



# REVIEW OF BUSINESS AND ECONOMIC CONDITIONS

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UNIVERSITY OF ALASKA, INSTITUTE OF SOCIAL, ECONOMIC AND GOVERNMENT RESEARCH

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## Forest Resource Utilization in Alaska

The Alaskan forest products industry's present economic impact and growth potential make timber one of the state's most important resources. In fiscal year 1966, the value of timber products produced in the state was about \$73 million. This places timber production second in economic importance only to Alaska's fishing industry. Some 2,400 persons were employed in timber harvesting and processing in 1966, with an average monthly wage just short of \$800. This employment is important to the state's economy because it is relatively stable throughout the year and does not generate large seasonal unemployment or a transient labor force. In 1966 the personal income to employed residents amounted to about \$24 million.

The state is richly endowed in forest resources. The speed with which these resources are utilized and developed is a matter of technology and economics.

Alaska has approximately 120 million acres of forested lands. The U.S. Forest Service currently estimates 28 million acres to be "commercial forest"—land capable of producing an annual crop of 20 cubic feet of wood per acre. The estimated acreage may be increased as more detailed inventory data is gathered and as new technology outdates the present definition. Under current methods of inventory, the state's commercial forest land is estimated to contain about 52 billion cubic feet of timber. This includes some 215 billion board feet of merchantable timber in trees large enough to classify as sawtimber. The estimated sustained-yield annual cut that could be harvested is presently considered to be about 1.5 billion board feet.

### Regional Stages of Development

Southeast Alaska, the panhandle area, has the highest developed timber economy in the state. Alaska's two pulp mills, one at Ketchikan and one at Sitka, produce over

1,100 tons of high quality dissolving pulp per day. Large sawmills operate at Haines, Wrangell and Ketchikan in addition to smaller mills, oriented toward local use, at several other communities.

The timber economy of Southeast Alaska is slowly increasing and is, relative to other areas of the state, very stable. This is primarily due to the multiple-use and sustained-yield policies of the U.S. Forest Service. This federal agency administers the Tongass National Forest, which comprises some 16 million acres, or nearly all of the land area of the Panhandle. Excepted are several communities and their immediate adjacent lands. Minor acreages are titled in trust to Indian tribes and, in the northern portion near Haines and Skagway, considerable acreage is owned by both the state and private citizens.

Southcentral Alaska, including the Prince William Sound area, the Kenai Peninsula and the Kodiak Island group, has the next highest developed timber economy. Several small sawmills operate in this area, but there is as yet no utilization of pulpwood. Most of the Prince William Sound area, the east and upper Kenai Peninsula and Afognak Island—a total of about five million acres—are federally administered by the U.S. Forest Service as the Chugach National Forest. The U.S. Fish and Wildlife Service administers some 1.8 million acres of the Kenai Peninsula as the Kenai National Moose Range. The remainder of the peninsula and the Kodiak Island group is partially state selected land with fairly widespread private holdings intermingled.

The Susitna-Matanuska valley area comprises some five million acres and is primarily state selected land or is privately owned. Several small mills produce spruce lumber and cabin logs for local consumption, but there has been only minor utilization of the extensive hardwood resources of this area.

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Four great river valleys in the Interior—the Kuskokwim, Tanana, Copper and Yukon—have large forest acreages. The potential for use and development of this timber is considered to be much less than for other areas of the state, primarily due to poor accessibility, smaller size trees and less volume per acre. However, specialized

sawn products industries and pulpwood harvesting have been based on a similar type of resource in the eastern United States and Canada. The prime requisites for utilizing Interior timber are improved access and better economic conditions and markets.

Table 1 presents a summary of commercial forest land in Alaska. Table 2 indicates current estimates of total timber reserves in the areas and a conservative estimate of annual cuts which could be removed without depleting the resource under current conditions of management and technology. Increasingly accurate and intensive inventory will probably prove these figures too conservative. Based on current approximations, timber in Interior and Western Alaska could support at least nine pulpmills or eighteen smaller wood processing mills.

