Oregon Plants, Oregon Places

The Pokegama Plateau

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Overview of the Pokegama Plateau from Hobart Bluff, looking east. Parker Mountain lifts out of the center of the Plateau to 5,210 ft. to meet the skyline. On the left skyline beyond it, Surveyor Mountain rises on the northeast side of the Plateau to 6,400 ft. as the Cascades climb to the old caldera of the Mountain Lakes Wilderness. To the right of Parker Mountain, Chase and Hamaker mountains east of the Klamath Canyon also rise to over 6,000 ft. then drop to the Klamath Basin south of Klamath Falls. Photo by Charles Raper.

Between Ashland and Klamath Falls, travelers speed along Route 66 as they traverse a comparatively flat, heavily logged region in the Cascades. Most don't even know its name, and few give it any notice. And no wonder, the Pokegama (Po KEG a ma) Plateau is both aesthetically and botanically unappealing.

My husband Julian (1925-2005) and I felt a bit that way, too, after he "adopted a block" for the Oregon Flora Project (OFP) in 2000. His assignment was to search the designated area (24 by 26 miles) in southwestern Klamath County and to report what was growing in that botanically little reported area so that it could be better represented in the Oregon Flora Project. Well, what fun! He and I, non-botanists both, set forth with clippers and bins, got books and a dissecting microscope. Through many hours of collecting and many more hours of keying, our knowledge grew, and each year we turned in a plant list to the OFP. After several years it dawned on us that we were collecting as if the area were a doughnut, focusing only on the perimeter, especially the high country on the north end of our block which included Lake of the Woods and the Mountain Lakes Wilderness, and on the south end which dropped down into the formidable Klamath Canyon. The center contained tens of thousands of heavily logged acres that gave us little incentive to botanize.

But then, troubling questions began to nag us. The area looked as if every square foot has been logged and scraped – why? Why has there been *so much* logging? Does state law really allow that much logging? Who owned all of that cutover land? How did so much timberland get into private ownership? What was it like when the first Europeans arrived? To find the answers, we went back in time and discovered a tangled history of graft and greed.

