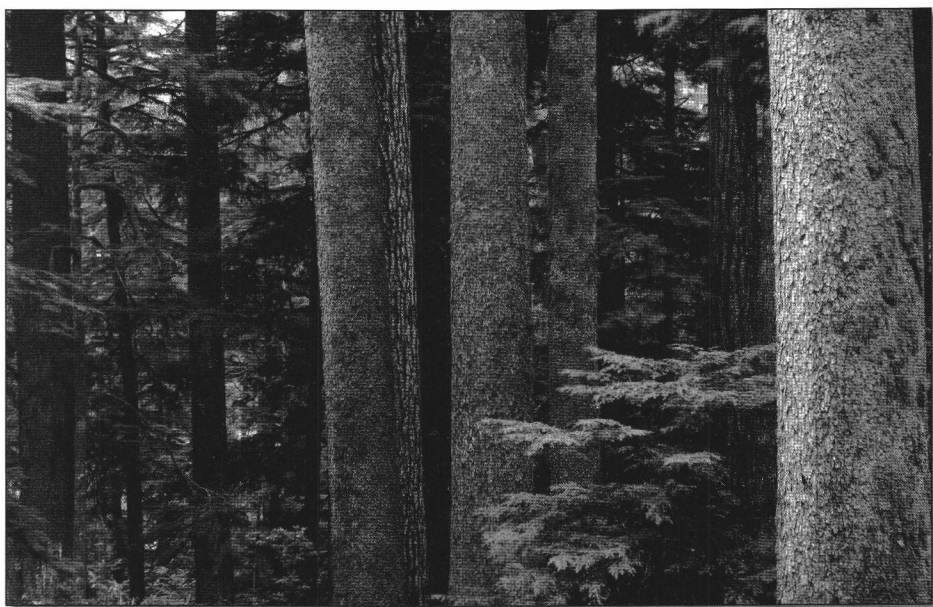


# TIMBER ON THE SIUSLAW





When Euro-Americans first entered the central Oregon coast country in the 1850s, they found a substantial volume of standing timber and an environment that offered an amazing potential for growing more timber. The combination of ample rain, mild temperatures, and deep forest soil favored the growth of Douglas fir, western red cedar, Sitka spruce, and western hemlock among the conifers, and red alder, big leaf maple, cascara, and other deciduous species. It was, as the saying goes, “natural timber country.” On the other hand, the land was not well suited for farming. The hills were too steep to farm and the few arable creek-bottom lands were narrow and shaded.



Mixed-age stand of coast country conifers.

As a result, early settlers were often more interested in timber than agriculture. They claimed the best timber lands before the turn of the century by a variety of legal and not entirely legal means. By the time the forest reserves and the Siuslaw National Forest were formed in 1907 and 1908, the lands remaining in the public domain were less attractive than the lands already claimed. What remained to become the Siuslaw National Forest

**A large part of the old-growth timber that escaped the fire [of the 1840s] did not escape the timber seekers who also own a vast amount of second-growth fir as well. Some of these areas [of old-growth fir] are still under public ownership.... However, no large bodies are the case, and they lie, for the most part, scattered throughout.**

***Siuslaw National Forest Land Classification Atlas, 1919***

were burned-over lands, second growth timber, and the barren sand dunes south of Florence. Yet, these lands are usually counted within the top five percent of all timber-growing lands in the U.S. Most estimates place the original timber standing on the Siuslaw as 80 to 85 percent second growth, 20 to 70 years old.<sup>1</sup> The timber standing on the Siuslaw was initially estimated at four billion board feet on a land base of roughly 500,000 acres. In 1980, after years of heavy cutting, the standing timber was estimated at over seven billion board feet.

**The destructive fires of early days very definitely placed the Siuslaw in the deferred income class. No large body of old-growth remained which could provide an extensive long-term logging operation with consequent large receipts. Oases of mature timber in varying size were left here and there, but only those accessible to water logging were touched prior to the comparatively recent advent of truck logging.**

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

Until World War II, the Siuslaw National Forest sold little timber, usually less than five million board feet per year. Sales in the 1920s and 1930s were mostly to individual users or small neighborhood mills. A significant lumber industry was growing in the coastal portions of Tillamook, Lincoln, Lane, and Coos counties at this time. These mills were well-supplied with their own proprietary timber, and it was often better quality than the timber available on the national forest. Also, the national forest timber was difficult to reach. The timber growing along rivers suitable for navigation or driving logs was in private ownership. Inland timber could be logged by rail, but that required significant investment.

Forty years later, several factors had combined to favor large national forest timber sales. First, the post-war housing boom increased the demand for lumber. Second, the private timber reserves were rapidly declining. Third, truck and tractor logging technology, coupled with better roads, was making more national forest timber accessible. Finally, trees that grew after the huge fires of the 1840s were now over 100 years old and reaching maturity.

The lumber industry on the coast cut logs on private lands in the 1860s and 1870s, but began logging national forest lands after World War II. Many of the lands that were logged in private ownership early in the century became part of the Siuslaw in later years.



## HISTORICAL SOLD AND HARVESTED VOLUMES

### For The Siuslaw National Forest From 1915-1979

*Volumes are in millions of board feet (MMBF) and include convertible products.*

Year	Volume in MMBF	
	Sold	Harvested
1915	0.1	0.2
1916	0.2	0.3
1920	12.3	5.5
1921	28.8	8.2
1922	11.4	11.5
1923	11.4	9.8
1924	29.6	16.0
1925	1.9	5.1
1926	12.3	5.2
1927	5.0	10.2
1928	0.8	7.6
1929	2.4	0.9
1930	0.2	1.0
1931	0.5	0.3
1932	0.7	0.4
1933	0.2	0.4
1934	0.4	0.3
1935	3.0	0.4
1936	3.7	1.0
1937	1.3	2.6
1938	4.7	2.2
1939	7.3	3.3
1940	2.4	6.5
1941	7.4	5.6
1942	32.1	8.9
1943	13.8	37.2
1944	38.6	26.3
1945	69.0	27.4
1946	27.2	62.0
1947	103.5	57.6
1948	34.4	85.9
1949	29.5	55.2

Year	Volume in MMBF	
	Sold	Harvested
1950	77.5	50.4
1951	50.9	58.6
1952	98.3	79.6
1953	113.6	122.9
1954	193.9	129.2
1955	230.9	182.4
1956	238.6	177.2
1957	213.8	206.0
1958	326.4	56.5
1959	304.9	334.0
1960	335.1	355.7
1961	344.5	307.5
1962	361.6	335.2
1963	593.7	388.9
1964	354.0	461.6
1965	366.5	412.1
1966	383.8	397.2
1967	373.1	301.2
1968	378.7	395.7
1969	379.3	377.2
1970	355.0	238.5
1971	360.2	333.5
1972	389.4	356.6
1973	368.9	420.4
1974	305.9	365.5
1975	296.3	231.5
1976	328.1	294.2
*FY 100	23.4	70.6
FY 77	299.5	332.2
FY 78	373.4	314.9
FY 79	349.6	374.4

\*FY 100 is the 3 month period when the fiscal year changed to start October 1.

Annual cut 1915-1979, Siuslaw National Forest.

## EARLY LUMBER MILLS IN THE COAST COUNTRY

The earliest lumber mills in the coast country served local markets with lumber for houses, barns, and other homestead structures. On the upper Alsea, the Ruble mill, the Lone Star mill, and the Inman mill cut lumber through the 1870s and 1880s for settlers in the area, and for shipment to the Willamette Valley by wagon and team.<sup>2</sup> Hauling lumber to the Valley for sale required a fortunate combination of good prices and roads dry enough to be passable.

On Yaquina Bay, George Megginson built a mill at Depot Slough in 1867, and Benjamin Simpson built a mill near Yaquina City in 1871 which reportedly could cut 20 thousand board feet (MBF) each day. The first mill on Tillamook Bay was the Baxter mill, located near Idaville. On the lower Alsea, the Baldwin mill at Waldport was cutting lumber by the 1880s, and a competing mill at Tidewater was also producing lumber at this time.



Log on bull chain, C.A. Smith mill, Coos Bay. C.P. Cronk photo, 1910-1911.



Small mill cutting fir. C.P. Cronk photo, 1910-1911.

and the bottom of the log in a single curf. Head-rig carriages were often pulled by horses. Edging was also done on the head-rig. There was typically no planer, and no dry kiln. Green lumber was stacked in the rain to season.

Logging technology during the early years relied on gravity and muscle power. After the loggers felled trees, they bucked them into logs that they could move with jacks to a



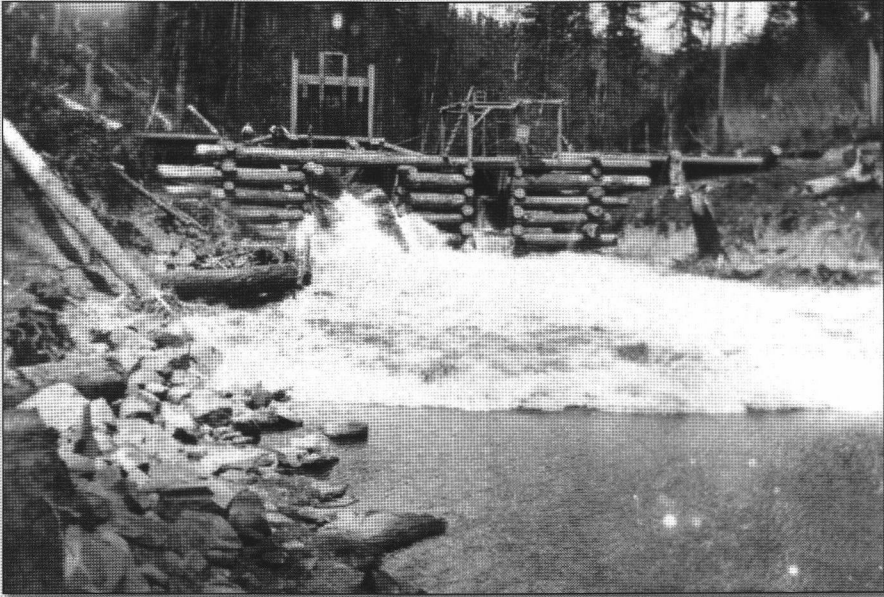
Gravity chute bringing logs down to a landing, ca. 1880s.

log chute or skid trail. The chutes were made of smooth poles placed across the route of the log. Some chutes were steep enough to move the logs downhill by gravity, and some required oxen or horses to provide additional power. In certain favored locations, nineteenth century loggers on the coast were able to use streams to drive the logs down to tidewater. These streams required splash dams to build up a head of water. When the dam was released, the rush of water washed the logs downstream.

