

**John Leiberg on forest fires, Indian burning, old-growth forests, logging history, and reforestation of southwest Oregon, ca. 1400 to 1899.**

Edited, with commentary, by Bob Zybach.  
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**Part 1. ca. 1900 Old-Growth Trees, Groves, & Stands:  
Pre-1400 to ca. 1700 Origins**

*[These forests contained numerous trees 500 years of age, and older. These trees had grown in spots protected from winds, wildfire, widespread Indian burning, insects, diseases, landslides, floods, and the first fifty years of logging, mining, and ranching history in southwest Oregon. Those locations today are probably the most capable of carrying trees to an advanced age in future times. It is the remaining old-growth stands, trees, and groves we should be protecting, and, also, those areas that were able to successfully grow such trees in the past.]*

*[The greatest existing threats to most of the remaining stands I have personally viewed or studied include: 1) dead, standing trees; 2) other ladder fuels; 3) surface fuels. It doesn't matter whether people or lightning start the fires: the primary fuel patterns are established by people, and have been for thousands of years. Logging is desperately needed to preserve most remaining old-growth stands, groves, and trees, and formal planning should begin to take place to nurture past locations back to old-growth conditions wherever possible.]*

(p. 252-254) Coming nearer to the main range of the Cascades we find a few townships covered with a massive red-fir growth of great age, and fairly representative of the best and ultimate development of the type in this region. They have suffered comparatively little from modern fires and the forest has been permitted to adjust its composition without the interference of man. The townships referred to and the compositions of their forests are as follows **[T. 30 S., R. 2 E.; T. 32 S., R. 3 E.; T. 33 S., R. 3 E.; T. 34 S., R. 3 E.; T. 35 S., R. 2 E.; T. 37 S., R. 4 E.; T. 40 S., R. 1 W.]**

(p. 257) [*“Red-Fir”*] Subtypes consisting of 60 to 80 per cent yellow pine surrounded with dense red-fir growths on the same level are found in many places. Good examples occur in the massive, veteran red-fir growths in the Rogue River Valley, in **Ts. 31 and 32 S., R. 3 E.** Here yellow-pine reforestation have reached maturity, are in a state of decay, and are gradually being replaced by red fir, which advances from the surrounding forest to close the gap.

(p. 274) The age of the timber utilized in sawmill consumption varies from 100 to 350 years. Most of the yellow pine falls below 175 years; the higher limit is reached chiefly in the sugar pine. Most of the sugar pine in the region is of great and mature age. Comparatively little red fir is sawn. It varies in age from 100 to 500 years, and some of the very large individuals seen were doubtless even older. The noble fir and white pine of mill-timber size varies in age from 100 to 350 years, most of it falling below 180 years. The alpine hemlock of mill size runs from 80 to 250 years, 120 to 140 years representing the age of the bulk of the standard growth. The white fir, with sufficient clear trunk development to come within the limit of these estimates, varies in age from 75 to 120 years.

(p. 275) Most of the very aged sugar pine and red fir have rotten cores or gum cracks in their trunks. In the incense cedar, on both sides of the Cascades, rarely has a sound center.

**T. 30 S., R. 2 E. (pp. 254, 309-311)**

(p. 310) The grazing lands consist of glades scattered throughout the summit areas and higher slopes of the Umpqua-Rogue River divide. These glades are mostly due to forest fires burning off the timber. A small number of cattle occasionally stray up here from the lowlands of the Rogue River Valley in late summer. The summit of Abbots Butte and most of the high slopes of the divide east and north of this point are used for pasturing sheep.

(p. 310) The red fir [*“110 million feet”*] is chiefly composed of standards, much of it running above 3 feet basal diameter and having clear trunks 60 to 90 feet in length. They are mixed with the red-fir type, and sometimes the alpine-hemlock type as well, scattered trees and small aggregations of sugar [*“10 million feet”*] and white pine [*“2 million feet”*], the individuals averaging 2 to 6 feet in diameter at the base and 40 to 90 feet in length in the clear trunk.

