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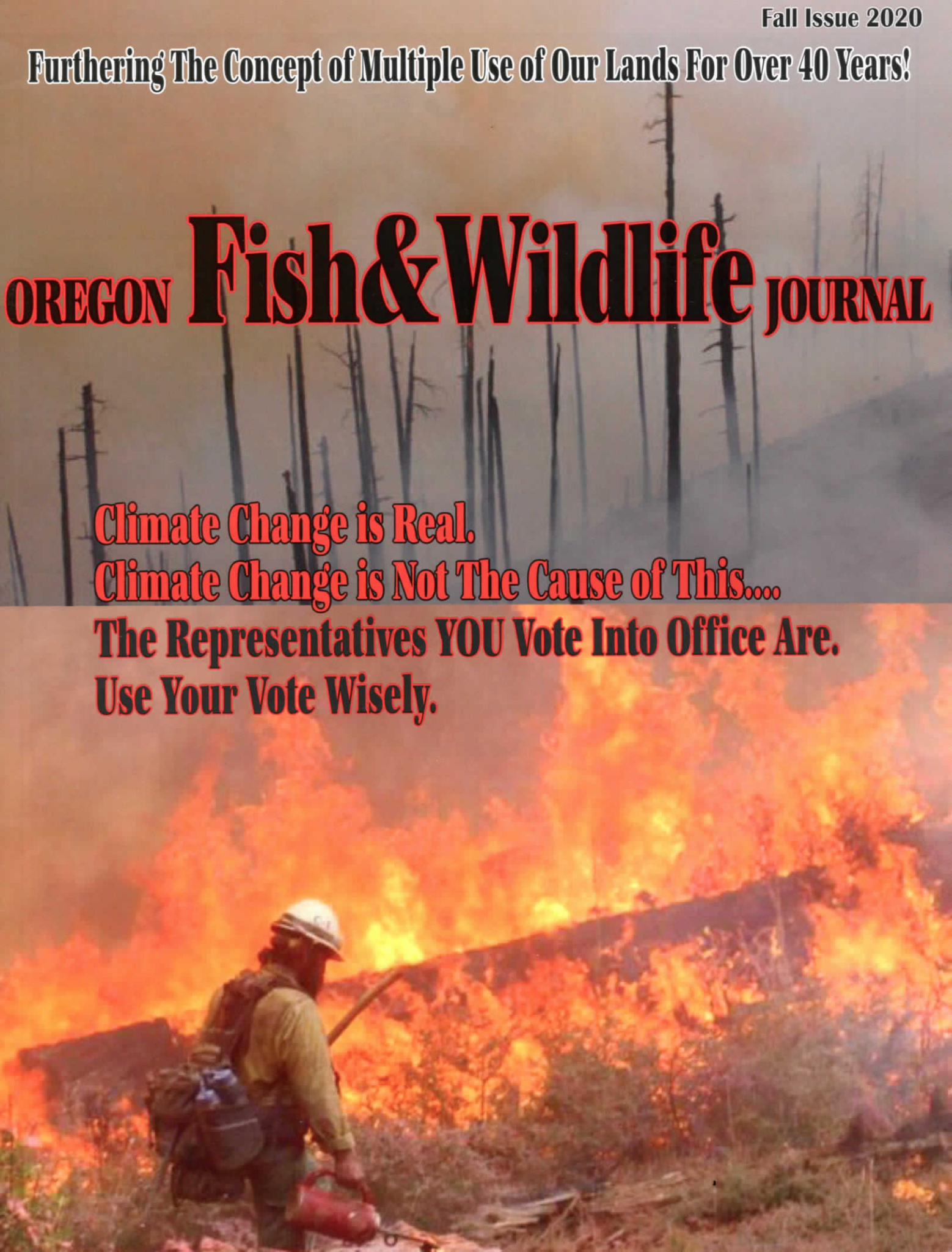

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Climate Change is Not The Cause of This....
The Representatives YOU Vote Into Office Are.
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What's INSIDE...

