

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.
April 2006.**

**Part 2. Indian Burning Practices & Patterns:
ca. 1600 to 1854**

The Indian burning references are a lot more hidden, and a lot more inferred, than I recalled. The report is 290 pages long (pp. 208-498), hardly mentions Indians at all the first 70 pages (except by inference), and then sums up most of the key points in three pages (pp. 276 -278, below). Corroborating photos, tables, maps, and text are then scattered throughout the remainder of the report on a township by township basis. They are significant, but scattered.

(pp. 282-283) There is little doubt that a very large proportion of the many rocky level tract which occur east of the Cascades in the region under consideration are wholly due, as to the character of their present surface, to frequently repeated fires. The pumice originally laid down at the bottoms of shallow lakes would be evenly spread out. As the lakes were being gradually drained thick masses of marsh vegetation would preserve the pumice surface from wastage. The marsh vegetation was finally supplanted by forest; then man came on the scene and with fire as an ally made some profound changes. The entire series of phenomena here detailed, not omitting the part played by fire, are in full operation at the present time in the region bordering Klamath Marsh, and in various other localities, such as Sycan Marsh and tracts bordering the Klamath lakes.

(p. 277) The aspect of the forest, its composition, the absence of any large tracts of solid old-growth of the species less capable of resisting fire, and the occurrence of veteran trees of red fir, noble fir, white pine, alpine hemlock, etc., singly or in small groups scattered through stands of very different species, indicate without any doubt the prevalence of widespread fires throughout this region long before the coming of the white man. But, on the other hand, the great diversity in the age of such stands as show clearly their origin as reforestations after fires, proves that the fires during the Indian occupancy were not of such frequent occurrence nor of such magnitude as they have been since the advent of the white man.

(p. 277) The age of the burns chargeable to the era of Indian occupancy can not in most cases be traced back more than one hundred and fifty years. Between that time and the time of the white man's ascendancy, or, between the years 1750 and 1855, small and circumscribed fires evidently were of frequent occurrence. There were some large ones. Thus, in **T. 37 S., R. 5 E.**, occurs a growth of white fir nearly 75 per cent pure covering between 4,000 and 5,000 acres. It is an even-aged stand 100 years old and is clearly a reforestation after a fire which destroyed an old growth of red fir one hundred and five or one hundred and ten years ago. A similar tract occurs in **T. 36 S., R. 5 E.**, only that here the reforestation is white pine instead of white fir.

(p. 277) The largest burns directly chargeable to the Indian occupancy are in **Ts. 30 and 31 S., Rs. 8 and 9 E.** In addition to being the largest, they are likewise the most ancient. The burns cover upward of 60,000 acres, all but 1,000 or 1,100 acres being in a solid block. This tract appears to have been systematically burned by the Indians during the past three centuries [*ca. 1600 to 1855*]. Remains of three forests are distinctly traceable in the charred fragments of timber which here and there litter the ground.

(p. 278) Along the summits of the Cascades from Crater Lake to Mount Pitt are very many even-aged stands of alpine hemlock 200 to 300 years old. These even-aged stands may represent reforestations after

ancient fires dating back two hundred and fifty to four hundred years, but there is no certainty on this point.

(p. 278) It is not possible to state with any degree of certainty the Indian's reasons for firing the forest. Their object in burning the forest at high elevations on the Cascades may have been to provide a growth of grass near their favorite camping places, or to promote the growth of huckleberry brush and blackberry brambles, which often, after fires, cover the ground with a luxuriant and, to the Indian, very valuable and desirable growth. The chief purpose of the fires at middle elevations and on the plains or levels probably was to keep down the underbrush in the forest and facilitate hunting.

(p. 277) Without much doubt the present agricultural areas, once grass covered and carrying scattered stands of oak, were burned over quite as extensively as the timbered tracts; at least there are few oaks that do not show fire scars. The only tracts that have escaped are the swampy sedge- and tule-covered areas bordering the Klamath lakes and marsh, and such spots at the higher elevations where bare lava or pumice fields made the spread of fires impossible.

(p. 250) The more open oak growths, where they form a fringe between the yellow pine and the nonforested semiarid tracts of the Rogue River Valley are from 95 to 100 per cent pure growth.

(p. 288) Another after-effect of fires consists in the substitution of grass-covered tracts for the former forest cover. This feature may be observed everywhere along the upper slopes and summits of the Cascades and the Siskiyou in this region. The growth is often grass, but much more commonly it is low growing mountain sedges or a mixture of both.

