

Section 8: Wildfire

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Why are Wildfires a Threat to Douglas County?

Fires are a natural part of the ecosystem in Oregon. However, wildfires can present a substantial hazard to life and property in growing communities. There are potential for losses due to wildland/urban interface fires in Douglas County.

The forest comprises approximately 90% of Douglas County. Douglas County's forests play an important role in the economy of the county, as well as surround it's residents homes and businesses. Wildfire is serious threat to the well being and quality of life in the Umpqua Valley.

Douglas County Fires, 2002

The 2002 fire season was one of the most severe in the history of Oregon. Douglas County was at the forefront of the 2002 blazes. Locally, 136 fires were suppressed that burned 832 acres of Private, County, State and Bureau of Land Management land. Over 88,000 acres burned within the Umpqua National Forest. The ten-year annual fire average for DFPA is 88 fires and 317 acres. Prior to 2002, the worst fire season was in 1917 when 245 fires scorched 36,597 acres. Over 30,000 acres also burned in 1987 as a result of 179 fires.

Table 8-1. US Forest Service reported fire statistics for 2002 (last updated in August 2002)

Incident Name	Size (acres)	Personnel	Structures Lost
Biscuit	500,068	3,221	13
Tiller Complex	66,355	1,785	0
Apple	10,200	1,129	0

Source: United States Forest Service

Apple (Umpqua National Forest): This fire was 21 miles east of Glide, and encompassed 9,800 acres. Twenty residences were threatened.

Tiller Complex (Umpqua National Forest): Fire at 75 percent contained. This 65,824-acre fire, consists of eight large and many small fires, is on the Tiller Ranger District and in the Rogue-Umpqua Divide Wilderness Area, 25 miles east of Canyonville. Sixty-seven residences were threatened.

Biscuit Fire (Siskiyou National Forest): This fire cost more than \$150 million to fight, and was located in southern Oregon and northern California. The fire began on July 13, 2002 and reached 500,023 acres in August 2002. Estimated to be The Nation's largest wildfire in recorded history, the Biscuit Fire encompasses most of the Kalmiopsis Wilderness. The boundary of the Biscuit Fire stretches from 10 miles east of the coastal community of Brookings, Oregon; south into northern California; east to the Illinois Valley; and north to within a few miles of the Rogue River. There were 274 structures threatened by this fire. Four residences and nine outbuildings were lost.



Satellite Photo taken 8/13/02 of Tillier Complex and Biscuit Fire. Source: Wildfire News

Historic Fires in Oregon

In 2002, Southern Oregon's devastating Biscuit Fire became costliest fire in U.S. history, at \$154 million, burning over 500,000 acres. Large and destructive wildfires have occurred throughout recorded history in Oregon. Table 8-2 lists the major wildfires that occurred in Oregon between 1848 and 1966.

Table 8-2a. Large Historic Fires in Oregon (1848-1966)

Year	Fire	# of Acres Burned
1848	Nestucca	290,000
1849	Siletz	800,000
1853	Yaquina	482,000
1865	Silverton	988,000
1868	Coos Bay	296,000
1933	Tillamook	240,000
1936	Bandon	143,000
1939	Saddle Mountain	190,000
1945	Wilson River/Salmonberry	180,000
1951	North Fork/Elkhorn	33,000
1966	Oxbow	44,000

Source: "Atlas of Oregon," William G. Loy, et al, University of Oregon Books, 1976. Oregon Department of Forestry, "Tillamook Burn to Tillamook State Forest," revised 1993.

Table 8-2b. Large Historic Fires in Douglas County (Douglas Forest Protective Association Administered Lands) (1956-2001)

DOUGLAS FOREST PROTECTIVE ASSOCIATION

HISTORY OF FIRES

YEAR	MAN CAUSED FIRES	ACRES	LIGHTNING CAUSED FIRES	ACRES	TOTAL FIRES	TOTAL ACRES	YEAR	MAN CAUSED FIRES	ACRES	LIGHTNING CAUSED FIRES	ACRES	TOTAL FIRES	TOTAL ACRES
1956	45	533	8	23	53	556	1980	87	1,979	48	26	135	2,005
1957	75	1,312	14	0	89	1,312	1981	50	488	0	0	50	488
1958	66	1,462	18	3	84	1,465	1982	55	612	15	12	70	624
1959	55	5,259	17	5	72	5,264	1983	22	26	13	6	35	32
1960	59	1,535	35	95	94	1,630	1984	64	437	48	7	112	444
1961	58	6,429	48	49	106	6,478	1985	76	774	25	5	101	779
1962	61	1,197	3	0	64	1,197	1986	45	324	10	0	55	324
1963	64	721	24	9	88	730	1987	84	10,908	95	19,532	179	30,440
1964	72	967	4	2	76	969	1988	58	1,462	26	57	84	1,519
1965	136	4,998	48	13	184	5,011	1989	51	315	25	7	76	322
1966	153	2,011	49	35	202	2,046	1990	50	319	12	74	62	393
1967	106	2,779	21	1,308	127	4,087	1991	45	401	15	5	60	406
1968	63	1,292	10	0	73	1,292	1992	60	378	26	5	86	383
1969	85	407	11	0	96	407	1993	42	449	26	4	68	453
1970	174	1,383	39	75	213	1,458	1994	57	262	52	25	109	287
1971	75	165	4	35	79	200	1995	47	49	18	9	65	58
1972	115	1,138	14	0	129	1,138	1996	74	311	47	22	121	333
1973	125	3,711	21	12	146	3,723	1997	32	31	4	1	36	32
1974	124	404	30	132	154	536	1998	58	226	60	40	118	266
1975	134	801	44	9	178	810	1999	59	107	7	1	66	108
1976	81	180	10	0	91	180	2000	50	239	3	0	53	239
1977	75	895	11	10	86	905	2001	81	353	24	5	105	358
1978	32	111	88	273	120	384	AVG.	73.33	1323.87	25.70	476.78	99.02	1800.65
1979	93	758	12	1	105	759							