**My mother's father, Stephen Hoover, logged with oxen, moving much of the prime timber around Waldport and upriver. Henry Nice logged near the mouth of Drift Creek with Cal Barned driving the animals. Cal, a kindly, soft spoken man could coax more work from an oxen than with cussing and yelling. If one of the crew raised his voice, the animals lurched forward, usually breaking the chains and causing extra work.**

**In order to get the logs into the river, jack screws, skid roads, and chutes were devised. Canyons sometimes served as chutes by being lined with heavy peeled poles. Mud dragged down acted as grease. Sometimes in dry weather, the chutes would actually be greased with axle lubricant.**

**Marjorie H. Hays, *The Land That Kept Its Promise***



Splash dam on a stream near the Coos River estuary. C.P. Cronk photo, 1910-1911.

**The river was the exclusive mode of log transportation until a network of roads came on the scene. The further up the river one tried to float logs, the more difficult the job became because of the river's small size and the numerous bends. To give the logs an extra boost, at least one splash dam was used in the early 1920s...The logs were yarded to form cold decks and these decks were then yarded into the river behind the dam. During a freshet of high water, a steam donkey would pull the dam apart, causing a surge of water to carry the logs down the river.**

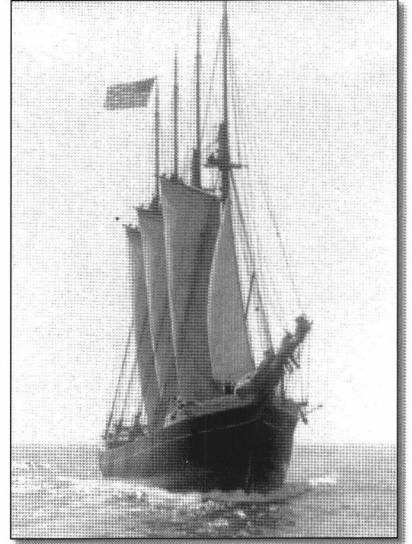
**N. Judd Huntington and Wally Holden Interviews, 1994**



## THE CARGO MILLS

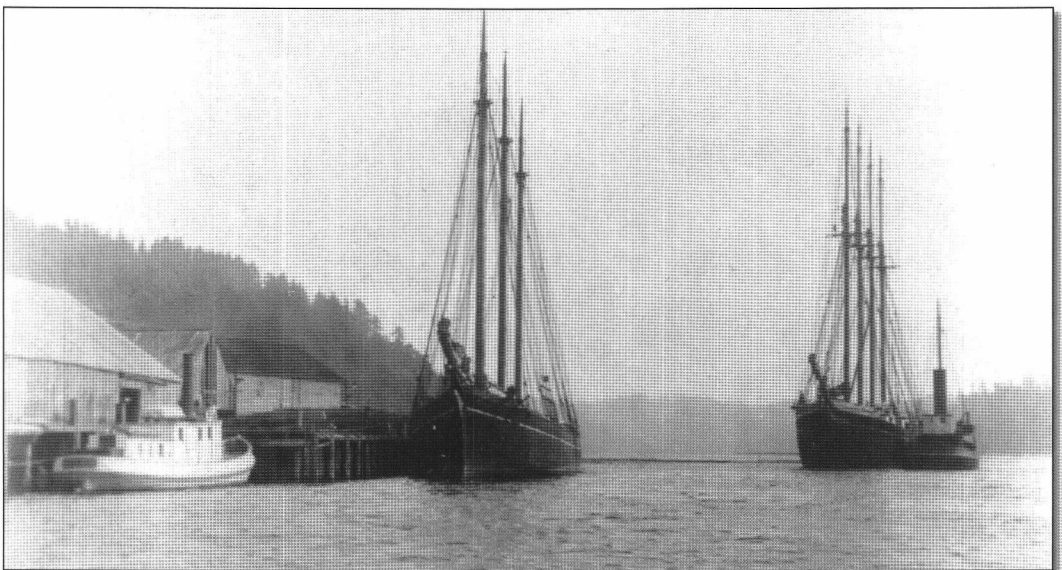
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Most of the early mills were limited to selling lumber in local markets or to nearby markets that could be reached by wagon and team. Another group of mills was designed to produce lumber that would be shipped by sea to distant markets. These mills were called cargo mills because of their reliance on cargo vessels to move their product to market. The best-known of these was the Gardiner Mill Company at Gardiner, near the confluence of the Umpqua and Smith rivers. Built in 1864 to supply lumber to California, the Gardiner mill came under the ownership of Coos Bay lumberman Asa M. Simpson in 1868. By the turn of the century, the Gardiner mill was cutting around 20 million board feet of lumber each year.<sup>3</sup>



Four-masted lumber schooner.  
C.P. Cronk photo, 1910-1911.

Other cargo mills were operating on Coos Bay, at Florence, at Waldport, at Toledo, on the Siletz Bay, and at Hobsonville on Tillamook Bay. Florence and the lower Siuslaw were especially active areas. The first major cargo mill was the Saubert mill, built in 1884 at Acme on the Siuslaw Bay by Dr. William Saubert.<sup>4</sup> It reached an annual cut of one million board feet by 1902. A nearby mill at Florence had a capacity of 30 thousand board feet per day. This capacity would produce an annual cut of six million board feet, assuming a 200-day working year. The mill in Florence reported nearly eight million board feet for 1902, however, suggesting that they worked more than the 200 days.<sup>5</sup> The Siuslaw



Vessels loading lumber, C.A. Smith mill, North Bend. C.P. Cronk photo, 1910-1911.



Early mill at Waldport.

Lumber Company mill, also at Acme, cut over five million board feet between 1902 and 1905. Other small cargo mills in the central coast ports typically cut less than five million board feet most years, except for the mill at Hobsonville, on Tillamook Bay, which averaged around ten million board feet.

During the years that the Gardiner Mill Company was part of the lumber and shipping empire of Asa M. Simpson, it had access to Simpson's California marketing network and the Simpson fleet of ships. Other cargo mills were not as fortunate. The mills at Waldport depended on several small vessels that could navigate the Alsea River's shallow bar to enter or leave the bay. Some of these vessels were built on the Alsea. The *Lizzie*, for example, was built in 1872 at Tidewater and sailed around the Pacific until she wrecked on the Yaquina bar in 1876.<sup>6</sup> Another local schooner, the *W.H. Harrison*, was the largest of the fleet at 90 feet. She was owned by the Harrison Brothers Lumber Company in Waldport, successor firm to the Baldwin Lumber Company. After a short but disastrous career, the *Harrison* wrecked on the Alsea bar.

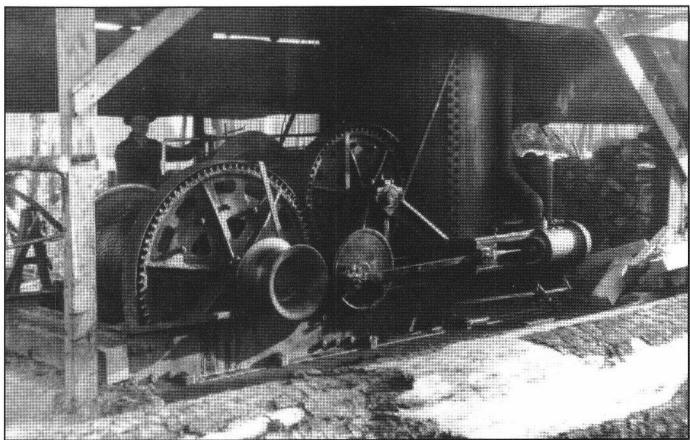
The bars of the Alsea and Siletz rivers are no longer considered navigable. Each winter small vessels are lost at the entrances of Coos Bay, Winchester Bay, the Siuslaw River, Yaquina Bay, and Tillamook Bay. During the years of the cargo trade small sturdy coastal ships made a precarious living by taking loads of lumber and log rafts out of these bays.



Crew on donkey engine. C.P. Cronk photo, 1910-1911.

