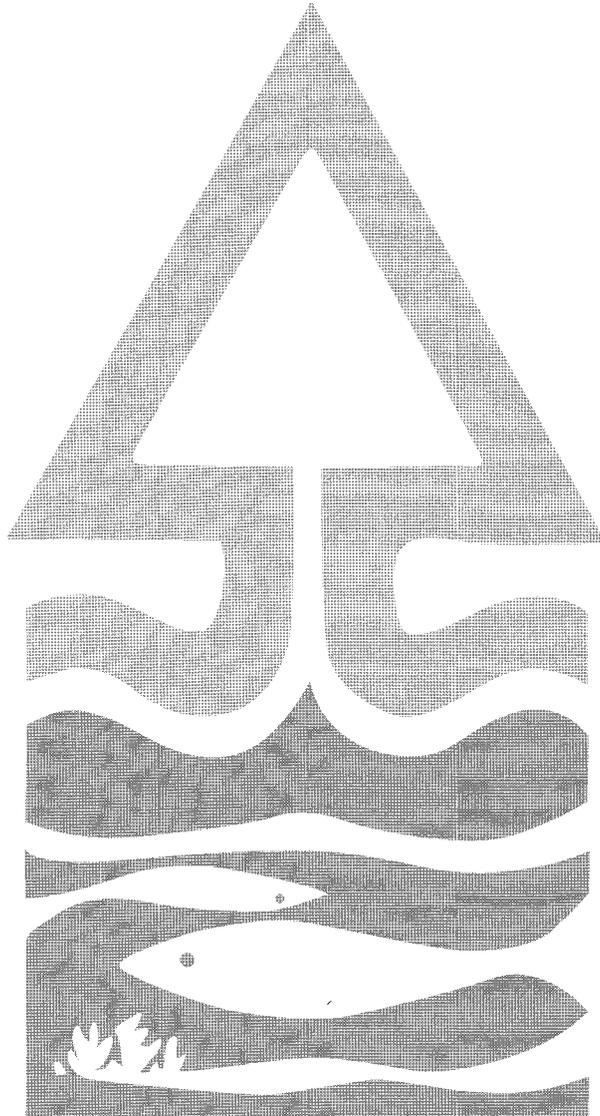


CHAPTER THREE

THE FOREST AND THE TREES



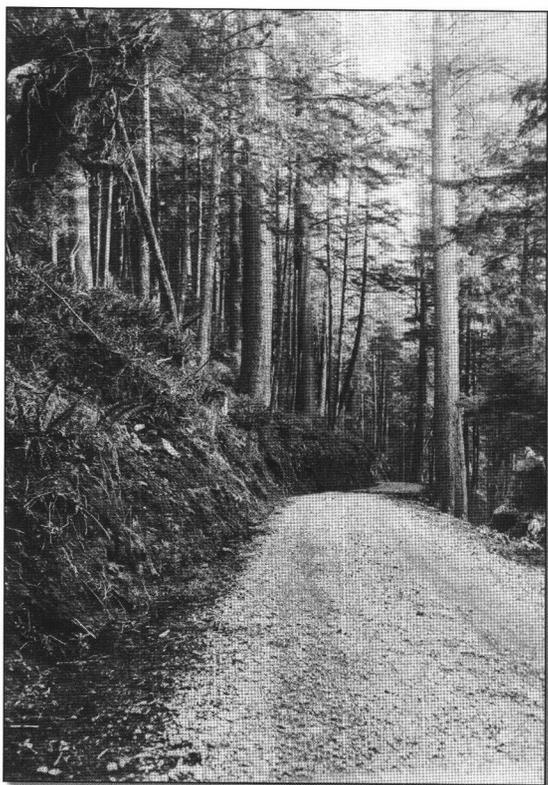
SIUSLAW
NATIONAL
FOREST



MANAGING THE FOREST IN 1908

In 1919, a few years after its formation, the Siuslaw National Forest contained within its boundaries 833,441 acres of land. Fully one third—280,745 acres—was alienated land owned by settlers, timber companies, and other private parties. About 2,500 people were living on homesteads within the boundaries. Sixty-seven thousand acres of the land in the new Forest was classified under the terms of the June 11, 1906, forest homestead program. The remaining 485,637 acres consisted of the following categories:

Coniferous timber land.....	370,013 acres
Deciduous woodland	58,019 acres
Burned forest	14,341 acres
Brush	9,795 acres
Grasslands	-0- acres
Barren land	16,324 acres
Unclassified (1919)	17,143 acres ¹



Forest road in representative stand of mature trees.

In *The Use of the National Forests* Gifford Pinchot had defined the job of the Forest Service as “forestry,” which he further defined as “to protect and grow wood.” Pinchot’s definition would scarcely please academics or most professional foresters, but it was intended for an audience of skeptics who were concerned about the federal government taking over vast tracts of forest land and imposing new rules.