My Voice... By Cristy Rein ... 5

The Oregon Holocaust... By Mickey Bellman ... 7

Why Are Some Forest Fires So Intense?...
By Oregon Forest Resource Institute ... 10

Governor Brown: Big Wildfire Excuses, Small On Funding... By Taypayers Association of Oregon ... 11

You Can't Manage It... By Record Searchlight ... 15

To Stop Wildland Fires, Forestry, Not Climate Policy, Is The Priority... By Todd Myers ... 19

Wildfires Ravage The US Every Year, They Don't Have To...
By US Rep. Bruce Westerman ... 23

Time Has Come To Improve Management Of Oregon's Eastside National Forests...
By Irene Jerone and Nick Smith ... 47

Western Oregon Counties' Forest Fire Histories, 1776-2019... By Bob Zybach, Ph.D ... 31

Fires On The Wire... By Lars Arndt ... 43

FACT CHECK: Biden Oversaw "Decade of Decline" For American Loggers ... 47

WildEarth Lawsuit Is Hurting New Mexico Forests...
By Brent Racher ... 49

Oreon's North Coast Forest Sector Is In Jeopardy...
By Steve Zika ... 51

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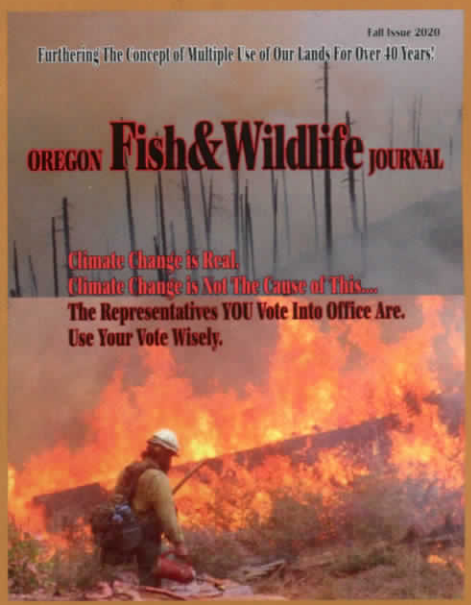
OUR COVER



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Western Oregon Counties' Forest Fire Histories, 1776-2019

By Bob Zybach, Ph.D

The author is shown discussing historical forest maps at the Round Lake location of the 2003 B&B Complex fire on September 15, 2004. Also pictured are (clockwise from foreground) Kermit Cromack, Jim Peterson, Benjamin Stout (profile), Bill Hagenstein, Zybach, Wayne Giesy, and Nana Lapham

During the past nine years I have written a number of articles about wildfires and their history in Oregon for this magazine. When I began to update that information for this issue on Labor Day weekend, I started by reporting the 2020 fire season was terrible for California, but relatively mild and unremarkable for Oregon and Washington. Then the east winds began increasing in intensity on Labor Day, as I was finishing my first draft.

Today (September 11), news reports are saying that more than 900,000 acres are on fire in Oregon, that ½ a million people are being forced to evacuate their homes, and there have been an uncounted number of human deaths. So far, millions of wildlife have been killed, heavy noxious smoke fills the air, and the towns of Phoenix, Detroit, Blue River, Vida,

and Talent have been destroyed.

That quick, the 2020 Labor Day fires have now become the most deadly, dangerous, and destructive in Oregon's history.

As a result, I have changed the focus of this issue's article and will write about Oregon's 2020 fire season for the next issue, after it has ended. I will provide a listing and brief description of western Oregon's previous major fires through 2019 instead, and arrange them in chronological order, by county. This will provide some context for the current events, both historically and geographically.