Source: 2002 Douglas Forest Protective Association Cooperators Fire Operations Plan

During the 2000 fire season, more than 7.5 million acres of public and private lands burned in the US, resulting in loss of property, damage to resources, and disruption of community services. In 2000, taxpayers spent more than \$1.6 billion to combat 90,000 fires nationwide. Many of these fires burned in wildland/urban interface areas

and exceeded the fire suppression capabilities of those areas.

The magnitude of the 2000 fires is the result of two primary factors: (1) severe drought, accompanied by a series of storms that produce thousands of lightning strikes and windy conditions; and (2) the buildup of brush and small diameter trees in the nation's forests and rangelands. Table 8-3 illustrates fire suppression costs for state, private, and federal lands protected by the Oregon Department of Forestry (ODF) between 1985 and 2000.

Table 8-3a. Fire Suppression Costs in Oregon 1985-2000*

Year	Suppression Costs in Dollars
1985	3,268,644
1986	5,847,018
1987	32,080,746
1988	13,192,596
1989	6,394,593
1990	8,279,974
1991	5,381,192
1992	17,000,000
1993	4,023,033
1994	21,100,000
1995	4,360,349
1996	5,066,227
1997	1,210,692
1998	2,056,343
1999	5,320,555
2000	5,750,862

* Fire Suppression Costs include ONLY costs spent fighting fires; training and readiness costs are not included in these figures

Source: Oregon Department of Forestry: <http://www.odf.state.or.us> *Figures apply to the 15.8 million acres of state, private, and federal lands protected by ODF.

Table 8-3a. Fire Suppression Costs in Douglas Forest Protective Association Area of Douglas County 1998-2002*

Year	Suppression Costs	Fire Damages
1998	\$408,976	\$165,958
1999	\$150,333	\$88,124
2000	\$163,154	N/A
2001	\$589,925	\$154,175
2002	\$1,376,293	\$624,679

* Fire Suppression Costs include ONLY costs spent fighting fires; training and readiness costs are not included in these figures

Source: 2002 Douglas Forest Protective Association Cooperators Fire Operations Plan

Wildfire Characteristics

There are three categories of interface fire:

- The classic wildland/urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas;
- The mixed wildland/urban interface is characterized by isolated homes, subdivisions, and small communities situated predominantly in wildland settings; and
- The occluded wildland/urban interface exists where islands of wildland vegetation occur inside a largely urbanized area.

Certain conditions must be present for significant interface fires to occur. The most

common conditions include: hot, dry, and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel, topography, weather, drought, and development.

The Interface

One challenge Douglas County faces regarding the wildfire hazard is from the increasing number of houses being built on the urban/rural fringe compared to twenty years ago. Since the 1970s, Oregon's growing population has expanded further and further into traditional resource lands including forestlands.

The "interface" between urban and suburban areas and the resource lands created by this expansion has produced a significant increase in threats to life and property from fires, and has pushed existing fire protection systems beyond original or current design and capability. Often times, property owners in the interface are not aware of the problems and threats they face. Therefore, many owners have done very little to manage or offset fire hazards or risks on their own property. Furthermore, human activities increase the incidence of fire ignition and potential damage.

Fuel

Fuel is the material that feeds a fire, and is a key factor in wildfire behavior. Fuel is classified by volume and by type. Volume is described in terms of "fuel loading," or the amount of available vegetative fuel. The type of fuel also influences wildfire. Oregon, a western state with prevalent conifer, brush, and rangeland fuel types, is subject to more frequent wildfires than other regions of the nation. An important element in understanding the danger of wildfire is the availability of diverse fuels in the landscape, such as natural vegetation, manmade structures, and combustible materials. A house surrounded by brushy growth rather than cleared space allows for greater continuity of fuel and increases the fire's ability to spread. After decades of fire suppression, "dog-hair" fir thickets and brush accumulation such as Poison Oak and weeds have accumulated. These enable high intensity fires to flare and spread rapidly. Because of the many different possible "fuels" found in the interface landscape, firefighters have a difficult time predicting how fires will react or spread.