(p. 310) The region around Abbots Butte is noteworthy because it is the most southerly station known in the Cascades for the Alaskan cedar. The species occurs in a few localities on the slopes of and adjoining the butte as scattered individuals in the mass of alpine-hemlock forest, occasionally forming aggregations with 300 to 400 individuals in a close growth.

(p. 310) The forest is fire marked throughout the township and 15 per cent of the standing mill timber has been consumed or killed. It is worthy of note that although the forest on the northern slopes of the Umpqua-Rogue River divide in this and the preceding township [*T. 30 S., R. 1 E.: pp. 308-309*] has been over-run by fire almost everywhere, the actual quantity of timber consumed is not nearly as large as might be expected considering the extent of the fires.

(p. 310) The fires have been more severe and widespread along the summit of the divide, where the sheep pastures are found, than elsewhere. As fires in these localities decidedly encourage grass growth at the expense of the forest, there probably is some connection between the sheep camps and the fires that have ravaged the timber in their neighborhood.

(p. 311) The burned-over areas in the township do not reforest rapidly or well. The tendency is toward grassy glades rather than to forest at all the higher elevations, and to dense brush growths at the lower and middle altitudes. Some of the slopes covered with pumice, or with small lapili, are being denuded of their soil down to the lava bed rock as a result of the fires and the consequent loosening of the forest floor.

#### **T. 30 S., R. 4 E. (see: Reforestation)**

(p. 314) The red fir is composed largely of standards and veterans, generally of the same class and dimensions as those in the preceding township [*T. 30 S., R. 3 E.*]. Much of the alpine-hemlock type is of small dimensions, being reforestations after fires which burned 90 to 100 years ago [*ca. 1800 to 1810*]. The heaviest stands of forest occur in the northwest sections of the township, on terraces belonging to the valley of the North Fork of Rogue River.

#### **T. 31 S., R. 1 E. (see: Forest Fires)**

(p. 326) Occasionally, however, there occurs veteran sugar pines, remnants of a very old growth, whose diameters vary from 6 to 10 feet. These giants are not very common, and almost every one of them is in a state of decay, due to sears and basal burns of modern times. The red-fir type is abundant and well developed. It occurs of three ages – veterans, standards, and young growth. The veterans are mixed with sugar pine, yellow pine, and white fir, and have dimensions varying from 5 to 9 feet in diameter at the base, with clear trunks 40 to 80 feet in height.

(p. 327) The alpine-hemlock type is composed mostly of noble fir and alpine hemlock in almost equal proportions. Previous to fires, originating since the white man's occupancy of the region, the stands of this type were of magnificent proportions. To judge from the remains there were large areas which

carried more than 100,000 feet B. M. per acre. The best stands were composed of large veteran trees 2 1/2 to 3 1/2 feet in diameter at the base, with long columnar trunks 50 to 60 feet in the clear.

**T. 31 S., R. 3 E. (pp. 257, 285, 329-330)**

(p. 285) The central areas of **Ts. 31 and 32 S., R. 3 E.**, carry dense stands of old-growth forest, normally composed of a preponderance of red fir with varying percentages of white fir, western hemlock, white pine, sugar pine, and yellow pine forming the remainder.

(p. 285-286) The solidity of this old growth is broken in many places by old burns more or less completely reforested. The reforestations are mostly, and sometimes wholly, composed of yellow pine, although this species forms under normal conditions the smallest percentage of any of the trees in the surrounding old-growth forest. Where the yellow-pine reforestations have reached an age of 200 years and upward, the yellow pine is giving way to the encroaching red-fir growth. Where fires of modern date [1855-1899] have burned away the reforestations in these places, lodgepole pine or brush growths have taken possession.