Western Oregon Counties Bias

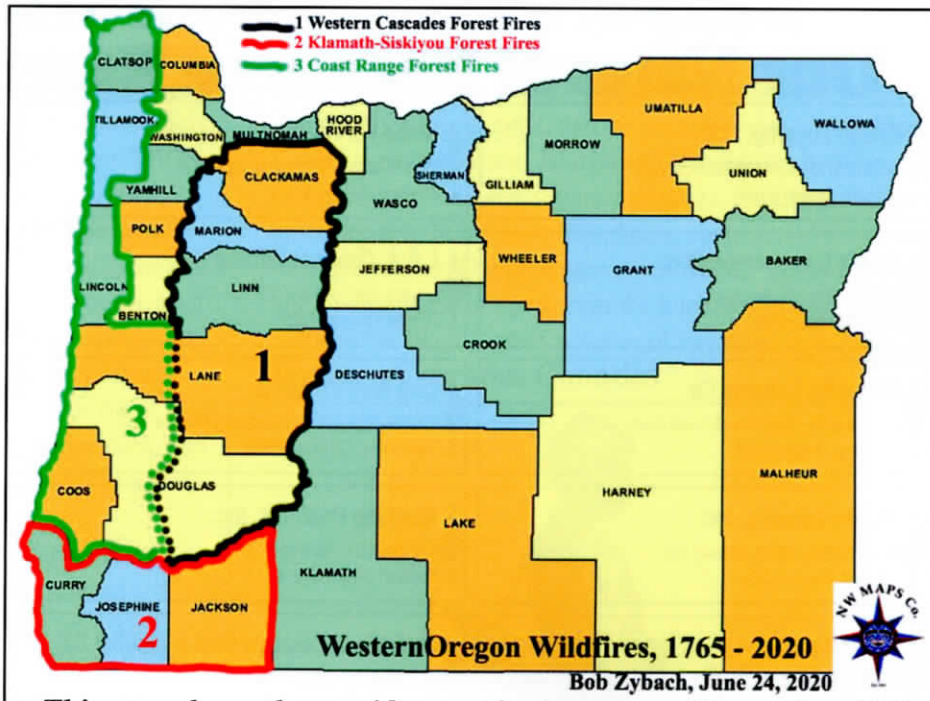
There are 18 total counties lying west of the crest of the Oregon Cascades, with Hood River County on the north straddling both east and west slopes. These lands include the locations of some of the largest and most intensive forest fires in world history, many in excess of 100,000 or more acres in size.

The principal reason that these listings are limited to major western Oregon wildfires is because of the types of fuels involved. Many eastern Oregon fires are also tens and hundreds of thousands of acres in size, but typically involve grasslands and shrublands rather than forests, as in western Oregon.

Grassland and shrubland fires have far less fuel and can burn much faster across the landscape than forest fires. In addition, most grasses and shrubs are rejuvenated by these fires and quickly return to pre-fire conditions. Even the forested areas of eastern Oregon – in the Ochoco, Blue, and Strawberry mountains and the eastern slopes of the Cascades – are typically far more open and patchier than their western counterparts, and far less likely to crown.

And it is crown fires that can rapidly kill large swaths of trees for miles on end. This is compared to ground fires, that can actually improve the health of surviving trees by reducing competition for light and moisture and by adding post-fire nutrients to the soil.

The generally deep soils and heavy



This map shows the specific counties in western Oregon in which major forest fires have occurred during historical time. The three subregions of primary concern are the western Cascades; the western slope of the Coast Range; and the Klamath-Siskiyou Mountains (see table below).

County 1	*Year*	*Wildfire Name*	*Acres*	*County 1*	*Year*	*Wildfire Name*	*Acres*
Clackamas	1901	Barlow Road	85,700	**Josephine**	1931	Humbug-China	10,000
	2011	Dollar Lake	6,300		1987	Silver	96,000
Coos	1776	Millicoma	200,000		2002	Biscuit	500,000
	1868	Coos	100,000		2005	Deer Creek	1,548
	1879	Big Burn	125,000		2010	Oak Flat	7,500
	1929	Fog Belt	10,000		2013	Big Windy	26,700
Curry	2005	Blossom	14,800		2018	Taylor Creek	52,800
	2017	Chetco Bar	191,000	**Lane**	1950	Rasor	5,000
	2018	Klondike	175,300		1951	Vincent Creek	28,200
Douglas	1938	Smith River	28,600		1966	Oxbow	42,900
	1951	Hubbard Creek	15,600		1991	Warner Creek	9,000
	1987	Bland Mountain I	10,300		1996	Charlton	10,400
	1987	Douglas Complex I	30,000		2009	Tumblebug	14,600
	1996	Spring	16,500		2018	Terwilliger	11,600
	2002	Tiller Complex	69,800	**Lincoln**	1849	Yaquina I	450,000
	2002	Apple	17,600		1868	Yaquina II	300,000
	2004	Bland Mountain II	4,700	**Linn**	1856	Canyon Creek	10,000+
	2008	Rattle	19,800		1867	Seven Mile Hill	10,000+
	2009	Boze	10,600		2003	B&B Complex	90,800
	2009	Rainbow Creek	6,100	**Marion**	1865	Silverton	100,000
	2009	Williams Creek	8,400		1886	Silver Cr. Falls	1,000+
	2013	Whiskey	16,200		1893	Scorpion Mt.	9,900
	2013	Douglas Fires II	48,700		1951	Sardine Creek	17,500
	2015	Stouts Creek	26,000		1951	HeeHee	5,000
	2018	South Umpqua	28,700	**Tillamook**	1853	Nestucca	350,000
	2019	Milepost 97	13,100		1918	Cedar Butte	40,000
Jackson	1864	Jacksonville Fires	10,000		1924	Salmonberry I	24,700
	1992	East Evans	10,100		1932	Salmonberry II	43,000
	1994	Hull Mountain	8,000		1933	Tillamook I	311,000
	2002	Timbered Rock	27,400		1939	Tillamook II	209,700
	2008	Middle Fork	21,100		1945	Tillamook III	182,000
	2018	Miles	50,000		1951	Tillamook IV	32,700

