Planning for Wildfire Resiliency

Planning Webcast Series
November 16, 2018

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Image credit: FEMA

SPEAKERS

Molly Mowery, AICP

Founder and CEO
Wildfire Planning
International

Will Smith

Senior Planner
Wasco County, OR

APA Hazard

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PLANNING THE WILDLAND-URBAN INTERFACE (WUI)

Molly Mowery, AICP
Wildfire Planning International LLC

Image Credit: Molly Mowery

Wildland-urban interface (WUI)

"any area where the combination of human development and vegetation has the potential to result in negative impacts from wildfire on the community"

Where is the WUI?

Image credit: Molly Mowery, Google Earth (top right)

WUI Intermix and Interface

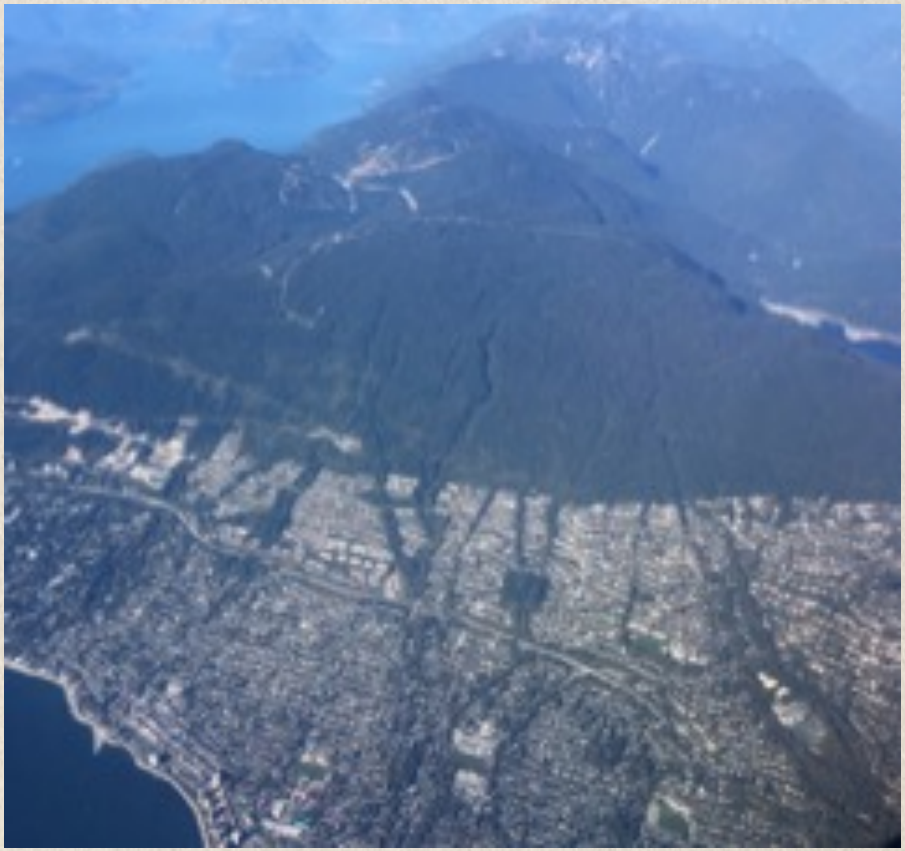
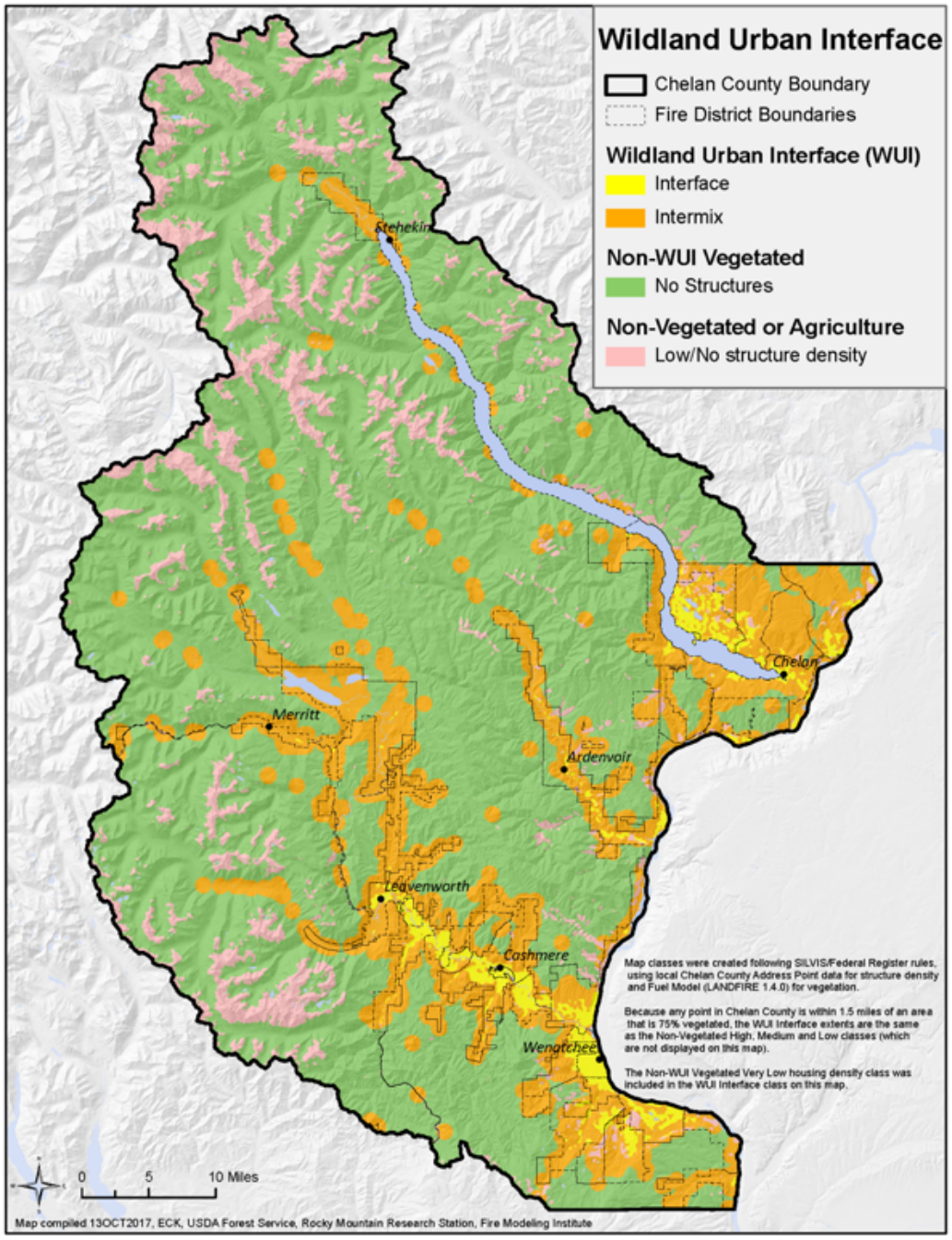


Image credit: NIFC (left), Molly Mowery (right)

COMMUNITY PLANNING ASSISTANCE FOR WILDFIRE ©

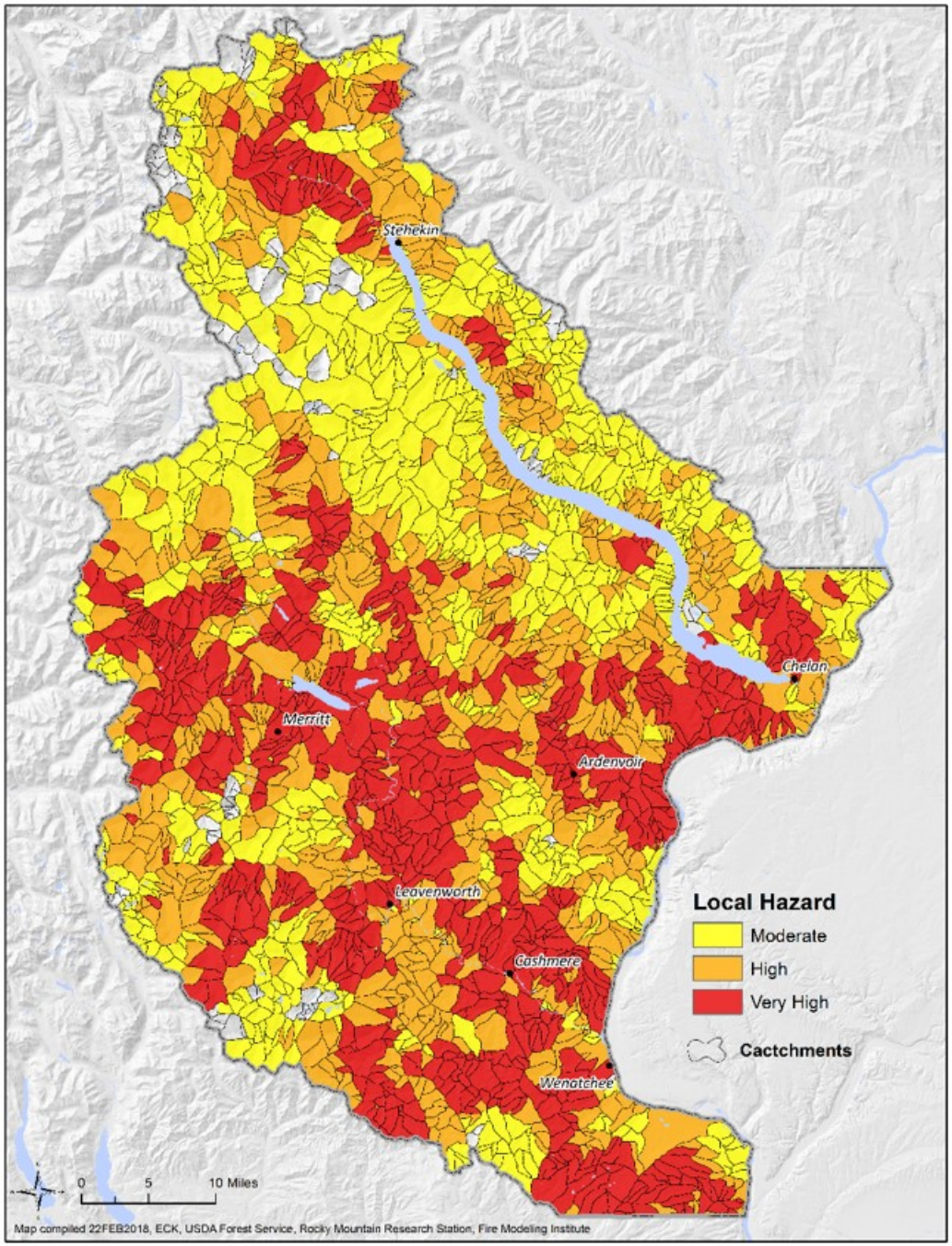
CONTINUUM OF WILDLAND TO URBAN DENSITIES

Image credit: CPAW



WUI Spatial Assessments – Example from Chelan County, WA

Image credit: USFS/ CPAW



Wildfire Hazard Assessments – Example from Chelan County, WA

Image credit: USFS/ CPAW

Image credit: University of Wisconsin-Madison/ USFS

Rapid growth of the US wildland-urban interface raises wildfire risk

Volker C. Radeloff[a,1], David P. Helmers[a], H. Anu Kramer[a], Miranda H. Mockrin[b], Patricia M. Alexandre[a,2], Avi Bar-Massada[c], Van Butsic[d], Todd J. Hawbaker[e], Sebastián Martinuzzi[a], Alexandra D. Syphard[f], and Susan I. Stewart[a]

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Edited by Janet Franklin, University of California, Riverside, CA, a

The wildland-urban interface (WUI) is the area where ho wildland vegetation meet or intermingle, and where problems are most pronounced. Here we report that th the United States grew rapidly from 1990 to 2010 in term number of new houses (from 30.8 to 43.4 million; 41% and land area (from 581,000 to 770,000 km^2; 33% growth) it the fastest-growing land use type in the conterminou States. The vast majority of new WUI areas were the resu housing (97%), not related to an increase in wildland ve Within the perimeter of recent wildfires (1990–2015), th 286,000 houses in 2010, compared with 177,000 in 1990. more, WUI growth often results in more wildfire ignitions more lives and houses at risk. Wildfire problems will not recent housing growth trends continue.

wildfires | housing growth | sprawl | development | fragmentati

The wildland-urban interface (WUI), defined as t where houses are in or near wildland vegetation, is where wildfires pose the greatest risk to people du proximity of flammable vegetation (1). Wildfires freque houses in the WUI (2, 3), and are most difficult to fig Furthermore, the WUI is where people often ignite wild and the vast majority of fires are human-caused (5). W are an integral part of many ecosystems and the Earth s a whole (6), humans have changed fire regimes globall throughout the United States (5), and climate change crease fire frequency in the future, including in the WU

The close proximity of houses and wildland vegetati more than increase fire risk (9). As houses are built in t native vegetation is lost and fragmented (10); landscapi duces nonnative species and soils are disturbed, causin tives to spread (11); pets kill large quantities of wildlife (zoonotic disease, such as Lyme disease, are transmitt Thus, understanding WUI patterns and WUI growth is i with respect to wildfires and many other environmental p

The WUI is widespread in the United States (1, 14 many other parts of the world (15, 16), including Argent Australia (18), France (19), and South Africa (20). Furth both the annual area burned (8, 21, 22) and fire sup costs (23) have rapidly increased in the United States. burned annually nearly doubled, from an average of 18,0 in 1985–94 to 33,000 km^2 in 2005–14 (22). Concomita eral wildfire suppression expenditures tripled from $0.4 billion/y to $1.4 billion/y (23), and exceeded $2 billion in 2017.