(p. 330) There are small tracts of grazing and hay lands bordering the river, 500 or 600 acres in all; otherwise there are no clear lands in the township. The Rogue River bottoms, now heavily forested, would probably become agricultural in character were the timber cleared off.

(p. 330) The chief stands of the red-fir type occur on the bottom lands. It is a massive forest, composed almost wholly of veterans and standards. Much of it is of large dimensions. The red fir [*"120 million feet"*] averages 2 to 4 feet in diameter, with clear trunks 50 to 100 feet in height; the sugar pine [*"9 million feet"*] is about the same size for standards, while veterans are often found 7 to 8 feet in diameter, with clear trunks 40 to 60 feet in length. Unfortunately there is not a great deal of this sort of forest, which only occurs on the lowest terraces of the bottom lands. This land can be logged with the greatest facility, and it appears to be held wholly by private owners who long since acquired title to it.

(p. 330) With the exception of red-fir stands on bottom lands the forest has been marked by fire throughout the township. The slopes of Huckleberry Mountain have especially suffered severely.

(p. 330) Reforestation is scanty everywhere; it is practically lacking up Huckleberry Mountain, where heavy brush growths flourish on all the fire-swept areas.

**T. 31 S., R. 10 E. (pp. 270, 339)**

(p. 270) This township is covered with a forest of yellow pine [*"200 million feet"*] running 95 per cent pure. It is typical of the heaviest forest growth in the Upper Klamath Basin so far as this examination extended.

(p. 339) Most of the timber is fire marked, but the damage has been light. Fires have not run much in later years and the young growth of yellow pine is therefore abundant.

(p. 339) The mill timber is mostly composed of standards and veterans with exceptionally long, clear trunks.

**T. 32 S., R. 3 E. (pp. 253, 257, 269, 271, 285, 345-346)**

(p. 269) The township is situated in the Rogue River bottoms. Its forest is of the red-fir type and represents fairly the best class of this type of forest in Rogue River Valley.

(p. 385) [*See entry for T. 31 S., R. 3 E.*]

(p. 345) The forest is of massive proportions, but its uniformity is broken by numerous patches of young red-fir, yellow-pine, and lodgepole-pine stands, which are reforestations after ancient fires – that is, of fires which burned within the last eighty or one hundred years. Settlements along the Mill Creek bottoms have made inroads into the forest. Modern fires have burned chiefly along Red Blanket Creek.

(p. 345) The mill timber is excellent and easy of access. Much of the red fir [*“220 million feet”*] and sugar pine [*“100 million feet”*] run from 5 to 7 feet basal diameter, with clear trunks 70 feet in length.

**T. 33 S., R. 3 E. (pp. 253, 271, 279, 285, 287, 360-361)**

(p. 285) In the south-central areas of **T. 33 S., R. 3 E.**, occur similar reforestations of white pine following burned stands of red and white firs. Here as elsewhere the white-pine seed trees were in the minority, white and red firs predominating.

(p. 287) In **T. 33 S., R. 3 E.**, occurs a number of stands of very old madrona scattered among a massive old-growth forest chiefly composed of red fir [*“450 million feet”*], with smaller proportions of white pine [*“3 million feet”*], sugar pine [*“90 million feet”*], western hemlock [*“3 million feet”*], and Pacific yew. The madrona is not a tolerant tree. Its chief place is among open yellow-pine and red-fir stands, or alone in thickets of manzanita or mixed with oak copses.

(p. 287) The madrona in this locality is composed of old trees. Several were observed 75 feet in height and 2 feet in diameter. The reproduction of it here has practically ceased.

(P. 360) The northern and central areas bear a forest of very massive propositions; the southern sections carry stands which are comparatively light and much broken by grassy glades and brush growths after fires in recent times. Red fir predominates. It is largely composed of standards, with here and there a group of veterans, frequently with diameters up to 8 feet. The sugar pine occurs throughout and is chiefly composed of veteran stands. Reforestations in the southern areas show a remarkably large percentage of white pine, which, however, is limby and knotty.

