishment of a Monrovia native plant nursery.
		Waste Reduction	II	Collaborate with Public Works Department to reduce impact of green waste stream resulting from hillside defensible space yardwork.
Water Conservation	II	Collaborate with Public Works Department to encourage conservation of landscape water by employing SAFE landscape BMPs.		

MONROVIA CWPP ACTION PLAN, CONTINUED

Program Area	Program Description	Task	Priority	Description
Vegetation Modification on Public Land	<p>Maintain road clearances and defensible space buffers on City land, while seeking to reduce maintenance costs and optimize community benefits of the land.</p> <p>RATIONALE: Degraded habitat may result in high annual maintenance costs to deal with weeds. Where possible, halting or reversing this trend will reduce maintenance costs and enhance the land.</p>	Fire Ecology Impacts	I	Assess potential changes to fire ecology due to invasive plants; develop vegetation modification or restoration plans consistent with RMP and BMPs.
		Vegetation Management Plans	I	Prepare site-specific vegetation modification/management plans for those areas within defensible space buffers or roadside clearance corridors overlapping HWP parcels. Seek voluntary cooperation from property owners to follow these plans and re-evaluate
		Weed Control Crew	II	Work with city staff, volunteers and outside agencies to control weeds.
Visitor Management on Public Land	<p>Maintain a patrol presence on public lands within the fire zone, especially during windy conditions.</p> <p>RATIONALE: While the majority of wildfires are started by equipment use, vehicles or powerlines, several damaging recent fires have been started by illegal campfires during windy conditions.</p>	Campfires	I	Continue to enforce no campfires rule in City parkland and trail corridors.
		Patrols	I	Continue to partner with CERT to provide additional patrols during dry, windy conditions.
Wildland-Urban Interface (WUI) Planning	<p>Make providing for defensible space a required part of the design process for new developments.</p> <p>RATIONALE: Defensible space can encroach on other uses.</p>	Hillside Development Set-Back Requirement	I	Consider modifications to hillside development standards to strengthen slope and property-line set backs to accommodate defensible space, and encourage "hardened home" construction.

MONROVIA CWPP ACTION PLAN, CONTINUED

Program Area	Program Description	Task	Priority	Description
Post-Fire Planning	<p>Plan for short- and long-term stabilization and rehabilitation of burned areas in Monrovia.</p> <p>RATIONALE: Most experts agree that southern California communities should expect to experience wildfire, although no one can say how soon it will occur.</p>	Weed Infestations in Burn Areas	I	Develop long term program for monitoring of non native species in post fire areas; evaluate potential impacts to fire regime.
		Burn Area Access Control	I	Collaborate with Fire/Police/Community Services in restricting and monitoring access to post fire areas as dictated by public safety and resource protection concerns.
		Slope Stabilization	I	Review current literature on best practices for post-fire slope stabilization and protection and incorporate findings into next LHMP update or addendum.
		Seed Bank	II	Consider partnering with Watershed Council to collect and store locally indigenous seed to provide for vegetation restoration programs in the event of fire.
		Sensitive Habitat	II	Identify areas of environmentally sensitive habitat that could be affected by wildfire, either adversely or beneficially, and examine measures to prevent damage, as an update or addendum to RMP.