Graphic 8-1 Fire Behavior in High Fuel Loading Area



Fire behavior in a small area that was Thinned Fire burns low and on the ground.

Fire behavior in unthinned forests: Fires burn at high temperatures and reaches tops of trees.

Source: Healthy Forests Initiative, <http://www.whitehouse.gov/infocus/healthyforests/>

Topography

Topography influences the movement of air, thereby directing a fire's course. For example, if the percentage of uphill slope doubles, the rate of spread in wildfire will likely double. Gulches and canyons can funnel air and act as chimneys, which intensify fire behavior and cause the fire to spread faster. Solar heating of dry, south-facing slopes produces upslope drafts that can complicate fire behavior.

Unfortunately, hillsides with hazardous topographic characteristics are also desirable residential areas in many communities. This underscores the need for wildfire hazard mitigation and increased education and outreach to homeowners living in interface areas.

Weather

Weather patterns combined with certain geographic locations can create a favorable climate for wildfire activity. Areas where annual precipitation is less than 30 inches per year are extremely fire susceptible. High-risk areas in Oregon share a hot, dry season in late summer and early fall when high temperatures and low humidity favor fire activity. Predominant wind directions may guide a fire's path.

Drought

Recent concerns about the effects of climate change, particularly drought, are contributing to concerns about wildfire vulnerability. The term *drought* is applied to a period in which an unusual scarcity of rain causes a serious hydrological imbalance. Unusually dry winters, or significantly less rainfall than normal, can lead to relatively drier conditions, and leave reservoirs and water tables lower. Drought leads to problems with irrigation, and may contribute to additional fires, or additional difficulties in fighting fires.

Development

Growth and development in forested areas is increasing the number of human-made structures in the interface in Oregon. Wildfire has an effect on development, yet development can also influence wildfire. Owners often prefer homes that are private, have scenic views, are nestled in vegetation, and use natural materials. A private setting may be far from public roads, or hidden behind a narrow, curving driveway. These conditions, however, make fuel reduction activities, evacuation and firefighting difficult. The scenic views found along mountain ridges can also mean areas of dangerous topography. Natural vegetation contributes to scenic beauty, but it may also provide a ready trail of fuel, leading a fire directly to the combustible fuels of the home itself.

Wildfire Hazard Assessment

Wildfire Hazard Identification

Wildfire hazard areas are commonly identified in regions of the wildland/urban interface. Ranges of the wildfire hazard are further determined by the ease of fire ignition due to natural or human conditions and the difficulty of fire suppression. The wildfire hazard is also magnified by several factors related to fire suppression/control, such as the surrounding fuel load, weather, topography, and property characteristics. Generally, hazard identification rating systems are based on

weighted factors of fuels, weather, and topography.

In order to determine the “base hazard factor” of specific wildfire hazard sites and interface regions, several factors must be taken into account. Categories used to assess the base hazard factor include:

- Topographic location, characteristics, and fuels;
- Site/building construction and design;
- Site/region fuel profile (landscaping);
- Defensible space;
- Accessibility;
- Fire protection response; and
- Water availability.

The use of Geographic Information System (GIS) technology in recent years has been a great asset to fire hazard assessment, allowing further integration of fuels, weather, and topography data for such ends as fire behavior prediction, watershed evaluation, mitigation strategies, and hazard mapping.

Vulnerability and Risk

Douglas County residents are served by a variety of local fire districts and fire departments, as well as state and federal fire districts (Map 8-1). Data that includes the location of interface areas in the county can be used to assess the population and total value of property at risk from wildfire, and direct these fire districts in fire prevention and recovery. Douglas Forest Protective Association is seeking to develop a wildfire hazard map for lands served by the Douglas Forest Protective Association. This map would identify the wildland/urban interface in the Douglas Fire Prevention District, and show acreage in this district that are subject to the wildfire hazard.

The county has a large number of acres that are susceptible to wildland fires. Including federal lands, the areas of potential wildfires comprise an estimated 90% of the county.

Table 8-4. Douglas County Forested Land

Ownership	Acreage	Percentage
Federal	1,646,906	51%
State of Oregon	57,469	2%
Local Government	29,001	1%
Forest Industry	695,000	21%
Other Ownership	492,624	15%
TOTAL	2,921,000	90% of County

Source: Douglas County Planning Department, “A Place Called Douglas County”

The mitigation plan will have a direct impact on the health, welfare and safety of residents who live in or near areas of potential wildfires in Douglas County. Development of wildfire hazard maps will assist county fire districts and fire departments in developing fire mitigation plans to address the areas most vulnerable to wildfires in Douglas County.

Key factors included in assessing wildfire risk include ignition sources, building materials and design, community design, structural density, slope, vegetative fuel, fire occurrence, and weather, as well as occurrences of drought. At the time of publication of this plan, data was insufficient to conduct a risk analysis. The National Wildland/Urban Fire Protection Program has developed the Wildland/Urban Fire Hazard Assessment Methodology tool for communities to assess their risk to wildfire. For more information on wildfire hazard assessment refer to <http://www.Firewise.org>.

