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The Wood Products Industry In Alaska

Timber is one of Alaska's most important resources. In fiscal year 1963 the value of the timber products produced in the state was over \$54 million dollars. This places timber production in Alaska next in importance to the output of Alaska's large fishing industry.

Alaska's timber resources are huge. The state has approximately 140 million acres of forest land of which about 44 million are classed as commercial forest. These commercial forest areas contain an estimated 270 billion board feet of marketable timber which is about equal to the aggregate live saw timber in the New England, Middle Atlantic and East Central States. It is believed that Alaska's total forest area is capable of supporting a cut well in excess of 2 billion board feet on a sustained yield basis. However, until a few years ago Alaska's vast timber resources were relatively untouched.

The Growth of Alaska's Timber Industry

There are no official records indicating the amount of timber cut in Alaska prior to 1909. From various historical accounts however, it appears certain that comparatively little timber was cut during this early period.

Records show that between 1909 and 1950, the yearly timber cut in Alaska fluctuated considerably but was generally well below 50 million board feet annually. During this lengthy period only a few saw mills used Alaska's forest resources and they were cutting primarily for local use. The log requirements of these firms were limited and never resulted in a cut of more than a very small part of the area's potential forest growth.

Since 1954 however, Alaska's wood products industry has shown spectacular growth. In the last eleven years the total annual volume of timber cut in the state has expanded from about 84 million board feet to 420

million board feet. See Table II. Most of this 400 percent increase in the harvest of Alaska's timber resources has resulted from the timber demands of the two pulp mills which were established in Alaska during the past decade.

The Coastal Forests

Alaska has two distinctly different types of forests, coastal and interior. The coastal forests in Alaska are an extension of the rain forests of the Pacific Northwest and British Columbia. These dense forests consist primarily of hemlock and spruce and extend along the coast of Alaska for almost a thousand miles. They begin south of Ketchikan and terminate near Kodiak Island.

Most of the coastal forest area in Alaska falls within the state's two National Forests: The Tongass National Forest and the Chugach National Forest. These two National Forests contain roughly 21 million acres, which is approximately 6 percent of Alaska's total land area.

The Tongass National Forest is the main timber producing area of the state. In fact, in recent years as much as 95 percent of the total volume of logs consumed in Alaska were cut from this National Forest. See Table II.

Approximately half of the National Forest lands in Alaska are on islands. The mainland area, containing the remaining half of these lands is deeply cut by channels, bays, inlets and rivers. These irregularities create over 11,000 miles of shoreline in Alaska's National Forests and as a result, about three-quarters of the commercial timber (approximately 155 billion board feet) is estimated to be within 2½ miles of tidewater.

Only about one-fourth of the land in the coastal forest area can be classed as commercial forest according to the U. S. Forest Service. The commercial timber stands within the coastal forest areas generally are not continuous, rather they are interspersed with rugged steeply dissected mountain slopes, muskeg, unmerchantable tim-

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ber and lakes and streams. Thus, in spite of the proximity of the coastal timber to tidewater, logging activities in the coastal forests frequently are difficult and relatively costly.

The Forest Service of the United States Department of Agriculture administers the land in the Tongass and the Chugach National Forests and manages them for a variety of uses including production of timber crops, water, fish and game and recreation. In its management program the Forest Service attempts to obtain the maximum benefit for the public with the least possible conflict between different uses and developments.

Both National Forests in Alaska are typical rain forests with large trees and heavy underbrush. Over 90 percent of these forests are in virgin condition and it is not unusual to see trees seven feet in diameter and 200 feet in height. A large proportion of the trees are over mature, therefore, their value is limited as lumber but not as pulp stock.

Stand volume in Alaska's coastal forests runs as high as 100,000 board feet per acre, but over large areas they average about 35,000 board feet per acre. Studies by the U. S. Forest Service indicate that the typical second growth stand will produce almost 70,000 board feet per

acre during a rotation period of 110 years. An estimate of the allowable cut, or that amount of timber which should be removed annually from the forests in order to optimize yield on a sustained basis, is about 900 million board feet.