Natural regeneration in old burn, Hebo District.



Dense stand of spruce and western hemlock.

Protecting the forest in the early years meant protecting it from fire, trespass, and unlawful entry. The first forest supervisors and district rangers did this by taking measures to detect and control fires, and to spread the gospel of fire prevention. Early accounts of forest management on the Siuslaw do not mention timber trespass as a serious concern. There were apparently plenty of trees to go around.

In my time on the Siuslaw there was probably no other National Forest so much concerned with people—people who were living in the area, and people who visited it from the Willamette Valley. There were settlers who owned their land, those in the process of fulfilling the process of homesteading, and absentee owners who had taken up land under the terms of the Timber and Stone Act. There were also the “timber homesteads,” often fraudulent, some of which had cabins not much larger than a doghouse.

C.P. Cronk, 1910-1911

Unlawful occupation of Forest lands was another matter, however. When the Umpqua and Tillamook Forest Reserves were established in 1907 lands within the boundaries were no longer open to settlement.

However, the Forest Homestead Act of June 11, 1906, re-opened the lands to more homesteading after 1908 if the lands could be shown to have any potential for agriculture. Forest managers on the Siuslaw did not believe that any of the lands not already homesteaded were suitable for agriculture, so they closed the Forest to homesteading in 1911. Pressure from the Secretary of Agriculture required them to re-open the Forest in 1913. A flurry of homestead claims followed but gradually diminished until Forest Supervisor Ralph Shelley closed the Siuslaw to forest homestead claims once again in 1916.



Forest homestead cabin in dense timber.

Except during the height of the fire season, much of my time was spent examining and reporting on homestead and "June 11" [1906] claims. The Siuslaw National Forest had more "June 11" or Forest Homestead claims than any other National Forest, and examining them was a major assignment for me all the time I was on the Forest.

C.P. Cronk, 1910-1911

GROWING TREES

Gifford Pinchot's second charge to the agency he had created was to "grow trees." This was closer to the common view of forestry, and also closer to what the graduates of the new forestry programs at colleges and universities probably expected. The most important element of this was reforestation. Forest fires had burned over much of the



Hebo District crew planting walnuts with dibbles. C.P. Cronk photo, 1910-1911.

Need for reforestation was immediately apparent [in 1908]. It began in 1908 in the Mt. Hebo area, which was... denuded of tree growth, with the planting of 2½ acres. W.H. Gibbons was in charge of this early work and 19½ acres were planted in 1909. H.M. Johnson came in the fall of 1912 and continued in general charge of the planting work until 1920.

A History of the Siuslaw National Forest, Oregon, as of December 31, 1939

central coast in the nineteenth century, and many of these burned areas had produced stands of second-growth conifers through natural regeneration after the fires. Some areas had not, however, and the Forest Service set about planting trees in these places soon after 1908. Planting techniques included walnuts planted with dibbles and seeds scattered on the snow. C.P. Cronk mentions packing supplies by burro to Mt. Hebo to keep a planting crew fed in the winter of 1910-1911.

The second growth fir grows more rapidly than the old-growth did, so that some of it is as much as three feet in diameter and 150 feet in height. There are, however, some parts of some townships that have not restocked naturally and now the Forest Service is restocking some of those areas by artificial means of reproduction, especially in the Hebo country where planting on a large scale has been going on for more than five years.

Siuslaw National Forest Land Classification Atlas, 1919

During the 1930s, the Civilian Conservation Corps crews planted trees in burned areas and logged-over land that had come into the Forest through New Deal land programs. This work increased later in the CCC years, as more lands came under National Forest management. By 1940, CCC Company 5436 at Camp Nestucca had planted 980 acres. In the late 1930s crews from the Resettlement Administration camps performed some tree planting, and after 1941 Conscientious Objectors reforested the Yachats Purchase Unit. During the 1950s high school students planted trees for fund raising events and for Arbor Day observations.



Planting crew, Mt. Hebo. C.P. Cronk photo, 1910-1911.



Planting crew and camp. C.P. Cronk photo, 1910-1911.

The planting of 200,000 Douglas fir seedlings was completed November 19. The work was started on October 29 by a planting crew from the Nestucca CCC camp. This planting is a continuation of the planting begun on the Kay Burn in 1910. The total plantation now covers an area of approximately 10,000 acres.

Six Twenty-Six, December 1935

In later years, during maximum timber production, tree planting in the wake of timber sales became a major undertaking. In 1962, for example, crews planted 2,651,000 conifer seedlings on 4,237 acres of timber sales. Another 188 acres of steep hills were seeded by helicopter.² In the 1970s the contract

planting crews developed a distinctive sub-culture. Many of these people were itinerant tree planters called “hoedads,” who traveled throughout the Western states in dilapidated vehicles, wearing colorful attire.



Hoedad planting seedlings.