While there is ample evidence that houses in the WUI pose problems, it is not clear how fast the WUI is growing. Overall, the US population grew by 60 million people and 29.2 million homes from 1990 to 2010, but how much of that growth occurred in the WUI is uncertain. Previous assessments of WUI growth (24, 25) analyzed only housing data up to 2000, and did not account for changes in wildland vegetation. Post-2000 housing data are important, because the United States entered a recession after 2008,

S.M., A.D.S., and S.I.S. wrote the paper.

The authors declare no conflict of interest.

This article is a PNAS Direct Submission.

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[2]Present address: Forest Research Center, School of Agriculture, University of Lisbon, 1349-017 Lisbon, Portugal.

This article contains supporting information online at www.pnas.org/lookup/suppl/doi:10.1073/pnas.1718850115/-/DCSupplemental.

The wildland-urban interface (WUI) is the area where houses and wildland vegetation meet or intermingle, and where wildfire problems are most pronounced. Here we report that the WUI in the United States grew rapidly from 1990 to 2010 in terms of both number of new houses (from 30.8 to 43.4 million; 41% growth) and land area (from 581,000 to 770,000 km^2; 33% growth), making it the fastest-growing land use type in the conterminous United States. The vast majority of new WUI areas were the result of new housing (97%), not related to an increase in wildland vegetation. Within the perimeter of recent wildfires (1990–2015), there were 286,000 houses in 2010, compared with 177,000 in 1990. Furthermore, WUI growth often results in more wildfire ignitions, putting more lives and houses at risk. Wildfire problems will not abate if recent housing growth trends continue.

wildfires | housing growth | sprawl | development | fragmentation

The wildland-urban interface (WUI), defined as the area where houses are in or near wildland vegetation, is the area

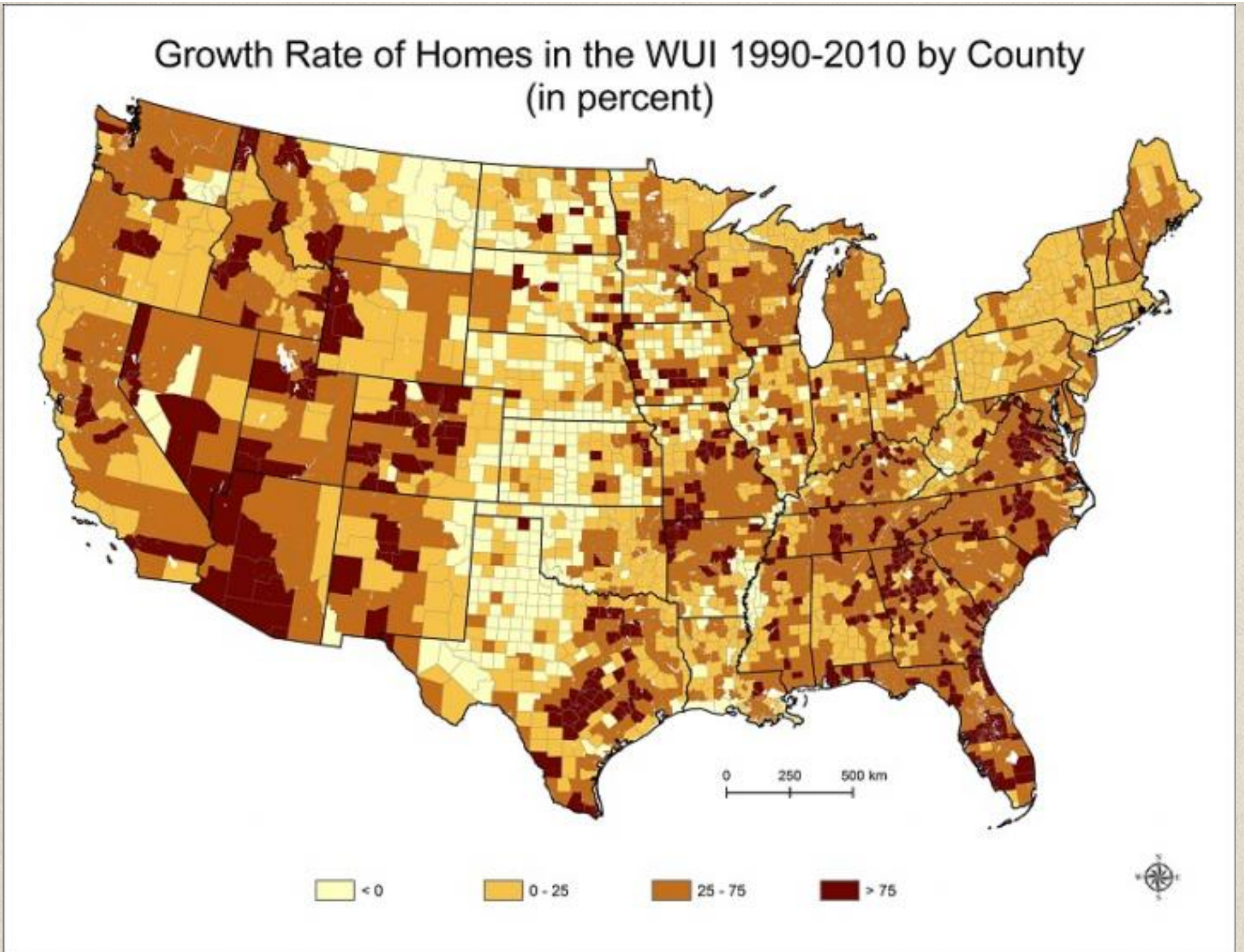

Image credit: University of Wisconsin-Madison/USFS

WUI Fires

What is the role of climate change?

THE NEW YORKER

ELEMENTS

HOW CLIMATE CHANGE CONTRIBUTED TO THIS SUMMER'S WILDFIRES

By Carolyn Kormann August 1, 2018

ScienceDaily

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Science News *from research organizations*

Climate change causing more severe wild-fires, larger insect outbreaks in temperate forests

Date: November 7, 2018

Source: Portland State University

Summary: A warmer, drier climate is expected is increase the likelihood of larger-scale forest disturbances such as wildfires, insect outbreaks, disease and drought, according to a new study.

Share:

FULL STORY

What can planners do?

Urban Growth Boundaries

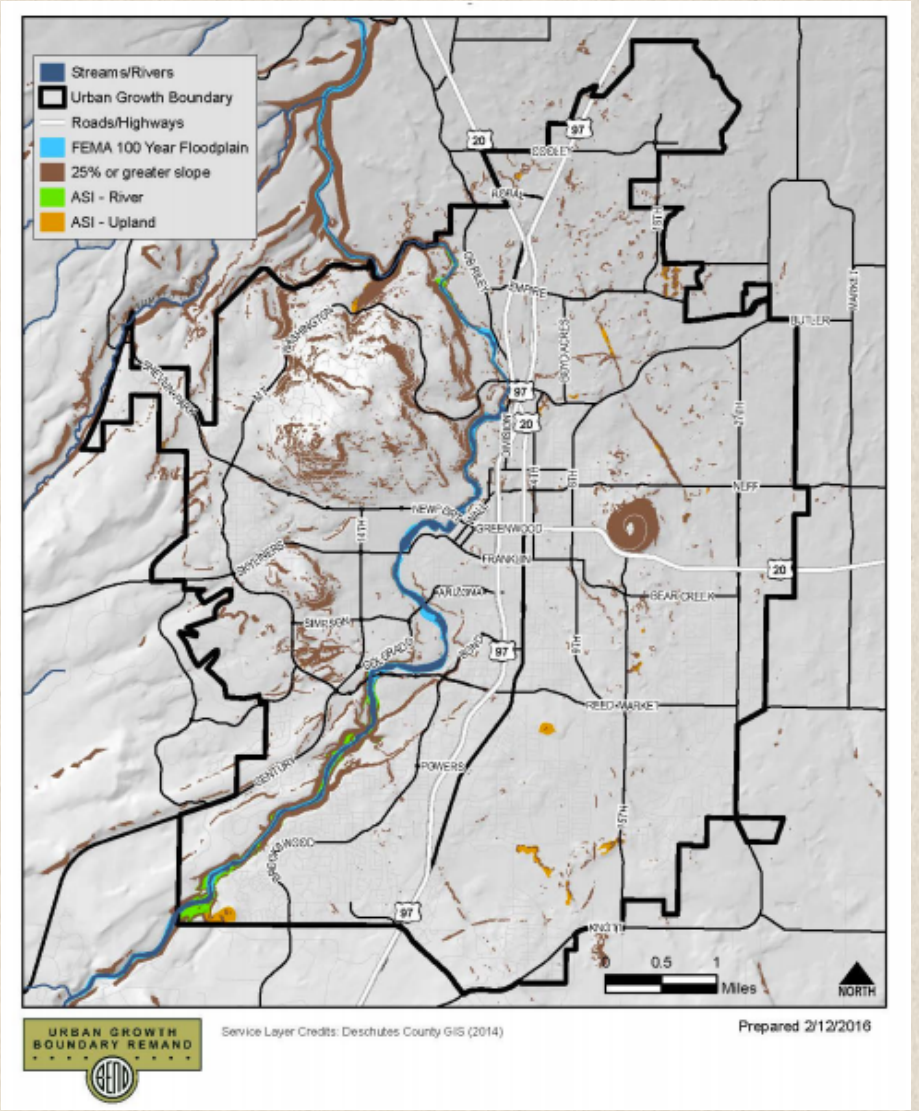

Image credit: Google Maps, City of Bend

Growth Requirements

Image credit: Molly Mowery

Access: Ingress and Egress

Image credit: https://www.cnn.com/2016/12/02/us/gatlinburg-fire-pictures-before-after/index.html

Access: Ingress and Egress

Image credit: Molly Mowery

Road Signage

Image credit: CPAW

Water Supply

Image credit: Molly Mowery

Water Supply

Image credit: Molly Mowery (left); https://gardening.stackexchange.com (right)

Subdivision Layout and Site Planning

Image credit: National Interagency Fire Center

Infrastructure/ Utilities

Image credit: South Carolina Forestry

Structural Requirements

Image credit: Kelly Johnston, Wildland Professional Solutions

Attachments – Decks and Fences

Image credit: Kelly Johnston, Wildland Professional Solutions; https://inhabitat.com/6-tips-to-protect-your-home-from-wildfires/

Landscaping Standards

Image credit: Kelly Johnston

Landscaping Standards

Image credit: South Carolina Forestry

Fire Resistant Plants

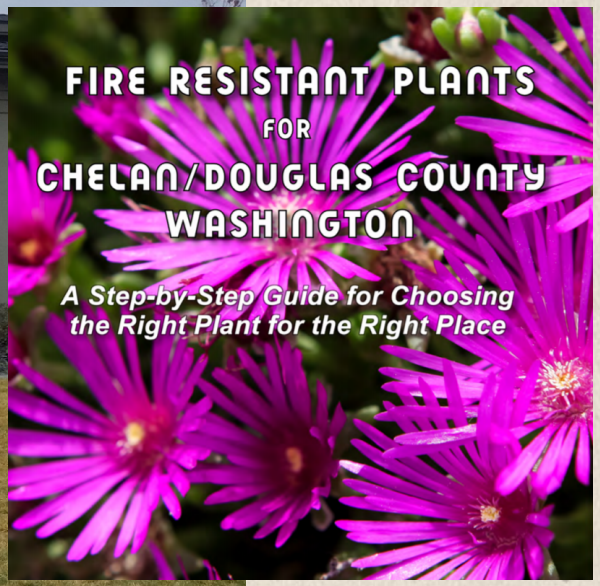

Image credit: City of Wenatchee

Regulation of Hazardous Uses

Image credit: Molly Mowery

Temporary Uses

Image credit: Molly Mowery

Planners can do a lot in the WUI!