Western hemlock is the predominant species in the coastal forests, making up approximately 61 percent of the stand. It is especially good for use as flooring and is considered to be an excellent wood for a wide variety of lumber uses. It is moderately strong, light in weight when dry, fine grained, and light in color. Superior to eastern hemlock as a pulping wood, western hemlock is the foundation of Alaska's high grade dissolving pulp industry at Ketchikan and Sitka.

During 1961, approximately 53 percent of the total volume of logs consumed in Alaska was western hemlock, and of the 53 percent, almost all, (98 percent) was processed for pulp. Only 2 percent of all the western hemlock logged was sawn into lumber.

Sitka spruce comprises 34 percent of the overall stands in the coastal forests. It is light in weight, strong, and is manufactured into all of the usual forms of lumber. In addition, it is widely used for many specialty products such as piano sounding boards. A good all-purpose pulping wood, Sitka spruce compares favorably with white spruce which is the standard pulpwood of eastern North America.

Sitka spruce is the predominant lumber species of Alaska. It accounted for 84 percent of the total lumber production in 1961. During 1961, about 46 percent of the total volume of logs consumed in Alaska consisted of Sitka spruce. Over 60 percent of this Sitka spruce was used in pulp production and about 40 percent was cut into lumber.

Alaskan Pulp Production

There has been considerable interest in the timber of Alaska as a raw material for pulp for almost 50 years. However, in spite of the persistent efforts of the U. S. Forest Service to encourage the establishment of an Alaskan pulp industry over the years, it was not until 10 years ago that pulp production actually began in Alaska.

Two major pulp mills are currently operating in the state and are utilizing large quantities of timber from Alaska's coastal forests. One of the mills, the Ketchikan Pulp Company, is located at Ward Cove near Ketchikan, and the other, the Alaska Lumber and Pulp Company mill is located at Sitka.

Table II indicates that a great increase in the volume of timber harvested took place in 1954 and 1955 when the Ketchikan Pulp Company went into production. Timber production increased sharply again in 1959 and 1960, the period during which the Sitka pulp mill became operational.

Table I

ESTIMATED VALUE OF WOOD PRODUCTS PRODUCED IN ALASKA 1950-1963			
(Millions of Dollars)			
Year	Value	Year	Value
1950	6.1	1957	33.1
1951	5.6	1958	29.2
1952	6.5	1959	36.7
1953	6.6	1960	47.3
1954	14.6	1961	48.0
1955	29.5	1962	52.3
1956	31.6	1963	54.1

SOURCE: Computed from data provided by U.S. Forest Service, U. S. Bureau of Land Management and Alaska State Division of Lands.

The Ketchikan Pulp Company

Shortly after World War II the Puget Sound Pulp and Paper Company became interested in Alaska as a source of needed raw materials. An examination of potential sites indicated the feasibility of establishing a dissolving pulp mill in the Ketchikan area in Alaska. The heavy financial costs, an indicated \$55 million, and the importance of an assured market for a major part of the plant's output made it necessary to secure the interest of an established dissolving pulp consumer before proceeding. Ultimately, American Viscose Corporation a major producer of rayon and cellophane, which are two of the end products of dissolving pulp, joined the Puget Sound firm to form the Ketchikan Pulp Company.

In 1951, the Ketchikan Pulp Company entered into a timber purchase agreement for the cutting rights on approximately 786,000 acres of Tongass National Forest land containing an estimated eight and one-quarter billion board feet of timber. This cutting contract, which extends to the year 2004, guarantees a minimum 50 year supply of timber for a pulp mill of 500 ton daily capacity.

The Ketchikan pulp mill, constructed with the most modern equipment available, went into operation in May 1954. It has since been enlarged to a present maximum daily capacity of approximately 600 tons of high quality dissolving pulp. Since it began operation an additional \$15 million has been spent on capital improvements.

Currently all of the logs required for pulp production by the Ketchikan Pulp Company come from the Tongass National Forest. The company's own logging operation at Thorne Bay on Prince of Wales Island provides the pulp mill's largest source of logs. In addition a substantial volume of logs is purchased from independent logging contractors operating on the company's timber allotment and from independent logging companies producing logs under their own timber sales contract acquired from the U. S. Forest Service at public auction. Logs are towed to the mill from distances of up to 200 miles. More than half of all the logs harvested in Alaska in recent years have been processed into pulp by the Ketchikan Pulp Company.