## RAILROAD MILLS

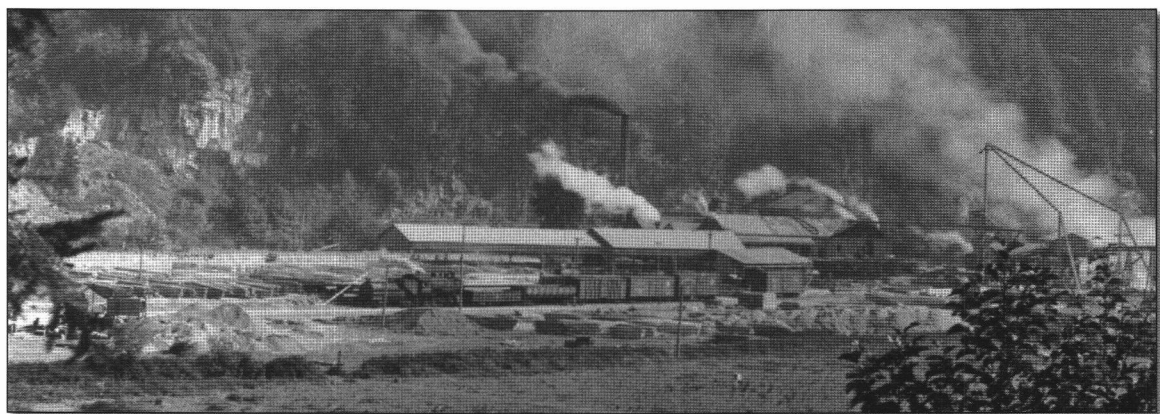
The 1880s brought profound technological changes to the U.S. lumber industry. These included John Dolbeer's 1881 invention of the donkey engine, the development of railroad logging through the 1880s, and the use of band saws in mills after 1885.<sup>7</sup> The donkey engine was a steam-powered winch mounted on log skids. The winch cable could pull logs through the brush. With a high lead system, the donkey could move logs over stumps, rocks, and downed timber. The whole complex of skid roads, oxen, splash dams, and other expedients was rendered obsolete. Marjorie H. Hays notes that "Dolbeer's Patented Steam Donkey" made logging on the coast "seem like play compared to oxen and horses."<sup>8</sup>



Boiler, cylinder, and winch on donkey engine.

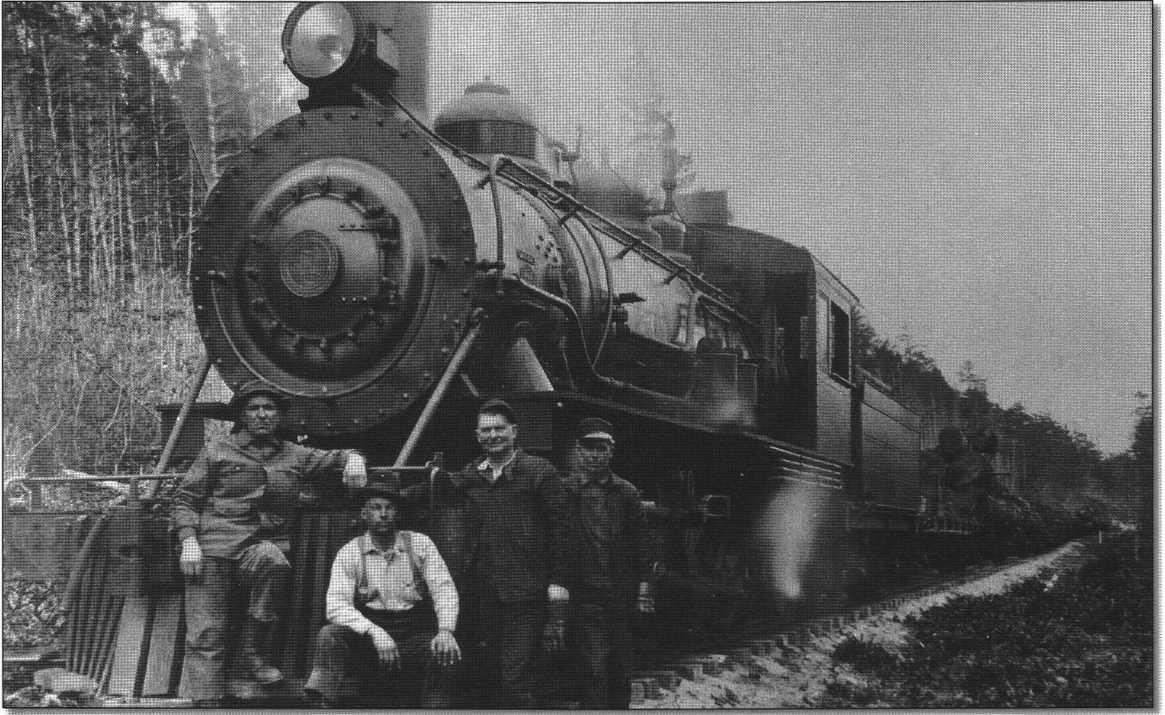
Once the donkey engine had dragged or "yarded" the log out of the woods, another donkey engine could lift it onto a waiting rail car on the logging railroad. The railroad would whisk the logs to a bay, a river, or a mill pond, and they were ready for the saw. In Oregon, the Isthmus Transit Railroad, which was operating near Coos Bay in 1876, is generally accepted as the first logging railroad in the state.<sup>9</sup> Later logging railroads were built by other mills on the coast, in the Willamette Valley, on the Columbia, and in the eastern Oregon pine country. By 1906, at least 30 lumber companies in Oregon were operating logging railroads, including the Gardiner Mill Company.

The final step in the mechanization of the lumber industry was getting the sawmill hooked up to the transcontinental railroad system. When this connection was achieved,



U.S. plywood mill, Mapleton, 1950s.





Manary Logging Company train, 1920s. Lloyd Palmer collection.

a boxcar could be loaded with lumber in Toledo, Oregon, for example, and sold to a customer in Trenton, New Jersey. The old Oregon Pacific Railroad and branch lines of the Southern Pacific brought rail service into the coast country. The Oregon Pacific was the first to reach the coast, connecting Yaquina Bay to the Willamette Valley in 1885. A branch of the Southern Pacific reached Tillamook Bay in 1911. The Southern Pacific built a branch line west to Cushman, then south through Gardiner to Coos Bay in 1916. With the railroad connection, mills on the coast no longer needed to depend on selling lumber to the local market or on the hazards of maritime shipping.

The largest railroad mill adjacent to the Siuslaw was the huge mill and remanufacturing plant built by the U.S. Army's Spruce Production Division at Toledo. This mill and the railroad that served it were capable of producing 600 thousand board feet (MBF) of lumber per day. The Gardiner mill, which was served by the Southern Pacific Railroad after 1916, could cut 100 MBF per day. On Tillamook Bay, the A.F. Coats Lumber Company mill also had a 100 MBF capacity. Three mills near Reedsport cut between 100 and 150 MBF, making Winchester Bay one of the major industrial areas on the coast. Other railroad mills adjacent to the Siuslaw were considerably smaller, with daily production between 30 and 50 MBF.

One of the pioneer railroad mills on the coast was the Fir and Spruce Lumber Company. The firm incorporated in Toledo, on the Oregon Pacific Railroad, in 1906.<sup>10</sup>

In 1907 the company began building a logging railroad from Depot Slough north to their timber land on the Siletz River. They acquired at least four donkey engines, a locomotive, and increased the capacity of their mill to 75 thousand board feet per day. During the next 15 years, the mill changed ownership and name numerous times. Loggers

cut timber on Depot Slough and Ollala Slough, on the Yaquina River, and along the company's railroad as it was built north toward the town of Siletz. Finally, in 1923, Pacific Spruce bought the railroad, and the mill passed into the hands of the Creamery Package Manufacturing Company, which made spruce boxes and tubs for dairies until 1944. The logging railroad, under the ownership of Pacific Spruce and later Georgia Pacific, eventually reached Logsdon before it was abandoned in the 1950s.



Loggers in camp. C.P. Cronk photo, 1910-1911.

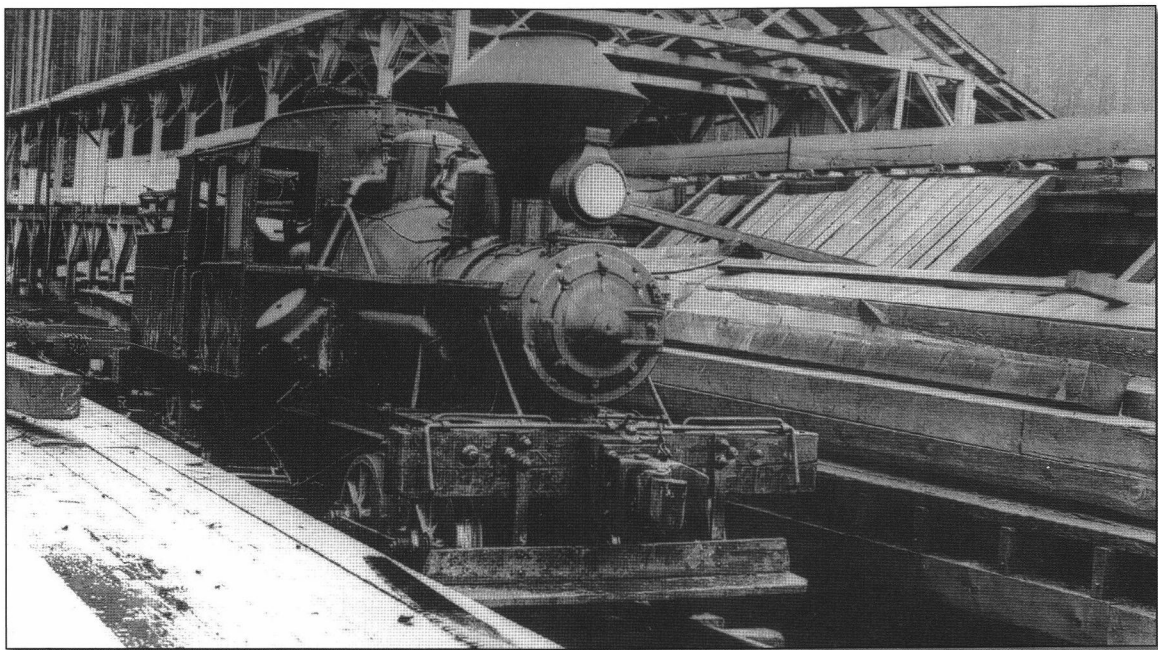
On the Siuslaw River, the Southern Pacific ran west along the river to Cushman, near the eastern end of the bay, then crossed to the south side of the river and ran south to the Coos Bay area. The town of Florence was not served by the railroad. In 1919, the logging firm of Vaughan and Bester began a logging railroad on Bernhardt Creek (also called Lawson Creek) on the south bank of the Siuslaw River.<sup>11</sup> This drainage was "alienated" or private land within the Siuslaw National Forest. This drainage was not served by the Southern Pacific, so Vaughan and Bester had to move their locomotive, cars, and rails across the river by barge before they could begin operations. Logs cut on the Bernhardt Creek drainage were

dumped in the river and towed to a point where they were loaded onto Southern Pacific rail cars for delivery to the mills at Coos Bay.