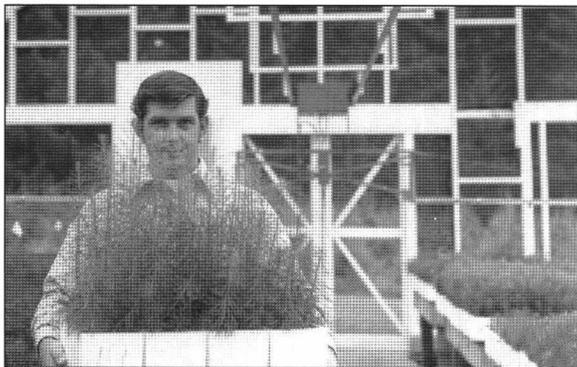
Seedling trees for reforestation in the 1960s came from the Forest nursery at Beaver Creek. This facility was dedicated to growing trees from seed and propagating trees from grafted stock. Fir and western hemlock cones were delivered to the nursery, seeds cleaned and planted, then the seedlings were transferred to storage at each District.



Applying fertilizer with helicopter, 1950s.



Don Oliver examining seedling, Beaver Creek Seed Nursery, 1960s.



Seedlings in greenhouse, Beaver Creek Seed Nursery, 1960s.

In 1935, the Camp Hebo CCC men participated in an experimental program of pruning 20-year old Douglas fir trees from the 1913 plantation. The trees had reached heights of 20 to 50 feet and a diameter of ten inches. The 1935 pruning program removed lower branches from selected trees to a height of 16 to 18 feet. By 1940, the Camp Nestucca group had

pruned selected trees on 356 acres of fir plantations.³ The goal of pruning the immature trees was to remove branches so that the trees would produce more clear lumber. The practice of pruning was briefly revived in recent years.

In addition to replanting the coniferous forests, the Siuslaw also undertook a planting program in the sand dunes along the coast between the mouth of the Siuslaw River and Coos Bay. This area was especially problematic for forestry because the shifting sand dunes did not lend themselves to tree culture. Pine trees do grow on sheltered areas where the sand is stabilized. The species of pine growing in the dunes is shore pine or *Pinus contorta*, which is widely distributed throughout the West, and is not generally considered a merchantable species. It is, however, successful in the dunes. Another introduced species, Monterey pine, proved vulnerable to disease.



Willow planting on the Dunes. C.P. Cronk photo, 1910-1911.



Planting Holland grass on the Dunes, ca. 1936.

Another type of planting peculiar to the Siuslaw is that of Holland grass for the purpose of preventing wind erosion of sand. This destructive agency has encroached on timber, clogged the outlets of steams, and destroyed recreation sites. Plantings of Holland grass aggregate 300 acres [each year].

A History of the Siuslaw National Forest, Oregon, as of December 31, 1939

As the program developed to plant the dunes, it had three phases. The first was to plant willow or European beach grass, which could stabilize the dunes and keep the sand in place. After the beach grass, crews propagated Scotch broom, which fixed nitrogen in the sand. Finally, pine trees could be planted with some hope of success. In 1959, for example, the Forest stabilized 463 acres of dunes, planting European beach grass on 126 acres, other grasses on 168 acres, Scotch broom on 25 acres, and shore pine on 55 acres, for a total cost of \$47,000.⁴

Unfortunately, the European beach grass and the Scotch broom spread well beyond their intended space on the dunes. European beach grass covered so much of the dunes that it interfered with the nesting areas of the western snowy plover. Currently, the Siuslaw and the Oregon National Guard are cooperating in a beach grass eradication program. Scotch broom, another exogenous plant, has become an invasive species.

OTHER COMMERCIAL TREES

Douglas fir, Sitka spruce, and western red cedar were by far the most important products on the Forest, but several other plants figure into the Siuslaw's history. The bark of the cascara tree is used as a laxative, and a lively trade in cascara bark developed before the turn of the century. Charles H. Flory wrote an Inspection Report on the cascara trade for the Forest in 1909. By that time the business of gathering the bark, drying it, and selling it to processors had passed the peak it reached in the 1890s. Flory's report is a remarkable source of information about this little-known botanical product.

Cascara grew in the coastal forests as isolated trees and shrubs with a diameter of up to eight inches. Cascara gatherers removed the bark from the lower trunk of the tree, then felled the tree so that they could remove the rest of the bark. The bark from a large tree could weigh as much as 100 pounds when green. Green bark had to be dried before it could be sold. The harvesting process destroyed the trees, of course, but the small trees were not cut, so there was a continuous supply of the product. Flory estimates that a man could produce about 100 pounds of dried bark each day. The price of the dried bark in the 1890s was 14 to 20 cents per pound. In 1909 the price had fallen to 4 to 5 cents per pound.



Homesteader Tom Agee carrying cascara bark.



Inspecting dried bark at shipping point.