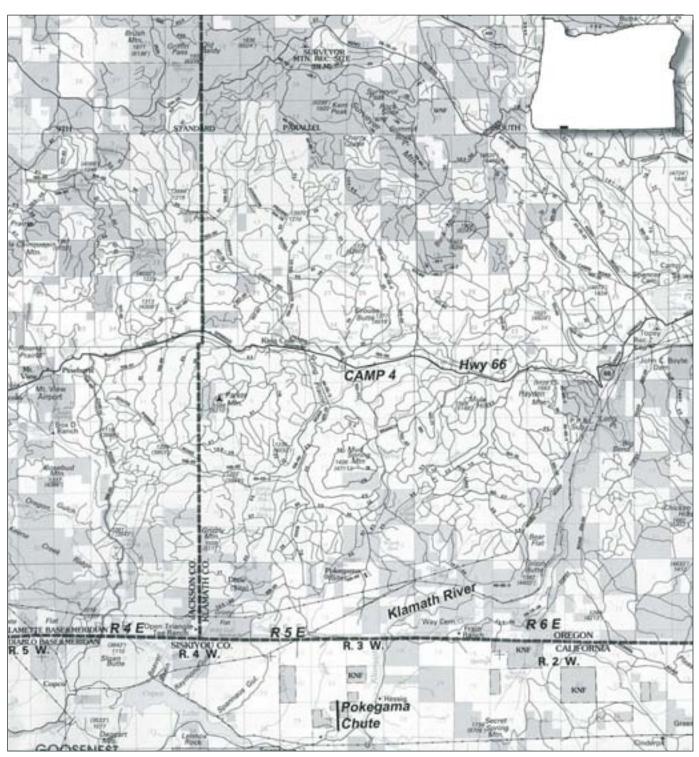
Overview of the Plateau

State Highway 66, also known as the Greensprings Highway, crosses the Pokegama Plateau (an area of about 140,000 acres) for about 20 miles between Pinehurst Inn at Jenny Creek and the Klamath River crossing at Boyle Reservoir. The Plateau, which averages about 4,200 feet in elevation, drains to the Klamath River, which tumbles swiftly west through a canyon along the south edge. Winters are cold, but summer days can be hot. Mean annual temperature on the Plateau is 40 to 43 degrees Fahrenheit, which is 10 degrees cooler than in Ashland (2,000 feet lower). The growing season is short, with fewer than 100 days between frosts. Precipitation averages between 25 and 35 inches, falling mostly between October and March, some as snow (SCS 1993). The annual average is near the lower limit for supporting forest growth, which is further limited by lack of rainfall during the growing season. Geologically, the Plateau is part of the Cascade Range, which means that it is volcanic in origin. Soils of the Pokegama Plateau formed from weathered volcanic substrate, so are reasonably fertile. Although usually fairly deep, they are often rocky. The 100-year site index for Pokegama-Woodcock soils (the predominant soil series) is 120 feet (tall) for Douglas fir (*Pseudotsuga menziesii*) and 105 feet for ponderosa pine (Pinus ponderosa), which makes it a Class IV site, near the slow-growing end of the scale of I to V. Early lumbermen prized the excellent old-growth lumber for its close annual growth rings, 8 to 10 per inch. Now, trees in managed plantations on the Plateau grow to 14 inches dbh (diameter at breast height, 4.5 feet above the ground on the uphill side) in about 50 to 60 years with about 5 annual rings/ inch. Because mills now take logs down to 11 inches, the interval between harvests may be less than 50 years (Chris Sokol, Forester, pers. comm.). Clearly, other management strategies could occur with changes in ownership, but economic pressures on private land usually favor short-term returns.

A Natural Corridor

Because the Klamath is the first river south of the Columbia River to cut through the Cascade Range, its path through the Cascades

has long been of interest to those wanting to cross these mountains. Although the canyon bottom itself is close to impassable, the "Klamath corridor," which includes the Pokegama Plateau, has been used as a travel route since humans first appeared in the area. Peter Skene Ogden in 1827 was the first known historic figure to cross, followed by the Applegate Trail in 1846, the Southern Oregon Wagon Road in 1869, and, in the late 1870s, the telegraph line between Fort Klamath and Jacksonville. The grading and graveling of



The Pokegama Plateau is a rough circle around Camp 4. Highway 66 bisects the Plateau; Ashland lies 20 miles west and Klamath Falls 20 miles east of the left and right sides of the map, respectively. The Klamath River flows south and west from the middle right. Private ownership is shown as white; the dark gray shaded areas to the north are National Forest land, and the lighter gray areas to the south are managed by the BLM. The map is a portion of the Oregon Department of Forestry map of the Klamath-Lake Forest Protection District.

present-day Highway 66 was completed in 1922 and, more recently, gas and power lines have crossed through the corridor.

Plants and animals (as well as butterflies) have also moved across the Plateau as well as through the river canyon itself. Curlleaf mountain mahogany (*Cercocarpus ledifolius*), aspen (*Populus tremuloides*), and sagebrush (*Artemisia tridentata*) are among the "east side" plant species that have adapted to conditions west of the southern Cascades, while birchleaf mountain mahogany (*Cercocarpus betuloides*) is one that migrated from west to east.

Historic Vegetation

Archeologists report that before European contact, the Native Americans in the region (Shastas to the west and Klamaths to the east) who wintered in the river canyon and in the valleys on the west and east sides of the Cascades, came to the Plateau to hunt, and, in the spring, to dig roots, especially *Periderida* (yampah). Later in the season, they gathered berries and seeds (including sugar pine) and found resources on the Plateau for their housing, clothing, tools, and medicines (Beckham 2006).

In 1827 Peter Skene Ogden provided the earliest written description of the vegetation as he guided his Hudson's Bay Company fur-trapping brigade west across the Cascades from the Klamath Basin. Skirting the dangerous Klamath Canyon, the party crossed what we now call the Pokegama Plateau, and then dropped down to the Klamath River at a site that now lies under Copco Lake. Near the beginning of their traverse across the Plateau on the 25th of January, Ogden's journal reads: "the Trappers made several attempts to reach the river but could not. I also made an effort but in vain. For upwards of ten miles perpendicular cut rocks not less than five hundred feet in height...In our travels this days I saw the White Pine of a very large size Ceedor [sic] also, some Wild Plane Trees..." (LaLande 1987). His white pine would have been sugar pine (Pinus lambertiana), the "Ceedor" was incense cedar (Calocedrus decurrens), but the wild plane trees (leafless, of course, in January) are perplexing. Perhaps they were quaking aspen, because their smooth bark might appear similar in winter (F. Callahan, pers. comm.).