(p. 360-361) The forest in this township is much the heaviest in all the country covered by this report, and shows to some extent the capacity of the region in the line of forest growth where reasonably free from destructive fires. But heavy as is the forest it can not be considered a “fully stocked” area. Fires burned here last summer, destroying much timber. They owed their origins to deer hunters. To obtain a hundred or two hundred pounds of venison several millions of feet of timber were destroyed.

**T. 34 S., R. 2 E. (see: Logging)**

**T. 34 S., R. 3 E. (see: Reforestation)**

**T. 34 S., R. 5 E. (pp. 265, 378-380)**

(p. 265) Occasionally, in the high country between Mount Pitt and Klamath point, the spruce in some of the canyon bottoms is present in as high ratio as 75 per cent. An example of this kind exists in **T. 34 S., R. 5 E.**, in the upper portions of the canyon of the South Fork of Rogue River. The forest is an old growth not visited by fire for perhaps three hundred years [*since ca. 1600*]. The soil is exceptionally deep and is swampy or watersoaked.

(p. 379-380) The forest belongs to the alpine-hemlock type. Fires have everywhere ravaged it. The upper portion of Cherry Creek drainage basin and the areas adjacent to the base of the group of extinct volcanoes previously mentioned have been burned very near clean of their forest cover. Most of the

standing timber is of small size, being chiefly reforestations after fires which denuded the region a decade or two anterior to the advent of the white man.

(p. 380) More than 75 per cent of the stands are composed of trees with basal diameters below 18 inches.

**T. 34 S., R. 6 E. (pp. 381-383)**

(p. 381) The greatest quantity of the largest dimensions [*of "yellow pine"*] occur at the mouth of Cherry Creek. Most of the really valuable mill timber in the township exists in the bottoms and on the slopes adjacent to that stream. In some places where the bottoms are swampy there are heavy stands of Engelmann spruce [*"6 million feet"*] averaging 90 to 110 feet in height, with diameters 3 to 4 feet, 2 feet from the ground, and clear trunks from 40 to 60 feet in length. Mixed with the spruce are numbers of veteran red firs [*"5 million feet"*] of large size; some were seen with diameters of 7 feet. In the western portions of this township most of the forest is of small dimensions and is chiefly composed of lodgepole pine, alpine hemlock [*"3 million feet"*], and noble fir [*"17 million feet"*].

(p. 382) Fire has marked the forest in all portions of the township. The damage due to this cause has been especially severe and extensive in the western areas, where most of the destruction has been done since the white man's occupancy of the country.

(p. 382) In late years big fires in Cherry Creek Canyon have destroyed 30 per cent of the only really valuable timber in the township. About midway up that canyon are large salt licks that have been from time immemorial been the gathering place for all the deer in the surrounding country. A good many hunting parties also come here to slay the deer at the licks; fires are the inevitable result.

(p. 382) Reforestations of the burned-over areas are few and thin. Most of the young forest outside the yellow-pine areas consists of lodgepole pine. Where the yellow-pine stands have been destroyed heavy brush growths of the vellum-leaved ceanothus have followed. On a few of the higher elevations facing east and south the forest has been replaced with a thin sward of grass. In the burns which have occurred in the alpine-hemlock type large tracts are entirely bare of vegetation.

**T. 35 S., R. 2 E. (see: Logging)**

**T. 35 S., R. 5 E. (see: Indian Burning)**

**T. 36 S., R. 3 E. (pp. 276, 406)**

(p. 406) The central and, in part, the eastern areas contain a very massive forest in which the yellow pine [*"35 million feet"*], largely composed of standards and veterans, is of excellent quality and easy of access. A large proportion of the red fir [*"100 million feet"*] is composed of small standards. The noble [*"8 million feet"*] enters the township in the extreme eastern areas. The white pine [*"5 million feet"*] occurs in the southeast areas. Fires have run through most of the township, burning 10 per cent of the timber. Brush growths with scanty reforestations are the results of the fires.