**TABLE 1**  
**MAJOR COMMERCIAL FOREST LAND AREAS<sup>1</sup> IN ALASKA**  
**BY OWNERSHIP, SPECIES AND ESTIMATED COMMERCIAL ACREAGE, 1966**

Geographic Area	Major Ownership or Administrator	Major Species Composition	Commercial Forest Acreage (thousands)
Southeast	U.S. Forest Service	Sitka Spruce 40% Western Hemlock 60%	4800
Haines-Skagway	State 80% Private 15% Other 5%	Sitka Spruce 60% Western Hemlock 30% Cottonwood 10%	110
Prince William Sound & N.E. Kenai Peninsula	U.S. Forest Service	Sitka Spruce 80% Western Hemlock 20%	525
Afognak Island	U.S. Forest Service	Sitka Spruce	230
Kenai Peninsula Cook Inlet	State 37% Private 8% U.S. Fish & Wildlife Service 49% Bureau Land Mgmt. 6%	Sitka Spruce ) White Spruce ) 82% White Birch & ) Other Hardwood ) 18%	340 40
Kodiak Island Group	State	Sitka Spruce	30
Matanuska-Susitna Valley	State & Private	White Spruce 26% Birch 63% Populus 11%	1300
Copper River Valley	Mainly Bureau Land Mgmt. Some State and Private	White Spruce	1000*
Tanana River Valley	Primarily State, easily accessible Private, some Bureau of Land Mgmt.	White Spruce 60% Birch & Populus 40%	2000*
Kuskokwim River Valley	Bureau Land Mgmt.	White Spruce	170
Yukon River Valley	Bureau Land Mgmt.	White Spruce	3000*
		Total	13,545

<sup>1</sup>Only river valleys estimated in the Interior; inadequate data preclude estimates for other areas.

\*Preliminary estimates only; inventory data not available.

SOURCE: Haring, Robert C. and Michael R. C. Massie, A Survey of the Alaskan Forest Products Industry. I.S.E.G. No. 8, University of Alaska 1966.

### Timber Harvest

The annual timber harvest has been steadily increasing for more than a decade. As shown in Table 3, the annual harvest in 1950 was about 72 million board feet; 231 million board feet in 1955; 366 million board feet in 1960 and over 508 million board feet in 1966. Most of the increase can be attributed to larger annual cuts in the Tongass National Forest. The cut in the Chugach National Forest has not changed significantly during the same period and no export-based industry is located there.

As the state continues its land selection program, timber harvest on public domain lands decreases, with a corresponding increase on lands administered by the Division of Lands of the Department of Natural Resources. Since 1960 state timber sales have increased from less than one-fourth of a million board feet annually to over 31 million board feet in 1966. As the state expands its ownership of forested lands, an increased forestry staff and forest management program will be necessary.

**TABLE 2**

**ESTIMATED TIMBER VOLUMES ON COMMERCIAL FOREST LAND BY GEOGRAPHIC AREA AND ALLOWABLE ANNUAL CUT, 1966<sup>1</sup>**

Geographic Area	Estimated Timber Volume (millions of board feet)	Estimated Allowable Annual Cut
Southeast	145,000	825
Haines-Skagway	1,800	25
Prince William Sound and N.E. Kenai Pen.	9,000	30
Afognak Island	5,300	38
Kenai Peninsula-Cook Inlet	2,700	40
Kodiak Island Group	300	4
Matanuska-Susitna Valley	5,000	75
Copper River Valley	1,000*	15*
Tanana River Valley	7,000*	90*
Yukon River Valley	10,000*	100*
Kuskokwim River Valley	800	6
	<b>187,900</b>	<b>1,248</b>

<sup>1</sup>Under current conditions of estimated inventory, and evaluation; only major river valleys estimated for the Interior.

\*Preliminary estimates only; inventory data not available.

SOURCE: Derived by the author from available forest inventory and records of the U.S. Forest Service, Alaska Division of Land and the Bureau of Land Management.

**TABLE 3**  
**TIMBER HARVEST VOLUMES**  
**BY MAJOR MANAGEMENT AGENCY**  
**ALASKA 1950-1966**  
(Thousands of Board Feet)

Year	U.S. Forest Service Tongass National Forest	U.S. Forest Service Chugach National Forest	United States Bureau of Land Management <sup>1</sup>	Alaska Division of Lands	Total
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
1964		445,109	5,666	18,144	468,919
1965		404,444	3,263	24,161	431,868
1966		476,000	848	31,220	508,068

<sup>1</sup>The 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. Omits several million feet harvested from Bureau of Indian Affairs administered land and private ownerships.

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, 1966.