The next Europeans in the area arrived in 1846, when a party of early settlers from the Willamette Valley, looking for a better wagon route into Oregon, explored the Plateau from west to east and located what became the Applegate Trail. These explorers commented several times about large trees that they encountered as they crossed the Plateau, as did 1846 emigrant A. E. Garrison, who wrote, "... the Siskiyou [Cascade] Mountains which was heavily timbered and a great job it was to cut a road across..." (Helfrich 1996 Part 1, p. 86). Jesse Quinn Thornton, another 1846 emigrant, recounted that after crossing the Klamath River at Keno, "We had entered the dense forest of fir-trees and pines, which covered the mountains with their thick and dark green foliage, soon after leaving the river. In the distance we had seen, as we imagined, precipices, which in some places were perpendicular, while in others they appeared to exhibit overhanging rocks of stupendous grandeur... The forest upon this side of the rude and rugged mountain, was very dense and lofty, and gave it a gold, wild, solemn, and irregular appearance. In most places the huge trees were interwoven; but in some places there seemed to be large breaks or openings" (Beckham 2006).

The "General Description" notes of the first land surveyors also comment on the extent and quality of the timber in the area, as in the description following the 1874 survey of T40S, R5E: "The Land in this township is quite level for a mountainous country. The Soil is 2nd and 3rd rate. The timber for which this township is especially valuable is first rate sugar pine, yellow pine, fir and cedar. Almost every one of which is easy of access..." In a 1900 US Geological Survey report, John Leiberg commented on the timber species and quantity and the effect of fire in each township on the Plateau. For example, about T40S R5E, he wrote, "It bears a forest of noble proportions, ideally suited 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 to 6 feet, with clear trunks 30 to 65 feet in length. Fires have run through this stand of timber very many times, and there are not many trees not fire seared. The greatest damage has been done to the firs, both red and white, which therefore are largely defective and are not much cut for lumber. The young growth has also been destroyed, and reproduction is therefore defective." (Beckham 2006).

An early lumberman wrote that "In this district, nearly all of the mature pine trees range from 250 to 400 years old and from twenty-four to forty-eight inches in diameter." The largest sugar pine Weyerhaeuser cut on the Plateau measured 6' 9" in diameter (Drew 1979). No trees older than 400 years have been reported, nor any 10-foot diameter giants like those that occur farther north in the Cascades and in the Coast Range. This may be because the growing conditions are so harsh that trees don't live more than 400 years, or perhaps the pine beetles, which have so troubled foresters there in the past 100 years, also took their toll earlier. Alternatively, or perhaps additionally, a study of the fire history of the Cascades reported that the 1500s were a time of extensive fires, so perhaps fire or drought at that time explains why there were no trees older than 400 years (Duncan 2002).

In addition to the mixed conifer forest of ponderosa pine, sugar pine, Douglas fir, incense cedar, and white fir (*Abies concolor*), the first travelers would have encountered a number of shrub species, including chinquapin (*Chrysolepis chrysophylla*), serviceberry (*Amelanchier alnifolia*), Scouler's willow (*Salix scouleri*), green leaf manzanita (*Arctostaphylos patula*), antelope bitterbrush (*Purshia tridentata*), snowbrush (*Ceanothus velutinus*), and scattered whitethorn (*Ceanothus cordulatus*).

Land Ownership

Because many 19th century federal land grants, such as the Homestead Act, were designed to encourage agricultural settlement, much of the heavily forested land (unsuitable for agriculture) remained in federal ownership in the West. Yet, on the BLM map that covers the Pokegama Plateau, Highway 66 is shown crossing less than a mile of public land between Pinehurst Inn and Klamath Falls, and the private land extends for miles both north and south of the highway. How did such a large tract of timberland end up in private ownership when this area could never have been described as having much agricultural potential?

The story begins in 1848 when Oregon became a US Territory, and title to all land, except for any Indian claims that hadn't yet



Whitethorn (*Ceanothus cordulatus*), noted for its rigid, spine-tipped twigs, grows in scattered locations on the Pokegama Plateau. Elsewhere, this shrub grows in such dauntingly impenetrable thickets that in 1908 the North Umpqua district ranger dubbed a ridge "Dread and Terror," as he contemplated the prospects of fighting a fire in the whitethorn scrub. Photo by Connie Battaile.

been resolved, was vested in the US government. However, during the next hundred years, the federal government transferred title to nearly half of its Oregon lands to private ownership or to the new state of Oregon.

Most of the portion granted to the State came through the 1848 "Organic Act" that established the Oregon Territory. That Act granted ownership of sections 16 and 36 of every township (over 5% of the total land area) to the State for the support of education. Of that original 3.5 million acre land grant, less than 20% now remains in state ownership and much of that is sagebrush steppe in eastern Oregon. Most of the rest of those schools lands were sold for \$1.25/acre in the 1880s and 1890s in land scams. The proceeds from the sale of those lands went into the "Common School Fund" and continue to provide a minor portion of the state's support of public education.