Community Wildfire Issues

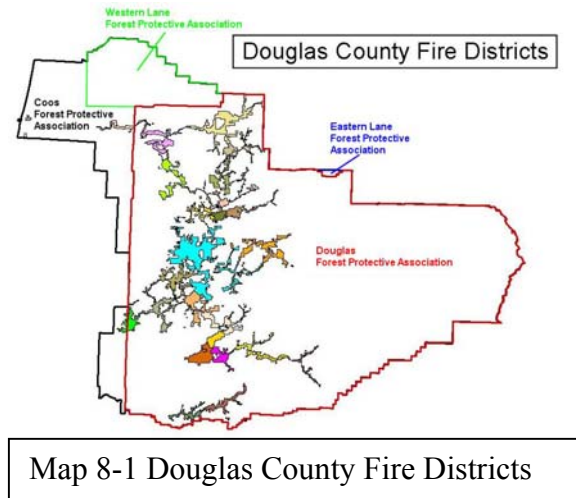
What is Susceptible to Wildfire?

Growth and Development in the Interface

The forested hills where homes and structures are built are considered to be interface areas. The development of homes and other structures encroaching onto the forest wildland and natural areas is expanding the wildland/urban interface. The interface areas are characterized by a diverse mixture of varying housing structures, development patterns, ornamental and natural vegetation, and natural fuels.

In the event of a wildfire, vegetation, structures, and other flammables can merge into unwieldy and unpredictable events. Factors germane to the fighting of such fires include access, firebreaks, proximity of water sources, distance from a fire station, and available firefighting personnel and equipment. Reviewing past wildland/urban interface fires shows that many structures are destroyed or damaged for one or more of the following reasons:

- Combustible roofing material;
- Wood construction;
- Structures with no defensible space;
- Fire department with poor access to structures;
- Structures located on steep slopes covered with flammable vegetation;
- Limited water supply; and
- Winds over 30 miles per hour.



Road Access

Road access is a major issue for all emergency service providers. As development encroaches into the rural areas of the county, the number of houses without adequate turn-around space is increasing. Developers are not required to provide adequate space for emergency vehicles in single-family residential homes, causing emergency workers to have difficulty doing their jobs because they cannot access houses. As fire trucks are large, firefighters are challenged by narrow roads and limited access. When there is doubt concerning the stability of a residential bridge, or

adequate turn around space, the fire fighters can only work to remove the occupants, but cannot save the structure.

Water Supply

Fire fighters in remote and rural areas are faced by limited water supply and lack of hydrant taps. Rural areas are characteristically outfitted with small diameter pipe water systems, inadequate for providing sustained fire fighting flows. Some rural fire districts are adapting to these conditions by developing secondary water sources.

Rural Services

People moving from more urban areas frequently have high expectations for fire protection services. Often, new residents do not realize that they are living outside of a fire protection district, or that the services provided are not the same as in an urban area. The diversity and amount of equipment, as well as the number of personnel can be substantially limited in rural areas. Fire protection may rely more on the landowner's personal initiative to take measures to protect his or her own property. Therefore, public education and awareness may play a greater role in rural or interface areas. However, great improvements in fire protection techniques are being made to accommodate for large, rapidly spreading fires that threaten large numbers of homes in interface areas.

Growth and development in rural areas of Douglas County influence the wildland/urban interface. While historical losses from wildfires in Douglas County have been relatively low, the increase in growth and development, and along with it an increase in fuel loads, expands the public need for natural hazards mitigation planning in the county.

Wildfire Mitigation Activities

Existing mitigation activities include current mitigation programs and activities that are being implemented by county, regional, state, or federal agencies or organizations.

Local Programs

Douglas County residents are served by a variety of local fire districts and fire departments, as well as state and federal fire districts. Although each district or department is responsible for fire related issues in specific geographic areas, they work together to keep Douglas County residents safe from fire.

Douglas Forest Protective Association is responsible for protection from fire to approximately 1.6 million acres of forestland, covering most of Douglas County. The District provides protection to private, state, county and federal lands.

Coos Forest Protective Association is divided into two sub units, with the northern Reedsport unit covering the Douglas County Coastal area, eastward to Range 8.

Western Lane Forest Protective Association Provides fire protection to 750,650 acres of private and public forestland in western Lane County and parts of northern

Douglas County. The district's State Lands program manages 26,002 acres of forestland.

Eastern Lane Forest Protective Association Provides fire protection to approximately 3,500 acres of private and public forestland in western Lane County and parts of northern Douglas County.

Forest Protection Associations in Douglas County work closely with Federal; State and local fire agencies to ensure coordination of resources on a regional scale. The Associations have created Fire Operations Plans, and Fire Prevention Management Plans, which document available resources and defined protocol for providing large-scale emergency response and adequate levels of emergency services during an emergency. In addition to individual operations plans, fire jurisdictions in the county have partnered to form the Douglas County Fire Prevention Co-Op, to assist in fire prevention education and outreach, and ensure availability of resources.