Crib trestling.

In 1920, Vaughan and Bester bought the old Saubert mill at Acme (now Cushman). They built a second logging



Vaughan and Bester Lumber Company Heisler locomotive. Lloyd Palmer collection.

camp and railroad on Hadsall Creek near Mapleton. Again, they were logging on the south side of the Siuslaw River on private land adjacent to the Siuslaw National Forest. The two railroads and the mill at Cushman continued to produce lumber through the 1920s, albeit with some financial vicissitudes and several new owners. The operation finally fell victim to the Depression in 1929.<sup>12</sup>

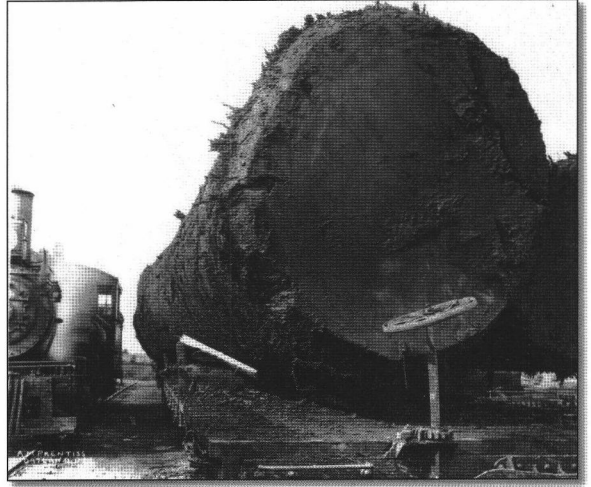
Other small railroad logging operations on the lower Siuslaw included the Delta Shingle Company, with a railroad up Morris Creek on the North Fork of the Siuslaw. Crown Timber of Mapleton operated a short railroad up Knowles Creek. L.C. Reynolds operated a railroad on Karnowsky Creek. Gid Ross operated a railroad on Wendson Creek, and an unknown logging firm operated a railroad on Hoffman Creek.<sup>13</sup> Each of these railroads was “landlocked” in that there was no connection to any other railroad. The locomotive, cars, and rails had to be hauled laboriously overland to the starting point, then the railroad was built from that point into the timber. Once the railroad was operating, it brought logs out of the woods. They were dumped into the river and rafted down to the mill.

For the most part, these mills relied on private timber land to supply their logs. The one exception is the Delta Shingle Company, which bought cedar sales from the Siuslaw National Forest as early as 1915.<sup>14</sup> The 1915 sale was for 200,000 board feet of cedar. Delta bought over four million feet in 1920, and 200,000 feet in 1921. Cedar, of course, did not grow in pure stands, so a cedar mill had to get logs wherever it could, often from other logging companies as an incidental product cut in their fir operations.

## THE PACIFIC SPRUCE CORPORATION

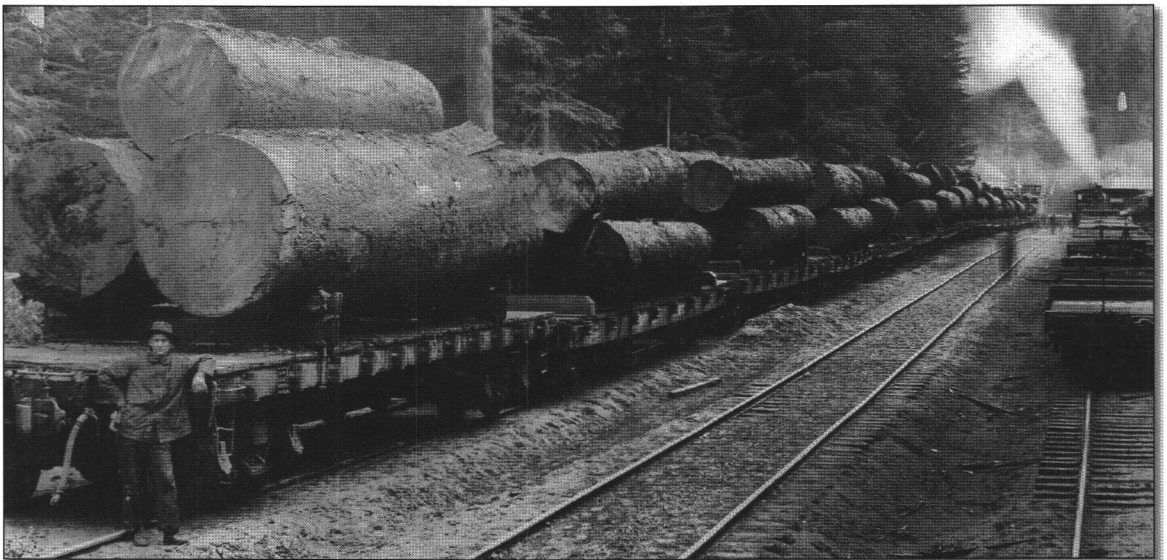
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The largest lumber operation on the central Oregon coast was the Pacific Spruce Company mill at Toledo, with logging railroads south to the Blodgett Tract and north to the Siletz River. Like other central coast mills before World War II, Pacific Spruce cut mostly private timber. However, since its largest timber holdings are now a part of the Siuslaw National Forest, and these lands were owned by a subsidiary of the U.S. government when Pacific Spruce logged them in the 1920s, we can consider that Pacific Spruce was cutting public timber.



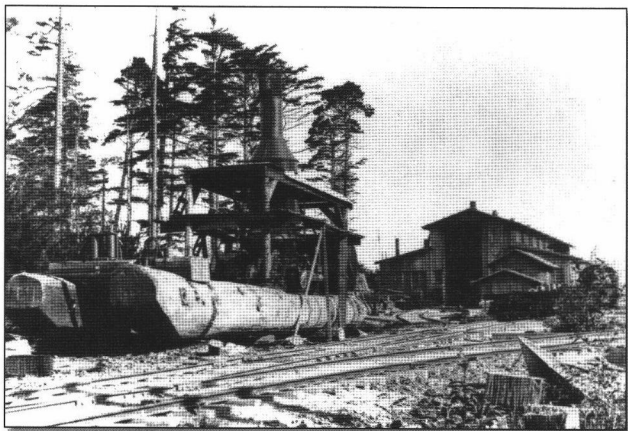
Large Sitka spruce log. SPD photo, ca. 1918.

After World War I ended on November 11, 1918, the Army transferred its Spruce Production Division (SPD) to a government corporation, the Spruce Production Corporation (SPC). This organization set about selling all the SPD assets, including millions of dollars worth of donkey engines, locomotives, mill, and logging equipment. The volume of mill and logging equipment sold by the SPC was so great that it supplied the entire West Coast industry for years. The SPC also put the unfinished mill at Toledo, the logging railroads built to supply the mill, and the 12,705 acre Blodgett Tract up for sale. A second SPD property at Port Angeles, Washington, including a mill, some timber, and railroads, was also offered for sale.



Spruce logs on SPD train. SPD photo, ca. 1918.





Donkey engine at Manary Camp, Oregon.

The SPD properties eventually sold, and the buyers in both cases were groups of investors assembled by San Francisco entrepreneur Fentress Hill. Fentress Hill, with F.S. Scritsmeir of Portland, R.J. Dunham of Chicago, and Wendell Kuhn of Portland formed the Pacific Spruce Corporation to buy the Toledo properties in 1920. Later, Hill, John K. Lyon, and F.S. Scritsmeir created a second firm—Lyon, Hill and Company—to buy the Port Angeles

properties in 1922. Hill had been manager of Lyon, Gary and Company, a financial firm in Chicago. Corporate officers in Lyon, Gary and Company included Calvin Fentress and Lucius Baker, who were in turn involved in Baker, Fentress and Company of Chicago. Baker, Fentress was one of the largest financial firms lending money to the lumber business.

In January of 1918, Hill had attempted to buy the old-growth spruce forest on the Blodgett Tract from John Blodgett. Hill wrote in a letter to Blodgett on January 2, 1918, that he was interested in the tract so that he could “open it up” and make the spruce available to the war effort.<sup>15</sup> Blodgett refused to sell to Hill, and the SPD eventually purchased the tract. Hill led his associates into the spruce business in the early 1920s and then led them out of it. In 1924, the Hill group sold most of the Pacific Spruce Corporation to Southern lumberman C.D. Johnson.<sup>16</sup> In 1927, they sold the Port Angeles properties as well.

C.D. Johnson had been a successful lumberman in Louisiana, but he had sold his mills and lands as the southern pine industry began to contract. The industry periodicals advised that the future of lumber lay “out West” so businessmen from the Great Lakes and the South moved into the Pacific states.



Timber on the Blodgett Tract.