- Addressing
- Buffering/ screening
- Building materials and construction
- Building siting
- Community amenities and shelters
- Congregations/ mass gatherings
- Decks and attachments
- Design standards
- Driveways
- Future areas of growth
- Hazardous land uses
- Landscaping and vegetation
- Roads and bridges
- Secondary access
- Setbacks
- Sensitive areas
- Structure density
- Water storage

Comprehensive Plans

- Provide background information for context
- Integrate wildfire across planning topics
- Look for synergies
- Avoid policy conflicts
- Align with state requirements

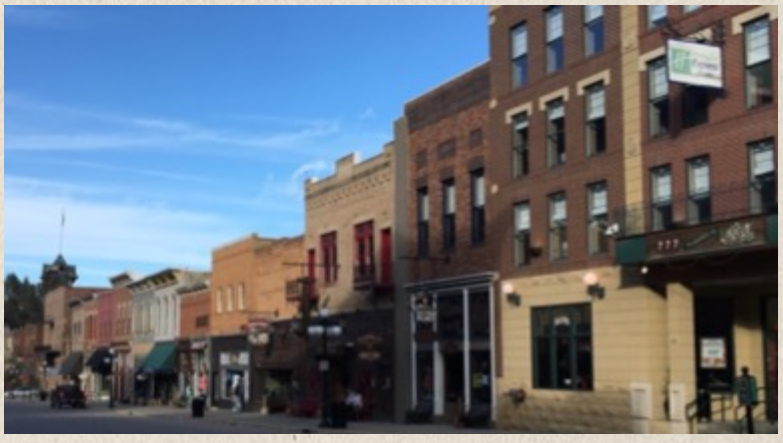

Image credit: Molly Mowery

WUI Regulations

- Use model codes and standards as resources
- Work with your local fire official
- Take a comprehensive approach
- Consider incremental steps
- Align with state requirements





Image credit: Molly Mowery

Resources: APA PAS REPORT
Planning the Wildland-Urban Interface (April 2019)

APA National Conference – San Francisco, April 2019

CONTACT ME:

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molly@wildfireplanning.com
303-358-9589

Wildfire Planning International

Resources: Community Assistance

COMMUNITY PLANNING ASSISTANCE FOR WILDFIRE

Image credit: Molly Mowery (top left, center), CPAW bottom left), NIFC (right)

CPAW COMMUNITIES 2015-2019

- 2019 Communities
- 2015-2018 Communities

ARIZONA
Flagstaff
Pinetop-Lakeside

CALIFORNIA
Mammoth Lakes
Mariposa County
Redding
San Diego

COLORADO
Boulder County
Gunnison County
Huerfano County
San Luis Valley
Summit County