Flory points out that the cascara—or “chittim,” as he calls it—was one of the few cash crops available to early settlers. “There is many a farmer in the coast mountains who owes his ability to have lived continuously on his place and improved it to the sale of chittim bark in the early days.”⁵ With the price falling and the demand diminishing in 1909, Flory recommended that the Forest not sell any cascara. In 1914, however, the Siuslaw made its first cascara sale as World War I increased the international demand. Within a few years, the price reached as high as 30 cents per pound for

dried bark. The price declined through the 1920s and the market eventually collapsed. From 1914-1920 total cascara sales on the Forest amounted to 188 tons.⁶

Activity in the marketing of alder...began in 1928 when Ted Hornschuck cut in trespass on Pollard Creek and was made a sale for 330,000 board feet. For the next ten years he moved his small portable mill from place to place. In 1937 the demand for alder furniture stock increased sharply. Permanent alder mills were built in Beaver and Tillamook, and the Three Rivers Alder Company who operate the latter purchased in 1937 a tract of 4,100,000 board feet of alder on Beaver Creek.

A History of the Siuslaw National Forest, Oregon, as of December 31, 1939

A second deciduous tree that has had an interesting history is the red alder. Although this species was never a major part of the coastal lumber economy, it was the only western hardwood cut on a commercial scale on the national forests of Oregon.

Other commercial products from the Forest include greenery such as fern, salal, and huckleberry brush. Medicinal products include foxglove (*digitalis*), the root of Oregon grape, and yew.



A good crop of huckleberries.

FIRE HISTORY

Early commentators on the Siuslaw typically noted evidence of large fires that left snags and second growth over much of the area now included in the Forest. This fire episode is dated in the 1840s and is interpreted as either a single fire that covered perhaps 5,000 square miles, or a series of large (>200,000 acre) fires occurring from the 1840s until 1868.⁷ Since there were people in the Coast Range who have left written accounts from these years without mentioning a 5,000 square mile fire, a succession of several fires during the 1840s seems a more likely explanation.

MAJOR NINETEENTH CENTURY SIUSLAW NF FIRES

FIRE	DATE	ESTIMATED SIZE	DISTRICTS AFFECTED
Umpqua	1840	450,000 acres	Mapleton Waldport
Nestucca	1853	320,000 acres	Hebo
Coos	1868	300,000 acres	Smith River
Yaquina Bay	1868	Unknown	Waldport

Source: *A History of the Siuslaw National Forest, Oregon, as of December 31, 1939*

Sometime in the 1840s a large and very destructive forest fire swept over the Coast Range, leaving in its wake for a stretch of about 150 miles in length and 30 to 40 miles in width, fire-killed timber, innumerable snags of which are still standing as grim witnesses of this great destruction. About 75 percent of the timber was completely destroyed, and huge trees from four to ten feet in diameter and over 200 feet in height were killed.

Siuslaw National Forest Lands Classification Atlas, 1919

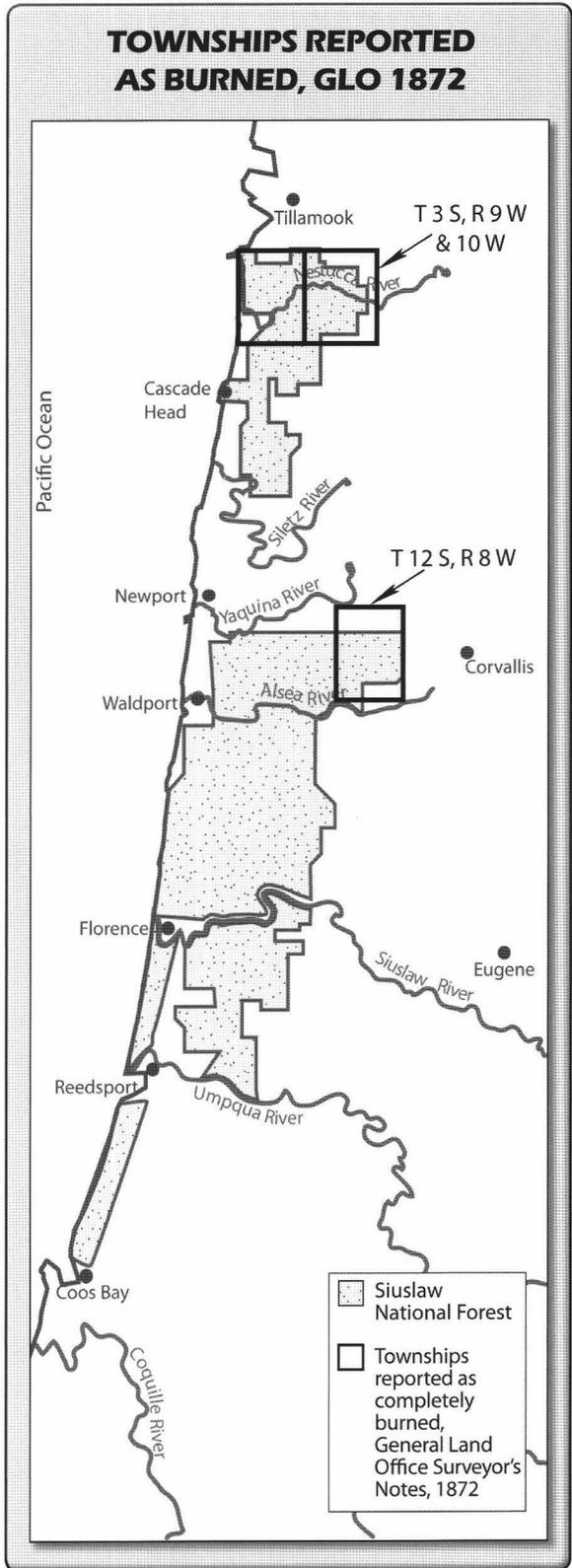
Although the Coast Range has ample rain in most months, it can be dry in the summer or fall and is highly subject to fire during those dry times. Records of the fires in 1910 and in the 1930s show that the coastal forest was very flammable when conditions were dry enough. Indeed the first European writer to comment on the Oregon coast may have seen evidence of a forest fire. Reverend Fletcher accompanied Sir Francis Drake on his circumnavigation in 1577-1578. During June 3-17, Drake's party visited the coast of "New Albion," generally supposed to have been Oregon. Fletcher complained of the cold and storms, the "vile, thicke and stinking fogges," and the "trees without leaves and the ground without greens" in June and July.⁸