(p. 288) These grassed-over places are, and have been, of commercial importance since the upper plateaus and summits of the Cascades began to be utilized as sheep pastures. All of these pastures and meadows which owe their origins to fires are merely temporary affairs. If suffered to remain undisturbed by further fires they will return to forest cover. Around Diamond and Crater lakes the grassy places are slowly giving way to stands of lodgepole pine as the primary reforestation. On the lava plateaus flanking the crest of the range in **Ts. 34 and 35 S., R. 5 E.**, grassy places created by fires before the advent of the white man have, in course of time, become covered with thick stands of lodgepole pine, now mature and giving way to stands of noble fir and alpine hemlock.

(p. 274) The most common defects in the timber consists of fire scars in the yellow pine and sugar pine, usually occurring as spots in the lower third of the trunk denuded of bark and with the wood charred or burned more or less deeply. These defects are extremely common in the yellow pine east of the Cascades, where the wood of the species is more highly resiniferous than west of the range and where, in consequence, injuries of this nature are apt to extend over a larger proportion of the trunk. This defect often diminishes the lumber contents of the trunk in scaling by 10 to 20 per cent.

(p. 290-291) The custom of the Indians of peeling the yellow pine at certain seasons of the year to obtain the cambium layer which they use for food, is in some localities a fruitful contributory cause toward destruction of the yellow pine by fire. They do not carry the peeling process far enough to girdle the tree, but they remove a large enough piece of bark to make a gaping wound which never heals over and which furnishes an excellent entrance for fire. Throughout the forests of the Klamath reservation trees barked in this manner are very common. Along the eastern margin of Klamath marsh they are found by the thousands.

T. 28 S., R. 5 E. (pp. 269, 297-299)

(p. 269) The tract occupies the summit and high slopes of the Cascades. Fires have run through 18,000 acres of the township, destroying 75 per cent of the timber.

(p. 298) The grazing lands consist of fire glades along the western shore of Diamond lake, whose southern end barely touches the township. The glades constitute in part the great sheep ranges of the high Cascades, which extend northward from this and the next township on the east *[T. 28 S., R. 6 E.]*.

(p. 298) The southern and central portions are covered with stands of lodgepole pine, all reforestations after fires and representative of all ages of burns from one hundred fifty years ago [*ca. 1750*] up to the present time [*1899*]. There is no portion of these or the heavier stands of alpine hemlock and noble fir in the northern sections of the township that have not been visited by fire within the past forty-five years [*since 1855*]. Reforestations consist wholly of lodgepole pine as the first growth. In some places on warm southern declivities brush growth comes in after fires. In other localities a grass and sedge sward covers the ground. It is clearly evident that many of the fires have been set for the purpose of promoting these grass growths and enlarging the possible sheep range. It is also noticeable that wherever fires have been kept down for four or five years there is gradual return to forest and a disappearance of the grass.

T. 28 S., R. 6 E. (pp. 263, 299-301)

(p. 299) The forest consists of stands of alpine-hemlock type. Ninety per cent of it is composed of lodgepole-pine reforestations. Some of these stands date back to Indian occupancy, others are the result of fires set by the white man. All of the forest is fire marked. Reforestations after fires are invariably composed of lodgepole pine. Repeated conflagrations and total destruction of the forest bring grass and sedge growths. Fires in the townships have been fewer during the past four or five years [*1895-1899*] than formerly, and most of the grassy tracts are slowly reforesting.

T. 28 S., R. 6 1/2 E. (pp. 300-301)

(p. 300) The forest consists of stands of yellow-pine and alpine-hemlock types. The alpine-hemlock type here is composed almost entirely of lodgepole-pine stands, which are reforestations after fires, and occupy the western half of the township. The eastern half is covered with yellow pine of mature age, running from 5,000 to 10,000 feet B. M. per acre.

(p. 300) The forest is fire marked everywhere in this township. Seventy-five per cent of the yellow pine is fire seared in the lower 3 or 4 feet of the trunk. Reforestations are moderate, but the burned tracts in the yellow pine show a tendency to grow up to lodgepole pine.

T. 29 S., R. 5 E. (pp. 263, 305-306)

(p. 305) This region was burned periodically during the Indian occupancy, as the many different ages represented in the lodgepole pine stands prove. But when the white man came into the region the areas in this particular township was covered with a uniform stand of the species. During the past forty or forty-five years [*1855-1899*] the timber has been burned in many locations and the subsequent reforestations have again been burned. The region is too high in altitude to permit the growth of much brush. After a fire one of three things happens: either lodgepole pine comes in as the first forest growth, or grasses and sedges form a thin, interrupted sward, or the ground remains bare of all vegetation. It is impossible to predict beforehand which one of the three phases will appear.