Table 3 indicates the major timber harvest volumes by management agency. The total harvest of timber in Alaska was estimated to be slightly more than 540 million board feet in 1966. This figure includes the harvest for the major land administration agencies as shown, and also includes lesser volumes cut on private lands, Indian reservations, and through free use permits issued by the Bureau of Land Management.

In 1966 timber harvested in Alaska was still less than 50 percent of the amount that could be harvested each and every year on a sustained-yield program. New and increased sawmill capacity based on an expanding Japanese market can be expected to again increase the annual cut significantly in 1967. However, it will be many years before most of Alaska's commercial forest land is developed to sustained-yield production. The reasons for this slow over-all development include high transportation and handling costs in the more remote areas, high

logging costs which increase as harvesting occurs further inland, and the high capital and operating costs involved for new milling facilities under current and expected short-term economic conditions.

**Forest Products Industry**

The forest products industry in Alaska is concentrated in the Panhandle where two pulpmills and six sawmills account for most of the state's annual production. There are current plans for some industry relocation and the establishment of some new mills. However, the establishment of a third pulpmill in the Panhandle does not appear likely—at least in the immediate future. A large modern sawmill with probably the largest capacity in the state has recently begun operation. The possibility of a veneer mill being located in the Panhandle is still uncertain. At least one sawmill will discontinue operation or relocate in 1967.

Western and Interior Alaska industry production has not as yet become stabilized. In recent years a hardwood mill in the Susitna Valley has made several unsuccessful attempts to operate in the high grade birch and cottonwood lumber market. A wood treating plant at Whittier has not operated since 1963. A sawmill in the Seward area suffered severe fire damage and has just recently been rebuilt. Possible new capacity in Southcentral Alaska and the railbelt area in the next few years might include

one or two mills cutting cants<sup>1</sup> for the Japanese export market and a hardwood complex. Currently only one softwood mill of any size is operating in Southcentral Alaska.

Many very small sawmills operate in Interior and Western Alaska. These are locally oriented and operate intermittently throughout the year. Frequently, as many as 25 or 35 of the 70 some known operators of this type do not operate in any one year. Their total production is estimated at only some two to three million board feet per year. Two or three mills did show some increases in capacity in 1966 and locally oriented sawmilling on the Kuskokwim river is expanding.

Wood products output for Alaska in 1966 is shown in Table 4. While pulp is the major product, cants for export have replaced the traditional one and two-inch lumber on both a quantity and value basis as the second most important product. All the production shown in Table 4, with the exception of about 14 million board feet of lumber, originates in Southeast Alaska.

Over 95 percent of all the logs, cants and lumber are exported to Japan. Usually all of the output of the Sitka pulpmill goes to Japan, although 20,000 tons were marketed in the continental United States in 1966. The output of pulp from the Ketchikan mill is directed to both foreign (approximately 20 percent) and domestic American markets (approximately 80 percent). Destinations for the major portion of Alaska's forest products output are shown in Table 5. Foreign markets receive about 58 percent of the output with some 50 percent going to Japan. Approximately 42 percent is directed to United States markets of which about 3 percent is marketed in Alaska.

The annual estimated value of all wood products is shown in Table 6. The upward trend is one of steady and significant increase over the past several years. While the major portion of the value can still be attributed to pulp production, a large part of the increase from 1965 to 1966 is the result of increased cant production for Japanese markets. This is expected to increase significantly again in 1967.

**Trade With Japan**

Japan is Alaska's foremost customer for forest products. On a log scale basis, Japan imports about 50 percent of all the timber and wood products produced in the state. This is the equivalent of about 272 million board feet for 1966. Approximately 5 percent of the total was in

**TABLE 4**

**ESTIMATED MAJOR WOOD PRODUCTS OUTPUT IN ALASKA, BY GEOGRAPHIC ORIGIN, 1966**

Product and Origin	Volume
<b>LOGS (1000's bd. ft. log scale)</b>	
North Panhandle .....	6,500
South Panhandle .....	8,000
<b>CANTS (1000's bd. ft. cant scale)</b>	
North Panhandle .....	31,000
South Panhandle .....	116,000
<b>LUMBER (1000's bd. ft. estimated mill tally)</b>	
Panhandle .....	11,000
Western and Interior .....	14,000
<b>PULP (production tons)</b>	
Sitka .....	180,000
Ketchikan .....	210,000

SOURCE: Derived by the author from cut and conversion estimates, data from Alaska Division of Lands, from various manufacturers, from Wood Products Directories, and from annual reports of various public and private agencies.