The Forest Protection Associations have provided local fire chiefs and local fire departments wildland fire training through Oregon Department of Forestry Funding. Firefighters get a range of experience from exposure to wildland firefighting. Firefighters can also obtain wildland fire training documentation, and attend extensive workshops combining elements of structural and wildland firefighting, defending homes, and operations experience.

Forest Protective Associations have also been involved with training for emergency managers who provide support during non-fire events. Forest Protective Districts partner with timber companies and industry to share equipment in the case of extremely large fires.

Douglas County fire departments and Forest Protective Associations provide essential public services in the communities they serve, and their duties far surpass extinguishing fires. In fact, many of the districts and departments provide other services to their jurisdictions, including Emergency Medical Technicians (EMT) and paramedics who can begin treatment and stabilize sick and injured patients before an ambulance arrives.

All of the fire service providers in the county are dedicated to fire prevention, and use their resources to educate the public to reduce the threat of the fire hazard, especially in the wildland/urban interface.

County Codes

The Douglas County Land Use and Development Ordinance (LUDO), administered by the Douglas County Planning Department, lists Fire Siting Standards for new dwellings and structures to be located in areas zoned FF (Farm-Forest; section 3.5.170 of LUDO), AW (agriculture and woodlot section 3.6.145 of LUDO), and TR (timberland resource section 3.2.170 of LUDO). Fire siting does not apply in other zoned areas of the county, due to a lower fuel loading and a much lower risk of wildfire. The fire siting standards **are requirements** in Forest Zones, where wildland fire is the most dangerous, and are as follows:

SECTIONS 3.2.170; 3.5.170; 3.6.145 Fire Siting Standards for New Dwellings and Structures

The following fire siting standards shall apply to all new dwellings or structures.

1. Owners of new dwellings shall maintain an adequate water supply suitable for fire protection, and the appropriate fire fighting equipment to contain fire from spreading to surrounding forest lands.
 - a. The property owner shall provide and maintain a water supply of at least 500 gallons with an operating water pressure of at least 50 PSI and sufficient 3/4 inch garden hose to reach the perimeter of the primary fuel-free building setback.
 - b. If another water supply (such as a swimming pool, pond, stream, or lake) is nearby, available, and suitable for fire protection, then road access to within 15 feet of the water's edge shall be provided for pumping units. The road access shall accommodate the turnaround of fire fighting equipment during the fire season. Permanent signs shall be posted along the access route to indicate the location of the emergency water source.
2. Road access to new dwellings shall, at a minimum, meet the following standards:
 - a. Maximum grade shall not exceed 20 percent;
 - b. Top surface width shall be 12 feet;
 - c. A turn-around shall be provided which allows for either a 35 foot radius cul-de-sac, or a 60 foot "T-shaped" design;
 - d. The road bed shall have an all weather surface; and
3. Owners of new dwellings and other structures shall:
 - a. Maintain a primary fuel-free building setback, on land that is owned or controlled by the owner, of at least 30 feet surrounding all structures. Vegetation within this primary safety zone may include mowed grasses, low shrubs (less than 2 feet high), and trees that are spaced with more than 15 feet between the crowns and pruned to remove dead and low (less than 8 feet from the ground) branches. Accumulated needles, limbs and other dead vegetation should be removed from beneath trees.

- b. Clear and maintain a secondary fuel-free building setback, on land that is owned or controlled by the owner, of at least 100 feet in all directions around the primary safety zone. Vegetation within this secondary safety zone should be pruned and spaced so that fire will not spread between the crowns of trees.
 - c. Maintain adequate access, conforming with road access standards in this section, to the dwelling for fire fighting equipment vehicles.
 - d. Use fire resistant building materials and construction standards. All buildings regulated by the Uniform Building Code shall have Class A or B roofing as defined by the Code. Powerlines that service the dwelling or structure shall be insulated. If the dwelling has a chimney or chimneys, each chimney must have a spark arrestor.
4. If adjacent to a Rural Fire Protection District, the property owner shall apply for annexation into that district.
5. In areas subject to the State Scenic Waterway Program, compliance with the primary and secondary fuel-free building setback requirements of this section may be modified to comply with specific siting standards contained in a state approved Scenic Waterway Management Program when such regulations conflict.

In addition, section 510 in the Unified Building Codes; administered by the Douglas County Building Department, documents further fire resistant standards in regard to roofing. County and City Building Inspectors and Fire Officials are responsible for implementing these requirements.

State Statutes

ORS 215.730, County governments must require, as a condition of approval, that single-family dwellings on lands zoned as forestland meet the following requirements:

- Dwelling has a fire retardant roof;
- Dwelling will not be sited on a slope of greater than 40 percent;
- Evidence is provided that the domestic water supply is from a source authorized by the Water Resources Department and not from a Class II stream as designated by the State Board of Forestry;
- Dwelling is located upon a parcel within a fire protection district or is provided with residential fire protection by contract;
- If dwelling is not within a fire protection district, the applicant provides evidence that the applicant has asked to be included in the nearest such district;
- If dwelling has a chimney or chimneys, each chimney has a spark arrestor; and

- Dwelling owner provides and maintains a primary fuel-free break and secondary break areas on land surrounding the dwelling that is owned or controlled by the owner.