## PACIFIC SPRUCE CORPORATION LOGGING

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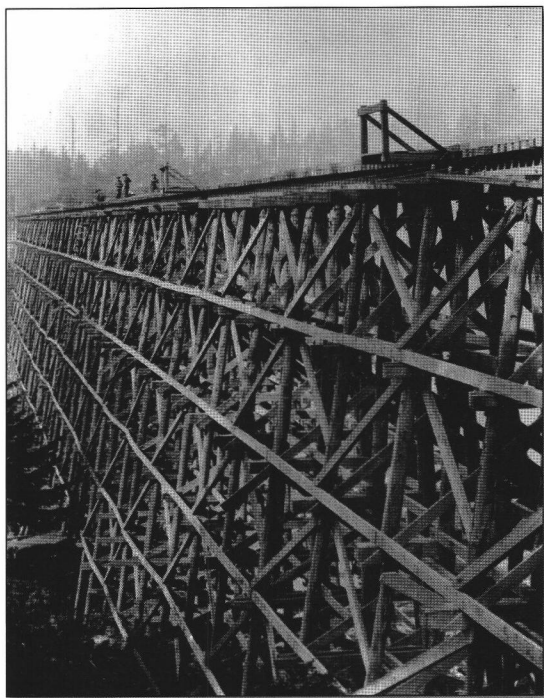
Johnson set up four separate corporations to handle the new business. Pacific Spruce Corporation managed the mill at Toledo from its offices in Portland. The Manary Logging Company managed the logging and the Alsea Southern Railway. C.D. Johnson Lumber Company sold the lumber that the mill produced. To balance his spruce timber on the Blodgett Tract, Johnson bought 14,626 acres of timber on the Siletz River, largely Douglas fir. To reach the Siletz timber, he bought the old Fir and Spruce Lumber Company railroad, which ran up Depot Slough to the Siletz. He incorporated this fourth business as the Pacific Spruce Northern Railway.

Manary Logging, under the supervision of veteran logger James Manary, repaired the railroad from South Beach to Waldport in the spring of 1922. Camp Two, 12 miles south of South Beach, began cutting logs in the summer of 1922. Camp One, south of Waldport, opened in the fall. Spur one, on the Blodgett Tract, was delivering logs by this time. During the next few years, additional spurs were built to reach all through the Blodgett Tract.<sup>17</sup>

Logging technology on the Manary Logging Company “show” was state-of-the-art. The system was typical of the sophisticated steam-powered systems developed in the Coast Range and on the west slope of the Cascades in the Pacific Northwest. Lumber industry publicists B.A. Johnson and Archibald Whisnat

described the system as a “swing” system in their promotional material about the company. The system began when loggers topped and guyed a head spar tree near the railroad spur. At the base of the spar, a huge donkey engine—the head spar donkey—pulled a two inch steel cable—the skyline—out to a tail spar tree, which was also topped and guyed. A tail spar donkey moved out to the base of the tail spar, and loggers set the high lead lines and the haulback cables from the top of the tail spar.

In operation, loggers felled trees and bucked them into logs within a 1000 foot radius of the tail spar. The logs were hooked to the high lead line and the tail spar donkey winched them in to the base of the tail spar. Then the logs were hooked to the sky line with one end suspended off the ground. The head spar donkey then winched them to a



Large trestle with vertical bents.

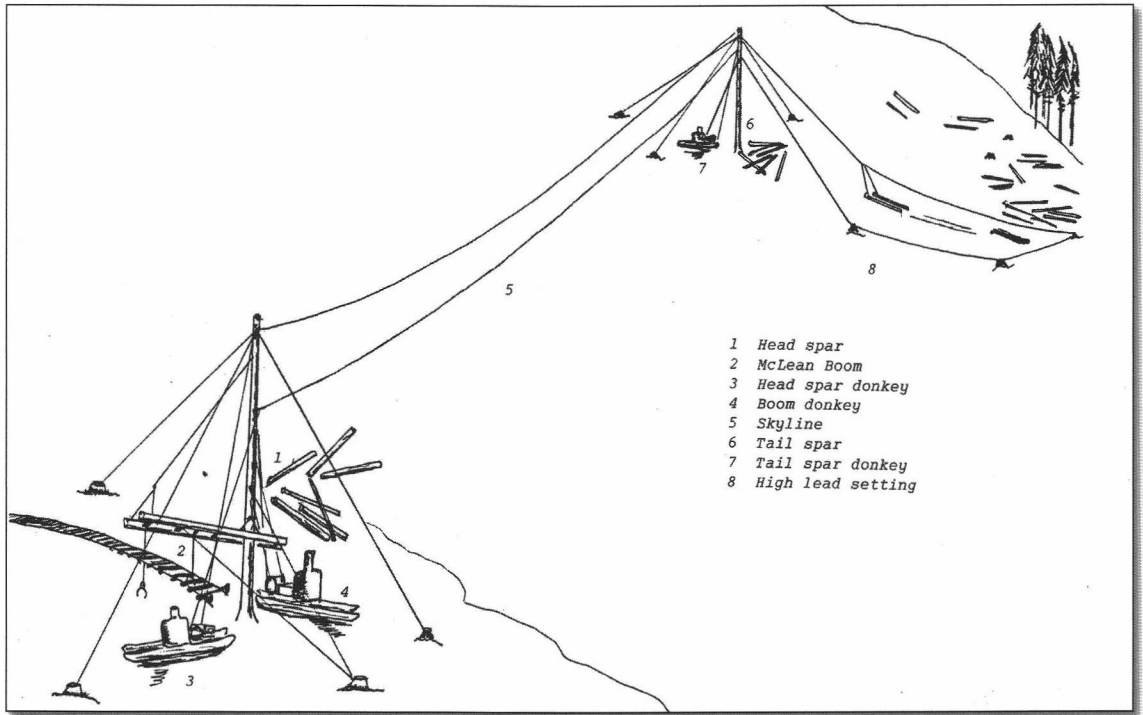


Diagram of high-lead logging system used by Manary Logging Company.

pile—or deck—at the base of the head spar. When the logging locomotive brought up the empty cars, a third donkey engine loaded the logs onto the rail cars for the trip to the mill.

When all the logs within a 1,000 foot radius of the tail spar had been cut, the loggers selected another tail spar tree, and the process began again. When all logs tributary to the head spar had been cut and yarded out, the loggers chose a new head spar further along the rail spur. This logging system was complicated but very productive. As much as five million board feet of timber could be yarded out from one head spar setting. At the turn of the century—23 years earlier—only three or four mills on the coast could have cut five million board feet in a full year's operation.<sup>18</sup>

On the timber lands north of Toledo on the Siletz River, the Manary Logging Company operated Camp 11 and Camp 12. Camp 12 was served by the Pacific Spruce Northern railroad which delivered logs to the mill. The logging operation at Camp 12 was similar to the one at Camp One. Camp 11, however, was not on the railroad. It was further north on the Siletz River. Loggers located their head spars close to the river and dumped the full-length logs into the water. A tow boat then moved the logs downriver to booming grounds, where they were assembled into rafts. These were towed out to sea over the Siletz bar and delivered to the mill at Toledo. Loggers lived in a large houseboat on the river.



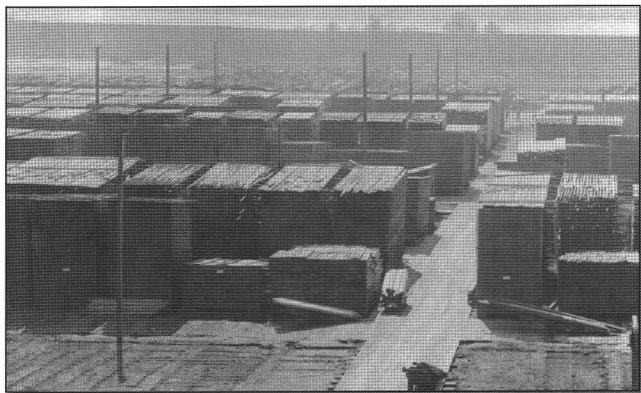
I had a friend who was a steam shovel operator who talked the Manary Logging Co into a contract to building grade for \$7.00 a foot (lineal). This man (Jack Tommas) by name bought a new (Logger Special Erie Shovel) and I went to work for him in September 1925. We built a spur up Big Creek and finished it before Xmas. Our next spur was on spur 5. This spur we worked on untill the next May. This was all the grade Jack built at Camp one and we went to Camp 12 and built 2 or 3 spurs for Manary Logging Co.

**Letter from Ron Hadley describing construction of Manary Logging Company railroad spurs, 1982.**

## THE PACIFIC SPRUCE CORPORATION MILL

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The unfinished mill that Pacific Spruce bought from the Army at Toledo was designed to cut airplane spruce. Pacific Spruce redesigned the mill to cut different lumber products and equipped it with new machinery. Like most lumber mills of its time, the Toledo mill burned wood waste, bark, and sawdust to fire the boilers. Steam from the boilers ran turbines which made electricity, heated the dry kiln, and operated some steam-powered machinery like the head-rig carriage. The 3,200 kilowatt turbine generator produced enough electricity to run the mill's machinery and deliver excess electricity to the towns of Newport and Toledo.



Spruce lumber dries in yard, Pacific Spruce Corporation Mill in Toledo.

Pacific Spruce combined aspects of a railroad mill with aspects of a cargo mill. Most of the firm's lumber was shipped by rail to U.S. destinations. The company also owned the *Robert S. Johnson*, a cargo ship that delivered lumber to California ports. The *Robert S. Johnson* carried box lumber and lath to California each month at the rate of three million board feet per voyage.<sup>19</sup>

Like other mills, Pacific Spruce attempted to make as many finished lumber products as possible. These were more valuable than the lumber itself. Products listed by Pacific Spruce included fir flooring, fir ladder stock, California novelty siding, spruce bevel siding, and high-grade spruce and fir for shop and factory use. The mill produced spruce box lumber (called "shook") and spruce lath. The mill also produced framing lumber, shelving, and dozens of other construction-grade products. Flooring, ladder stock, and high-grade lumber were valuable; construction lumber and siding were less valuable, and box shook and lath were low value items.