Remarks about forest fires from casual visitors are difficult to interpret because they had no way to gauge the size of a particular fire. The General Land Office survey teams were better able to measure the extent of the burned area. Surveys made in the 1872 to 1880 period note that three whole townships in the Hebo Ranger District had been completely burned by fires in the past. These were T 3 S, R 9 W and 10 W and

T 4 S, R 7 W. Further south, T 12 S, R 8 W, in the upper Big Elk Creek drainage immediately west of Marys Peak, was also described as completely burned by past fires.

Significant fire years on the central Oregon coast are 1840, 1849, 1853, and 1868. Three of these years—1840, 1849, and 1868—brought fires to other parts of western Oregon, including the lower Columbia, the Willamette Valley, and the Coos-Coquille area. In all probability, then, these were dry years in which most of western Oregon’s forests were vulnerable.

The cause of Coast Range fires in the nineteenth century is open to question. The Coast Range is relatively free of summer lightning strikes. Since “dry”



EARLY SIUSLAW NF FIRES BY DRAINAGE			
RIVER/DRAINAGE	RANGER DISTRICT (HISTORIC)	FIRE YEAR	FIRE YEAR
Tillamook	Hebo	1868	1902
Nestucca	Hebo	1849	1868
Three Rivers	Hebo	1849	1868
Salmon	Hebo	1826	1849
Siletz		1840	1849
Yaquina		1849	1868
Alsea	Waldport	1849	1868
Yachats	Waldport	1849	1936
Siuslaw	Mapleton	1849	1868
Siltcoos	Smith River	1849	1868
Smith	Smith River	1840	1849
Umpqua	Smith River	1770	1826

Source: Zybach, "Great Fires of the Oregon Coast Range 1770-1933"



Mt. Hebo burn in light snow. C.P. Cronk photo, 1910-1911.

LARGE FIRES OF THE EARLY TWENTIETH CENTURY

FIRE NAME	YEAR	SIZE (ACRES)	RANGER DISTRICT	NOTES
1902 fires	1902			The Yacolt Fire in SW Washington and NW Oregon burned over one million acres. Recorded only as a bad fire year on the coast
1910 fires	1910		Hebo, others	Multiple fires throughout the Forest
Triangle Lake, others	1929	14,000	Mapleton	
Tillamook Burn	1933	267,000		Best known fire in Oregon history, did not reach the Siuslaw
Big Creek or Yachats	1936	10,000		Burned on Blodgett Tract within the Siuslaw
Smith River, others	1938	11,500	Smith River	
Second Tillamook Burn	1939	1,700	Hebo	Re-burned much of the 1933 burn and spread to 1,700 acres on the Siuslaw
1951 fires	1951	1,599	35 small fires throughout the Forest	He-He Fire and Detroit Fire on the Willamette NF and Vincent Creek on Coos Bay District, BLM