The law governing the disposition of the "school lands" required the purchaser to sign that he was purchasing the land for his own benefit and not for speculation, and that he had made no contract for the sale or disposition of that land. He then was allowed to purchase 320 acres (1/2 section). Stephen Puter, in jail for land fraud, describes in his 1908 book, *Looters of the Public Domain*, the way he and others bilked the state out of school lands in the northern part of the state, abetted in most cases by the graft of public officials. The process in Jackson County appears to have been similar. In looking through some of the deed records for the Jackson County area of the Plateau, I found that in 1889 and 1890, one James Abraham bought 26 parcels of land from assorted individuals, each parcel being half of a section 16 or 36, and curiously (and in violation of the law), each parcel had been bought that same day from the state.

As noted earlier, in addition to the transfer of federal lands to the state for school purposes, Congress authorized the federal government to transfer land to private parties to encourage agricultural settlement, in Oregon most importantly through the Oregon Donation Land Act of 1850 and the Homestead Act of 1862, both of which required residency on the land for several years. However, the Timber and Stone Act of 1878 allowed for the cash purchase of 160 acres of non-arable federal land for \$2.50/acre so that ranchers would have timber and stone for their building needs.

Congress also used land grants to further the development of railroads and roads. In the 1860s Congress granted the Oregon and California Railroad (O&C) every odd-numbered section of land for 20 miles on either side of their proposed rail line through Oregon from Portland to the California border, or if those sections were already claimed they could claim from a wider strip. In the 1870s The Oregonian editorialized, "It is not right to humbug people abroad with the idea that these O&C railway lands are valuable. They are simply ordinary mountain lands, covered for the most part with immense forests of fir trees situated where timber is no object, expensive to open for agriculture, and only second or third rate when open." Congress took back the O&C lands 50 years later; but not before Southern Pacific (the successor to the O&C Railroad) had already sold, among other sales, 20,000 acres of O&C timberland on the south end of the Plateau to a Michigan timber company. (More on this company below.) Congress also authorized various land grants to support the building of several "military" roads, most of which were land scams from the beginning.

By the 1880s, the vast pine forests of the upper Midwest were nearly logged out, and entrepreneurs were eyeing the potential value of Western timberlands. Land fraud, much of it designed to secure ownership of timberland, ran rampant in Oregon for 20 years until Oswald West, as state land agent from 1903 to 1907 cleaned up the corruption (he was later governor). Jack Bowden wrote of the scams, "In Oregon alone, over 3,700,000 acres of forest land transferred from public to private ownership as a result of these practices, more than in any other state. The abuses became so blatant that in 1903 President Theodore Roosevelt withdrew public forest lands from entry under the Timber and Stone Act, but not before a number of people in high places had been caught with their hands in the cookie jar. Those convicted of various crimes and misdemeanors included a US senator, a State senator, the Oregon Surveyor General, Deputy Surveyor, a State congressman, and the head of a large Oregon lumber firm, along with a significant number of lesser figures. All were from Klamath, Lake, Crook, Douglas, Linn and Multnomah counties." He also noted that the infamous "Wisconsin Case" included choice timberland along Jenny Creek, and that in 1906, Sumner Parker of Ashland was among those indicted for land fraud with homestead lands (Bowden 2002 p. 9).

It is not clear that how much fraud there was on the Pokegama Plateau beyond that involved in Abraham's purchase of school lands, although abuse of the Timber and Stone Act seems likely when, for example, on June 29, 1891, 23 men filed claims for 160 acres each in the middle of the Plateau (Beckham 2006).

Weyerhaeuser Company quietly began buying up land on the Pokegama Plateau in 1904, and by the end of the next year the company owned 158,000 acres. So far as I've been able to find, that land had already passed into private ownership without any connivance by Weyerhaeuser. The school lands, for example, had passed into private ownership fifteen years earlier.

The Logging Begins

By 1905 Weyerhaeuser owned most of the Pokegama Plateau plus twice as much land east of Klamath Falls, but they did nothing with their Klamath area holdings for 25 years. This was partly because of a 40-year glut of lumber in the US that lasted until after World



A log hits the Klamath River with a giant splash after its run down the Pokegama chute about 1900. The scar from the chute is still visible on the hillside today. Maud Baldwin photo courtesy of Klamath County Museum.