The Ketchikan Pulp Company's mill operates continuously and directly employs approximately 500 persons. In addition about 200 men are engaged in the company logging operations at Thorne Bay and some 400 other loggers are employed by the contracting and independent logging companies which also supply logs to the mill.

A change in the ownership of the Ketchikan Pulp Company occurred in mid-1963 when Puget Sound Pulp and Timber Company merged into Georgia-Pacific Corporation, and American Viscose Corporation was acquired by FMC Corporation. Each of these two companies now

own 50 percent of the capital stock of the Ketchikan Pulp Company.

Pulp from the Ketchikan mill is sold primarily to the FMC Corporation, which is obligated to purchase 100,000 tons of wood pulp annually from the Ketchikan mill until 1972. Currently about 80 percent of the mill's total pulp production of 200,000 tons is sold to the FMC Corporation. In addition to this market, pulp is shipped to customers in Mexico, Columbia and India.

The Alaska Lumber and Pulp Company

The pulp mill of the Alaska Lumber and Pulp Company, Inc. in Sitka, Alaska was constructed at a cost of \$55.5 million and became operational in 1960. Additional capital expenditures expanded the company's productive capacity in 1962. The Alaska Lumber and Pulp Company is owned by about 80 Japanese corporations, most of which are engaged in rayon and paper manufacturing, or shipping and trading. The 150,000 tons of pulp produced in Sitka each year is sold in Japan.

The Alaska Lumber and Pulp Company employs approximately 500 persons directly in its mill. In addition, several hundred workers are employed supplying the logs required for the pulp production.

Japanese capital is playing a significant role in developing Alaska's timber resources. In addition to the

Table II

VOLUME OF TIMBER BY MANAGEMENT AGENCY ALASKA 1950-1963

(Thousands of Board Feet)

Year	U. S. Forest Service		United States Bureau of Land Management ¹	Alaska Division of Lands	Total
	Tongass National Forest	Chugach National Forest			
1950	54,537	5,424	12,396	—	72,357
1951	52,894	5,803	11,775	—	70,472
1952	62,357	2,159	22,825	—	87,341
1953	59,196	4,665	19,916	—	83,777
1954	109,237	1,775	10,462	—	121,474
1955	213,785	4,981	12,348	—	231,114
1956	230,198	2,021	24,797	—	257,016
1957	226,384	3,947	33,796	—	264,127
1958	167,520	8,216	20,292	—	196,028
1959	266,591	7,596	11,724	—	285,911
1960	347,496	3,613	14,913	210	366,232
1961	338,206	7,117	11,218	1,987	358,528
1962	366,275	7,157	11,474	6,872	391,778
1963	395,145	3,847	10,375	10,633	420,000

¹The Bureau of Land Management data is on a fiscal year basis and gives timber sales during the indicated period rather than actual timber cut. All other data depicts timber cut during calendar year shown.

Source: U. S. Forest Service records; U. S. Bureau of Land Management, Annual Report to The Secretary of the Interior; Alaska Division of Lands, Annual Report, 1963.

Sitka pulp mill, the Japanese owned Wrangell Lumber Company mill is currently operating at Wrangell, Alaska. Nearly the entire output of this lumber mill, which at present comprises over 50 percent of Alaska's yearly lumber production, is sent to Japan.

The Wrangell Lumber Company exported about 67.7 million board feet of lumber during 1963. This was approximately twice the volume of lumber the company exported in 1962. Of the 67.7 million board feet exported last year, 52 million were cut by the Wrangell Lumber Company's mill, 10 million were cut by the Ketchikan Spruce Mill and 5 million were cut by the Haines Lumber Company. Cedar logs valued at over \$4.5 million also were exported during the past year.

During September 1964, representatives of a number of Japanese lumber companies began an economic survey of Southcentral Alaska's timber industry potential. If economic conditions appear favorable the Japanese plan to construct a chip mill and a sawmill on the Kenai Peninsula. The wood chip and lumber production would be exported to Japan.