This table is a chronological listing and approximate size of major forest fires that have occurred in western Oregon during historical time (see corresponding map above).

seasonal rains of western Oregon are ideal for the growth of Douglas fir, Sitka spruce, true fir, redcedar, and other giant conifers, providing massive amounts of potential fuels per acre, and contiguous flammable crowns in which fires can rapidly spread, and in which tree mortality often approaches 100%.

This is not the case for all western Oregon counties, though. Map 1 divides the region into five subregions: 1) those adjacent to the Columbia River in the north; 2) the eastern Willamette Valley and western Cascades; 3) the western Willamette Valley and eastern slope of the Coast Range; 4) the western slope of the Coast Range; and 5) the Klamath-Siskiyou Mountains in southwest Oregon. Two of these subregions have hardly any history of major forest fires, and the remaining three contain records of some of the greatest wildfires in world history.

Table 1 is a listing of the 64 largest and most deadly pre-2020 forest fires in western Oregon history, arranged chronologically by county. Most of these fires are 10,000 acres or more in size and/or included human fatalities. The acreage figures for several of these fires are best estimates, placeholders for unknown sizes, or reasonably selected from a number of varying sources.

[NOTE: County historians, please check this data. You know your county's history better than I do – am I missing any major wildfires? Do you have better acreage figures or maps? All help appreciated!]

Columbia River Counties

The western Oregon counties adjacent to the Columbia River are Clatsop, Columbia, and Multnomah. There is no record of a large-scale forest fire starting in any of these counties. A lone exception might be the 50,000-acre 2017 Eagle Creek Fire, that started in Hood River County and moved westward into Multnomah County, on the border between eastern and western Oregon. See my article in the Fall 2017 issue of this magazine, "2017 Oregon Forest Fires: Still Predictable and Preventable," for a more detailed description of this fire.

Clatsop County has also had portions of catastrophic wildfires extend into its boundaries, but the nearby 6-Year Jinx of 1933, 1936, 1939, 1945 and 1951 Tillamook Fires mostly started and took place in Tillamook County.

The principal reasons that large-scale forest fires rarely occur on the western Oregon side of the Columbia River are the relatively small sizes of the counties; the great amount of humidity adjacent to the Pacific Ocean and tidal Columbia River; the topography; and the history of relatively dense human populations.

The forested lands adjacent to the Columbia River are typically steep and narrow, draining the northern slopes of Mt. Hood, the Tualatin Mountains, and the Coast Range. These constituted some of the earliest old-growth logging in Oregon, and rare spot fires rarely extended beyond the nearby ridgelines.