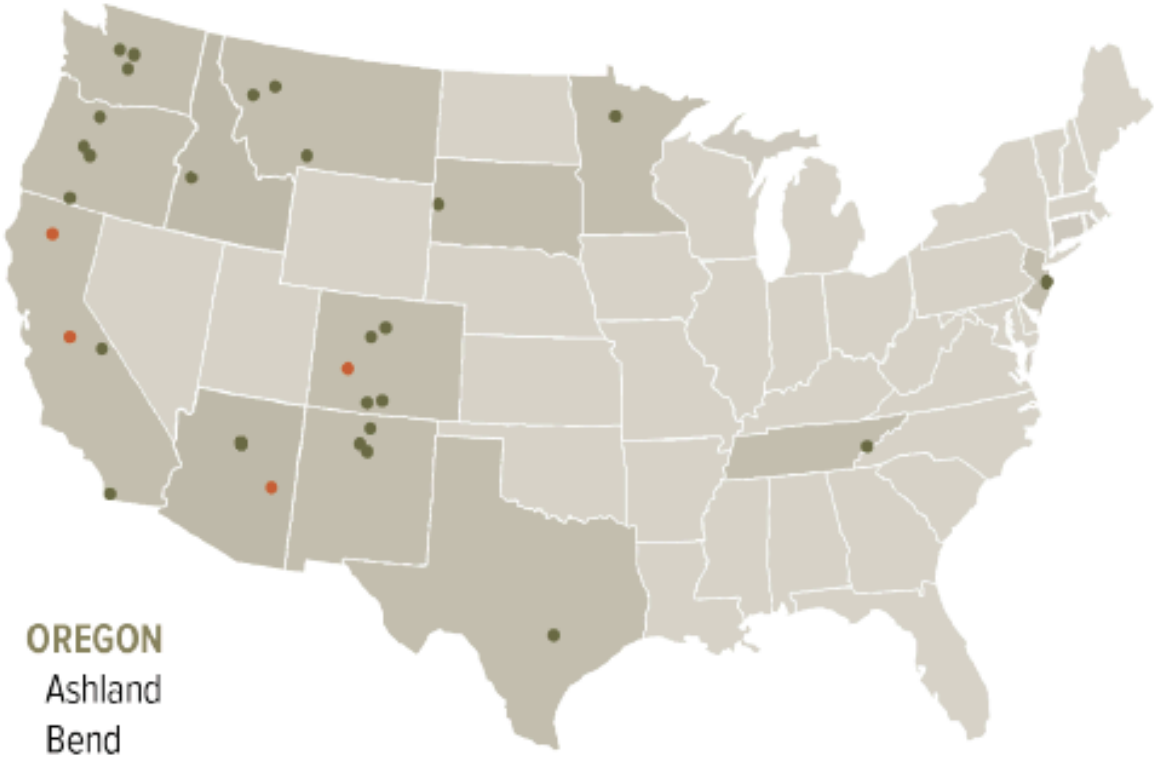
IDAHO
Boise

MINNESOTA
Bemidji

MONTANA
Lewis & Clark County
Missoula County
Park County

NEW JERSEY
Township of Ocean

NEW MEXICO
Los Alamos
Santa Fe
Taos County



OREGON
Ashland
Bend
Sisters
Wasco County

SOUTH DAKOTA
Deadwood

TENNESSEE
Pigeon Forge

TEXAS
Austin

WASHINGTON
City of Chelan
Chelan County
Wenatchee

COMMUNITY PLANNING ASSISTANCE FOR WILDFIRE

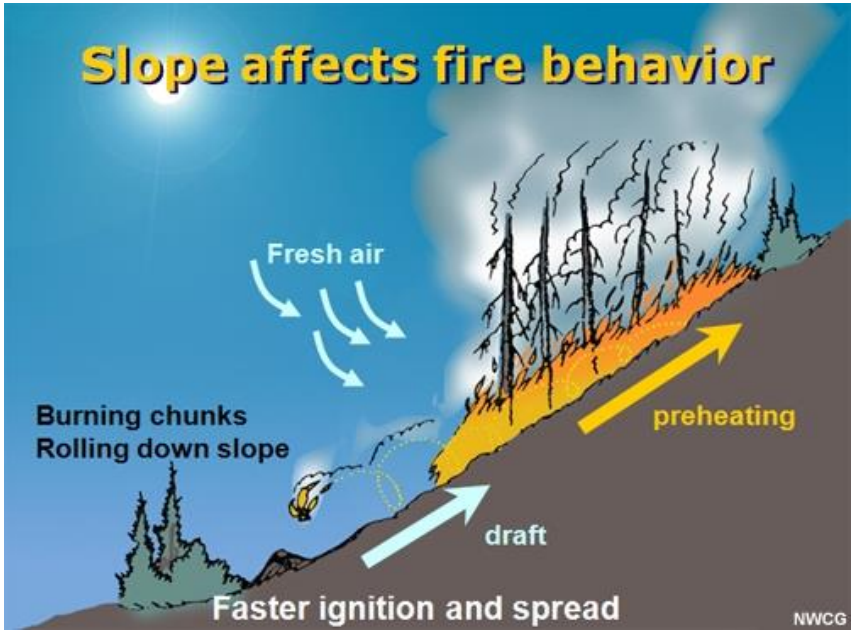
www.planningforwildfire.org

Planning

Planning for Wildfire: A Comprehensive Approach

Will Smith
Senior Planner
Wasco County

Fire Behavior

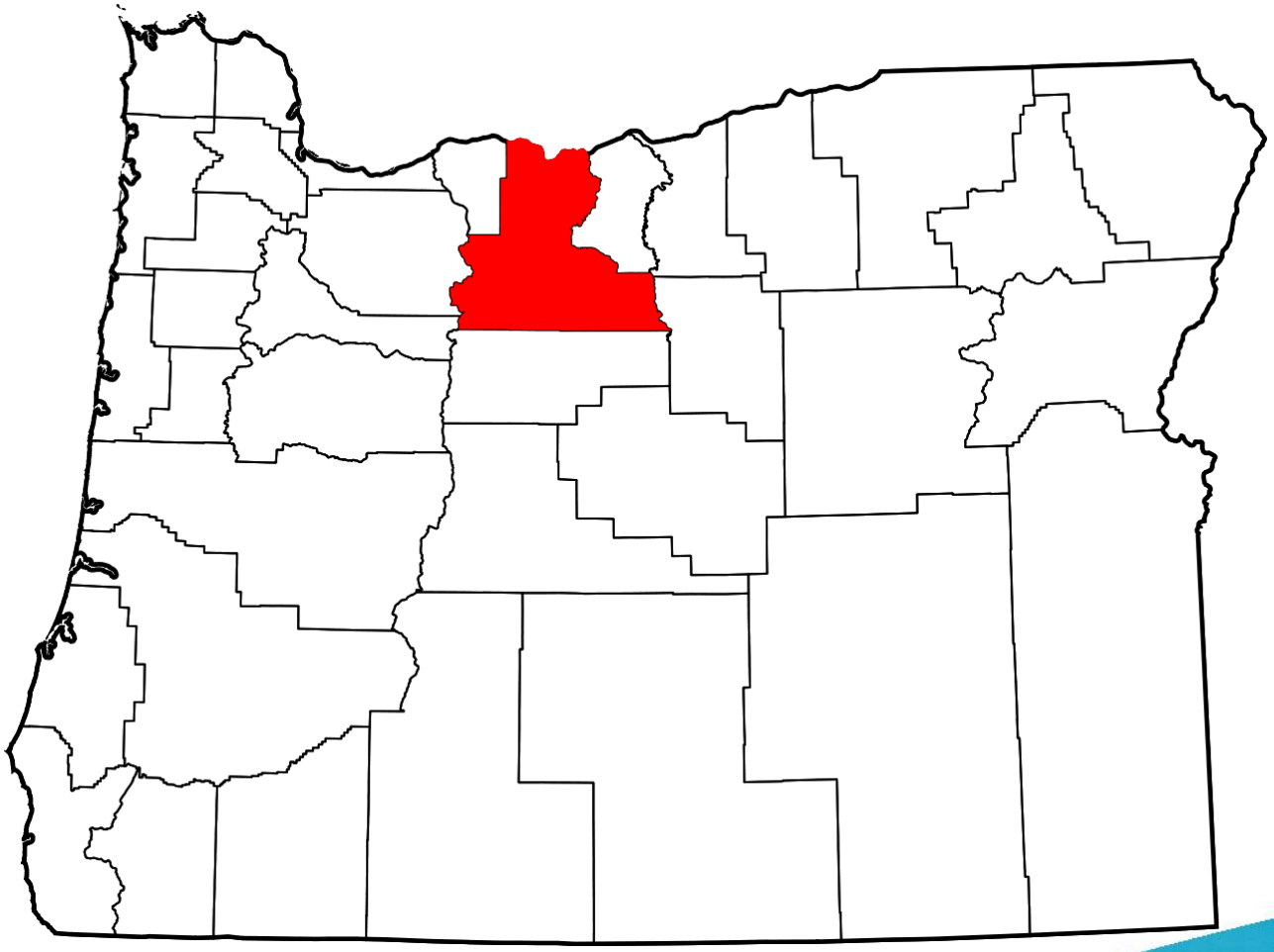


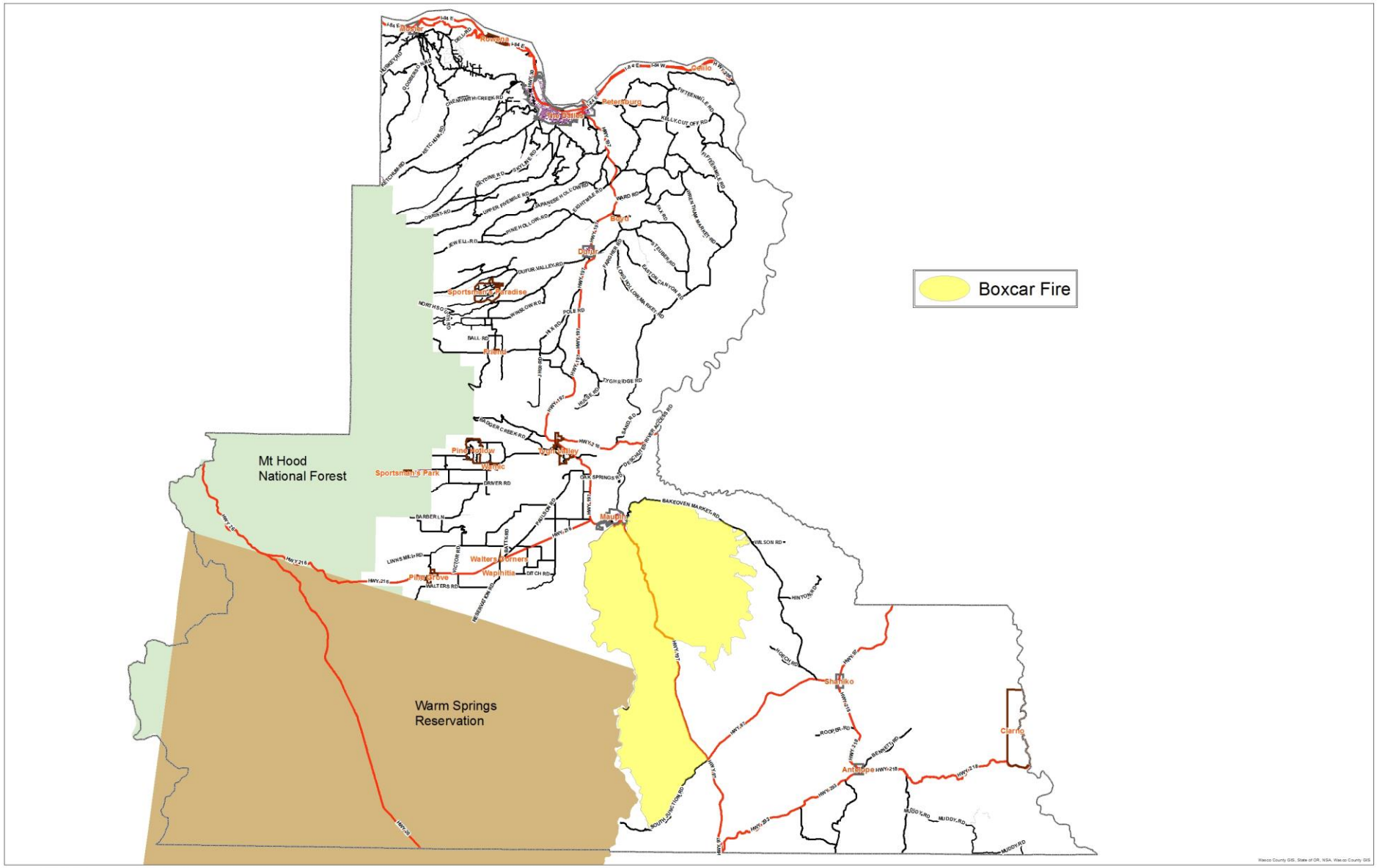
Source: National Wildfire Coordinating Group (NWCG)

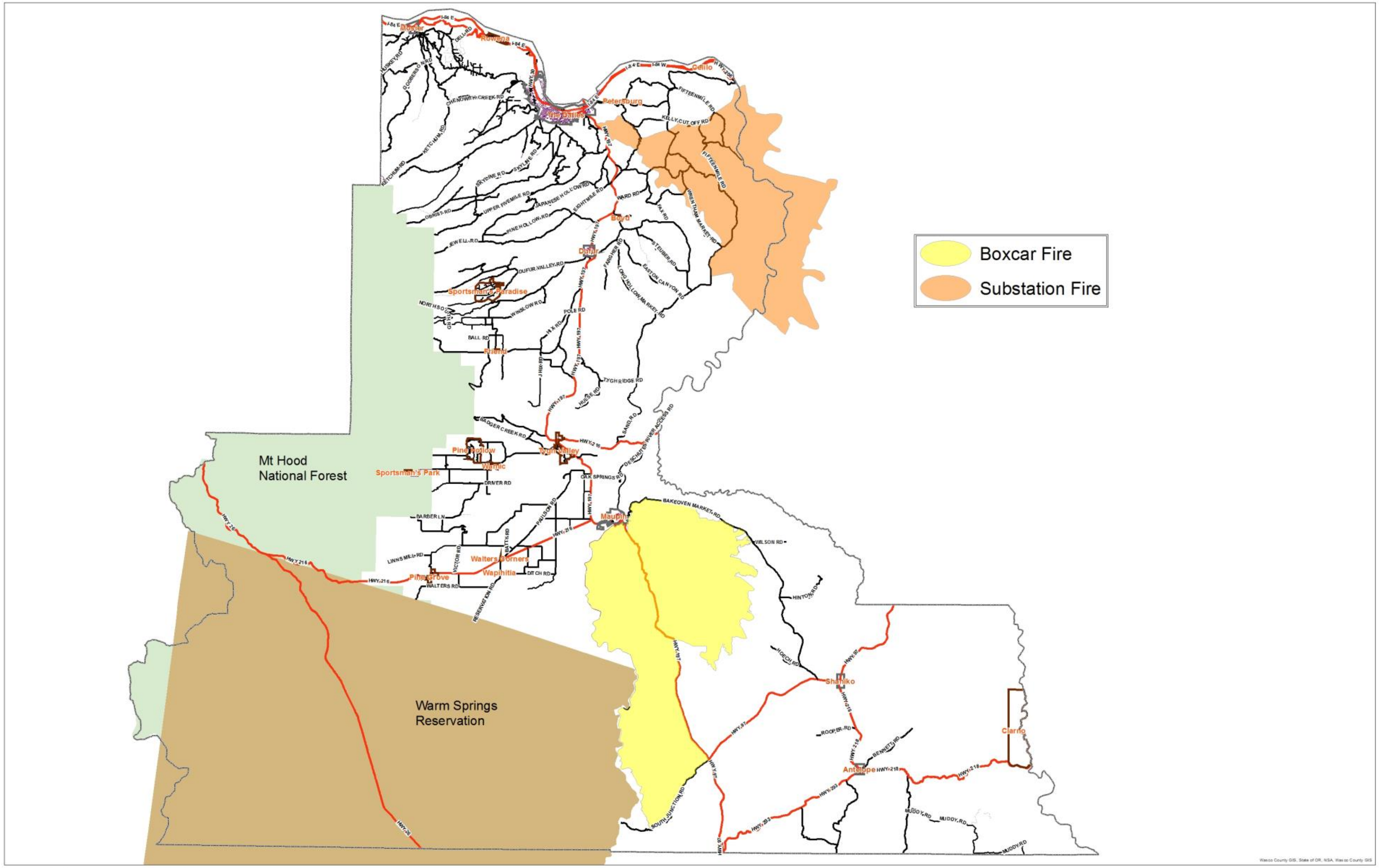
Source: Maryland DNR

Source: Napa Firewise

Wasco County, OR







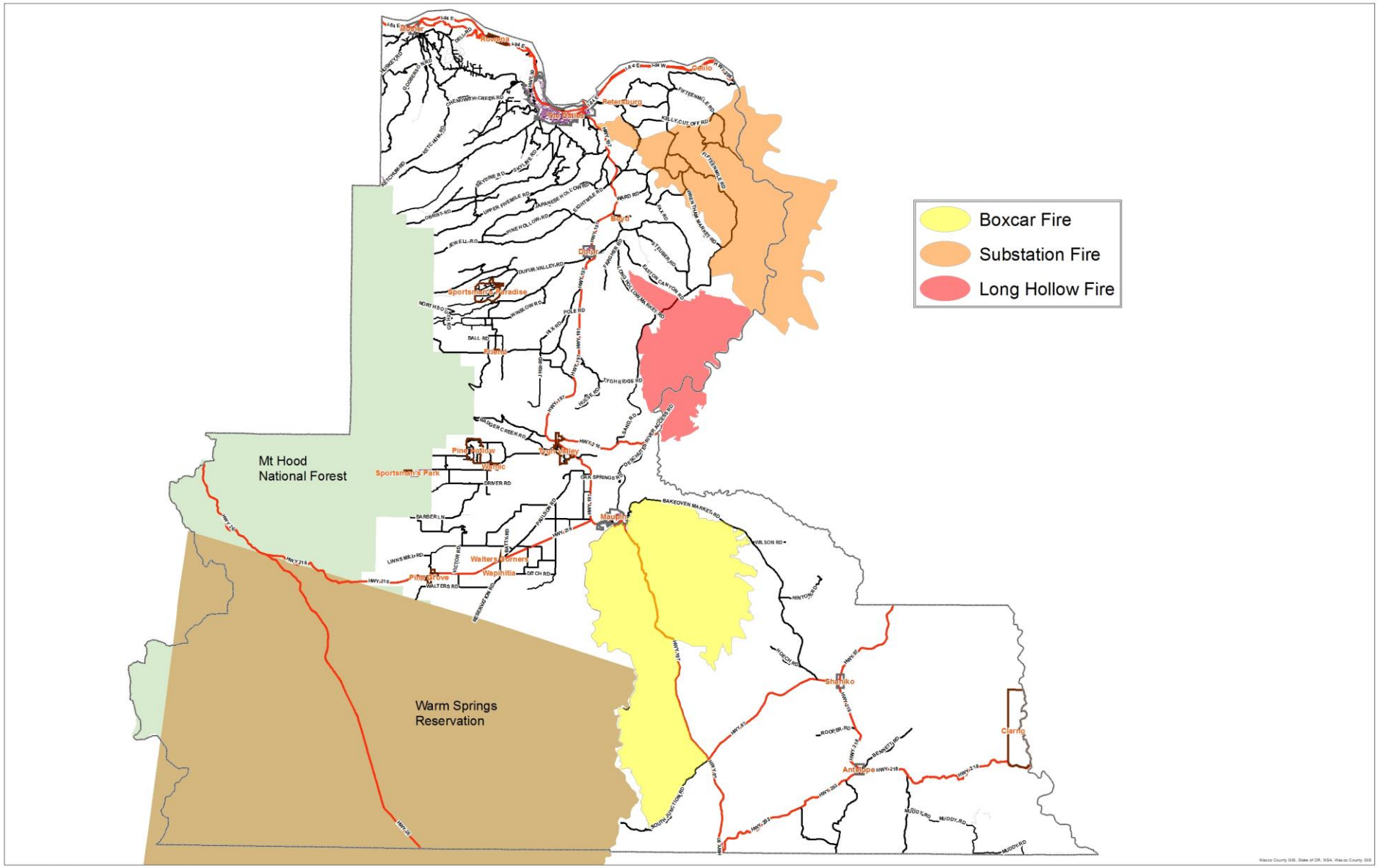
Date: 10/5/2018 Time: 9:49:40 AM

Miles: 0 2.75 5.5 11 16.5 22

2018 FIRES

PLANNING

Pioneering pathways to prosperity.



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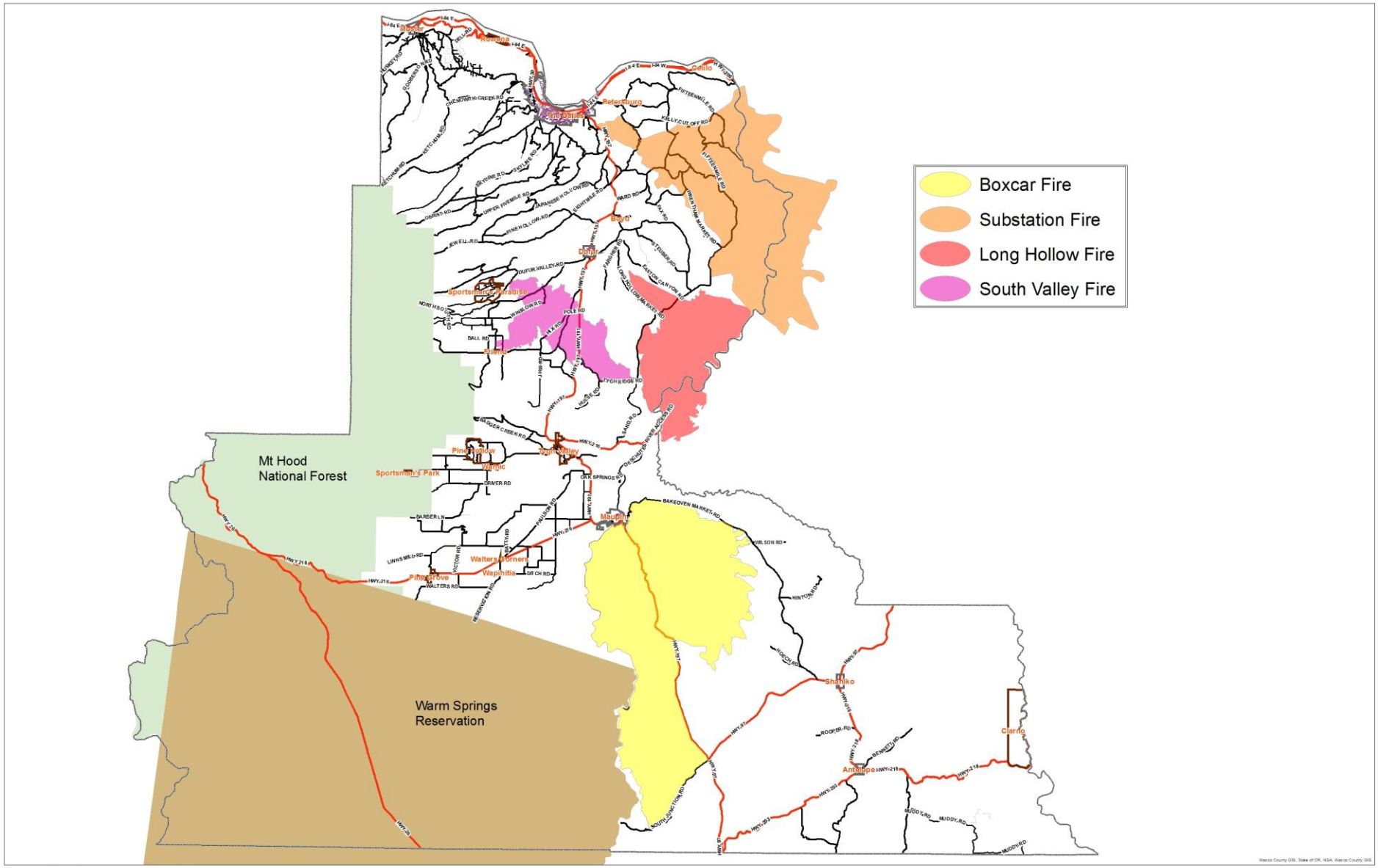
2018 FIRES