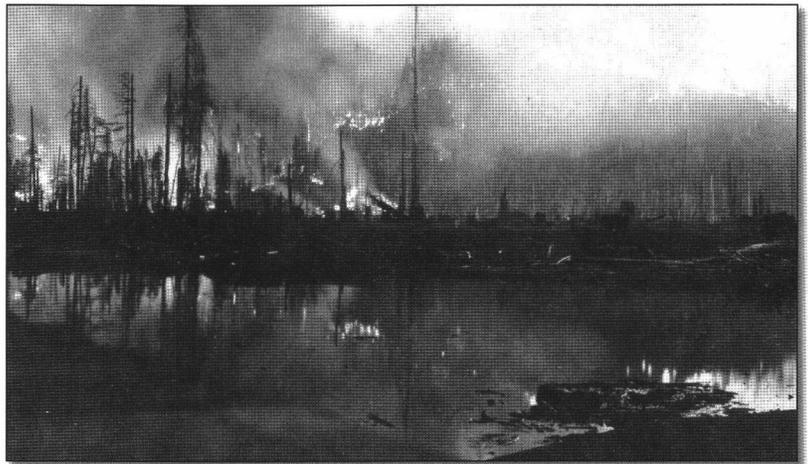


North Lake after 1910 burn, Mt. Hebo. C.P. Cronk photo, 1910-1911.

lightning accounts for most natural fires, fires on the coast are generally attributable to human causes. The 1840-1868 period of great burns was also a period of increased Euro-American entry into the coast country. Native groups in the Willamette Valley had burned grasslands each fall for generations, but this practice was not known to be widespread in the

Coast Range. Euro-Americans, on the other hand, used fires for clearing land of brush, ferns, and even trees.

While we do not know the origin of the earliest recorded fires, most the fires in the years after 1908 began as clearing fires that got away from land owners adjacent to the Forest.



Valsetz fire, 1953, east of the Siuslaw.

We have had several bad fires in the 21 years I have been in the coast country, but in nearly all cases they started on lands outside our protective unit and were large fires by the time they reached our boundaries.

Ranger Edward S. Kerby, 1945

FIRE CONTROL

With the formation of the Forest Reserves and the National Forest, fire control and fire prevention became a political issue. Prior to 1908, fires on public land were not considered especially important, as long as they were not perceived to be dangerous. Settlers considered burning brush and ferns for clearing as their right. Early Forest Service personnel needed to convince people that wildfires resulting from clearing or annual light burning wasted important public resources. In the years immediately following the formation of the Forest, local residents who opposed Forest Service management expressed their opposition by deliberately setting fires. Incendiarism did not last long on the Siuslaw, but it was a factor in early management.

The bell wether leading the opposition against the Forest Service at the time was Lorenzo E. Doel. He was wholly unscrupulous and would stop at nothing to gain his ends. ...About 1920 we convicted him in federal court of setting fire on the public domain. This was the last of Mr. Doel as far as we were concerned.

Ranger Edward S. Kerby, 1945

Fire control in the early period was hazardous and often frustrating. Fires in remote areas were difficult to detect and difficult to reach. Fire crews were hired from the local "labor pool," and they seldom had experience in fire fighting. Fire lines were made by hand through the brush and ferns. Supplies, communication, and payments for the crews were hard for the Forest Service to arrange.

The fires of 1910 were widespread on the Siuslaw and throughout the West, especially in the Rocky Mountains. Partly as a result of the 1910 experiences, the Forest Service focused efforts on fire prevention, detection, and suppression. After World War I, the Forest Service contracted with the Army Air Corps to provide planes to find fires during critical months. A network of Forest Service lookouts was built after 1910. The Civilian Conservation Corps built numerous lookouts during the 1930s.

Lookouts Guarding the Siuslaw

LOOKOUTS

Buzzard Butte
South Point
Bell Mountain
Mt. Hebo
Little Hebo
Cougar Mountain
Gauldy Mountain
Niagra Point
Square Top
Hilltop
Cape Mountain
Table Mountain
Grass Mountain

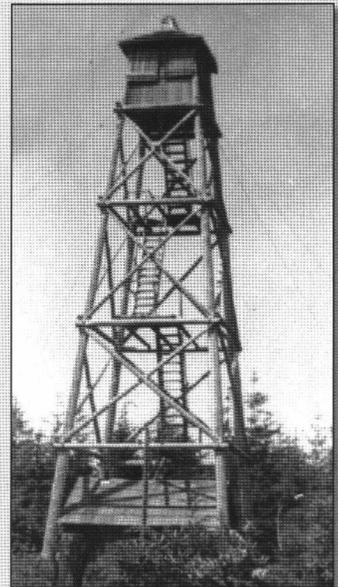


Marys Peak lookout, built by the CCC.