**[Sitka spruce] does not warp or split and therefore is particularly adapted for core stock for veneered articles....It is also well adapted for many other purposes, such as refrigerator stock, sash and doors, ladder stock, car stock, framing, shelving, sheathing, flooring, lath, ceiling, stepping, siding, battens, turning squares, moulding lumber, moulding, factory lumber, panel stock, car siding and roofing, common dimension, in fact, Sitka spruce is an excellent wood where such qualities as ease of working and painting, light weight, and ability to take and hold nails are required.**

**B.A. Johnson and Archie Whisnat, *Pacific Spruce Corporation***

Pacific Spruce faced a declining market for spruce. Aircraft production had driven the price of Sitka spruce up during World War I, but aircraft makers were switching to aluminum, and the market for aircraft spruce was gone. Johnson and Whisnat devoted considerable energy in their promotional material on the uses of spruce lumber. Their point was that spruce was a good substitute for fir or poplar as finish lumber, and was good for veneer base, boxes, cooperage, and musical instruments.

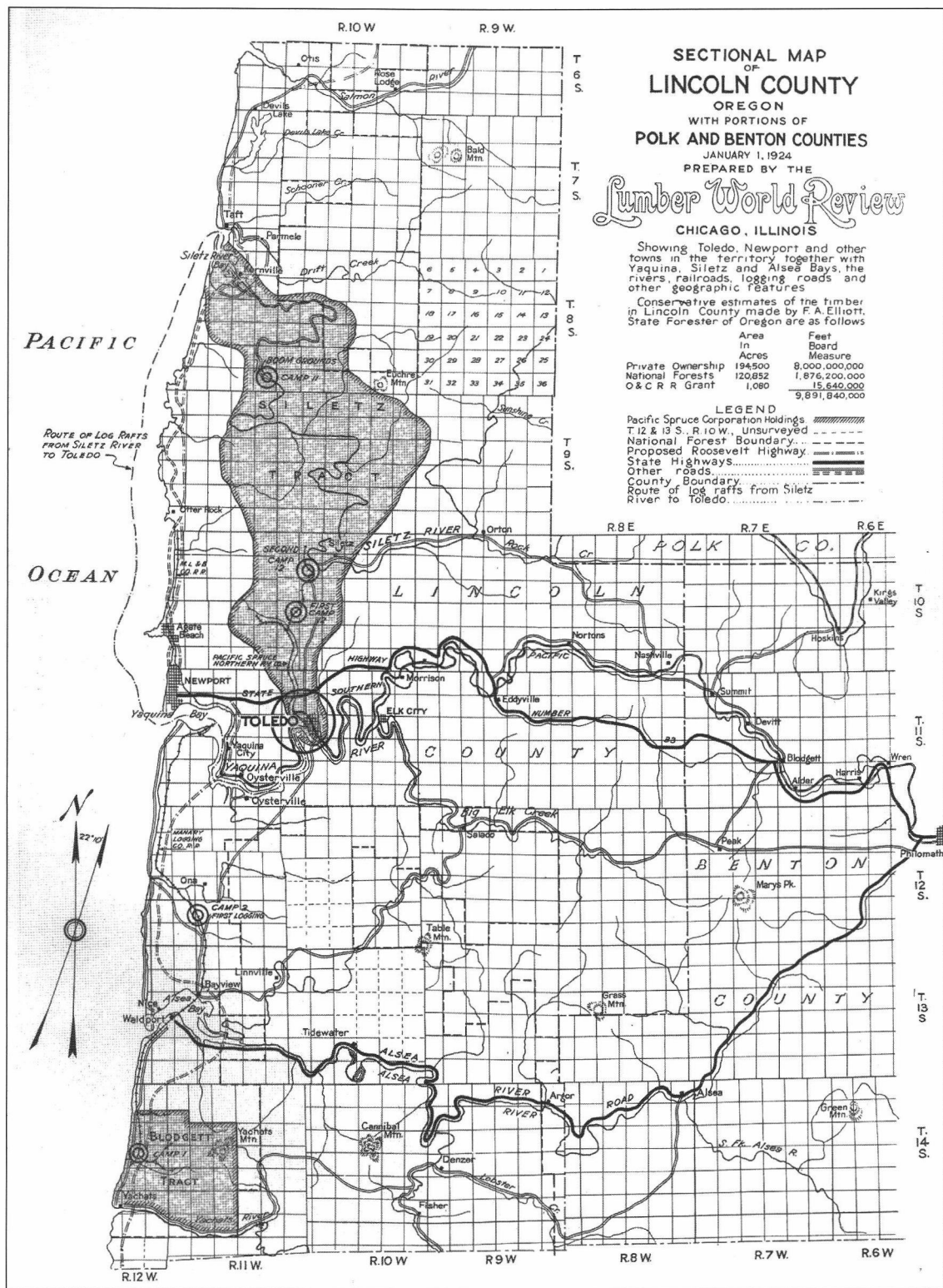
The apogee of Pacific Spruce's fortune came in 1925. The national market for lumber of all kinds was strong, and Pacific Spruce was cutting about 500 thousand board feet each day. In September of 1925, the firm sold and shipped more than 15 million board feet of lumber, 70 percent of which was Douglas fir.<sup>20</sup> Pacific Spruce began to experience financial problems soon after. The Manary Logging Company operation was bankrupt and dismantled in 1927. The company sold assets including the tugs and barges in 1928. By 1930 Pacific Spruce was in receivership. The company was broken up in 1934 and shorn of its railroads and steamship. The remaining assets were sold to C.D. Johnson, and it emerged from bankruptcy as the C.D. Johnson Lumber Company.<sup>21</sup>

One asset that Pacific Spruce could not lose was the Blodgett Tract because it had never owned it. The sales contract that Johnson had arranged with the Spruce Production Corporation left the land in the name of the SPC until Pacific Spruce had paid the purchase price. Pacific Spruce made a \$50,000 down payment and paid for timber cut at a fixed price per thousand board feet, but did not complete the sale of the real property.<sup>22</sup> Accordingly, the Tract remained in the hands of the Spruce Production Corporation.

What the government held was no prize, however. Manary's highly mechanized logging had a significant impact on the land. Colonel Brice P. Disque and his advisors had advocated selective logging on the Tract because of the over-mature timber and the mix of species. The system Manary employed could not be used for selective logging. Worse, the high speed of the yarders—over 500 feet of cable per minute—killed 50 to 90 percent of the young trees under 3.5 inches in diameter.<sup>23</sup> Manary logged in a hurry, so slash and cull timber was not burned, and it littered the ground. In 1936, 10,000 cut-over acres of the Tract burned in a major forest fire. The Siuslaw National Forest bought the Tract as the Yaquina Purchase Unit in 1941. C.D. Johnson died in 1940, and Georgia Pacific bought his company in the 1950s.

**[Manary Logging] took only the clear logs, so the waste was terrible. All the debris was left on the ground—it was a mess.**

**Forest Supervisor Rex Wakefield Interview, 1980**



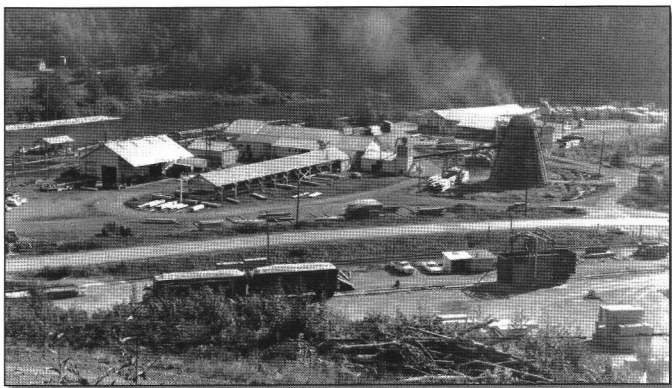
Map of Pacific Spruce Corporation timber lands from Johnson and Whisnat.

## WORLD WAR II AND AFTER

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During World War II, the pace of timber sales on the Siuslaw increased. The Forest sold 153.5 million board feet during 1942-1945. This was more than the total sales from 1915 through 1941. The demand for lumber to support the war effort spurred sales, and lumber companies that survived the Depression were eager to make up for their financial reverses. Internal combustion logging technology began to replace steam technology during the late 1930s and 1940s. Advertisements for motor trucks, diesel tractors, diesel yarders, and gasoline-powered chain saws appeared in industry periodicals during these years. Trucks and tractors were comparatively inexpensive and enabled smaller logging operators to get into the business. The large mills like Pacific Spruce had trouble finding capital to keep up their railroad systems, or employ the large workforce required by steam logging.

During the War, the Siuslaw was divided into the Hebo Ranger District, the Waldport Ranger District, the Gardiner Ranger District, and the Mapleton Ranger District. Each district increased its number of sales. On the Hebo Ranger District, for example, three large sales were active in 1942 and 1943. These were the Jewell Creek sale, the Squaw Creek sale, and the Sourgrass Summit sale. Coats Lumber Company of Tillamook bought the Jewell Creek sale. The other two sales went to smaller operators. Annual cut on Hebo at that time was four to six million board feet.<sup>24</sup>



Davidson Mill, Mapleton, 1950s.

Logging on the wartime Hebo Ranger District sales was done by truck. Conscientious objectors stationed at Cedar Creek spike camp replanted after the sales were harvested. Sales conducted prior to 1945 did not include road building within the contracts. After 1946, however, road building was part of the contract on Hebo sales. Later, some contracts required clearcutting. In ten years between 1943 and 1953, the allowable cut on the Hebo Ranger District rose from 4-6 million board feet to 52 million. Total cut on the Siuslaw was 113.6 million board feet in 1953. During 1954, there were 31 advertised sales on Hebo and 46 unadvertised sales.<sup>25</sup>



## THE BIG CUT: 1960s, 1970s AND 1980s

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Beginning in 1958, the Siuslaw sold over 300 million board feet of timber each year. This level of sales was sustained for 33 years through the 1960s, 1970s, and 1980s. The Siuslaw's years of increased productivity coincided with similar increases on other national forests in Oregon and Washington, especially on the Umpqua, the Willamette, the Olympic, and the Mt. Hood. There were various reasons for the huge harvest in the Northwest during these years. National demand for lumber was increasing. Many lumber companies had cut or liquidated their timber during the Depression and World War II, so they had to rely on public timber sales. And, on a nationwide basis, the timber lands of the Great Lakes, the Mid-Atlantic, and the South were exhausted.