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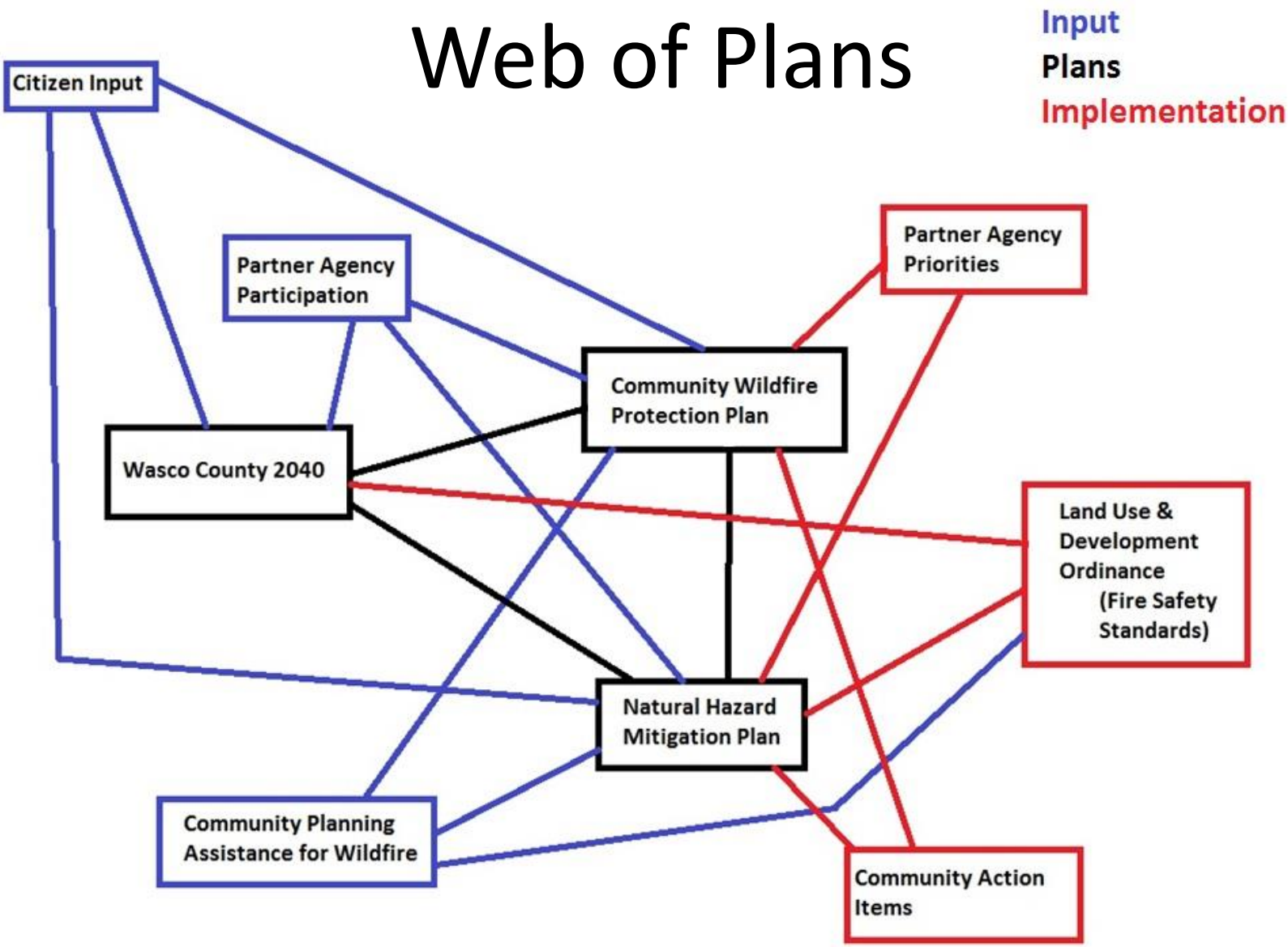
2018 FIRES

Web of Plans


Input
Plans
Implementation
Citizen Input
Partner Agency Participation
Partner Agency Priorities
Community Wildfire Protection Plan
Wasco County 2040
Land Use & Development Ordinance (Fire Safety Standards)
Natural Hazard Mitigation Plan
Community Planning Assistance for Wildfire
Community Action Items

Natural Hazard Mitigation Plan

"DISASTERS AND DONUTS"

COMMUNITY OPEN HOUSE

OCTOBER 30, 2017 | NOON - 7 P.M.

STOP BY ANY TIME!

WASCO COUNTY PLANNING DEPARTMENT
2705 EAST SECOND ST.
THE DALLES, OR 97058

Wasco County is updating our Natural Hazard Mitigation Plan and we need your help!

Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. (FEMA)

Come to our Open House to provide feedback about how Natural Hazards affect you or your organization, and give us suggestions on what we could do to mitigate their impacts – all while enjoying complimentary donuts, beverages, and screenings of your favorite disaster movies!

For more information or to provide comments please contact:

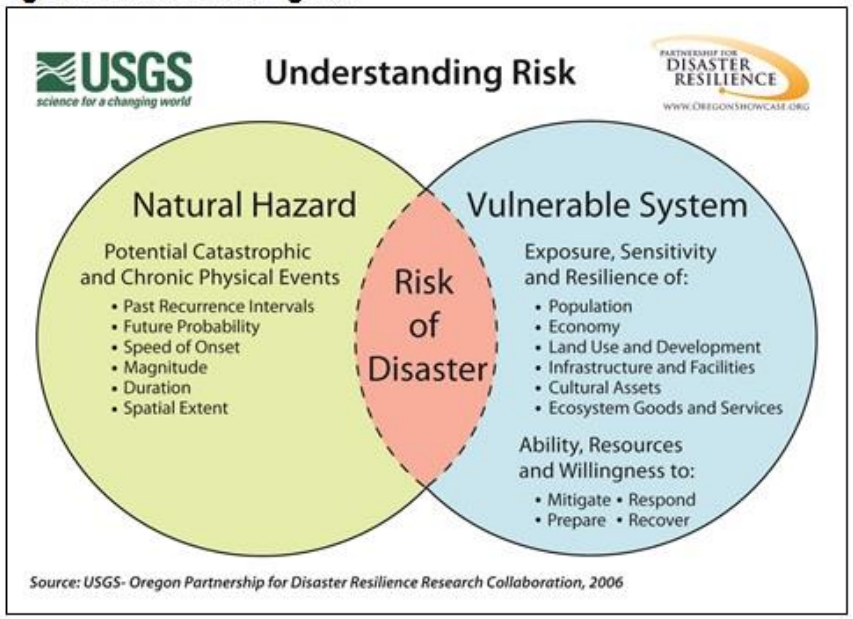
Will Smith, Associate Planner
Wasco County Planning
Phone: 541-506-2500
Email: willS@co.wasco.or.us

WASCO COUNTY'S NATURAL DISASTERS

- Severe Weather
- Drought
- Wildfire
- Flood
- Earthquake
- Volcano
- Landslide

For more information and to fill out our survey please visit:
http://www.co.wasco.or.us/departments/planning/long_range/natural_hazards_mitigation_plan.php

Figure 2.1 Understanding Risk



Source: USGS- Oregon Partnership for Disaster Resilience Research Collaboration, 2006

Purpose

- Mitigation: Sustained actions taken to reduce or eliminate long-term risk to life and property from hazards (*44 CFR 201.2 Mitigation Planning – Definitions*)
- Why do we have this plan?
  - Establish a comprehensive community-level mitigation strategy
  - Coordinate efforts to reduce loss of life and property by lessening the impact of disasters
  - Retain eligibility to receive federal funding for mitigation projects *(per the Disaster Mitigation Act of 2000 and 44 CFR 201)*


Protection of Life & Property
Emergency Services Enhancement
Education & Outreach
Facilitate Partnerships & Coordination
Natural Resources Systems Protection
Wasco County NHMP Goals

NHMP Steering Committee

- Wasco County Planning
- Wasco County Emergency Management
- Wasco County GIS
- Wasco County Soil and Water Conservation District
- Wasco County Administration
- North Wasco County School District
- Natural Resources Conservation Service
- Wasco County Public Works
- Mid-Columbia Fire and Rescue
- City of The Dalles Planning
- City of The Dalles Public Works
- Oregon Department of Forestry

With assistance from:

- Oregon State Department of Land Conservation and Development (DLCD)
  - (Natural Hazards Planner, NFIP Coordinator, Risk MAP Coordinator)

Partner Agencies

ODF	ODOT	DLCD
MCFR	WADOT	Dufur School District
North Wasco County School District	BPA (Bonneville Power Admin)	South Wasco County School District
Red Cross	The Dalles Port	Mosier Community School
US Forest Service - Mt Hood National Forest	The Dalles National Guard	The Dalles Chamber of Commerce
US Forest Service - CRGNSA	MCCOG Area Agency on Aging	Cherry Growers Association
MCEDD	The Dalles Public Works	DEQ
BLM Prineville District	Maupin Public Works	Cattlemen's Association
ODFW	Mosier City	WRD (Water Resources Department)
North Wasco County Parks and Rec	Dufur City	Wasco County Health Department
South Wasco County Parks and Rec	Wamic	Mosier Fire District
Confeder. Tribes of Umatilla	Shaniko	Juniper Flat Fire District
Confed. Tribes of Warm Springs	Maupin	Wamic Fire District
Yakama Indian Nation	Tygh Valley	Tygh Valley Fire District
Yakama Indian Nation	Antelope	Maupin Ambulance
Nez Perce Tribe	Columbia Gorge Community College	Dufur Ambulance
Nez Perce Tribe	North Wasco County PUD	Fair Housing Council of Oregon
Mid Columbia Medical Center	Chenowith PUD	School District 1
MCMC Health Foundation	Wasco Electric	Center for Living
Army Corps of Engineers	DOGAMI	Next Door
Gorge Commission	OEM	

Conflagrations

(used for fires that involve or threaten life or structures)

Fire Name	Year
Rowena/The Dalles	1998
The Dalles Grain Elevator	1999
Antelope	2000
Sheldon Ridge	2002
White River	2002
Microwave	2009
Government Flats Complex	2013
Rowena	2014
Mosier Oil Train Derailment	2016
Wasson Pond	2016
Nena Springs	2017
Substation	2018
South Valley	2018
Memaloose II	2018

FEMA Fire Management Assistance Declarations for Oregon – Wasco County

Declaration Number	Year	Name	Description
FM-5046	2013	Government Flats Complex	11,450 acres, conflagration declared, 4 homes lost, $15 mil damage
FM-5073	2014	Rowena	3,680 acres, conflagration declared
FM-5255	2018	Substation Fire	78,425 acres, conflagration declared, four homes and 48 other structures lost
FM-5265	2018	South Valley Fire	20,026 acres, conflagration declared, three homes and 12 other structures lost