War II and partly because Weyerhaeuser Company would not build a sawmill until the area was served by two rail lines.

Before Weyerhaeuser acquired their land, there had been some earlier logging, primarily on the southwest portions of the Plateau. As noted earlier, by the 1890s a Michigan company had bought over 20,000 acres of timberland (over 34 square miles of O&C land) from Southern Pacific Company. This Michigan timber company, by then called the Klamath River Lumber & Improvement Company, built a community on the south bank of the Klamath River, three

miles southeast of Hornbrook near the Southern Pacific rail line. The community, which eventually became known as Klamathon, included a large sawmill, two box plants, businesses, and housing for the workers.

The box plants milled pine, especially sugar pine, into "shook," the components for making boxes. The shook was shipped to the California orange groves and to other fruit growers where the boxes were assembled as needed. From today's perspective, it seems wasteful that most old growth sugar pine was logged to make fruit boxes.

Later, the Klamath River Land & Improvement Company was leased to the Pokegama Sugar Pine Lumber Company. "Pokegama" is a Chippewa word meaning a bay or lake in or at the side of a river. The Chippewa were an

Indian tribe near Lake Superior, and there are various features in Minnesota named Pokegama. Although the lessee had previously lived in Pokegama Falls, Minnesota, the actual source of the name is conjectural, but it remains delightfully quirky that the name of this dry upland plateau originally meant a large bay on a river.

The Klamath River Land & Improvement Company had built its mill at Klamathon near the Southern Pacific rail line so they could ship out their wood products, but their timberlands lay over 20 miles distant, up on the Pokegama Plateau. The river provided an obvious route, so the company planned to float their logs down the Klamath River. There remained the problem of getting the logs from the Plateau down the 800-foot drop to the river, a problem solved when they built a steep, halfmile chute down the north face of the canyon. The chute required a large rock cut that was lined with boards and several feet of trestle. Each log

created a cloud of smoke as it roared down the greased chute at 90 mph, sometimes setting the chute on fire. At the bottom, the log created a huge splash as it hit the river. When the river was iced over in the winter, the logs sometimes skidded completely across, coming to rest on the opposite bank.

Finally, after 10 years of problems with sinking logs (sugar pine is heavy), low water, and fatalities as men unsnarled log jams in the river, the river run was replaced in 1903 by a 25-mile railroad from Klamathon up to New Pokegama on the Plateau. However, six



Peeled logs ready to be sent down the Pokegama log chute. Note that the ends are beveled to prevent the log end from splitting as it hit the water. Photo courtesy of Shaw Historical Library, Helfrich Collection No. 1648.



Camp #4 of the Weyerhaeuser Timber Company, about 1936. After an area had been logged out, the company moved the homes by rail to the next camp where they carefully placed them so that people had the same neighbors. Sometimes a house would be moved in the night with the family inside it, and at least once a school building was moved with the teacher and students inside. Photo by Bob J. Lewis, courtesy of Shaw Historical Library, Alfred Collier Collection.

months before the railroad was completed, a fire destroyed the mills and most of Klamathon, and the structures were never rebuilt. Currently, a marker near the Klamathon Bridge on the Klamath River is the only indicator of the former town.

After the mills at Klamathon burned, a several small sawmills were built on the Plateau with accompanying tent logging camps, one of them called New Pokegama. By 1911 those mills and communities were closed, and there was no more significant logging on the Pokegama Plateau for nearly 20 years until Weyerhaeuser began its operations.

The Weyerhaeuser Years

In 1892, Captain Oliver Cromwell Applegate (son of pioneer Lindsay Applegate) went to the Republican National Convention intent upon spreading the word about the abundant timber resources of southern Oregon. One person he talked with was Frederick Weyerhaeuser, a midwestern lumberman who was interested in moving to the far west. In 1900 Weyerhaeuser incorporated the Weyerhaeuser Timber Company in the state of Washington, and as noted earlier, by 1905 the company was quietly buying up timberland in southern Oregon, including the assets of the Pokegama Sugar Pine Lumber Company and some other large tracts, as well as many small purchases from individuals. Eventually they owned 210,000 acres in their West Block and twice that in their East Block (Lake County), for a total of some 650,000 acres in southern Oregon (Hidy 1963).