<sup>1</sup>Cants are sawn logs where most of the bark is removed by sawing (i.e. slabbing) either two or four sides of the log. Additional cuts are then made which result in roughly squared timbers of more or less uniform thickness.

round log form, 30 percent in cants (including minor volumes of lumber) and 65 percent in the form of pulp.

The Pacific Lumber Inspection Bureau, which scales a major portion of shipments to Japan, indicated that in 1966 some 96 million board feet of Alaskan cants and lumber was reported to or cleared by the bureau for export to Japan. A substantial increase in the flow of wood to Japan is noticeable as this same bureau reported a total scale of only 59 million board feet in 1965. Total shipments of cants and lumber, including material not scaled by the bureau, are estimated to be 150 million board feet in 1966. Pulp exports to Japan from Sitka were approximately 160,000 tons in 1966.

Consumption of timber products in Japan has increased over the past several years. This has been largely due to increased use of timber for home construction and of pulp for paper and fibreboard products. Indigenous supplies of timber in Japan are limited, and results of improved intensive forest management will not be forthcoming for several years. During the interim period sharp increases in imported forest products are likely. Wood imports increased from 2.5 billion cubic meters in 1956 to 17 billion cubic meters in 1966. Per capita consumption of wood for construction, miscellaneous building, and pulp-derived products has gone from 96 board feet in 1956 to 155 board feet in 1966.

**TABLE 6**  
**ESTIMATED VALUE OF WOOD PRODUCTS**  
**PRODUCED IN ALASKA**

**1950 - 1966**  
(Millions of Dollars)

Year	Value	Year	Value
1950	6.1	1959	36.7
1951	5.6	1960	47.3
1952	6.5	1961	48.0
1953	6.6	1962	52.3
1954	14.6	1963	54.1
1955	29.5	1964	61.0
1956	31.6	1965	57.5
1957	33.1	1966	73.0
1958	29.2		

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

The Japanese favor raw or semi-manufactured wood products due to home advantages in milling efficiency and labor costs in comparison to other countries.

Major sources of wood for Japan are the Philippines (mainly hardwood logs); Malaysia (hardwood logs); Canada (softwood lumber); U.S.S.R. (softwood logs and some lumber); and the U.S. (softwood logs, cants, and lesser volumes of chips and lumber). Currently the Philippines is the largest supplier of logs, followed by the U. S. and the U.S.S.R. Canada is by far the largest supplier of lumber.

Currently three specially built lumber and pulp carrying ships are regularly plying the ocean between Alaska and Japan. These ships are named after Sitka, Wrangell and Haines. The first is a specialized pulp carrier, the second carries both pulp and lumber, while the third is a specialized lumber carrier. A fourth ship, the "Ketchikan Maru", is currently under construction. Other ships frequently used on the Alaskan run are the "Yamatada Maru", one of the first Japanese lumber carriers, the "Georgia Maru" and the "Hoei Maru." The lumber ships carry between three-and-one-half and four-and-one-half million board feet of cants and lumber. Their round trip time to Japan is slightly more than 30 days.

Future trends might be summarized as follows. The Philippines is moving more to home manufacture and pursuing a policy of decreasing log exports. Malaysian shipments of pulping timber are not always uniform. Increased dependence on hardwood logs, chips or roughly manufactured products from the U.S. and the

**TABLE 5**

**DESTINATIONS OF THE MAJOR PORTION OF THE**  
**TIMBER AND WOOD PRODUCTS OUTPUT OF**  
**ALASKA, 1966**

(Volumes based on product equivalents in 1000's of bd. ft. log scale)

Destination	Volume	Percent
<b>Foreign</b>		
	(1000's bd. ft.)	
Japan	271,800	50
Other	46,200	8
Foreign Total	318,000	58
<b>United States</b>		
Continental	210,700	39
Alaska	15,200	3
U.S. Total	225,900	42
Total Output	543,900	100

SOURCE: Derived by the author from U.S. Customs Export Declarations, information supplied by manufacturers and miscellaneous data on file I.S.E.G. Research.