If a governing body determines that meeting the fourth requirement is impractical, local officials can approve an alternative means for protecting the dwelling from fire hazards.

ORS 477.015-061

- Directs the State Forester to establish a system of classifying forest land-urban interface areas;
- Defines forestland-urban interface areas;
- Provides education to property owners about fire hazards in Forest land-urban interface areas. Allows for a forestland-urban interface county committee to establish classification standards;
- Requires maps identifying classified areas to be made public;
- Requires public hearings and mailings to affected property owners on proposed classifications;
- Allows property owners appeal rights;
- Directs the Board of Forestry to promulgate rules that set minimum acceptable standards to minimize and mitigate fire hazards within forestland-urban interface areas; and
- Creates a certification system for property owners meeting acceptable standards. Establishes a \$100,000 liability limit for cost of suppressing fires, if certification requirements are not met.

ORS 478, Rural Fire Protection Districts, includes the following provisions, among others, related to wildfire hazard mitigation:

ORS 478.120 Inclusion of forestland in district. Gives a Rural Protection District the authority to include forestland within a rural fire protection district.

ORS 478.140 Procedure for adding land to district by consent of owner.

ORS 478.910 Adoption of fire prevention code. A district board may, in accordance with ORS 198.510 to 198.600, adopt a fire prevention code.

ORS 478.920 Scope of fire prevention code. Authorizes a fire prevention code to provide reasonable regulations relating to:

1. Prevention and suppression of fires.
2. Mobile fire apparatus means of approach to buildings and structures.
3. Providing fire-fighting water supplies and fire detection and suppression apparatus adequate for the protection of buildings and structures.
4. Storage and use of combustibles and explosives.
5. Construction, maintenance and regulation of fire escapes
6. Means and adequacy of exit in case of fires and the regulation and maintenance of fire and life safety features in factories, asylums, hospitals, churches, schools, halls, theaters, amphitheaters, all buildings, except private residences, which are

occupied for sleeping purposes, and all other places where large numbers of persons work, live, or congregate from time to time for any purpose.

7. Requiring the issuance of permits by the fire chief of the district before burning trash or waste materials.

8. Providing for the inspection of premises by officers designated by the board of directors, and requiring the removal of fire hazards found on premises at such inspections.

ORS 478.927 Building Permit review for fire prevention code. A district adopting a fire prevention code shall provide plan review at the agency of the city or county responsible for the issuance of building permits for the orderly administration of that portion of the fire prevention code that requires approval prior to the issuance of building permits.

Senate Bill 360

The introductory language of Senate Bill 360 states: “The fire protection needs of the interface must be satisfied if we are to meet the basic policy of the protection of human life, natural resources, and personal property. This protection must be provided in an efficient and effective manner, and in a cooperative partnership approach between property owners, local citizens, government leaders, and fire protection agencies.”

Senate Bill 360, passed in 1997, is state legislation put in place to address the growing wildland/urban interface problem. The bill has three purposes:

- To provide an interface fire protection system in Oregon to minimize cost and risk and maximize effectiveness and efficiency;
- To promote and encourage property owners’ efforts to minimize and mitigate fire hazards and risks; and
- To promote and encourage involvement of all levels of government and the private sector in interface solutions.

The bill has a five-year implementation plan that includes public education and outreach, and the development of rules, standards, and guidelines that address landowner and agency responsibilities.

The success of Senate Bill 360 depends upon cooperation among local and regional fire departments, fire prevention cooperatives, and the Oregon Department of Forestry, which means interagency collaboration is vital for successful implementation of the bill. This cooperation is important in all aspects of wildland firefighting. Resources and funding are often limited, and no single agency has enough resources to tackle a tough fire season alone.

Oregon Department of Forestry (ODF)

ODF provides funding and expertise to local Fire Protective Associations, who then train local firefighters in wildfire suppression techniques.

Federal Programs

The proposed role of the federal land managing agencies in the wildland/urban

interface is reducing fuel hazards on the lands they administer; cooperating in prevention and education programs; providing technical and financial assistance; and developing agreements, partnerships, and relationships with property owners, local protection agencies, states, and other involved parties in wildland/urban interface areas. These relationships focus on activities before a fire occurs, which render structures and communities safer and better able to survive a fire occurrence.

The Federal Government has two programs administered by the US Forest Service, which assist in meeting the needs of rural areas: the Rural Fire Prevention and Control (RFPC) and Rural Community Fire Protection (RCFP). These programs provide cost-share grants to rural fire districts. The annual federal share of these programs has remained relatively stable, totaling approximately \$16 million and \$3 million, respectively. Renewed focus on these programs, emphasizing local solutions, is encouraged.

Federal Emergency Management Agency (FEMA) Programs

FEMA is directly responsible for providing fire suppression assistance grants and, in certain cases, major disaster assistance and hazard mitigation grants in response to fires. The role of FEMA in the wildland/urban interface is to encourage comprehensive disaster preparedness plans and programs, which increase the capability of state and local governments, and provide for a greater understanding of FEMA's programs at the federal, state, and local levels.