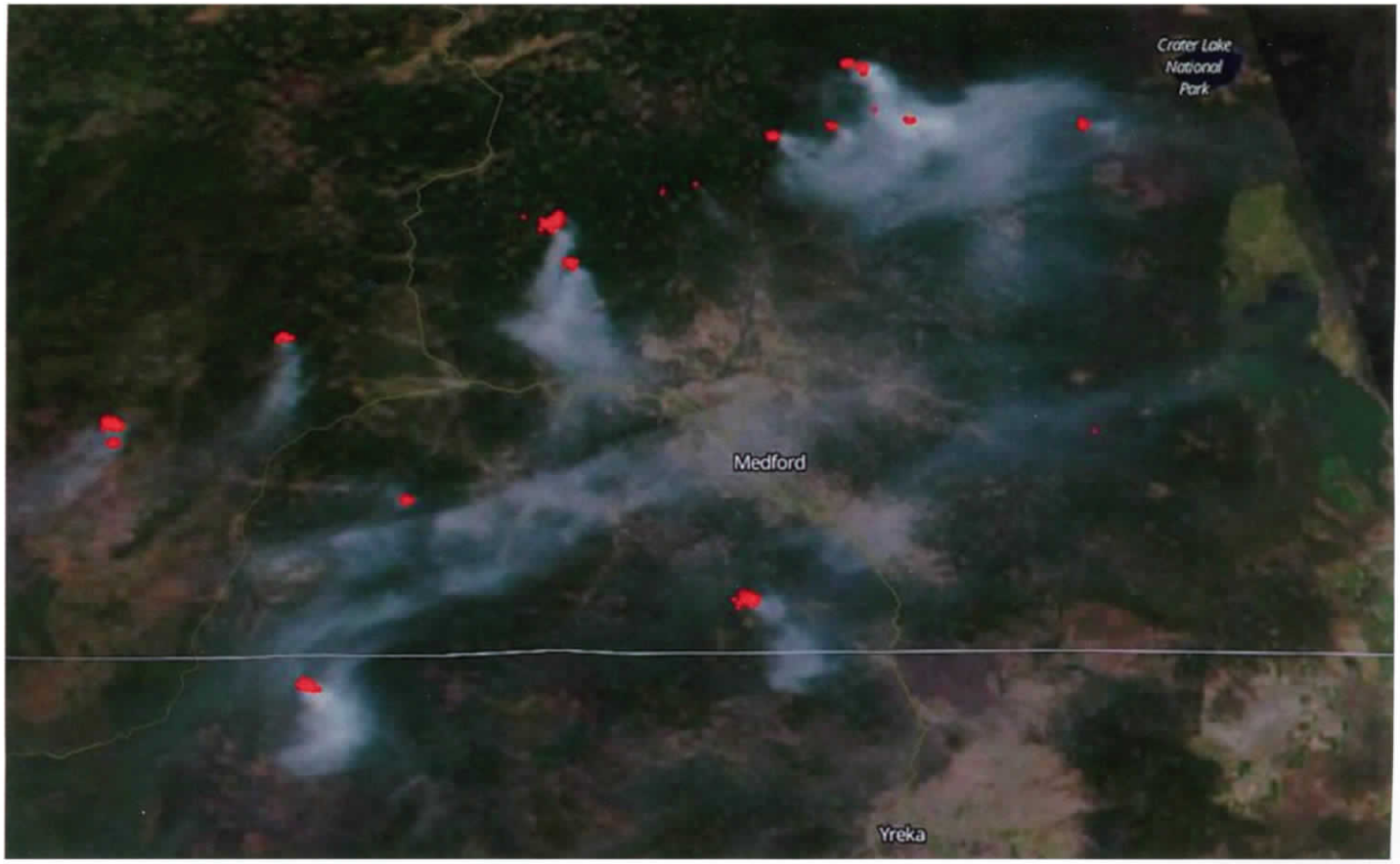
Archaeological evidence and early historical records document the Columbia River has been a major trade route and fishery for millennia, and necessarily heavily occupied for those reasons alone. Islands and floodplains became campgrounds, villages, towns, and cities, requiring enormous amounts of building materials, boats, canoes, and firewood on a daily basis. The processes of constantly gathering fuels and maintenance of open areas for human occupation further reduced the likelihood of wildfire of any size.

Western Cascades Counties

Kalapuyan man and eastern Coast Range foothills drawn in 1841 by Alfred Agate, a member of the Wilkes Expedition, near present-day Monroe, in Benton County. Regular landscape-scale fires set by Kalapuyan families and hundreds of generations of their ancestors on the land resulted in open grasslands and oak savannah - rather than forests - throughout most of the Willamette Valley and eastern Coast Range.

The western Cascade Mountains have been the location of a number of major forest fires from their earliest history, beginning with fires documented by the builders of the Barlow Trail along the southern flank of Mt. Hood in 1845 and 1846.

The mythical "Silverton Fire" around the time of the Civil War was said to have been a million acres in size, but modern research has failed to show evidence of even 100,000 acres having burnt near that location in the 1860s, and maybe as a result of two or three major fire events, rather than just one.



NASA satellite view of southwestern Oregon wildfires ignited by July 15, 2018 lightning storm. This image was created on July 18 and captioned by Lynn Jenner the following day.