**T. 37 S., R. 4 E. (see: Forest Fires)**

**T. 37 S., R. 5 E. (see Reforestation)**

**T. 37 S., R. 7 E. (see: Forest Fires)**

**T. 38 S., R. 3 E. (see: Reforestation)**

**T. 38 S., R. 4 E. (p. 233, 434-435)**

(p. 434) The balance of the township consists of a plateau-like tract intersected by low ridges and numerous small grassy glades. The forest stands are extremely uneven. In the southern and central areas occur large burned-over tracts covered with brush and alternating with stands of small-growth white fir. In the northeastern corner is a low swampy, tract bearing a forest stand of massive proportions composed of white [*“10 million feet”*], red [*“120 million feet”*], and noble [*“20 million feet”*] fir. The trees here are often as much as 8 feet in diameter and 200 feet in height. The yellow pine [*“38 million feet”*] is of good quality and size.

**T. 39 S., R. 5 E. (pp. 233, 269, 284, 446-447)**

(p. 269) This township is situated in Klamath Gap, and is typical of the best and heaviest yellow-pine type of forest.

(p. 446) The northwestern areas are chiefly meadow lands, glades belonging to the Johnson Prairie tracts. The balance of the township carries a tolerably compact body of excellent yellow pine [*“160 million feet”*], largely composed of standards.

(p. 446) Fires have run everywhere in the forest stands, suppressing the young growth, burning great quantities of the firs, and filling the forest with a great many small brushed-over tracts in place of the consumed timber.

**T. 40 S., R. 1 W. (pp. 253, 452-453)**

(p. 452) This township consists of high slopes and summits of the Siskiyou Range. The highest slopes are largely nonforested, either bare, rocky expanses or grassy glades predominating. The lower elevations bear moderately heavy stands of fair quality. The forest is seared by fire in all its parts, and is generally difficult of access.

**T. 40 S., R. 4 E. (see: Reforestation)**

**T. 40 S., R. 5 E. (see: Logging)**

(p. 457) It bears a forest of noble proportions, ideally situated for lumbering operations. The most valuable components of the forest here are yellow and sugar pine. The growth of these two species is symmetrical and large, the sugar pine reaching basal diameters of 9 feet, and the yellow pine of 5 or 6 feet, with clear trunks 30 to 65 feet in length.

**T. 40 S., R. 6 E. (pp. 457-458)**

**T. 41 S., R. 2 W. (pp. 292, 462-463)**

(p. 292) The noble fir holds an intermediate position between the red and white firs as regards its fire-resisting capacity. Its tendency is toward small aggregations in the midst of mixed growths of other species; but occasionally one meets with considerable stands of nearly pure growth, as along the higher elevations of the Siskiyou Mountains, in **T. 41 S., R. 2 W. to 1 E.**, inclusive. The habit of the species of growing in such clumps or dense aggregations invites more certain destruction by fire than would be the case if it grew singly or scattered.

(p. 462) The timber along the higher slopes is mostly composed of noble fir [*“30 million feet”*] of large dimensions and often of very close stand. It is mixed with small percentages of white pine and red fir. The lower slopes carry yellow and sugar pine of medium quality. The larger proportion of the timber in the township is very difficult of access, and fire has marked it all.

**T. 41 S., R. 1 W. (see: Indian Burning)**

**T. 41 S., R. 1 E. (pp. 292, 464-465)**

(p. 464) The forest along the lower slopes is of excellent quality and proportion, and is remarkable for the large percentage of incense cedar [*“7 million feet”*] of large growth which it contains.

(p. 464) The upper slopes have been badly overrun by fires in recent times, and are thinly covered with forest in the midst of dense brush growths.

**T. 41 S., R. 5 E. (see: Logging)**