The Japanese are also interested in Alaska's iron ore and coal deposits. Japan is turning to Alaska increasingly because of its desperate need for additional raw materials and because Alaska is accessible at relatively low water transportation costs. Japan's own forests were heavily overcut during the war and its coal and iron reserves are not sufficient to support an expanding steel industry.

Japan has over 96 million people crowded into an area smaller than Montana and the country is deficient in most natural resources. In 1963, only about 10 percent of the basic raw materials used by Japanese industry came from domestic sources. In order to keep its economy healthy and expanding Japan currently is importing over \$6 billion worth of materials annually including over \$1 billion worth of iron and steel in its various forms; \$800 million worth of crude and heavy oil; \$200 million worth of nonferrous metals; about \$1 million worth of raw cotton and wool; and \$300 million worth of lumber.

The Interior Forests

The interior forests in Alaska differ greatly from the forests along the Alaskan Coast. They occupy a vast sweeping range of partially wooded areas extending from Alaska's coastal mountains to the Arctic tundra.

The best of the interior forest stands occur on the lower slopes of the river valleys such as the Copper, Matanuska, Susitna, Kuskokwim, Tanana and Yukon and their main tributaries. Although there are no accurate figures available regarding the amount of forest coverage in the interior, it is estimated that about 120 million acres have enough tree growth to be classed as forest land.

Table III

AVERAGE INSURED EMPLOYMENT, YEARLY PAYROLLS AND AVERAGE MONTHLY INCOME IN ALASKA'S LOGGING, LUMBER AND PULP INDUSTRY
1938-1963

Year	Average Monthly Employment	Average Monthly Income (in dollars)	Estimated Yearly Payroll (millions of dollars)
1938	190	134	.3
1939	229	146	.4
1940	299	137	.5
1941	437	118	.6
1942	440	142	.8
1943	813	213	2.1
1944	638	202	1.5
1945	470	200	1.1
1946	473	229	1.3
1947	505	322	1.9
1948	525	344	2.2
1949	586	330	2.3
1950	619	372	2.8
1951	774	410	3.8
1952	782	417	3.9
1953	699	517	4.3
1954	1060	555	7.0
1955	1501	529	9.5
1956	1434	572	9.8
1957	1345	604	9.7
1958	1110	573	7.6
1959	1595	660	12.6
1960	2316	659	18.3
1961	1700	682	13.9
1962	1833	677	14.9
1963	2000	720	17.3

Source: Employment Security Division, Alaska Department of Labor.

Approximately 40 million of these 120 million acres have cover dense enough to be tentatively classed as commercial forest land. Inventories of the interior forests are now being made which ultimately will permit accurate estimates of commercial stand volumes and values. However, at present, a conservative estimate indicates an allowable annual cut of 1.5 billion board feet.

Although some of the stands in the interior forests are classed as commercial, their density is much lower than those of the coastal forests. Even the heavier-forested regions following the major streams average only about 4,500 board feet per acre although some individual mature sites exceed 15,000 board feet per acre.

The forests of the interior are comprised mainly of white spruce and birch, frequently mixed with aspen. The trees of the interior grow very slowly in comparison to those of the coastal forests and are much smaller in size at maturity. White spruce trees may grow to be 18 to 24 inches in diameter and up to 100 feet in height in areas where fire has been absent, but ordinarily the interior

spruce is only 8 to 12 inches in diameter and 40 to 50 feet in height. The interior forests have been repeatedly ravaged by fires, and it has been estimated that 80 percent of the original forests of the interior have been burned over in the last 60 years.

White spruce and birch are both suitable for lumber and pulp production. White birch (or paper birch) however, has the greatest potential value of all the species in the interior forests. It is a hardwood which has a fine texture and which finishes well. It is suitable for cabinets, flooring, interior molding and trim, and woodenware. The larger birch logs are also excellent for the manufacturing of veneer.

Most of the interior lands of Alaska, including the forests of the interior, are administered by the Bureau of Land Management, U. S. Department of the Interior. The Bureau issues permits for the use of the interior lands and sells timber to qualified purchasers.