Instead, until Labor Day weekend, Clackamas and Marion counties have not had major forest fires since 1951; Linn County suffered the predicted B&B Complex fires in 2003 (see Figure 1); and Lane County has had a handful of large, but not overwhelming, events. Now these four counties are experiencing the Riverside, Santiam Canyon, and McKenzie River fires all at the same time, covering hundreds of thousands of acres, tens of thousands of evacuations, and significant losses of both human and wildlife lives. The communities of Blue River, Vida, and Detroit have been destroyed and others, such as Gates, Mill City, and Lyons, have been significantly damaged.

Lane and Douglas counties are the only two in Oregon that include both western Cascades and western Coast Range landscapes. Until 1987, the majority of major forest fires in these two counties had taken place on the Smith and lower Umpqua rivers on the Coast Range. From 1987 until now, wildfires from 10,000 to 70,000 acres in size have become almost annual events within their Cascades boundaries.

It is worth noting that almost all of the fires listed in Table 1 from 1987 until 2019 have taken place on federal properties: designated Wildernesses, US Forest Service, Bureau of Land Management lands. This is not a "climate change" issue as these events are not taking place on private and state lands that continue to be actively managed have the exact same weather patterns.

East Slope Coast Range Counties

Washington, Yamhill, Polk, and Benton counties include the western Willamette Valley and the eastern slopes of the Coast Range. There is no history of forest fires in these counties that approach even a few thousand acres in size. That is almost entirely because forest trees have only recently begun to invade the prairies and oak savannahs that white immigrants found when they began arriving in the 1830s and 1840s.

Figure 2 is a Kalapuyan man and the local eastern Coast Range foothills drawn near present-day Monroe, in Benton County. Notice the bare hills, few conifers, and missing lower limbs – whether removed by regular burning or gathered for other reasons. The primary reason that these counties lack a history of forest fires is because they lack a history of forests.

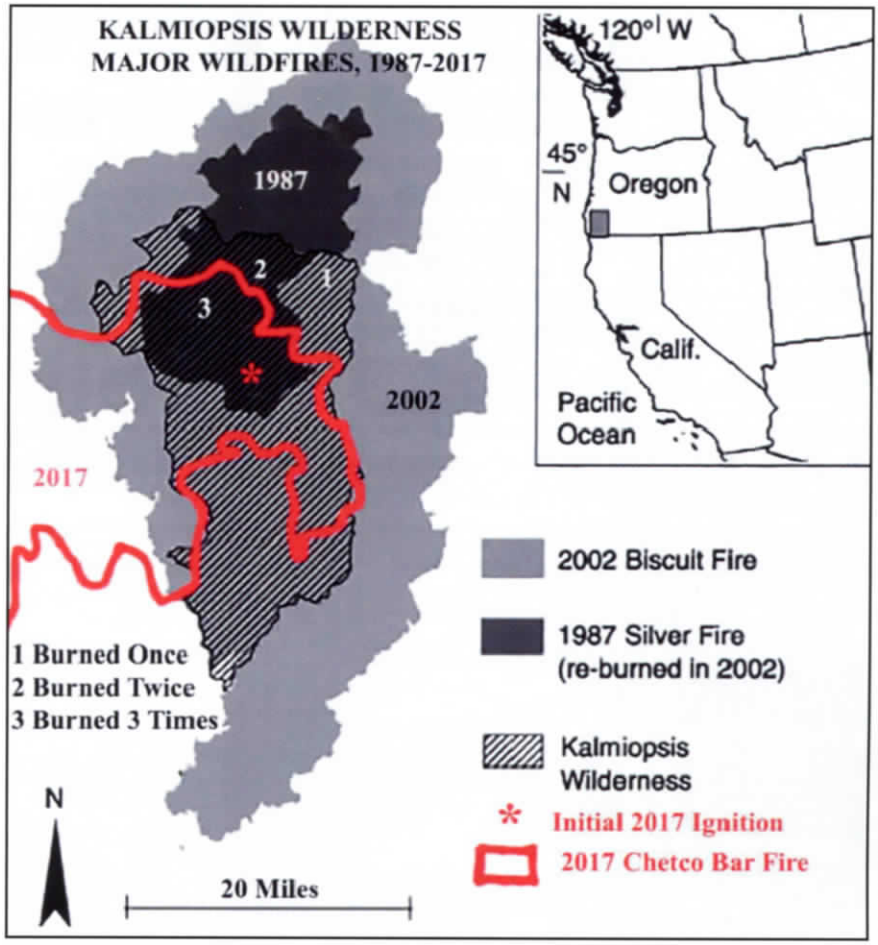
Subsequent settlement by US immigrants used these lands for grazing thousands of cattle, sheep, and horses before converting them to towns, cities, fenced farmlands, and housing developments.