Finally, in 1929, after a second railroad was built to Klamath Falls, Weyerhaeuser opened a mill there, the largest pine mill in the world with 23 acres under roof, and they employed 1,000 people in their southern Oregon operations. The company constructed a rail line west from its new Klamath Falls mill to its timberlands

on the Pokegama Plateau and during the next 30 years operated three successive logging camps along the rails: Camp 2 near Oatman Lake, Camp 3 north of Highway 66, and Camp 4 near milepost 32 on Highway 66. Unlike the "rag" or tent camps of Pokegama, the Weyerhaeuser camps had wooden buildings designed to fit onto rail cars so that they could be moved from camp to camp. Little trace exists of the camps now except for a couple of bushes of Siberian peashrub (Caragana arborescens) that survive in the disturbed, dry soil at old Camp 4. By 1956 most of the timber in the West Block had been harvested, and what remained was badly fragmented. The company determined that the remaining timber in their West Block could be brought out more economically by truck, and the rail line was torn out that year. Most of the railroad beds were converted to truck roads, and the remaining timber was trucked to

the mill. The main rail line to the mill was converted to a haul road, which meant that Weyerhaeuser's trucks didn't have to pay weight/mile tax and could carry heavier loads than on the public highways. That haul road, called the 00 Road, crosses Highway 66 on an overpass just east of Keno. Most of the focus of Weyerhaeuser's operations and their logging camps then moved to their East Block, east of Klamath Falls (Bowden 2003).

Up until the late 1960s Weyerhaeuser had used selective cutting on its lands and had, it is reported, beautiful forests. But in the early 1970s the company converted to intensive management and realized a consequent 25% increase in production. They did this by clear-cutting the trees, piling and burning the slash, scraping the land, replanting, and fertilizing (though fertilizing was later determined not cost effective). They also put in a seed orchard and a nursery to supply genetically superior trees for planting. Incidentally, neither they nor subsequent landowners have replanted any sugar pine because mills find it difficult to process the heavy, wet sugar pine logs into lumber. The plantations are nearly all ponderosa pine except for a few pure stands of lodgepole pine (*Pinus contorta*), white fir, or Douglas fir. Neither Weyerhaeuser nor subsequent owners have planted any mixed stands. By 1979 trees being brought in to the mill averaged 14½" in diameter (Drew 1979).

In 1992 Weyerhaeuser closed its sawmill in Klamath Falls, and four years later, sold all of its southern Oregon forestlands to a company called US Timberlands, ending Weyerhaeuser's 90-year presence in the region.

US Timberlands/Inland Fiber

Because US Timberlands was a privately owned company little information is available except that John M. Rudey was Chairman, President and Chief Executive Officer (U.S.Timberlands 1999).

Sugar Pine (Pinus lambertiana)

David Douglas discovered sugar pine in southern Oregon in 1826, and described the cones as looking like "sugar-loaves in a grocer's shop," dangling from branch tips high above the ground. He named it in honor of Aylmer Brouke Lambert (1761-1842), British botanist and author of the influential book, Description of the Genus Pinus. The common name refers to its sweet resinous sap, which John Muir is said to have preferred over that of maples (Schoenherr 1992). In Karok Indian territory along the lower Klamath River, sugar pine trees were individually owned (Schenck and Gofford 1952). In September, the owner would invite friends and relatives to a seed gathering party. He would make a long hooked Douglas fir pole and use it to pull himself up the tree. He then used a smaller hook to snag or shake the cones from the ends of the long branches. Native Americans roasted its large nutritious seeds, or ate them raw, powdered and pressed into cakes, or ground into "nut butter." They used its pinitol-laden sap as a sweet treat and as a drug to treat stomach gas, loosen the bowels, and mixed with milk, as drops for sore eyes. Pinitol, a sugar alcohol, has insulin sensitizing and muscle building properties. Seeds were also used as beads in jewelry.

Early European settlers of the West soon discovered the virtues of sugar pine as a timber tree: enormous volume, and rot-resistant, light, straight-grained, knot-free, easily worked wood that has no taste or scent. Disgracefully, the abundance of giant sugar pine trees led to wasting the wood, including felling large trees end to end to make livestock corrals and fencing, or dropping a huge tree to make hand hewn shakes and shingles and leaving half of the tree to rot, all of this as trespass on government land (Peattie 1953). The huge, heavy

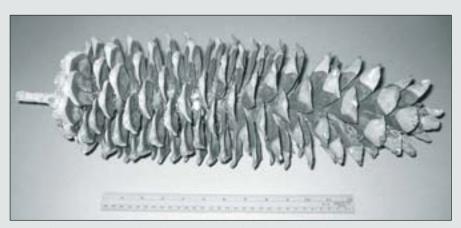
logs required special techniques: logs had to be transported to mills using huge wheeled contraptions or the mill had to be brought to the tree. While wandering around in sugar pine country is not uncommon to encounter a huge stump with a pile of large decaying branches some distance away, evidence that a sugar pine was felled and milled on the spot (Arno and Hammerly 2007). The sawn lumber was hauled away, several boards at a time. Modern uses that take advantage of the wood's virtues range from storage containers for fruits and pharmaceuticals to great

wide knotless boards, making foundry patterns, and crafting piano and organ keys.