One of the last steam yarders decking logs, 1960s.



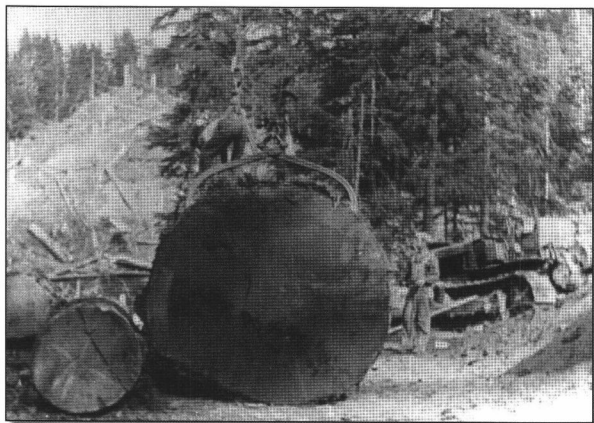
Heel boom loader at work.

With the increased volume of timber and the increased number of sales, there was a corresponding increase in the work of sales administration. The Forest Service needed to plan sales, cruise the timber, mark and map the sales, administer the contracts, and monitor the logging. This required more personnel on each ranger district. The increasing number of personnel threatened the close, family culture that had prevailed throughout the organization.

Logging technology during the 1960s and 1970s changed a little, but remained wedded to the cable logging systems developed in the 1910s and 1920s. Skidding logs

**It may have been in 1957 or early 1958 that an industry organization was putting pressure on us to raise our annual cut by doing partial cutting. But I do not recall that we made any partial cut sales, except small ones to pick up beetle-kill and windfalls.**

**Clarence W. Jacobs, *Working for the U.S. Forest Service***



Large log in the 1950s.

In the 1960s, donkey engines and spar trees were replaced by steel-tower yarders that had the winches and the steel spar mounted together on a chassis with either wheels or tracks. Loading logs with a spar tree and a McClean boom gave way to self-propelled loaders, often adapted from excavating equipment and mounted on either wheels or tracks. Lloyd Palmer, a retired timber sale manager from the Waldport Ranger District, recalls that the 1971 Howell sale was the last time he saw a spar tree used. After the courts stopped road-building in the Mapleton District in 1984, swing yarding was briefly resumed by loggers who had to remove timber without using motor vehicles.<sup>26</sup>



Heel boom loader decking logs, Mapleton sale.

The chain saw was another technological development of the post-World War II period. This technology had been in use since early in the century, especially in Europe. Loggers in the U.S. and Canada did not easily relinquish their crosscut saws, however.

**The major effort during the year [1963] was the preparation and sale of over 637,000,000 board feet of timber at a value of \$15 million. This is twice the regular yearly accomplishment.**

**Siuslaw National Forest "Historical Notes for 1963"**





**“Jake Mann was the first logger to buy an SJ-4 mobile yarder-loader.”**

**Clarence W. Jacobs, *Working for the U.S. Forest Service***

Early chain saws in the 1940s were heavy and unreliable. Worse, there was no common technology. Saws could be driven by two-stroke engines, four-stroke engines, or electric motors powered by generators mounted on tractors. Chains were difficult to maintain. Saws had to be used in an upright position, so the operator had to rotate the bar and chain mechanism to make felling cuts. By the 1950s, however, chain saws were replacing crosscuts as a new generation of loggers took over.<sup>27</sup>

Clearcut logging, which removed all trees of all ages and conditions from a sale area, was a feature of sales in the 1950s and 1960s, and soon became controversial. Public groups opposed to clearcutting in the Rocky Mountains and in the Pacific Northwest were vociferous in their complaints. As a result, the Forest Service began to include provisions for public comment to proposed sales and timber management programs. As Forest Service historian Gerald Williams points out, the clearcutting controversy of the 1960s and 1970s led Congress to pass the National Forest Management Act of 1976.<sup>28</sup>

Through the 1980s mill and logging technology was changing in the West. Yarders designed for large, old-growth trees were replaced with smaller yarders designed for

smaller, second growth trees. On some sales, feller-bunchers and timber forwarders replaced yarders altogether. In some especially sensitive areas, logging by helicopter was required. Mills responded to the changing log size by installing small log equipment that could cut smaller logs more efficiently.

Mills processing timber from the Siuslaw during the 1960s, 1970s, and 1980s included the large mills at Toledo, operated by Georgia Pacific, and at Gardiner, operated by Long-Bell and International Paper. Other smaller mills were located on the Alsea, at Mapleton, at Five Rivers, at Lobster Creek, and at Tillamook. Many sales of Siuslaw timber went to the mills in the Willamette Valley. The highway development that began in the 1930s and continued through later decades made long-distance hauling of logs economically expedient.



Russ Hollowell cuts spruce from springboard, 1970. Loyd Collet photo.

**BH: Tell us a little of what timber cruising was like at that time.**

**DB: Well, back then we pretty much found the units for the areas that we wanted to log, and we were logging old-growth. We flagged the boundaries and then go in and cruise the timber. There were different methods. A lot of it was 100 percent. We'd go in and pretty much measure every tree. Then there were some other methods where we would measure every tenth tree and do some plots. Go with two chains and measure every tree within a plot.**

**BH: So you were basically clear-cutting?**

**DB: We were clear-cutting, yeah. It was, back then it was all clear-cutting.**

**Dave Beck Interview, 2005 with Barbara Henderson**

**The demand for raw materials as related to the annual allowable cut has caused concern. Although a certain portion of the timber supply must come from private land, several developments are planned for the Forest to help narrow the gap between supply and demand. The field work for reinventory has been completed which should indicate an upward revision of the allowable cut. Salvage sales have kept cutting well over the allowable cut, but this alone will not meet the demand for timber. Priorities of management to help needs are through salvage of diseased or dead timber, conversion of low-producing areas, and thinning young stands.**

**Siuslaw National Forest “Historical Notes for 1956”**



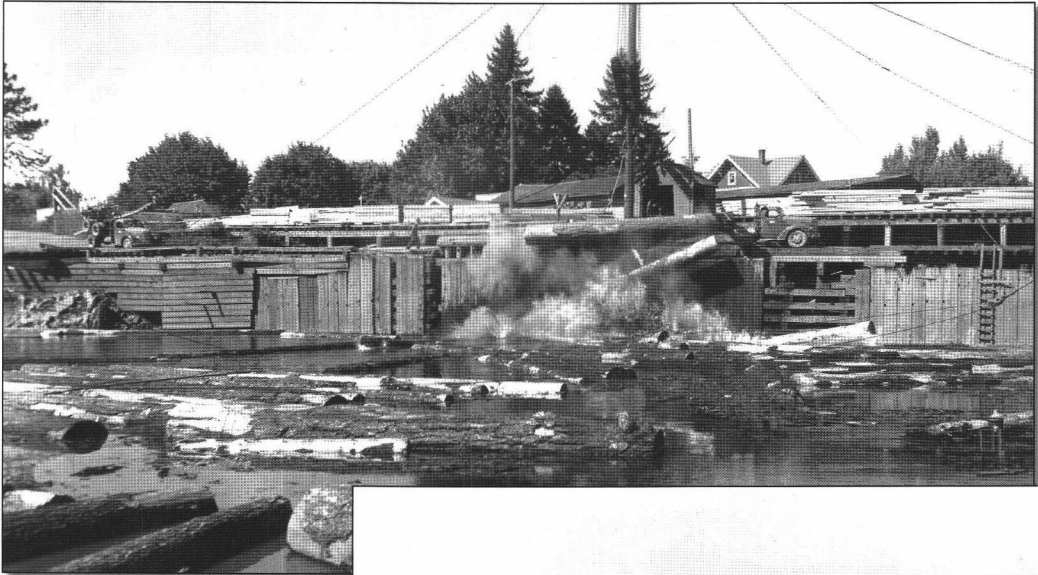
Workers pulling lumber on the “green chain.”

**Timber sales during the 1980s included fewer large old-growth trees. As the big slower yarders wore out they were replaced with slightly smaller, faster ones with a focus on second growth timber harvests.**

**North Fork Siuslaw Watershed Plan, 1995**

Before 1980, most mills stored their logs in rivers, bays, or ponds. This practice kept the logs moist and made them easy to handle. Log trucks delivered logs “down to splash,” and the bull chains of the mill pulled logs out of the water as they were needed. In 1980, however, the newly-formed Oregon Department of Environmental Quality created





Unloading log truck.

regulations that would phase out water storage of logs. Logs in rivers and bays were found to release tannins that could harm fish and wildlife.

Road building in the forest was critical to logging during the 1960s, 1970s, and 1980s. Logging companies built roads as part of their contracts with the Siuslaw.

At the end of the sale, most roads remained in use for future logging or for recreational visitors. The roads had an impact on wildlife and increased the danger of human-caused fires. Some poorly designed roads also affected the watershed, concentrating water run-off, creating drainage problems, and causing landslides.



Logs stored on the Siuslaw River.