The Alaska State Department of Lands currently administers a small portion of the interior forests. However, as more land is acquired by Alaska, as permitted by the statehood agreement, the state will undoubtedly own a growing share of these forests and have more to say about how they will be utilized.

Currently, Alaska's interior forests are virtually unused. Only about one percent of the timber harvested in Alaska during the past several years has been cut from the interior forests. In the summer of 1964 approximately 30 small sawmills were operating in the interior. These mills cut only 6.3 million board feet of timber in the fiscal year ending July 1964. Except for a small quantity of white birch used in furniture manufacturing in California, all of the interior timber harvested was used locally as rough green lumber or house logs.

Although the interior spruce and birch are both suitable for pulp production, pulping operations in the interior are not presently considered feasible. The ultimate utilization of interior timber for pulp will depend on the world demand for this product and the comparative cost of producing it in Alaska and shipping it to market.

The limited use being made of the interior forests at the present time stems from the unfortunate fact that for the most part the interior forests have stands which consist of relatively small sized timber, are widely scattered, are of low density, and which are frequently located in inaccessible areas. These factors coupled with high basic costs for labor, supplies, transportation and power indicate that it will not be economically feasible to harvest many of the stands in the interior forests for some time to come.

Employment In Alaska's Wood Processing Industries

The growth of employment in Alaska's logging,

lumber, and pulp industry has not been gradual but rather has been characterized by sharp increases in response to the installation of new pulp plants and other special circumstances. Prior to World War II, monthly employment in Alaska's timber industry rarely averaged over 300 persons. See Table III. During this period, activities of the industry were largely confined to supplying a small portion of the local lumber demands. During World War II the requirements of military construction and the need for special grades of Sitka spruce for aircraft manufacture caused employment in Alaska's wood processing industries to rise rapidly to a peak of 813 jobs in 1943. This level of employment was not attained again in the industry until after the Ketchikan pulp plant started operations in 1954.

The dramatic impact made by the Ketchikan plant upon the employment level in the wood processing industries is clearly shown by the data presented in Table III. In 1953, before the plant opened, an average of only 699 persons were employed in the industry. After the plant opened in 1954, employment rose sharply to an average of 1060 persons. By the time the plant was in full operation in 1955, the average employment level had reached 1501. This was more than double the average level just two years before.

Another sharp increase in wood processing employ-

Table IV

EMPLOYMENT, EARNINGS AND HOURS ALASKA'S LUMBER AND PULP INDUSTRY 1962-64				
Period	Monthly Employment	Average Hourly Earnings	Average Weekly Hours Worked	Average Weekly Earnings
Average 1962	1833	\$3.82	40.9	\$156.30
Average 1963	2000	3.99	41.7	166.19
1964				
January	1300	3.89	41.9	162.99
February	1600	3.86	41.1	158.65
March	2000	4.02	43.3	174.07
April	2200	4.13	43.4	179.24
May	2400	4.12	45.0	185.40
June	2500	4.08	45.3	184.82

Source: Employment Security Division, Alaska Department of Labor.

ment took place during the years 1959 and 1960. In the 12 month period ending December 1960, average monthly employment in Alaska's logging lumber and pulp industry was 2316. This was an increase of 721 jobs over the 1959 level and reflected the additional employment opportunities created by the first full year of operation of the new pulp mill at Sitka and the increased lumber trade with Japan.

During 1963, the average monthly employment in Alaska's logging, lumber and pulp industry was 2000, with

employment during the peak summer months reaching 2300 persons. By June of 1964, employment in the industry had reached 2500 persons. This level is the highest in the industry's history in Alaska. See Table IV.

The average weekly earnings of Alaska's logging, lumber and pulp workers during 1963 was \$166.19. This was approximately \$9.90 above the average weekly earnings for the previous year. This increase was due, in part, to higher hourly wages and in part to the fact that the average number of hours worked each week increased slightly.

By mid-1964 the average weekly earnings of Alaska's wood processing workers were about \$185.00, roughly \$19.00 higher than the 1963 average level. This increase occurred largely as a result of a greater number of hours worked per week rather than higher average hourly earnings.