U.S.S.R. might develop. Similarly, round and roughly shaped softwood products will be purchased in increasing amounts from these two countries. However, from the limited evidence available, it appears the Japanese are having difficulties in negotiating terms and conditions for annual contracts with Russia. This may be an important factor in future purchase decisions. Canada can be expected to be a stiff competitor in finished softwood lumber.

### Employment

Forest products industries are important to Alaska's employment picture because they provide substantial and stable job opportunities. In 1965, the logging, lumber and pulp industry provided about 20 percent of the civilian, non-government employment in Southeast Alaska. These jobs, unlike fisheries, tourism and construction, are not seasonally oriented to any significant degree. Employment of this type combats "summer inflation" and provides stability to the economy.

Table 7 indicates seasonal employment in the forest products industries. The pulp industry provides a major part of the total employment and is the most stable on a monthly basis. Sawmills are reasonably uniform in employment although a drop does occur in mid-winter.

Similarly, logging employment, while the least uniform, only declines significantly during the four winter months of December, January, February and March. This can be expected in any northern interior climate where operations are hampered by severe cold and/or deep snow. There is a similar effect in northern coastal climates where wet snow, rain and wind frequently occur.

Average monthly employment, income and estimated annual payroll for the logging, lumber and pulp industries for the last 29 years are shown in Table 8. During the last few years the timber industry has provided over 2,000 jobs annually. Currently the average monthly income is just short of \$800, and the total payroll per year is in excess of \$23 million.

As a forest industry economy develops, more and more well-trained year-round employees will be needed. The multi-job man and the seasonal man proportionally will have less job opportunities. If the Alaskan labor force cannot supply this need, increasingly large amounts of labor will be imported from out of state. However, importing skilled and relatively stable labor into a low population area with a high development potential could be very beneficial.

**TABLE 7**  
**SEASONAL EMPLOYMENT IN ALASKA'S FOREST INDUSTRY**  
**ACCORDING TO INDUSTRY AND RELATIVE IMPORTANCE**

FISCAL YEAR 1966

Month	Logging Camps and Logging Contractors	Sawmills, Planing Mills and Other Millwork	Pulp, Paper and Container Mfg.	Total Monthly Employment Log, Lumber and Pulp
July	961	336	1321	2618
August	975	328	1328	2631
September	997	326	1361	2684
October	1043	337	1279	2659
November	853	355	1140	2348
December	420	286	1252	1958
January	214	190	1031	1435
February	295	358	1058	1711
March	517	331	1231	2079
April	861	371	1309	2541
May	1018	410	1275	2703
June	997	428	1077	2502
Annual Average	762	338	1222	2322

SOURCE: Derived from data supplied by the Employment Security Division, Alaska Department of Labor.

### Forest Fire Protection

A successful forest utilization program depends in part on a forest fire protection system which guarantees sufficient growing stock and the mature timber necessary to sustain industry.

Protection against forest fires is provided by the U.S. Forest Service in the Tongass and Chugach National Forests in Southeast and Southcentral Alaska. The Bureau of Land Management provides protection for the rest of Alaska, including private and state lands which are covered by a contract on behalf of the state. The BLM divides fire fighting costs into two categories: pre-suppression and suppression. Pre-suppression includes year-round expenditures for staff, supplies, research and communications while suppression includes the additional costs of actual fire-fighting.

In 1966 the State of Alaska contributed over \$145,000 for pre-suppression costs and some \$367,000 for suppression, less a credit of about \$70,000 earned by contributing needed men and equipment. Current pre-suppression expenditures by the BLM are about \$1 million annually.

Large fires incur large costs. The 1966 "West Fork" fire in the Taylor Highway-Canadian border area incurred direct suppression costs of about \$1,546,000, and control took in excess of 30 days. Limited evidence by research personnel indicates that losses in damage to timber, watershed, fish and wildlife and their habitat, and the potential of the area to attract tourists in the future were approximately twice the suppression cost.

In the last 10 years the number of fires per year has ranged from about 100 to 400, for an average of about 200 per year. The acreage burned varies widely. Some years only a few thousand acres are lost, while in bad fire years several hundred thousand acres may be destroyed. In 1966 over 600,000 acres were burned, while in the previous five years losses averaged only some 14,000 acres per year. Losses previous to 1960 were considerably higher.