Sugar pine grows in dry to moist mixed conifer forests from 1,100 to 10,000 feet elevation, depending on latitude (lower elevations in the northern latitudes, higher in the southern). Its range extends from the northcentral Cascade Mountains south along the west slope of the Cascades through the Klamath and Sierra Nevada Mountains, and ending with an isolated

population in the mountains of Baja California Norte, Mexico. Large individuals usually grow scattered about the landscape, as part of a mixture of conifers; it almost never grows in pure stands. Sugar pine stores water like a cactus; when there is excess water, it hydrates itself and stores the water in its bole for later use¹. During drought periods, when ponderosa slows its metabolism and Douglas fir sustains cellular damage from stress, sugar pine uses its stored water. However, on dry sites that lack excess water to store, sugar pine has no competitive advantage. Incidentally, this water storage makes sugar pine logs, especially the butt logs, exceptionally wet and heavy, accounting for the difficulties in transporting and milling (Tom Atzet, pers. comm.). Sadly, many trees are dying from the introduced white pine blister rust, or a combination of fire prevention and insect damage (native mountain pine beetles attack trees weakened by competition with smaller trees normally consumed by low to moderate intensity wildfires).

Under previous conditions, sugar pine grew to enormous size, as the largest species in the genus *Pinus*. The Oregon champion near Gateway State Wayside in Josephine County is 217 feet tall and almost 6.5 feet in diameter. The largest known sugar pine in the world, 209 feet tall with a circumference of 435 inches, grows near Dorrington, California (http://www.americanforests.org/resources/bigtrees/register). Trees may live to be 400 to 500 years old. Not only is sugar pine the tallest of the pines, its cones are the longest, sometimes attaining a length of over 20 inches. Sugar pine is truly one of the greatest conifers of western North America (if not the world) in stature, usefulness, and colorful history, and its decline is a tragic loss. –Frank Lang



Among the pines, sugar pine has the longest cones. Photo by Cindy Roché.

¹ Tom Atzet reported that when he first started working with sugar pine in southern Oregon, he automatically recorded sugar pine an age class older than the surrounding Douglas fir because the sugar pines were usually about 25% larger. (It was time-consuming to determine the age of sugar pine trees because "water" flowed out the end of the increment borer and he often had to wait five minutes for the flow of sticky sap to stop; then clean up the mess.) But after a few months of sampling he found that the sugar pine trees were the same age as, or sometimes younger than, the neighboring trees, particularly on deeper soils that had excess water in the spring.



A charred snag is one of the few reminders of the previous forest. The young trees are Douglas fir and ponderosa pine; the shrubs are snowbrush (*Ceanothus velutinus*) and willow (*Salix scouleri*). Photo by Connie Battaile.

The sale included some 600,000 acres of timberland, plus mills, seed orchard, and nursery for a total price of \$309 million. Rudey sold the Klamath Falls mill operations to Collins Pine Company. A year later US Timberlands made a public offering of shares in the company. The original offering was almost 7,500,000 shares at \$21/ share for a total of over \$150 million. US Timberlands Company posted losses almost immediately, and in 2003 Rudey and his management group bought back the outstanding shares for \$3/share (Timberland 2003). The shareholders had lost (and management

had gained) over \$130 million, and some of the unhappy shareholders sued, a suit as yet unresolved. The group of Rudey and others who had bought back the shares then organized themselves as The Inland Fiber Group. In 2006 they declared bankruptcy with \$225 million in notes due in 2007.

While in bankruptcy, Inland Fiber liquidated most of its timber assets, which is to say that just about every merchantable tree was removed. Under state law, a landowner has no obligation to leave any tree taller than 4 feet except for 10 feet tall along a scenic highway. Some taller trees have been left because they were not yet of a size to take to the mill, but for the most part, it will be years before there is again harvestable timber on that land.

Now, however, there is a new owner. In December 2006, newspapers reported that JWTR, a recently formed private company owned by Richard Wendt, had bought the 440,000-acre assets of

Inland Fiber for \$108,000,000. Wendt is founder of Jeld-Wen Inc., a large Klamath County business that makes windows and doors, with 20,000 employees around the world. He also created The Running Y Ranch, a destination resort northwest of Klamath Falls. Another related company, J-Spear Ranch Co., had previously bought two other large blocks of timberland in the area, so Richard Wendt is moving significantly into timberland ownership.