Imports of Wood Products

In spite of Alaska's large timber resources, most wood products currently being consumed in Alaska are being supplied from outside of the state. The explanation for this seeming paradox is relatively simple. Much of the wood imported into Alaska comes into the state in a form which is not produced locally. For example, a large amount of plywood is used in Alaska each year, however since no plywood is produced in the state all of it must be imported. Treated posts, poles and piling used in large quantities in Alaska are not being produced locally. Also virtually no kiln dried lumber is available from local production.

In some instances, of course, the Alaskan market demand for certain types of lumber is not sufficiently great to permit profitable local production. The costs of timber harvesting and processing are higher in Alaska than in most other areas. Labor costs average 25 to 30 percent higher in Alaska and logging roads frequently cost 3 to 4 times more to build here than they do in most other areas. These higher costs are reflected in higher prices which discourage the use of Alaskan produced wood products.

Whatever the factors retarding a greater utilization of the state's timber resources, however, it appears obvious that the major part of Alaska's lumber demands will not be met locally until Alaskan sawmills prove themselves able to supply consistently high quality lumber in the needed quantity and grades and at competitive prices.

ALASKA EMPLOYMENT TRENDS

Alaska's total civilian employment in August was an estimated 86,500 according to the Employment Security

ESTIMATED CIVILIAN WORK FORCE AND EMPLOYMENT TRENDS FOR ALASKA

INDUSTRY	PERCENT CHANGE FROM		
	August 1964	July 1964	August 1963
CIVILIAN WORK FORCE.....	89,900	0	+ 2
INVOLVED IN WORK STOPPAGES...	100	100	0
TOTAL UNEMPLOYMENT	3,300	-15	-15
Percent of Work Force	3.7	—	—
TOTAL EMPLOYMENT	86,500	+ 1	+ 3
Non Agricultural Wage and Salary..	73,900	+ 1	+ 3
Mining	1,400	0	0
Construction	9,500	+11	+27
Manufacturing	8,900	-13	- 2
Food Processing	5,600	-19	- 3
Logging, Lumber and Pulp	2,300	0	- 4
Other Manufacturing	1,000	0	+11
Transportation, Communication and Utilities	7,700	+ 4	+ 1
Trucking and Warehousing	1,300	0	+ 8
Water Transportation	1,600	+23	-11
Air Transportation	2,000	0	+ 5
Other Transportation, Communication and Utilities ...	2,800	0	- 3
Trade	9,100	+ 2	- 2
Wholesale Trade	1,800	+ 6	0
Retail Trade	7,300	+ 1	- 3
General Merchandise Apparel ...	1,900	+ 6	- 5
Food Stores	1,100	0	0
Eating and Drinking Places	1,900	0	0
Other Retail Trade	2,400	0	- 4
Finance, Insurance and Real Estate..	2,000	0	0
Services and Miscellaneous	6,900	+ 1	0
Government	28,400	+ 1	+ 1
Federal	17,600	+ 1	+ 2
State	6,700	+ 2	- 1
Local	4,100	+ 3	0

Division of the Alaska Department of Labor. This was an increase of 800 over the preceding month, and an increase of 2,300 over August of 1963.

Alaska's devastating earthquake materially affected the employment situation in the state. It had the effect of reducing employment in the manufacturing, trade, and transportation-communication and utilities categories from the levels existing in August, 1963. However, it also had the opposite effect of increasing employment by 2,000 in the contract construction area and by 400 in the Federal Government employment area. The increase in Federal Government employment was dictated by the earthquake reconstruction work of the Alaska Railroad and the Corps of Engineers.

There were approximately 3,300 unemployed persons in Alaska actively seeking work in mid-August. This number is 600 less than the figure for July of this year, and 600 less than the unemployment figure existing in August of 1963. The unemployment rate, or percent of work force unemployed, was 3.7 in August. This was below the unemployment rate for August of last year and July of this year.