Cause: Human v. Lightning

Year	Agency	Lightning	Human	Total	Lighting %	Human %
2013	ODF	7	13	20	35	65
2014	ODF	5	22	27	19	81
2015	ODF	4	17	21	19	81
2016	ODF	1	21	22	5	95
2017	ODF	0	15	15	0	100
Average					15	85
2013	FS - Mt Hood	27	50	77	35	65
2014	FS - Mt Hood	81	46	127	64	36
2015	FS - Mt Hood	14	82	96	15	85
2016	FS - Mt Hood	5	55	60	8	92
2017	FS - Mt Hood	8	62	70	11	89
Average					27	73
2013	FS - CRGNSA	3	22	25	12	88
2014	FS - CRGNSA	2	10	12	17	83
2015	FS - CRGNSA	4	20	24	17	83
2016	FS - CRGNSA	1	15	16	6	94
2017	FS - CRGNSA	0	11	11	0	100
Average					10	90

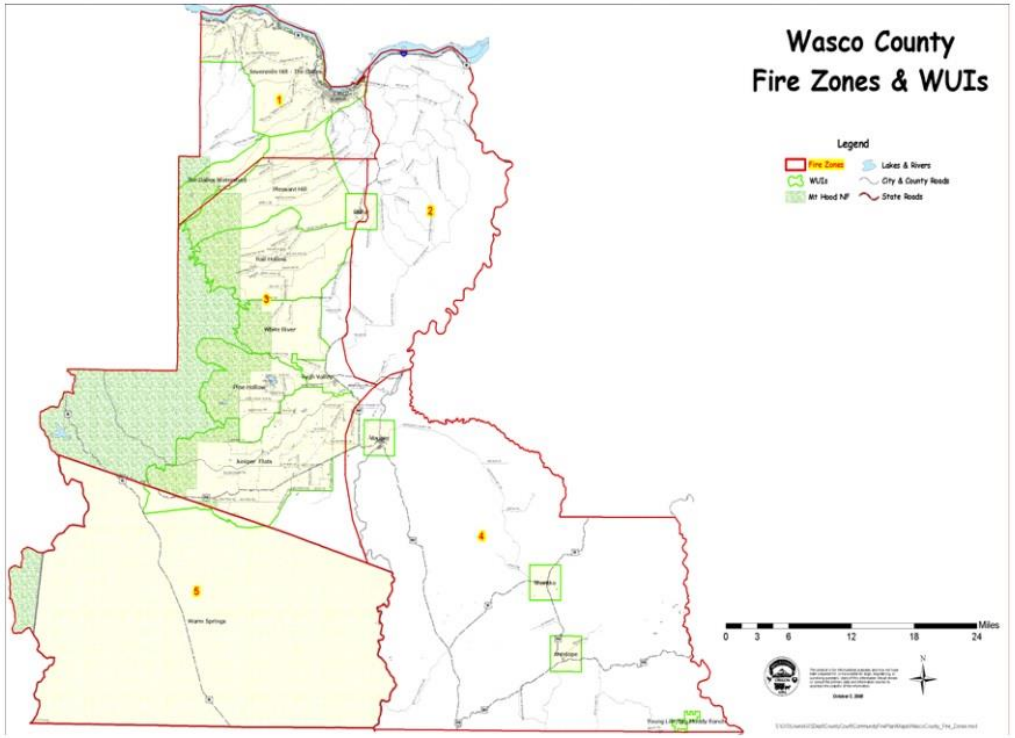
Action Items – Multi-Hazard (MH) Wildfire Hazard (WH)

Action Item	Action Title	Coordinating Organization	Timeline	Status
LT = Long Term, ST = Short Term D = Deferred, I = Institutionalized, IP = In Progress, M = Modified, N = New				
MULTI-HAZARD				
MH 1	Pursue regional funding for mitigation actions and coordination of efforts			
MH 2	Develop Public Outreach / Educational Programs for all Hazards			
MH 3	Annual Review and Update of the County Emergency Operations Plan , Regular Updates of other relevant plans such as Community Wildfire Protection Plan, and Natural Hazards Mitigation Plan; Re-Adoption is required on a regular basis			
MH 4	Create Systems to Support and Maintain at-risk Populations			
MH 5	Update County Comprehensive Plan			
MH 6	Create Emergency Disaster Fund			
MH 7	Develop Small Business Awareness & Continuity Planning Campaign			
MH 8	Maintain & Develop Partnership Programs to Reduce Vulnerability of Public Infrastructure/Facilities from hazard risks	Emergency Management	LT	I
MH 9	Pursue Agency Staff Training	NHMP SC	ST	N
MH 10	Fortify County Communication Networks	WCSO	ST	N
MH 11	Update or Acquire Relevant Hazard Maps	Planning	ST, LT	N/I

WILDFIRE				
WH 1	Assessment of Non-County Roads for Response to Wildfire Hazards	Wasco County Public Works	ST	D/M
WH 2	Accomplish Defensible Space Around Structures	Rural Fire Districts, Planning	ST	I
WH 3	Treat Hazard Fuels in the Wildland Urban Interface Including in The Dalles Municipal Watershed	Rural Fire Districts, The Dalles Public Works	ST	I
WH 4	Explore ways to increase Fire District coverage throughout the County	Emergency Management	LT	N
WH 5	Establish a Wildfire Coordinator or local Natural Hazard Planner position	Planning, Emergency Management	ST	N

Community Wildfire Protection Plan (2005)

- Planning Process
- County Profile
- Special Considerations
- Wildfire Risk Assessment
- Wildfire Mitigation Strategy
- Continuing Actions



Community Wildfire Protection Plan (2005)

- Planning Process
  1. Convene Decision Makers
  2. Establish Planning Area Boundary and Planning Goals
  3. Establish a Community Base Map
  4. Wildfire Risk Assessment
  5. Establish Community Priorities and Recommendations
  6. Collaboration and Public Input

Specific Actions

Zone 4

1. Apply for grant funding to clean up the bark piles in the old Brownfields lumber yard in Maupin.

   Priority – High
   Time Frame – Mid Term
   Responsibility – City of Maupin, Wasco County

2. Improve road access problems in portions of Maupin which limit firefighter vehicle access and the evacuation of residents during an emergency.

   Priority – Moderate
   Time Frame – Mid Term
   Responsibility – City of Maupin

3. Support south county fire chiefs in improving deployment of resources to assure adequate coverage during large wildfire situations.

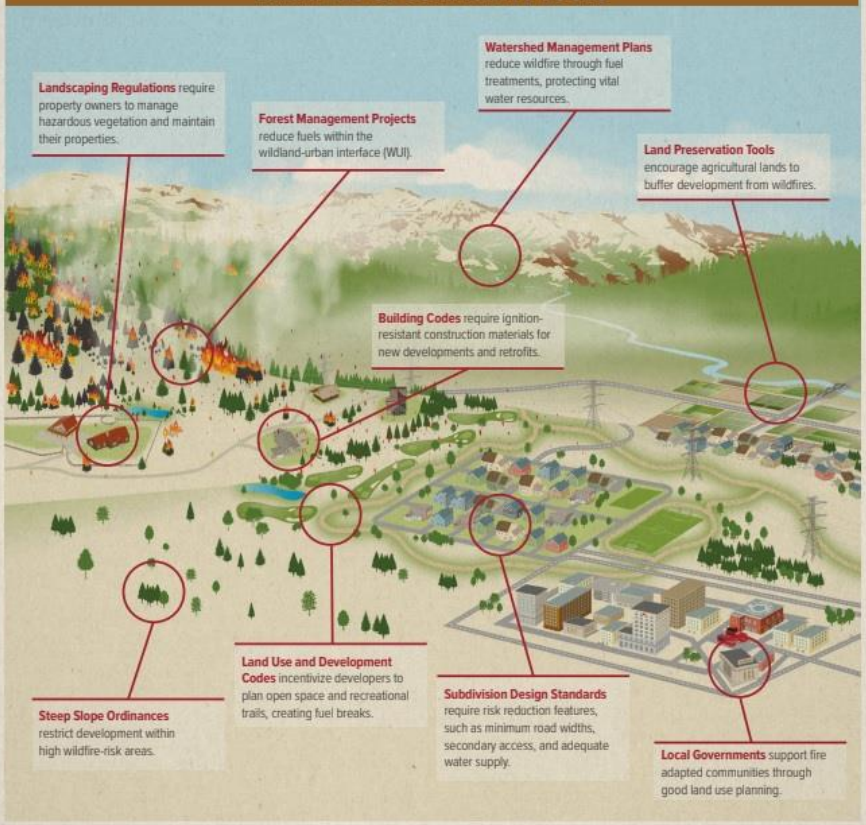
   Priority – High
   Time Frame – Mid Term
   Responsibility – South County Fire Chiefs, ODF, US Forest Service, Oregon State Fire Marshal, BLM.

4. Work with the federal agencies and Conservation Districts to develop burn plans and fund the creation of fuel breaks around high risk CRP fields in the county.

   Priority – Moderate
   Time Frame – Mid Term
   Responsibility – Forest Service, BLM, Conservation Districts.

Community Planning Assistance for Wildfire (CPAW)

Contents



CPAW is a program of Headwaters Economics. We work in partnership with Wildfire Planning International, the U.S. Forest Service Rocky Mountain Research Station, and others to reduce wildfire risk through improved land use planning. It is funded by grants from the U.S. Forest Service, the LOR Foundation, and other private foundations. CPAW is an equal opportunity employer.

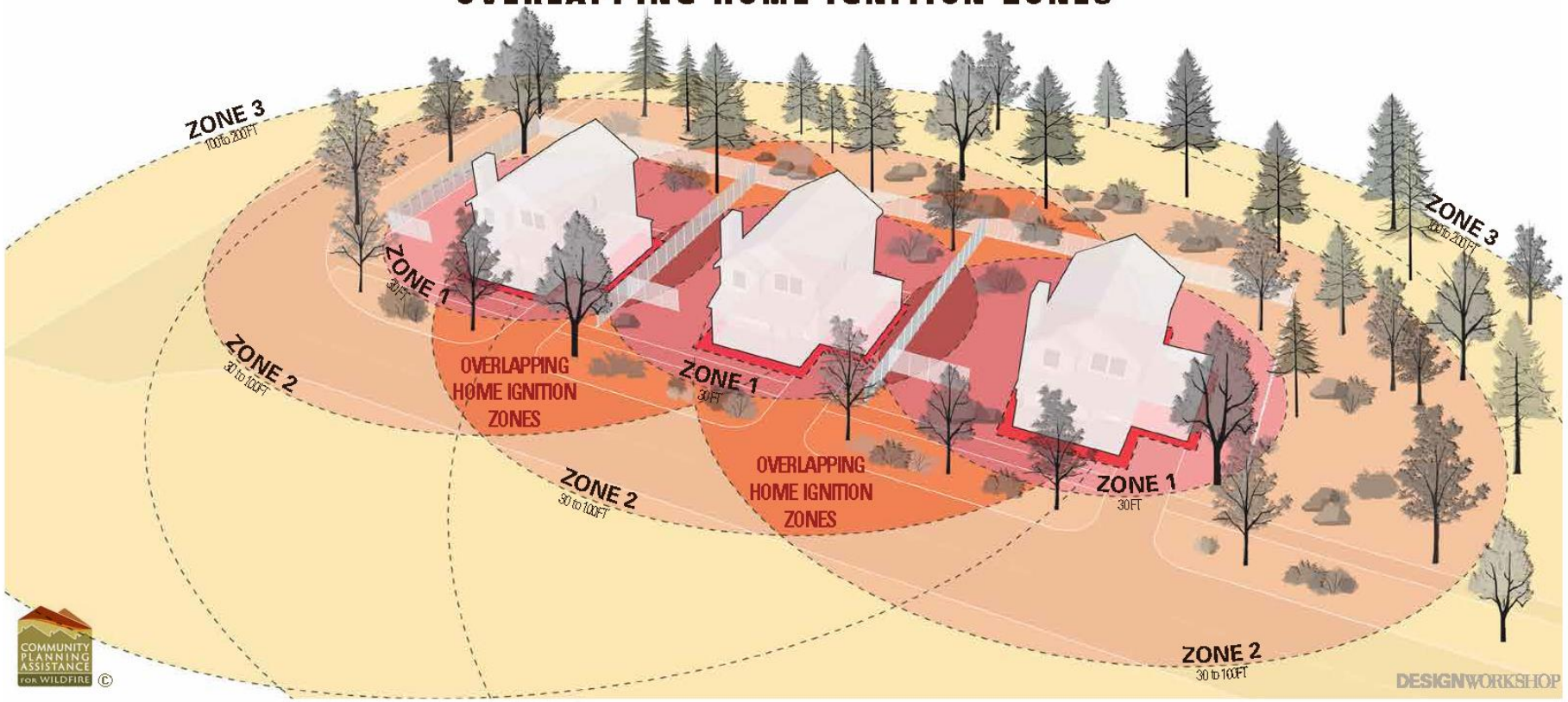
Helping communities better plan the wildland

PLANNING

Pioneering pathways to prosperity.