Livestock Grazing

Logging has not been the only impact on the area. Weyerhaeuser began leasing out areas of its forestland for grazing in 1908 and by the end of that summer there were over 17,000 sheep on the Plateau. Today the sheep are gone but some 450 head of cattle still graze those lands. The cattle damage the meadows and riparian areas, competing

with a herd of elk that is growing in number. Surprisingly, a herd of wild horses also inhabits the Plateau. The Pokegama wild horse herd is thought to date to the early 1900s when a rancher turned loose a buckskin quarter horse stallion and some mares. Even though the herd is managed by the BLM, 80% of the land included in their horse management area is privately owned land (nearly all of it one-time Weyerhaeuser land). Under federal law, if the private landowner objected to the horses, the BLM would have to reduce the herd. The BLM management objective is to keep the



A typical Pokegama Plateau prairie in the spring. Several species of yampa (*Perideridia*) flower there in early summer, but by late summer the prairies have dried into cattle-trampled, sun-dried brick. Photo by Connie Battaile.



Ripe sugar pine cones dangle from the ends of branches in September. This tree and other individual sugar pine trees along Highway 66 are owned by the organization Friends of the Greensprings. Photo by Connie Battaile.

herd between 30 and 50 horses, so when the herd exceeded that limit, some horses were trapped and taken to the BLM wild horse facility at Burns for adoption by private owners.

What is left on the Pokegama Plateau?

What does the Pokegama have to offer the Native Plant Society today? Is there anything left other than ponderosa pine plantations and a few sugar pines bordering the highway? Incidentally, the sugar pines are still there along the highway because the Friends of the Greensprings (FOG) organization sponsored a program to buy the individual trees from Weyerhaeuser, and FOG actually owns deeds to the trees (John Ward, pers. comm.).

Unfortunately, there are a number of invasive noxious weeds on the Plateau, including abundant Klamath weed (*Hypericum perforatum*), Dalmatian toadflax (*Linaria genistifolia* ssp. *dalmatica*), dyer's woad (*Isatis tinctoria*), and leafy spurge (*Euphorbia esula*).

However, there are also a number of native plants. Of the over 600 species that Julian and I reported from his block, some 60 are found primarily on the Plateau and/ or on the east side of the Cascades. A few of these are apus (Perideridia erythrorhiza), water plantain (Damasonium californicum), yellow owl's clover (Orthocarpus luteus), dagger pod (Phoenicaulis cheiranthoides), showy penstemon (Penstemon speciosus), Rydberg's penstemon (Penstemon rydbergii), pygmy monkey flower (Mimulus pygmaeus), whitestemmed blazing star (Mentzelia albicaulis), old man's whiskers (Geum triflorum), elk thistle (Cirsium scariosum), tansy-leaf evening primrose (Camissonia tanacetifolia), stemless suncup (Camissonia subacaulis), freckled milkvetch (Astragalus lentiginosus), and longhaired star tulip (Calochortus longebarbatus). Frank Callahan found the latter Calochortus as well as Calochortus nudus in the Johnson Prairie area at the far west side of the Plateau. That population of C. longebarbatus is the most western population known; other populations have been reported south of Beatty and farther east, as well as in northern California. The population of *C. nudus* is the most northern one known (Frank Callahan, pers. comm.); Cal Flora reports it as occurring only in California. The only rare plant we found on our block was green-flowered wild ginger (Asarum wagneri), which grows near the Plateau in a small remnant stand of old growth at the BLM's Surveyor Recreation Area on Keno Access Road, and in several other sites between the Pokegama Plateau and Lake of the Woods.

Conclusion

Now, when I drive Route 66 across the Pokegama Plateau, I see, in my mind's eye, magnificent old growth forests towering above me. How is it that, in less than 100 years, we have obliterated them so completely? What kind of care do we need to exercise in order keep our government honest, our corporations within bounds, and our consumption within limits of sustainability, so that we – and some tall trees – can live in a healthy world?

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At the time Europeans arrived at the Pokegama Plateau, the old growth forest comprised ponderosa pine (50-60%), Douglas fir (25%), sugar pine (15%), and less than 2% each of white fir and incense cedar. Percentages are approximate (Beckham 2006). Photo courtesy of Shaw Historical Library, Alfred Collier Collection, Image Series #1750.

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