In spite of heavy expenditures, careful planning, a permanent staff supplemented by additional summer workers and modern equipment, fire losses are particularly bad some years. The problem is twofold. First, the immensity of the control area—225 million acres, much of it uninhabited—makes overall, fast suppression almost an impossibility. Second, with doubled or tripled expenditures in staff, planning, and equipment, severe losses would be reduced in the less frequent "bad fire years", but there would be adverse benefit-cost ratio in normal years. This would contribute indirectly to increased

taxation. Some increased expenditures might well be made, however, in gaining more knowledge of Alaskan fires.

### Future Development

Alaskan forest products manufacturers, who presently face local markets too small to support large and diversified mills, are already moving to logical alternatives.

**TABLE 8**  
**AVERAGE INSURED EMPLOYMENT, YEARLY PAYROLLS**  
**AND AVERAGE MONTHLY INCOME IN ALASKA'S**  
**LOGGING LUMBER AND PULP INDUSTRY**  
**CALENDAR YEARS, 1938-1966**

Calendar 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
1964	2100	773	19.0
1965	2200	775	20.5
1966	2467	797	23.6

SOURCE: Employment Security Division, Alaska Department of Labor.

Briefly summarized, these are export markets—both foreign and domestic, product specialization, and low degree of primary manufacturing. Chips and pulp, cants and rough lumber, and, possibly in the future, poles, veneer and some specialty products can supply substantial economic benefits for several years.

These benefits will be maximized if large and diverse markets are encouraged and obtained. Good buying competition is both important and advantageous. In future years, after more of Alaska's forests have been converted from "old growth" timber to managed forests, and removal and growth approach a balance, additional manufacturing opportunities and manufacturing of a higher degree will be possible.

There are several very valid reasons why today most of Alaska's manufactured forest products are imported from the Pacific Northwest. The most obvious reason, as mentioned previously, is the small statewide market. With a total population of approximately 276,000 people, Alaska does not provide a large market for any specific product such as sheathing, plywood, hardwood veneer, flooring, paper, etc. Large mills depending on economies of scale are foremost in producing these products. They need access to large markets, and, if located in Alaska, would be risking almost total dependence on export markets. At the same time, they would be building and operating under a relatively high cost structure.

Second, retail outlets, wholesale outlets and military users are largely located in or around Fairbanks and Anchorage. Servicing these markets requires handling, packing, inventory, shipping and other facilities that can be coordinated just as easily and competitively from Seattle as from, for example, the Panhandle.

Third, the diversity of species, sizes shapes, milling, and additional finishing is a major problem. Mills in Alaska would have to be diversified manufacturers without the advantage of specialization — again for a small market. On the other hand, a mixed car of several products easily can be assembled in the Northwest and directed to a wholesale or retail outlet without excessive handling

and transfer costs. These products are frequently well known nationally advertised brands, of good quality known to meet Federal Housing Authority regulations and military specifications. Other reasons can be advanced, but basically they are similar to or variations of these three.

As major population areas increase in size, small local mills will begin to compete more heavily with the imports, particularly in specific, rough, basic products that could be termed marginally substitutable. The major problems will be obtaining technical and operating skills and services and the financing necessary for improving product-processing to higher degrees of manufacture.

However, timber resource utilization for a high degree of in-state consumption is several years away. During the interim period Alaskans will be acquiring skills and training, along with an appreciation and understanding of a forest-based economy, which will make desirable changes and advances easier in the future.

A variety of topics is being considered for presentation in future issues of the *Review*. Articles currently in preparation include studies of Alaska's petroleum industry, air transportation industry, and a review of the Native land claims question.

The staff of the *Review* welcomes any suggestions from readers concerning possible subjects for future issues.

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Dec. 1966	The Juneau Economic Community
Jan. 1967	Alaska's Economy in 1966
Feb. 1967	The Natural Gas Industry in Alaska
March 1967	Disposal of the Alaska Communication System
April 1967	The Kodiak Economic Community

**CORRECTION**

In the April 1967 issue of the *Review*, "The Kodiak Economic Community", an error was made in the figures for the catch of salmon in 1966. (Table 2, page 5.)

The correct figures for the Kodiak salmon catch for 1966, as well as the comparative data for 1965, are:

	Landings (lbs.)	Percent of Total Alaska Landings	Value to Fishermen (\$)	Wholesale Value of All Products (\$)
Salmon 1965	16,562,000	6.0	1,744,484	6,003,722
1966	51,934,591	15.6	6,443,727	n.a.