MITIGATED STANDARD LOT RESIDENTIAL

OVERLAPPING HOME IGNITION ZONES



ZONE 1A Eliminated Combustible Material

- ☐ Maintain a 5FT non-combustible buffer around the furthest extension of the structure, including porches and decks
- ☐ All accessory structures within 50FT should be mitigated to primary structure standards

ZONE 1 Reduced, Discontinuous, and Intensively Maintained Vegetation

- ☐ Limit trees to provide adequate horizontal and vertical spacing
- ☐ Allow only low growing, low flammability plants
- ☐ Encourage use of ignition resistant landscape features
- ☐ Remove firewood and combustible materials within 30FT of structure
- ☐ Maintain grass to a maximum height of 6IN
- ☐ Create fuel breaks using driveways, walkways, and lawns

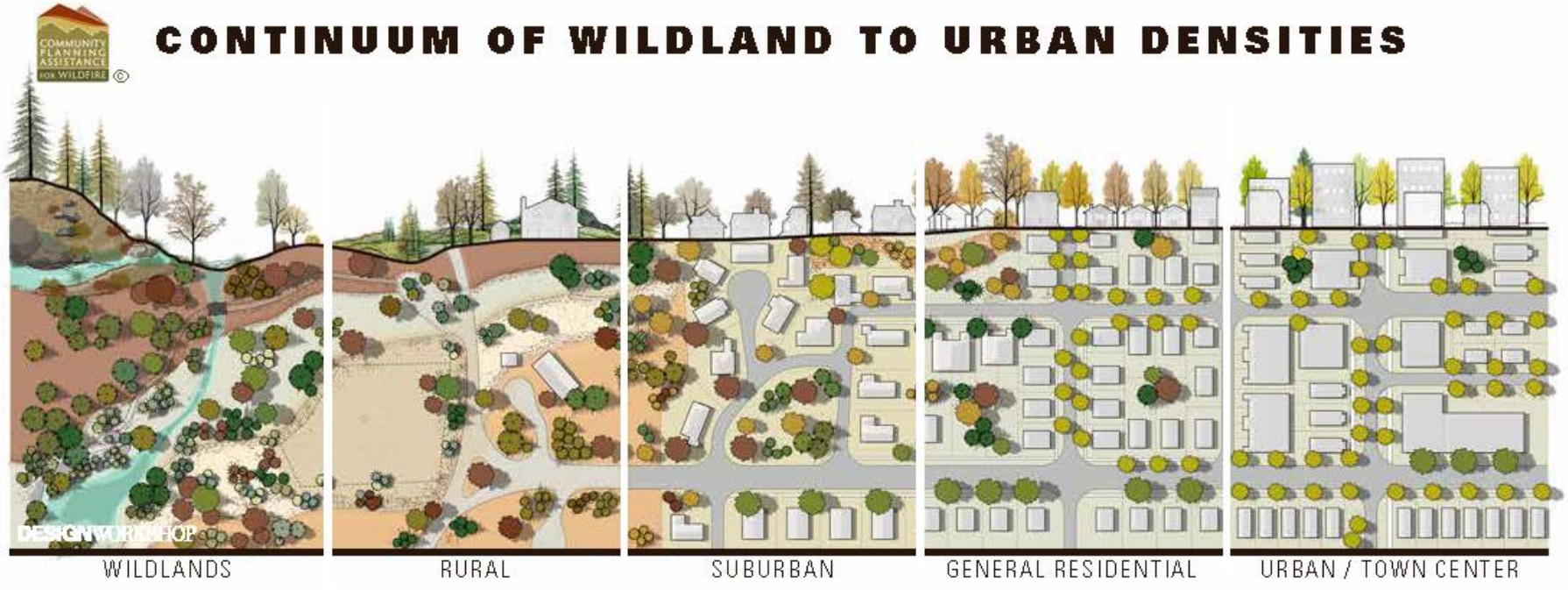
ZONE 2 Spaced, Pruned, and Limited Low-Growing Surface Vegetation

- ☐ Prune trees 6FT to max 1/3 of tree height from ground
- ☐ Create distance between conifer tree crowns in Zones 2 and 3, dependent on site conditions
- ☐ Trees can be grouped with spacing maintained between groups
- ☐ Encourage deciduous trees to replace conifer trees in all Zones
- ☐ Limit shrubs to small, discontinuous groups; no flammable shrubs below tree canopies
- ☐ Appropriately maintain grasslands, through mowing, grazing, or prescribed fire

ZONE 3 Thinned, Pruned Trees, and Reduced Surface Vegetation

- ☐ Encourage a mix of age, size, and species of appropriately spaced and pruned trees
- ☐ Conifers should be thinned and/or pruned
- ☐ Surface vegetation should be reduced
- ☐ Appropriately maintain grasslands, through mowing, grazing, or prescribed fire


WILDLANDS
INTERMIX
INTERFACE
OCCLUDED
EMBER ZONE

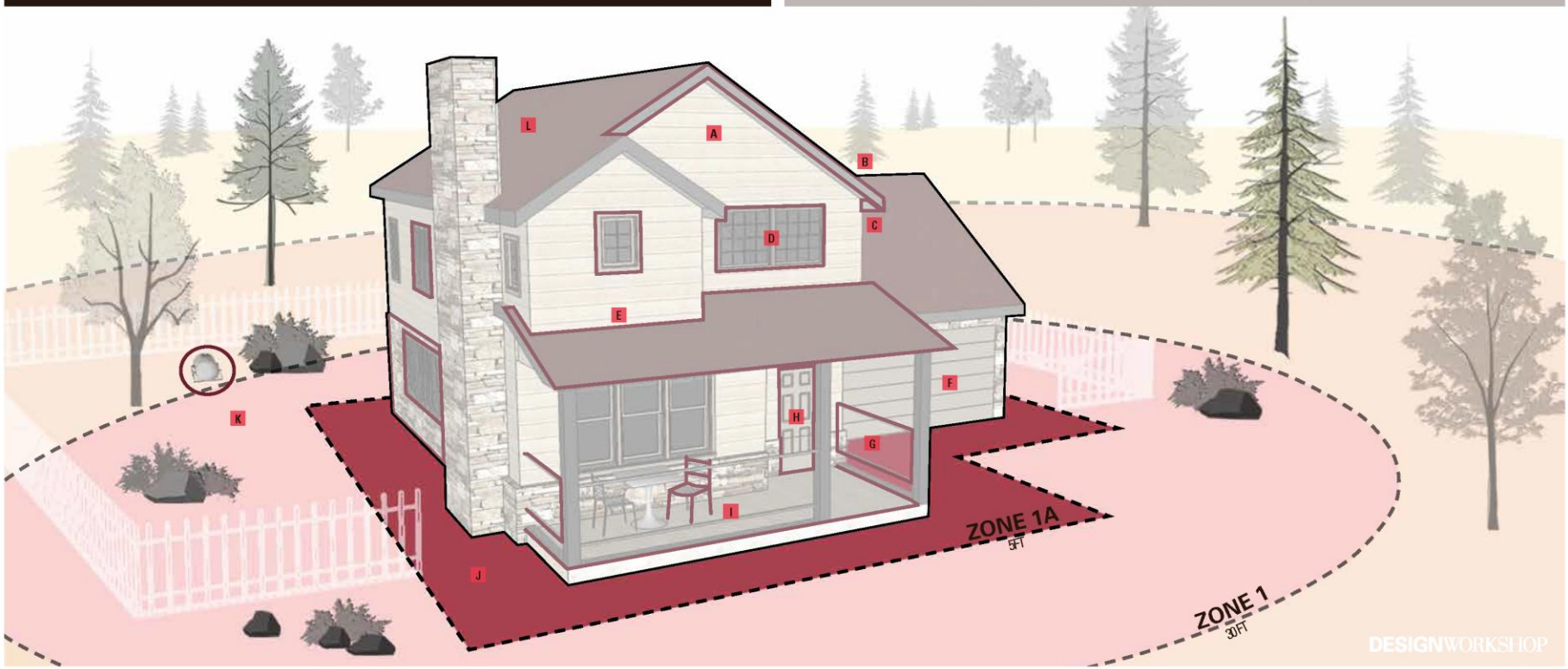

COMMUNITY PLANNING ASSISTANCE FOR WILDFIRE
CONTINUUM OF WILDLAND TO URBAN DENSITIES
WILDLANDS
RURAL
SUBURBAN
GENERAL RESIDENTIAL
URBAN / TOWN CENTER

WILDFIRE MITIGATION CONCEPTS FOR THE HOME

MITIGATED HOME

WUI CODES

Even if homes are located outside of intermix or interface areas, they can still be susceptible to transported embers. WUI Codes can be adopted to incorporate best practices and specify materials to mitigate wildfire risk



ZONE 1A 5FT NONCOMBUSTIBLE BUFFER AROUND THE FURTHEST EXTENSION OF THE STRUCTURE

COMMUNITY PLANNING ASSISTANCE FOR WILDFIRE ©

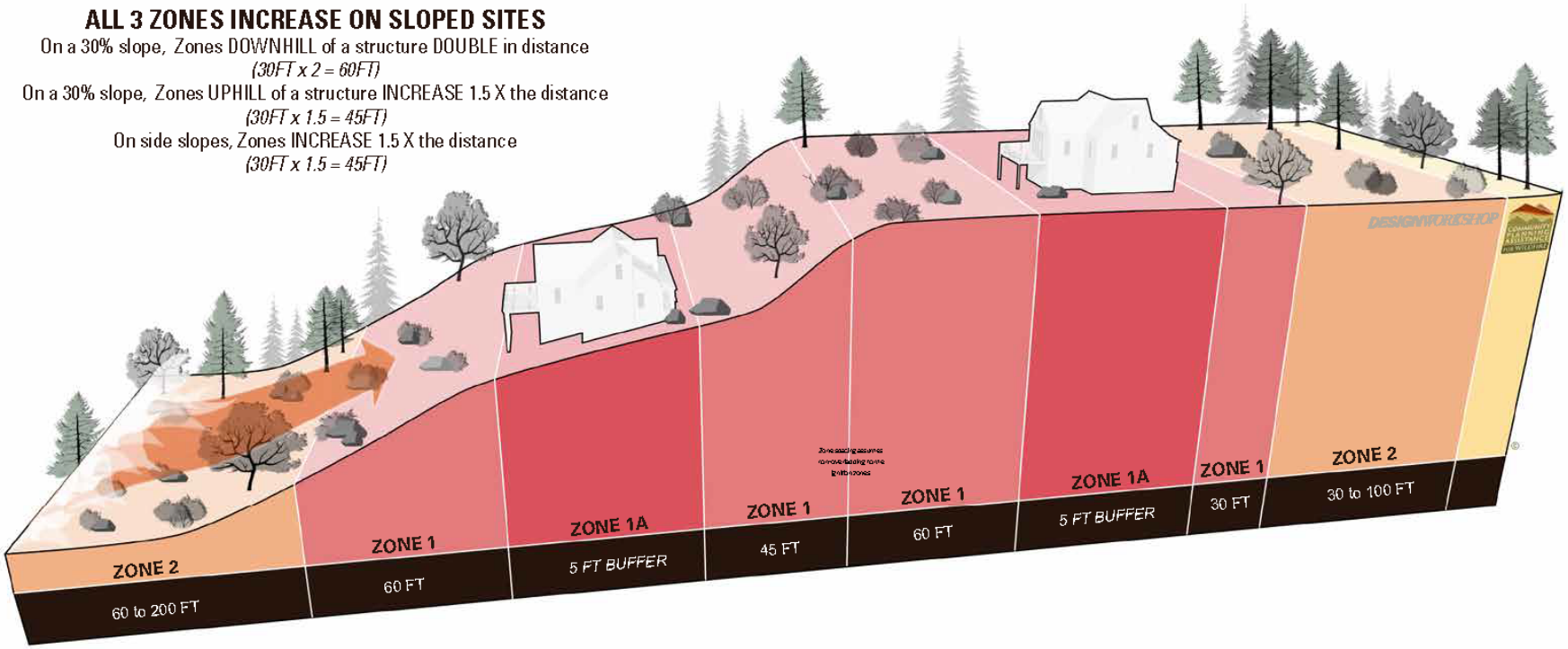
- **A** Use non-combustible or ignition resistant siding and trim
- **B** Clear debris from roofs and gutters regularly
  - Install non-combustible gutters and downspouts
- **C** Install Class A fire-resistant roof assembly and enclosed non-combustible eaves with appropriately screened vents
- **D** Install multi-pane windows or ideally tempered glass with:
  - 1/8 IN metal window screens
  - Window frames constructed with non-combustible materials
- **E** Ensure 6IN vertical non-combustible surface on all gables above roof surfaces
- **F** Conditions may require 1HR fire rated garage door; all gaps should be sealed
- **G** Avoid use of combustible lattice, trellis, or other decorative features
- **H** Conditions may require 1HR fire rated door (as opposed to non-combustible or solid wood) where conditions warrant
- **I** Construct deck with heavy timber or UL/ASTM fire rated materials, and ensure:
  - Crawl spaces are enclosed and regularly cleaned, or left open and regularly cleaned
  - A non-combustible surface is maintained and no combustibles are stored under the deck
  - No combustible patio furniture or accessories are on the deck
- **J** Establish and maintain a 5 FT non-combustible buffer around the structure (including all vegetation material and firewood)
  - Ensure any fencing within Zone 1A is non-combustible
- **K** In Zone 1, allow:
  - Only low growing, low flammability plants
  - Only accessory structures (or adjacent structures) mitigated to primary structure standards
  - No propane storage within 30FT of the building
  - No storage of firewood or combustibles within 30FT
- **L** Ensure any skylights present are glass