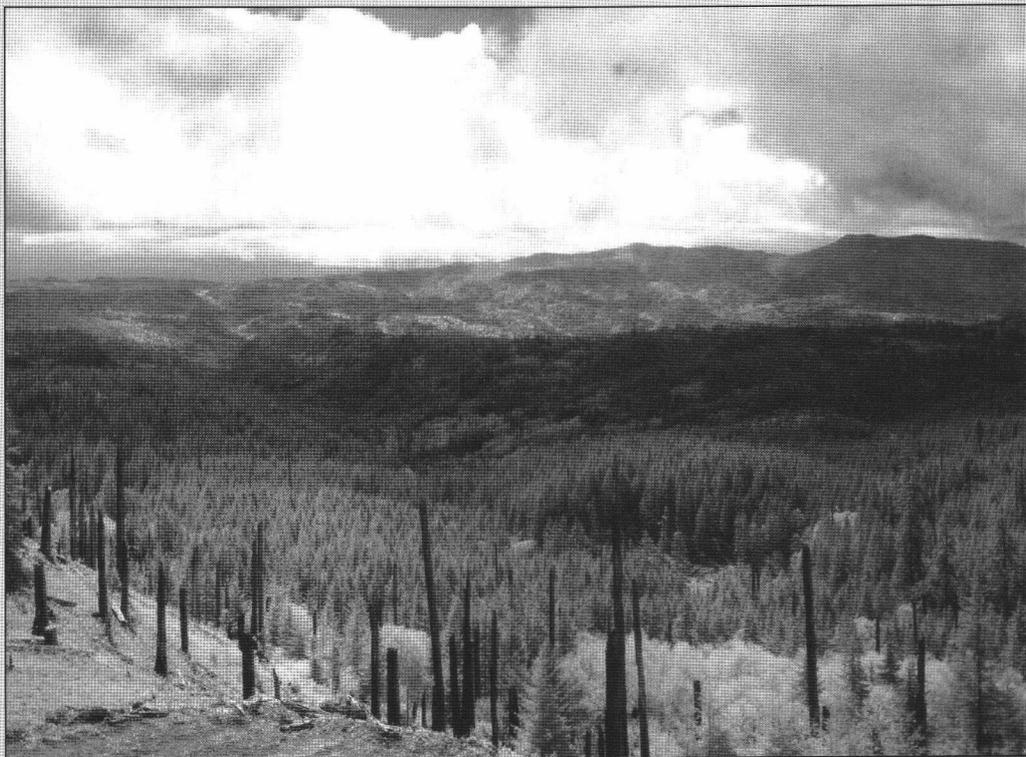


Early platform style.

Alesia Ridge (State)
Pioneer Butte
Prairie Peak
Cummins Peak
Herman Peak
Cannibal Mountain
Marys Peak
Siltcoos
Fern Top (State)
Roman Nose (BLM)
Goodwin Peak
Divide
Henderson Peak
Windy Peak



Later cupola style.



View from Square Top Lookout, 1937.

In mid August of 1910 Ranger Russell and I counted 16 fires burning at one time. During the worst six weeks, I have a recollection of not sleeping in my bed more than once or twice. Most of the time we had less than a dozen men and could only peck away at where the danger seemed greatest. At the last blow-up we were working on a fire on top of Mt. Hebo in the old burn. We got that corralled, or thought so. When we saw smoke near Dolph, heading for Cloverdale, we started for that. When we had gone only a few miles, we saw the Hebo fire breaking out again. Russell sent me back with my blanket, tarp, shovel, mattock, and ax to get some men from Hebo for a new attack. I started back with 60 pounds of grub thinking that I alone at night might be able to hold the fire. I did manage to hold quite a length of fire line, but in the morning the wind rose and I found myself with a nice fire line but with the fire going around me on both sides. I should probably have headed for a small pond but I was thinking more of making the ridge trail. Fortunately, I did know the country. With the increased wind velocity the fire was advancing more rapidly through the tops of the snags than on the ground. I figured I had a chance to make the trail before the fire crossed it. My one thought was to beat the fire down the mountain.

C.P. Cronk, 1910-1911

The biggest job we had was to convince the [Euro-American] natives that the light burning in the spring and fall of open fern and salal patches was inimical to the cause of forestry and accomplished nothing but to kill the young trees and perpetuate the bracken fern which is entirely useless. The thing that made it so difficult was that perfectly sincere and otherwise law-abiding citizens would burn fern on their own lands and frequently allow it to spread to other lands. They contended, and they were right in their contentions, that these early spring and fall fern fires would only run through the opening and stop when they reached the green timber. The very small trees which rarely had the opportunity to get their heads above the fern were not seen by those doing the burning.

Ranger Edward S. Kerby, 1945

STORMS

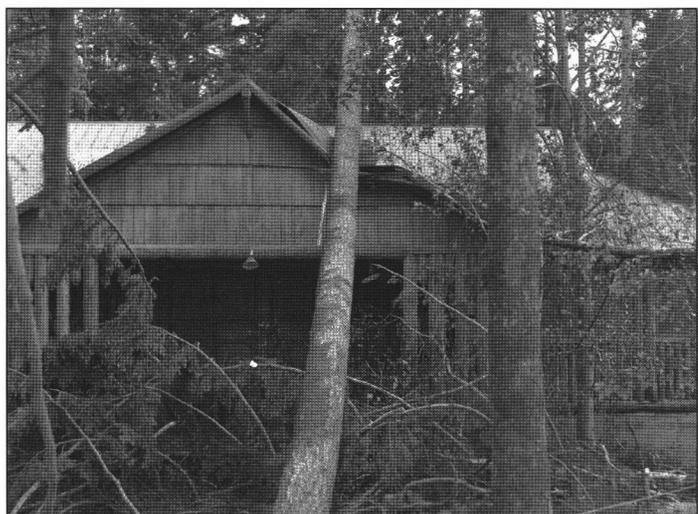
Because of its position on the coast, the Siuslaw is vulnerable to large Pacific storms which cause extensive damage. The most severe of these within recent history was the Columbus Day Storm of October 12, 1962.