Lane and Douglas counties also contain a certain amount of Willamette Valley and Umpqua Valley grasslands and east slope Coast Range hillsides, but they are separated by the Calapooia Mountains, which are generally so jumbled topographically that large-scale fires rarely occur there, either.

West Slope Coast Range Counties

Unlike the eastern slope of the Coast Range, with its history of Indian burning, grazing, agriculture, and large human settlements, the western slope is the site of some of the largest and most famous catastrophic-scale forest fires in history.

In 1912 noted US Geographer and Theosophist, Fred Plummer, authored "Bulletin 117 of the Forest Service," in which he identified the 15 "greatest forest fires in the United States since the year 1800." Three of those fires – 20% of the total -- were in Tillamook, Lincoln, and Coos counties. These fires were followed by the 1933-1951 "6-Year Jinx" Tillamook Fires, which became the best documented and most publicized of all the "Great Fires," due to the existence of film, photography, and international press at that time.



This map of the 1964 Kalmiopsis Wilderness Area in southwest Oregon shows that a number of large-scale forest fires are created by burning the dead, dry trees, shrubs, and other fuels from earlier fires. The map doesn't show the 2018 Klondike Fire oundaries, which also occurred in the same area.

A little-known fact regarding these widely recognized fires is that trees burned during the original fires became the basis for even greater future fires. The 1849 Yaquina Fire and the 1853 Nestucca Fire both expanded their range and severity during the 1868 Fire Year; and the 1868 Coos Fire became larger and more destructive as the 1879 Big Burn. The series of Tillamook Fires were not an aberration, they were the norm (see Map 2).

From 1952 until 1987 the only major forest fire to occur in western Oregon was the 43,000 acre Oxbow Fire in western Lane County.

Lightning is very rare in the Coast Range, and when it does appear it is almost always accompanied by heavy rains. A relatively minor lightning-caused wildfire was noted in 1928, but all of the major forest fires on record are known or believed to have been started by people.

Klamath-Siskiyou Counties

Curry, Josephine, and Jackson counties in southwest Oregon contain the Klamath and Siskiyou mountain ranges, which they share with northwest California. Unlike the Coast

Range, the vast majority of wildfires in this subregion are caused by lightning. Another difference is that much of these counties are covered with shrubs and grasses as fuels, rather than solid stands of trees.

Figure 3 shows the pattern of lightning strikes that resulted in a number of fires on July 15, 2018. Table 1 gives a listing of the largest of these fires.

A similarity for all western Oregon subregions is that arsonists also set fires. The deadly 2020 Almeda Fire, for example, was started in this way, and is responsible for the destruction of the towns of Phoenix and Talent, in addition to the loss of human lives.

Map 2 illustrates the predictable "repeat fires" that have involved the Kalmiopsis Wilderness Area. This is the same pattern of trees and shrubs killed by a wildfire producing greater and more flammable fuels for future fires. This pattern has existed throughout western Oregon for all historical time.

Conclusions

The general information provided by the timing, extent, and location of these major wildfires should be of interest to western Oregon resource managers and US taxpayers -- and to their elected representatives. Here are some basic conclusions that can be drawn from these events:

1) Each county has its own unique history of large-scale wildfires, with significant differences between them: e.g., Benton County has never experienced a large-scale forest fire; Tillamook County has had numerous such fires from 1853 until 1951, and little or nothing to the present time; while Douglas County had few major fires until 1987, and have seemingly had them on an almost annual basis ever since.

2) There were hardly any major wildfires in western Oregon between 1952 and 1987; a 35-year period in which these forests were the most actively and intensively managed in their history.

3) Almost all major wildfires during the subsequent 33 years, from1987 to 2019, have occurred on federal lands – rather than private, county, or state -- and were mostly ignited by lightning or arsonists.

Recommendations

The dead and dying trees of the 2020 Oregon Labor Day Fires should be sold and harvested as quickly as possible. Current log prices are high, family-wage jobs are sorely needed, this would create a much safer, more aesthetically pleasing environment for people and wildlife in coming years and decades.

Reforestation planning on salvaged areas should consider historical prairies, meadows, trails, campgrounds, and riparian vegetation patterns in their implementation, as well as reducing risk of future catastrophic wildfires by uses of prescribed burning and other methods to maintain these environments.