Fire Suppression Assistance Grants

Fire Suppression Assistance Grants may be provided to a state with an approved hazard mitigation plan for the suppression of a forest or grassland fire that threatens to become a major disaster on public or private lands. These grants are provided to protect life and improved property, and encourage the development and implementation of viable multi-hazard mitigation measures, and provide training to clarify FEMA's programs. The grant may include funds for equipment, supplies, and personnel. A Fire Suppression Assistance Grant is the form of assistance most often provided by FEMA to a state for a fire.

The grants are cost-shared with states. FEMA's US Fire Administration (USFA) provides public education materials addressing wildland/urban interface issues, and the USFA's National Fire Academy provides training programs.

Hazard Mitigation Grant Program

Following a major disaster declaration, the FEMA Hazard Mitigation Grant Program provides funding for long-term hazard mitigation projects and activities which reduce the possibility of damages from all future fire hazards, ultimately reducing the costs to the nation for responding to and recovering from the disaster.

National Wildland/Urban Interface Fire Protection Program

Federal agencies can use the National Wildland/Urban Interface Fire Protection Program to focus on wildland/urban interface fire protection issues and actions. The program helps states develop viable and comprehensive wildland fire mitigation plans and performance-based partnerships.

U.S. Forest Service

The U.S. Forest Service (USFS) is involved in a fuel-loading program implemented to assess fuels and reduce hazardous buildup on US forestlands. The USFS has little to no jurisdiction in the lower valleys, where oftentimes fires start and burn up the hills and into the higher elevation US forestlands.

Prescribed Burning

The health and condition of a forest will determine the magnitude of a wildfire. If fuels such as slash, dry or dead vegetation, fallen limbs and branches are allowed to accumulate over long periods of time without being methodically cleared, fire can move more quickly and destroy everything in its path. The resulting fires are more catastrophic than if the fuels are periodically eliminated. Prescribed burning is the most efficient method to get rid of these fuels. In 1998, 3,000 prescribed fires were used to burn approximately 163,000 acres statewide, in Douglas County, approximately 11,000 acres of pastureland undergoes prescribed burning and 3,000 acres of slash burning occurs annually.

Firewise

Firewise is a program developed within the National Wildland/ Urban Interface Fire Protection Program, and is the primary federal program addressing interface fire. It is administered through the National Wildfire Coordinating Group whose extensive list of participants includes a wide range of federal agencies. The program is intended to empower planners and decision makers at the local level.

Through conferences and information dissemination, Firewise increases support for interface wildfire mitigation by educating professionals and the general public about hazard evaluation and policy implementation techniques. Firewise offers online wildfire protection information and checklists, as well as listings of other publications, videos, and conferences. The interactive home page allows users to ask fire protection experts questions, and to register for new information as it becomes available.

FireFree Program

FireFree is a unique program for private/public interface wildfire mitigation involving partnerships with insurance companies and local government agencies. It is an example of an effective nonregulatory approach to hazard mitigation. Originating in Bend, the program was developed in response to the city's "Skeleton Fire" of 1996, which burned over 17,000 acres and damaged or destroyed 30 homes and structures. Bend sought to create a new kind of public education initiative that emphasized local involvement. SAFECO Insurance Corporation was a willing supporter in this effort. Bend's pilot program included:

- A short video production featuring local citizens as actors, made available at local video stores, libraries, and fire stations;
- Two city-wide yard debris removal events;
- A 30-minute program on a model FireFree home, aired on a local cable television station; and
- Distribution of brochures, featuring a property owner's evaluation checklist and a listing of fire-resistant indigenous plants.

The success of the program helped to secure \$300,000 in Federal Emergency Management Agency (FEMA) "Project Impact" matching funds. By fostering local community involvement, FireFree also has the potential for building support for sound interface wildfire policy.

Wildfire Mitigation Action Items

The wildfire mitigation action items provide direction on specific activities that organizations and residents in Douglas County can undertake to reduce risk and prevent loss from wildfire events. Each action item is followed by ideas for implementation, which can be used by the steering committee and local decision makers in pursuing strategies for implementation.

Wildfire Mitigation Goals

GOAL A

Protect Lives of Residents and Firefighters in Wildfire Hazard Areas

GOAL B

Increase Fire Prevention/Reduction Activities and Fire Fighting Response Abilities

GOAL C

Reduce Property Damages and Loss in Wildfire Hazard Areas

GOAL D

Enhance Education of Wildland/Urban Interface Area Property Owners and Public Awareness of Wildfire Dangers and Prevention

GOAL E

Increase Preparedness of Communities and Agencies To Deal With Wildfire Threat

Action Item 1: Seek funding and labor opportunities to staff fuel-reduction projects throughout wildfire hazard prone areas in Douglas County

Ideas for Implementation:

- Work on Wildfire Hazard mapping of Douglas County to identify areas and homes that would most benefit from fuel reduction projects
- Promote opportunities for landowners to utilize fuel reduction projects
- Enable communities and agencies to quickly transform grant opportunities to on-the-ground projects
- Investigate potential funding opportunities for individual mitigation projects

Coordinating Organization: Douglas County Emergency Management, Douglas and Coos Forest Protective Associations

Timeline: 2 years

Plan Goals Addressed: A, B, C, D, E

Action Item 2: Increase communication, coordination, and collaboration between wildland/urban interface property owners, city and county planners, and fire prevention crews and officials to address risks, existing mitigation measures, and federal assistance programs.