T. 30 S., R. 2 E. (see: Old-Growth)

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

T. 30 S., R. 6 1/2 E. (pp. 318-320)

(p. 319) A great deal of the forest shows fire marks. The entire body of yellow-pine growth has been seared repeatedly. Large fires burned there last summer [*1899*]. The lodgepole-pine stands at middle

elevations are the result of fires which burned before the advent of the white man. Reforestations are nearly always lodgepole pine at all elevations. Brush growths are not common.

T. 30 S., R. 7 E. (pp. 250, 320)

T. 30 S., R. 8 E. (pp. 250, 278, 321)

T. 30 S., R. 9 E. (see: Reforestation)

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

T. 31 S., R. 3 E (see: Old-Growth)

T. 31 S., R. 4 E. (pp. 233, 286, 331-333)

T. 31 S., R. 5 E. (see: Reforestation)

T. 31 S., R. 6 E. (pp. 270, 335-336)

T. 31 S., R. 7 E. (pp. 250, 337-338)

T. 31 S., R. 8 E. (see: Reforestation)

T. 31 S., R. 9 E. (pp. 278, 338-339)

T. 32 S., R. 1 W. (pp. 252, 342-343)

(p. 252) This township is situated along the summit and higher slopes of the Umpqua-Rogue River divide, in a region where the red-fir forest is generally heavy and of a tolerably uniform composition [*“Red fir, 70 per cent; yellow pine, 20 percent; white fir, 8 per cent; sugar pine and incense cedar, 2 percent”*]. It is a reforestation after an extensive fire which burned about one hundred and twenty years ago, and the red-fir component is as yet below standard with reference to its average height and diameter.

(p. 342) The forest is fire-marked throughout [*“Forested area, 21, 840 acres; badly burned area, 5,000 acres; nonforested area (burned), 1.200 acres; logged, none”*]. Result of fires is brush growths on the southern slopes; reforestations of red fir on the summits and north slopes of the ridges.

The mill timber is of inferior quality, being largely composed of red fir [*“108 million feet”*], tall in growth, but of small diameters. Most of the sugar pine [*“7 million feet”*] is made up of standards and veterans, badly burned on the lower third of the trunk.

T. 32 S., R. 3 E. (see: Old-Growth)

T. 32 S., R. 5 E. (pp. 271, 347-349)

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

T. 34 S., R. 5 E. (see: Old-Growth)

T. 35 S., R. 4 E. (see: Forest Fires)

T. 35 S., R. 5 E. (pp. 288, 394-396)

(p. 288) On the lava plateaus flanking the crest of the range in **Ts. 34 and 35 S., R. 5 E.**, grassy places created by fires before the advent of the white man have, in course of time, become covered with thick stands of lodgepole pine, now mature and giving way to stands of noble fir and alpine hemlock.

(p. 395) The forest is of the alpine-hemlock type throughout. Fires of modern origin have ravaged it extensively. The great burns which cover the eastern areas of the adjoining township and wrought great havoc among what must have been heavy stands of noble fir. The forests in the eastern areas have suffered no less, and there are scant signs of reforestation. Most of the young growth now standing is overwhelmingly composed of lodgepole pine. The bottom and eastern slopes of the South Fork Canyon have escaped fairly well and carry a forest in a state of tolerably good preservation. Much of it has not experienced a fire for 300 or 400 years, and in consequence it contains a vast amount of litter, consisting chiefly of the original lodgepole pine growth which followed a fire that occurred between three and four

centuries ago [*ca. 1500 to ca. 1600*]. The lodgepole pine has had time to mature, die, and fall down, and a new forest 150 years old has taken its place since that time.

T. 36 S., R. 5 E. (see: Forest Fires)

T. 37 S., R. 1 W. (pp. 419-420)

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

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

T. 38 S., R. 4 E. (see: Old-Growth)

T. 39 S., R. 2 W. (see: Logging)

T. 39 S., R. 4 E. (see: Forest Fires)

T. 39 S., R. 5 E. (see: Old-Growth)

T. 41 S., R. 1 W. (pp. 292, 463-464)

T. 41 S., R. 1 E. (see: Old-Growth)

T. 41 S., R. 4 E. (pp. 284, 466-467)