KETCHIKAN, ALASKA			
AUGUST, 1964			
Population in City Limits	Population in Trade Area	Number of Occupied Dwelling Units	
6,900	10,500	2,450	
EMPLOYMENT TRENDS			
	August 1964	Percent change from July 1964 August 1963	
Mining	0	0	0
Contract Construction	350	+ 6	+40
Manufacturing	1,530	+ 4	- 3
Transportation, Communication and Public Utilities	750	- 1	+36
Trade	610	+ 3	+11
Finance, Insurance and Real Estate..	90	0	0
Service and Miscellaneous	350	+ 6	+ 3
Government	790	0	+ 3
Other	620	- 2	- 6
Total Employment	5,090	+ 2	+ 7
Total Unemployment	120	-20	-20
Total Civilian Work Force	5,219	+ 2	+ 6
Percent Unemployed	2.2		
SELECTED BUSINESS DATA			
Postal Receipts	\$14,663	-31	+36
Telephones in Service	2,617	0	+ 1
Lighting and Power Customers	3,210	0	0
Municipal Water Customers	2,375	0	- 1
Kilowatt Hours Sales	3,330,961	+ 8	+11

Ketchikan

Total employment in the Ketchikan labor market area rose to an estimated 5,090 in August according to the Employment Security Division of the Alaska Department of Labor. This increase of approximately 100 jobs took place primarily in the logging and cannery employment areas. Small employment gains also occurred in the construction, trade and service industries. The only decrease in employment was in the transportation-communications and public utilities area. Compared to August 1963, total employment in Ketchikan increased by 310 jobs or 7 percent.

Total unemployment in August was 120 compared with a total of 150 for the previous month. This 20 percent decrease reflects a normal seasonal decline since job opportunities in Ketchikan normally reach their peak in August. The rate of unemployment, or the percent of the civilian work force unemployed, in August was 2.2 percent. This was below last year's August rate of 2.9 percent.

The Ketchikan labor market area includes the City of Ketchikan, the residential communities of Mountain Point, Herring Cove, Saxman, Survey Point, Ward Cove, Carlanna, Shoreline Drive, Refuge Cove, Mud Bay, Port Higgins, Metlakatla, Annette, and the interconnecting highways.

JUNEAU, ALASKA			
AUGUST, 1964			
Population in City Limits	Population in Trade Area	Number of Occupied Dwelling Units 1960	
7,500	12,000	2,286	
EMPLOYMENT TRENDS			
	August 1964	Percent change from July 1964 August 1963	
Mining	10	0	-50
Contract Construction	330	-27	- 6
Manufacturing	160	- 6	0
Transportation, Communication and Public Utilities	500	0	- 4
Trade	730	0	+ 9
Finance, Insurance and Real Estate..	130	0	+ 8
Service and Miscellaneous	460	0	+ 2
Government	3,260	+ 2	+ 5
Other	640	0	+ 2
Total Employment	6,220	- 1	+ 3
Total Unemployment	140	- 7	-13
Total Civilian Work Force	6,360	- 1	+ 3
Percent Unemployed	2.2		
SELECTED BUSINESS DATA			
Postal Receipts	\$26,943	-12	+27
Telephones in Service	4,533		
Lighting and Power Customers	7,581		
Municipal Water Customers	1,142		
Kilowatt Hours Produced 1962	34,457,737		

Juneau

Estimated total civilian employment in the Juneau labor market area declined to 6,220 in mid-August according to the Employment Security Division of the Alaska Department of Labor. This was a decrease of 80 from the previous month's employment total. Completion of contracts caused a decline in construction and there was a small seasonal decline in manufacturing. Government employment increased slightly primarily due to hiring by the State Ferry System.

Total employment in Juneau in mid-August 1964 was 190 above the August level last year. Employment in the government and trade areas accounted for most of this increase. The number of employees in construction this August dropped below last year's level due to an absence of any new major projects.

Total unemployment dropped to 140 in August from 150 in July. This resulted in an unemployment rate of 2.2 percent. This was a decrease from the 2.6 percent unemployment rate which existed in August 1963.

Employment in the Juneau labor market area should show a seasonal decrease in September but is expected to continue at a higher level than in 1963.