Ideas for Implementation:

- Encourage single-family residences in wildfire hazard areas to have fire plans and promote homeowner wildfire hazard mitigation;
- Encourage Planning and Building Departments to educate landowners and/or developers who choose to build in the wildland/urban interface to identify and mitigate conditions that aggravate wildland/urban interface wildfire hazards, including:
 1. Limited access for emergency equipment due to width and grade of roadways;
 2. Inadequate water supplies
 3. Inadequate fuel breaks, or lack of defensible space;
 4. Inappropriate construction materials;
 5. Preexisting, older building lots and subdivisions that are not in compliance with state and local land use and fire protection regulations;
 6. Encourage all new homes and major remodels involving roofs or additions that are located in the interface to have fire resistant roofs and residential sprinkler systems; and
 7. Encourage the public to evaluate access routes to rural homes for fire-fighting vehicles and to develop passable routes if they do not exist.

Coordinating Organization: Douglas County Planning Department, Douglas County Building Department, Douglas Forest Protective Association; Coos Forest Protective Association, Douglas County Emergency Management

Timeline: Ongoing

Plan Goals Addressed: A, B, C, D, E

Action Item 3: Maintain and Further Develop Interagency and Private Industry Relationships for Continuing Strong Fire Response in Douglas County

Ideas for Implementation:

- Maintain and enhance protocol for fire jurisdictions, private industry cooperators and Landowners to avoid problems during wildfire chaos
- Promote and advocate reduction of “Red Tape” to enable faster private industry assistance (use of vehicles, manpower, etc) in a wildfire situation

Coordinating Organization: Douglas Forest Protective Association; Coos Forest Protective Association, Douglas County Emergency Management

Timeline: Continue

Plan Goals Addressed: A, B, C, D, E

Action Item 4: Enhance outreach and education programs aimed at mitigating wildfire hazards and reducing or preventing the exposure of citizens, public agencies, private property owners, and businesses to natural hazards.

Ideas for Implementation:

- Visit urban interface neighborhoods and rural areas and conduct education

- and outreach activities;
- Conduct specific community-based demonstration projects for fire prevention and mitigation in the urban interface;
- Perform public outreach and information activities in Douglas County by creating “Wildfire Awareness Week” activities. Fire stations can hold open houses and allow the public to visit, see the equipment, and discuss wildfire mitigation with the station crews.

Coordinating Organization: Douglas Emergency Management, Individual Fire Departments, Douglas and Coos Forest Protective Associations

Timeline: Ongoing

Plan Goals Addressed: A, B, C, D, E

Action Item 5: Create incentives and assist landowners in reducing fuel loads on private property

Ideas for Implementation:

- Investigate potential funding opportunities for individual mitigation projects
- Develop, approve, and promote cost share and assistance programs for landowners seeking fire mitigation activities and suppression preparedness.

Coordinating Organization: Douglas Forest Protective Association; Coos Forest Protective Association

Timeline: 1-2 years

Plan Goals Addressed: A, B, C, D, E

Action Item 6: Look for solutions to protect structures located outside of fire districts through partnerships, grant funding or expansion of fire district services.

Ideas for Implementation:

- Form community partnerships that are equipped and trained by fire district personnel to combat fires in those areas

Coordinating Organization: Douglas Emergency Management, Individual Fire Departments, Douglas and Coos Forest Protective Associations

Timeline: Ongoing

Plan Goals Addressed: A, B, C, D, E

Action Item 7: Seek improved information gathering, and distribution and technology for enhancing fire identification, initial response and evacuation if necessary.

Ideas for Implementation:

- Update wildland/urban interface hazard maps
- Conduct risk analysis incorporating data and the created hazard maps using GIS technology to identify risk sites and further assist in prioritizing mitigation activities; and
- Encourage development and use of new data and systems to identify hazard areas and better inform firefighters, communities and landowners of wildfire status once a fire occurs

Coordinating Organization: Douglas County Planning Department, Douglas Forest Protective

Association; Coos Forest Protective Association, Douglas County Emergency Management

Timeline: 1-3 years

Plan Goals Addressed: A, B, C, D, E

Action Item 8: Promote and continue support of agricultural uses that reduce fuel loads in interface areas

Ideas for Implementation:

- Educate the public on how agriculture can help to reduce fuel loads in interface areas
- Investigate and seek funding for conventional, chemical and biological fuel reduction and weed control programs

Coordinating Organization: Douglas Forest Protective Association; Coos Forest Protective Association

Timeline: Ongoing

Plan Goals Addressed: B, C, D