Other notable storms on the coast occurred on January 9, 1880, in 1948, in 1995, and in December, 2007. The Columbus Day Storm was significant for the intensity of its wind and the damage it caused, but also for the sheer size of the area involved. The storm cut a swath through the West Coast

from Eureka, California, to southern British Columbia. The path of the storm was about 1,000 miles long and 125 miles wide, engaging the Coast Range, southwestern Oregon, the Willamette Valley, the lower Columbia, southwestern Washington, Puget Sound, and southern British Columbia. Wind velocity was difficult to measure because the anemometers at exposed points were either damaged or reached the maximum on their scale. The radar station at Hebo, for example, registered only to 135 MPH, but the winds were estimated at 170 MPH. The weather station in Corvallis measured a gust of 127 MPH immediately before it was destroyed. At Cape Blanco, gusts reached 145 MPH; at Vancouver BC, wind was measured at over 58 MPH. The wind caused damage as far inland as Spokane.



Slide on Canal Creek.



Damage to Camp Cleawox, 1962.

Meteorologists recognized the storm as an extra-tropical cyclone and estimated that the actual center was 40 miles off shore. Barometric pressure was extremely low—28.6 inches of mercury. Other storms have caused substantial damage to the Forest, but the Columbus Day Storm was by far the strongest and most extensive.

The storm passed through the most populous areas of



Forest roads were blocked by blow-downs.

Oregon and Washington, and through the heavily forested areas of the California Redwoods, the Coast Range, the west slope of the Cascades, and the Olympic Range. The damage to timber in Oregon was estimated at six billion board feet and in Washington at five billion board feet. Trees blown down in the forest damaged other trees, and trees near habitation damaged power lines, destroyed buildings, crushed cars, and blocked roads. All national forests west of the Cascades in Oregon were affected.

Estimates for wind-downed timber on the Siuslaw reached 740 million board feet within a few days of the storm.⁹ The annual cut at this time was around 350 million, so the storm damage equaled more than two years' sales. The Forest held salvage sales as quickly as possible and extended existing sales contracts so that loggers could cut the downed timber before it lost value. All downed timber was to be removed by May 1, 1964. Eighteen foresters from other national forests were detailed to the Siuslaw to organize the salvage sales.

In addition to the timber damage, the Forest had to deal with extensive damage to infrastructure. Telephone and power lines were lost. Campgrounds were damaged. Over 1,000 miles of forest roads had to be cleared for use.



Salvage logging efforts continued into the mid-1960s.



Storm damage included flooding on the Nestucca River.

After the Columbus Day Storm, the next weather problem occurred when the Meadow Lake dam west of Carlton broke on November 20. The resultant flood of the Nestucca smashed the Nestucca River Bridge, which cost \$30,000 to replace. Over \$500 damage was done to the Rocky Bend Campground.

**Siuslaw National Forest
Historical Notes for 1962**



Damage to campgrounds occurred throughout the Forest.

NOTES

- ¹ Data from *Siuslaw National Forest Land Classification Atlas* (on file, Waldport, OR: Siuslaw NF, 1919) 3.
- ² "Historical Notes for 1962" (on file, Waldport, OR: Siuslaw NF, 1963).
- ³ *Six Twenty-Six*, December 1935, 19; *Coast Range Beacon*, April 1940, 2.
- ⁴ "Historical Notes for 1959" (on file, Waldport, OR: Siuslaw NF, 1960).
- ⁵ Charles H. Flory, "The Chittim Bark Industry" (on file, Waldport, OR: Siuslaw NF, 1909) 6.
- ⁶ *A History of the Siuslaw National Forest, Oregon, as of December 31, 1939* (on file, Waldport, OR: Siuslaw NF, 1939) 41.
- ⁷ See Bob Zybach, "The Great Fires of the Oregon Coast Range: 1770-1933" (on file, Corvallis, OR: Siuslaw NF, 1988), for an ambitious (though incomplete in this version) chronicle of post-contact fires, as recorded by contemporary observers.
- ⁸ Zybach, 62. Reverend Fletcher quoted in Charles Carey, *General History of Oregon* (Portland, OR: OHS, 1971) 37.
- ⁹ "Historical Notes for 1962" (on file, Waldport, OR: Siuslaw NF, 1963) discusses the storm and its aftermath.