FAIRBANKS, ALASKA

AUGUST, 1964

Population in City Limits 15,051	Population in Trade Area 39,927	Number of Occupied Dwelling Units 4,964
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EMPLOYMENT TRENDS

	August 1964	Percent change from	
		July 1964	August 1963
Mining	230	0	- 4
Contract Construction	1,690	+16	-27
Manufacturing	300	- 3	0
Transportation, Communication and Public Utilities	980	- 4	+ 8
Trade	1,720	+ 6	+ 2
Finance, Insurance and Real Estate ..	420	- 5	- 2
Service and Miscellaneous	1,210	0	- 8
Government	5,480	+ 2	+ 8
Other	1,610	+ 8	- 2
Total Employment	13,640	+ 4	- 2
Total Unemployment	460	-32	-18
Total Civilian Work Force	14,100	+ 2	- 3
Percent Unemployed	3.3		

SELECTED BUSINESS DATA

Postal Receipts	\$55,599	-17	- 1
Telephones in Service	5,559	0	+ 4
Lighting and Power Customers	9,139	- 1	+ 2
Municipal Water Customers	2,005	0	+26
Kilowatt Hours Sales	5,931,626	- 3	+14

Fairbanks

Total civilian employment in the Fairbanks labor market area rose to an estimated 13,640 in mid-August according to the Employment Security Division of the Alaska Department of Labor. This was an increase of 480 over the previous month's total. Additional job opportunities in the contract construction, government, and trade employment areas accounted for all of the increase. All other industries showed small losses in total employment except the mining and service industries which remained unchanged.

Total employment in August 1964 was 290 jobs less than the figure for August of last year. This was primarily due to decreased employment opportunities this year in the contract construction industry.

Estimated total unemployment in August 1964 was down to 460 from the previous month's total of 680 jobless. The rate of unemployment decreased from 4.9 to 3.3 percent, which is a typical July to August movement in Fairbanks. Compared to last year, both the amount and the rate of unemployment registered a decline.

Employment opportunities in the Fairbanks labor area are expected to level off and remain relatively constant through October. During August approximately \$3 million in contract awards were announced and an additional \$2 million in construction projects were advertised for bid.

ANCHORAGE, ALASKA

AUGUST, 1964

Population in City Limits 49,700	Population in Trade Area 102,100	Number of Occupied Dwelling Units 14,311
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EMPLOYMENT TRENDS

	August 1964	Percent change from	
		July 1964	August 1963
Mining	530	- 2	0
Contract Construction	4,490	+21	+30
Manufacturing	740	-12	0
Transportation, Communication and Public Utilities	2,330	0	+ 6
Trade	4,400	+ 1	- 1
Finance, Insurance and Real Estate ..	1,080	+ 1	- 2
Service and Miscellaneous	3,170	- 2	+ 1
Government	12,950	0	+ 3
Other	3,210	+ 4	+ 5
Total Employment	32,540	+ 2	+ 5
Total Unemployment	990	- 8	-29
Total Civilian Work Force	33,530	+ 2	+ 4
Percent Unemployed	3.0		

SELECTED BUSINESS DATA

Postal Receipts	\$147,662	-15	+11
Telephones in Service	26,364	+ 2	+ 7
Lighting and Power Customers	23,576	0	+ 3
Municipal Water Customers	9,657	- 1	- 4
Kilowatt Hours Sales	18,937,072	+ 6	+ 6

Anchorage

Total civilian employment in the Anchorage labor market area moved seasonally upward and reached 32,540 in August, according to the Employment Security Division of the Alaska Department of Labor. This was an increase of 770 jobs over the July employment level. The restoration and rebuilding of earthquake damaged facilities combined with new construction activity in Anchorage and adjacent military bases provided impetus for the strong monthly increase.

Total civilian employment in August 1964 in the Anchorage area was an estimated 1620 above the job level there last year. The main increases in employment opportunities this year, have taken place in earthquake related activities. Due to reconstruction demands, increased job opportunities exist this year in the contract construction, utilities and other employment areas.

Total estimated unemployment in the Anchorage area was 990 in mid-August. This was 90 below the jobless total in mid-July and 410 below the August 1963 total. In August last year 4.3 percent of the civilian work force was unemployed. This year's August unemployment rate in the Anchorage area is only 3.0 percent.

The Anchorage labor market area includes the city of Anchorage, the residential communities of Campbell, Spenard, Merrill Field, Mountain View, Elmendorf Air Force Base, Fort Richardson, Whitney and interconnecting highways.