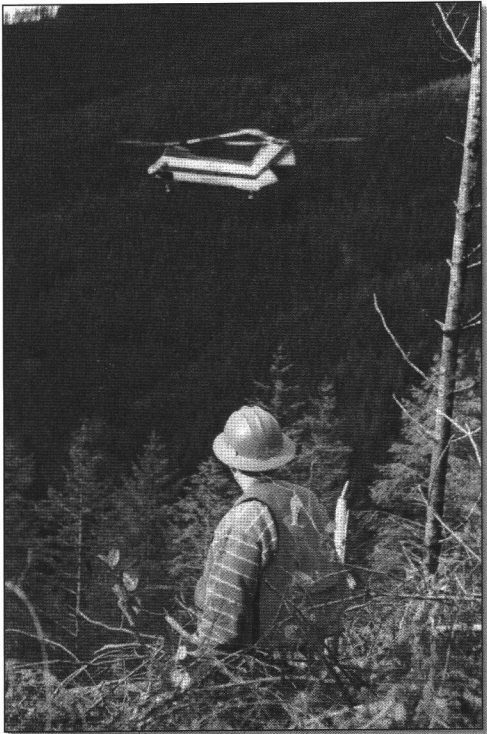
**As wildlife needs were recognized, the large 80 to 120 acre clearcuts were reduced to less than 60 acres and later to less than 40 acres. Woody debris and standing snags and trees were retained.**

**North Fork Siuslaw Watershed Analysis, 1994**

In the 1990s environmental legislation and the Northwest Forest Plan brought the years of heavy cutting to an end. Timber volume on the Siuslaw fell from 381.7 million board feet in 1990 to 12.4 million in 1991. In recent years, timber volume has stabilized at around 30 million board feet. Most of the volume is smaller trees that are selectively cut within stands less than 80 years old. These are expected to become late-succession forests in the future.

Fiscal Year	*Volume in MMBF	
	Sold	Harvested
FY 80	384.9	266.6
FY 81	406.6	247.4
FY 82	367.4	142.1
FY 83	369.6	242.8
FY 84	289.7	338.9
FY 85	278.4	305.2
FY 86	346.0	312.0
FY 87	365.2	361.5
FY 88	346.3	420.8
FY 89	254.9	297.7
FY 90	381.7	171.0
FY 91	12.4	149.5
FY 92	4.2	100.7
FY 93	2.5	32.3
FY 94	4.6	15.2
FY 95	9.2	23.8
FY 96	28.2	21.0
FY 97	28.7	5.0
FY 98	3.0	28.2
FY 99	11.4	15.9
FY 2000	2.2	20.1
FY 01	1.9	9.7
FY 02	24.9	8.4
FY 03	35.5	20.1
FY 04	22.8	16.5
FY 05	26.3	17.8
FY 06	25.2	24.8

*\*Volumes are in million board feet (MMBF) and include convertible forest products.*



Helicopter logging was used in some sales during the 1970s. Loyd Collett photo.

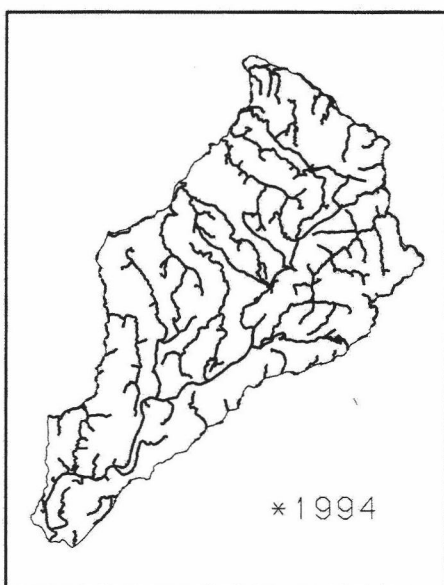
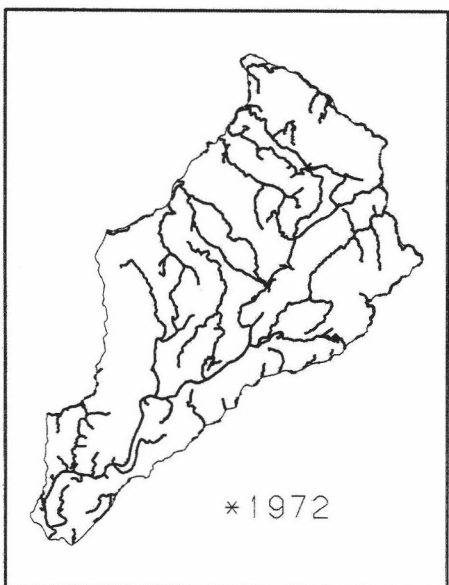
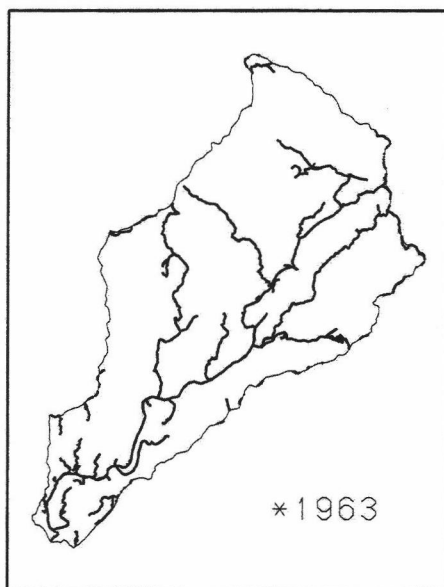
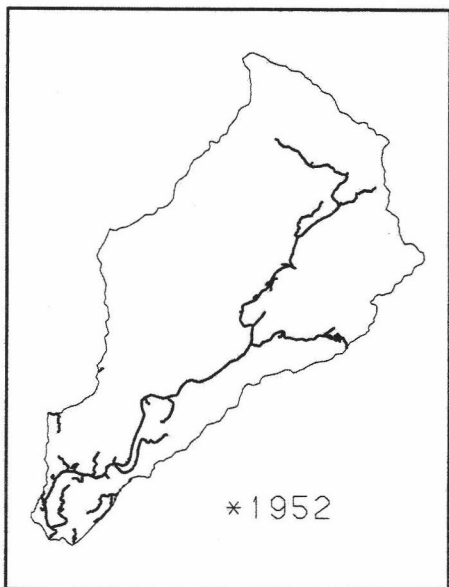


Log stacker unloads logs.

NORTH FORK SIUSLAW WATERSHED

## GROWTH OF ROAD SYSTEM THRU TIME

\*DATES REPRESENT SYSTEM ROADS BUILT UP TO THAT TIME





Landing scene showing steel-tower yarder, loader, and trucks. Lloyd Palmer photo, ca. 1970s.

**When there was a lot of logging activity in an area there was always danger of meeting a heavily loaded log truck coming down a narrow road from a high ridge...I would stop my pickup and listen for the coughing of a big diesel truck coming down...A wise trucker would send out an occasional hoot with the loud air horn.**

**Clarence W. Jacobs, *Working for the U.S. Forest Service***



- <sup>1</sup> *Siuslaw National Forest Lands Classification Atlas* (on file, Waldport, OR: Siuslaw NF, 1919) 5.
- <sup>2</sup> For a discussion of early sawmills, see Stephen D. Beckham, *History of the Siuslaw National Forest* (on file, Waldport, OR: Siuslaw NF, 1982) 255-261 and David Fagan, *History of Benton County* (Portland, OR: A.G. Walling, 1885)
- <sup>3</sup> Beckham, 258-259, figures from *The Timberman*.
- <sup>4</sup> Lloyd Palmer, "Logging Railroads Along the Lower Siuslaw" (on file, Waldport, OR: Siuslaw NF, 2001).
- <sup>5</sup> Beckham, 258.
- <sup>6</sup> Marjorie H. Hays, *The Land That Kept its Promise* (Newport, OR: Lincoln County Historical Society, 1976) 64.
- <sup>7</sup> Ward Tonsfeldt, "Railroad Logging in Oregon" (on file, Salem, OR: Oregon State Historic Preservation Office, 1993) 22-33.
- <sup>8</sup> Hays, 77.
- <sup>9</sup> John T. Labbe, "The Isthmus Transit Railroad," *Narrow Gauge and Shortline Gazette*, September 1988, 17-21.
- <sup>10</sup> For a good discussion of the complex history of this mill, see Lloyd Palmer, "The Other Toledo Sawmill" (on file, Waldport, OR: Siuslaw NF, 2005).
- <sup>11</sup> See Lloyd Palmer, "Logging Railroads Along the Lower Siuslaw River," for a complete discussion of the Vaughan and Bester railroad logging operations.
- <sup>12</sup> Palmer 2001.
- <sup>13</sup> Palmer 2001.
- <sup>14</sup> Palmer 2001.
- <sup>15</sup> Blodgett Papers, University of Minnesota Special Collections; Hill to Blodgett, January 2, 1918.
- <sup>16</sup> Lloyd Palmer, *Steam Towards the Sunset* (Newport, OR: Lincoln County Historical Society, 1982) 162.
- <sup>17</sup> B.A. Johnson and A. Whisnat, *Pacific Spruce Corporation* (Chicago, IL: Lumber World Review, 1924) 36-38.
- <sup>18</sup> Details of the Manary swing system are available in Johnson and Whisnat, 38.
- <sup>19</sup> Johnson and Whisnat, 73.
- <sup>20</sup> *The Timberman*, October 1925, 6.
- <sup>21</sup> Palmer 1982, 165.
- <sup>22</sup> Stephanie Finucane, *A History of the Blodgett Tract* (Corvallis, OR: Siuslaw NF, 1980) 18.
- <sup>23</sup> Nelson C. Brown, *Logging: the Principles and Practice of Harvesting Timber in the United States and Canada* (New York, NY: John Wiley, 1934) 189.
- <sup>24</sup> Rolfe Anderson, "Hebo District Historical Notes, 1907-1966" (on file, Waldport, OR: Siuslaw NF, n.d.).
- <sup>25</sup> Anderson.
- <sup>26</sup> Comments by retired forester Don Large.
- <sup>27</sup> See David Lee, *Chainsaws, A History* (Vancouver BC: Harbour Publishing, 2006).
- <sup>28</sup> Gerald W. Williams, *The USDA Forest Service—The First Century* (Washington, DC: USDA Forest Service, 2000) 113-116.