MITIGATED RESIDENTIAL DEVELOPMENT

SLOPE HOME IGNITION ZONE PRACTICES

ALL 3 ZONES INCREASE ON SLOPED SITES

On a 30% slope, Zones DOWNHILL of a structure DOUBLE in distance
(30FT x 2 = 60FT)
On a 30% slope, Zones UPHILL of a structure INCREASE 1.5 X the distance
(30FT x 1.5 = 45FT)
On side slopes, Zones INCREASE 1.5 X the distance
(30FT x 1.5 = 45FT)



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Wasco County Fire Safety Standards

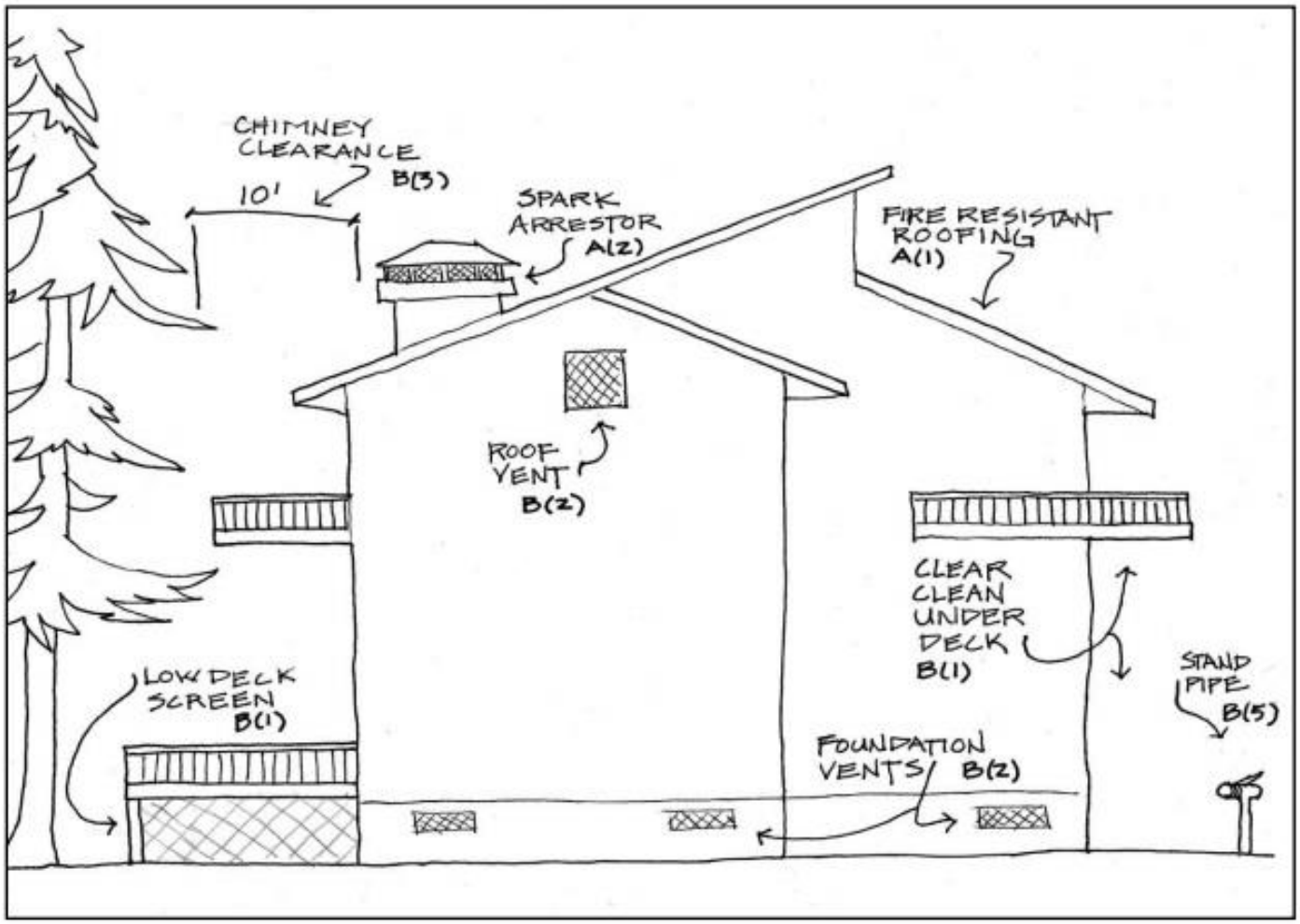
- Adopted in 2007

- Away from Slopes >30%
- "Defensible Space" = 50' standard
- Construction Standards
- Turnouts, turnarounds, driveway standards
- Large homes and those not in a Fire District = require on-site water

  - OR -

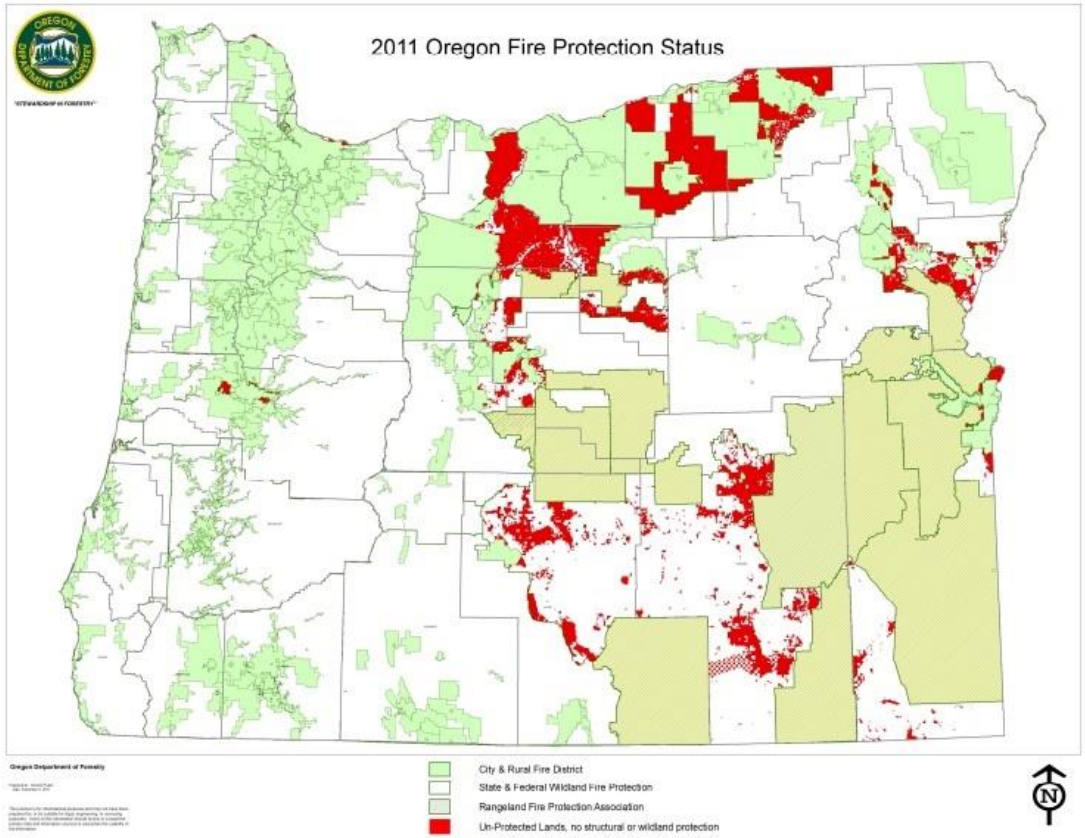
- Locally approved Fire Safety Mitigation Plan

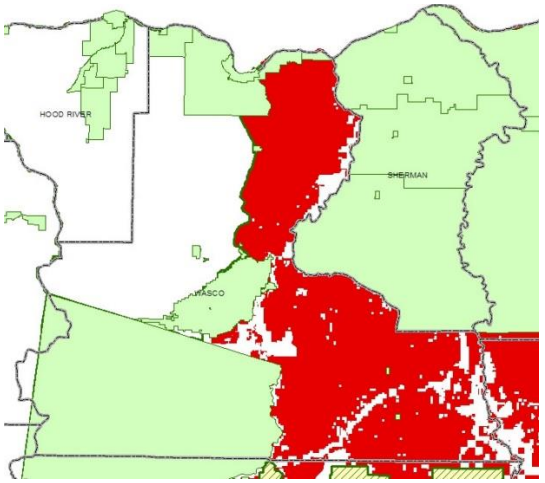
Section 10.130- Construction Standards For Dwellings And Structures – Decreasing The Ignition Risks By Planning For A More Fire-Safe Structure.



Unprotected Lands

APPENDIX A: Map, Oregon Fire Protection Status:





City & Rural Fire District
State & Federal Wildland Fire Protection
Rangeland Fire Protection Association
Un-Protected Lands, no structural or wildland protection

Source: https://digital.osl.state.or.us/islandora/object/osl%3A20421/datastream/OBJ/view
Map: December 6, 2011

Appendix W

Wildfire Hazard Mitigation

(Not adopted by the State of Oregon, but may be adopted by local municipalities)

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION W101 GENERAL

W101.1 Scope. The provisions of this chapter shall apply to new dwellings and their accessory structures located in a wildfire hazard zone.

W101.2 Objective. The objective of this chapter is to establish minimum standards for the protection of life and property by increasing the ability of dwellings and their accessory structures located in or adjacent to vegetated areas subject to wildfires, to resist the intrusion of flames or burning embers presented by such fires.

W101.3 Wildfire Hazard Zone Determination. A wildfire hazard zone is an area legally determined by a jurisdiction to have special hazards caused by a combination of combustible natural fuels, topography and climatic conditions that result in a significant hazard of catastrophic fire over relatively long periods each year. Wildfire hazard zones shall be determined using criteria established by the Oregon Department of Forestry.

SECTION W102 DEFINITIONS

W102.1 Definitions. The following words and terms shall, for purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of the International Building Code for general definitions.

Heavy Timber. For the use in this Section, heavy timber shall be sawn lumber or glue laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). Heavy timber walls or floors shall be sawn or glue-laminated planks splined, tongue-and-grove, or set close together and well spiked.

Ignition-Resistant Material. A type of building material that resists ignition or sustained flaming combustion sufficiently so as to reduce losses from wildland-urban interface conflagrations under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames. Such materials include any product designed for exterior exposure that, when tested in accordance with ASTM E84 or UL 723 for surface burning characteristics of building materials, extended to a 30-minute duration, exhibits a flame spread index of not more than 25, shows no evidence of significant progressive combustion, and whose flame front does not progress more than 10 ½ feet (3.2 m) beyond the centerline of the burner at any time during the test.

Wildfire. Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property, or resources.

Wildfire Exposure. One or a combination of circumstances exposing a structure to ignition, including radiant heat, convective heat, direct flame contact and burning embers being projected by a vegetation fire to a structure and its immediate environment.

Wildland-urban interface area. That geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

SECTION W103 APPLICABILITY

W103.1 Wildfire hazard zone requirements. Dwellings and their accessory structures shall be protected against wildfire in accordance with the requirements of Appendix W in addition to other requirements of this code.

Exceptions:

1. Buildings of an accessory character having a Class A or B roof and not exceeding 120 square feet in floor area, when located at least 30 feet from the applicable building.
2. Buildings of an accessory character of any size having a Class A or B roof and

Building Codes

PLANNING

Pioneering pathways to prosperity.

Resources

- Wasco County 2040
  - https://wasco2040.com/
- Community Planning Assistance for Wildfire
  - https://planningforwildfire.org/
- Wasco County Natural Hazard Mitigation Plan
  - https://co.wasco.or.us/departments/planning/long_range/natural_hazards_mitigation_plan.php
- Natural Hazard Mitigation Plan update materials
  - FEMA Local Mitigation Handbook: https://www.fema.gov/media-library-data/20130726-1910-25045-9160/fema_local_mitigation_handbook.pdf
  - OPDR Oregon Pre-Disaster Mitigation Program Plan Update Training Manual: https://cpb-us-e1.wpmucdn.com/blogs.uoregon.edu/dist/3/4943/files/2017/11/NHMP_Updates_Training_Manual-17lnbxf.pdf

Contact Info

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  - 541-506-2559