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DUTCH HARBOR

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Linda Lathe July 7, 1949

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ALASKA TODAY



Juneau, the capital of Alaska, is situated on narrow Gastineau Channel. Here is the Alaska Historical Library and Museum, with its many interesting exhibits, and the great Alaska Juneau gold mine. The bridge leads to Douglas. (Courtesy Alaska Steamship Co.)

Alaska Today

by B. W. Denison

AND ASSOCIATES



The CAXTON PRINTERS, Ltd.

CALDWELL, IDAHO

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Foreword

THIS is a book for persons who believe that life in a new environment may offer more opportunity than their present one. Alaska unquestionably is a land of opportunity for people of initiative and energy for the simple reason that in Alaska the proportion of area and resources to population is greater than in any other division of the United States.

Proof of this is found in these pages. Specific illustrations of successful careers are given in Chapter 24, "Who's Who in Alaska." In studying these biographical sketches, the reader will readily perceive that so-called pioneer life in America's last frontier is merely active participation in recognized pursuits common to any industrial, agricultural, or urban community in the States.

Evidence of a new and stronger economy in Alaska is indicated by the initiative and activity of its residents in many phases of economic life, such as ground and air transportation, enlarged tourist facilities, and the lumber industry. These are all favorable signs, pointing to the day when Alaska's economy will be controlled by its permanent residents with lessening control by "outside" interests and capital.

Alaska is a good place, a country of opportunity for anyone willing to work wholeheartedly for the development of the land of his choice.

E. L. Bartlett
Congressional Delegate for Alaska

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CHAPTER I

The Living Land

THE END of World War II saw Alaska "standing at the opening verse of the opening page of the chapter of endless possibilities." By the grim magic of war, the erstwhile Cinderella of Empire had been transformed into a princess, tendering her favors—her wealth of resources—to a battle-scarred but ambitious post-war world.

Her own wounds had not healed. Per capita, Alaska lost more sons in the air, on the sea, in the jungles of Guadalcanal, and in the foxholes of the Aleutians than did any other part of the United States. At Okinawa she lost her greatest defender, Lieut. Gen. Simon Bolivar Buckner, Jr., who previously had left his native Kentucky in favor of the "Great Land."

Alaska did not complain about her sacrifices. Instead, year after year, she exceeded her quota for war bonds by a higher mark than most sections of the American empire. Emerging from a static prewar condition, Alaska gave evidence that she is inhabited by a virile people who were determined to follow through on wartime development of the country. Washington politicians took cognizance of that determination. Congressional committees and department heads toured the Territory, discovering potentialities that the sourdoughs, for seventy-five years, had been heralding and struggling to develop.

Not all of Alaska's influential visitors conceded that she is ready for statehood; sparse permanent population and lack of territorial revenue were cited as reasons for withholding the recommendation that would set in motion machinery leading to statehood. But it is the consensus of the highest national authorities that Alaska has demonstrated her ability to become one of the most useful participants in the Union.

Regardless of dissenters, the day is not far off, as time is measured by men of vision, when that part of the continent north of $54^{\circ} 40'$ will rank high in agriculture and manufacture of essential industrial products as well as in fishing, mining, forestry, and furs. It is even possible that there is more wealth of natural resources in Alaska than in all the land south of the old Mason and Dixon's line. Alaska may be producing coal when Pennsylvania, Kentucky, and Illinois are scraping the bottom of the bin. The hidden mineral wealth of the Northland is an enigma as yet unsolved but, on the basis of what has already been disclosed, the speculative balance is on its side.

In only a few years, Alaska has proved that she can yield ores found nowhere else in North America. Some minerals recently discovered have been known heretofore only in remote corners of the Old World. Virtually all the platinum mined under the American flag comes from one little sector of northwestern Alaska. Jade, formerly considered indigenous only to China, is being taken out of the valley of the Kobuk River in great quantities.

In the bare stretches of the Arctic are small lakes of pure seepage oil. Although seepage oil does not always indicate deep subsurface oil, experts declare there is plenty to be found. The United States Navy owns 35,000 square miles of land of which these potential oil fields are a part and has controlled the reserve for twenty-two years. Recent drilling for oil has received encouraging reports.

Alaska is without steel mills but there is no reason to doubt that she will have them. Near the point where the Alaska Highway leaves Canada for United States territory, according to Father Bernard R. Hubbard, the "glacier priest" who for twenty-six years has explored all parts of Alaska, there is a mountain on the Alaska side which contains heavy deposits of manganese ore.

This intrepid Jesuit priest, whose knowledge of Alaska neither scientists nor old-time sourdoughs question, is definitely enthusiastic about many of its phases. He has done as much to publicize, at his expense, the vast possibilities of Alaska as has its press and its development board. To millions of Americans in the last six months of the war, Father Hubbard pictured, in brilliant technicolor, the Territory's outstanding possibilities and achievements. In his latest film, he showed farm scenes that would stir the heart of any agriculturist: cabbages so big that an eight-year-old child



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A solid mass of trees on either side of the mouth of the Klahini River, Burroughs Bay, Tongass National Forest. (Courtesy Pulp and Paper Industry Magazine, U.S. Forest Service.)

could scarcely lift them; strawberry plants as high as the child's waist; potatoes in fields that yield 15 to 20 tons an acre!

West Coast farmers consider these "spuds" the best obtainable anywhere as seed potatoes. They have bought the entire output of the experiment station at the University of Alaska and two potato specialists have sent scouts among Alaskan farmers to buy up all available stock.

These are not myths. The camera does not lie. Nor does personal investigation of Alaska's increasing agricultural ventures and its growing markets coincide with reports of the hardships and difficulties that beset the Alaskan farmer. Understatement of the Territory's agricultural potentialities as well as overstatements concerning the hazards of marketing produce have deterred farm settlement in Alaska. Improvement in roads and airplane transportation and particularly the rapid development of cold storage facilities have had insufficient publicity.

Nature molded Alaska to be one of the greatest of fur-producing countries. Early Russian explorers spurned the Territory's gold; mining was forbidden because it was believed to interfere with

the fur industry. Prior to the war, there were 300 licensed fur farmers in Alaska, 12,000 in Norway and Sweden. But the Scandinavian countries, including Finland, are not so large as Alaska, nor do they produce fur of as good a quality. Just before World War II, Alaskan mink pelts sold in London for a fourth more than did those from Scandinavia or Greenland. Land for fur ranches in Alaska can be obtained for very little money. Some is free. Fish, the chief food of pen-raised mink and foxes, is more plentiful here than anywhere else. Marketing of pelts and breeding stock has been simplified by expansion of air transport and by reduction in air express rates.

Alaska's forests of spruce, hemlock, and cedar, covering 30,000 square miles of virgin territory, can supply, in perpetuity, one-fourth the pulp needed for newsprint in all the United States. At present the United States is buying one-half its newsprint from Canada. Because in the past it has been considered less costly to cut and process timber in Canada than in Alaska, the conclusion does not follow that such a condition will always prevail. Increased permanent population in Alaska should make labor a reliable factor, more plentiful, and possibly cheaper than labor imported from the States. Lumbering has never progressed in Alaska, partly because of the high cost of transporting labor.

So far as the relative location of forests and water transportation is concerned, and the abundant natural forces for power—swift streams and falls—Alaska is conceded to be favored. In two of the war years it was demonstrated that moving spruce timber from Alaska to Puget Sound for use in the manufacture of airplanes was practicable and profitable, as well as necessary. For certain purposes, Alaska's Sitka spruce is better timber than almost any found in Canada east of the Rockies. There are large quantities of the cheaper kinds of wood—used for pulp—and there seems little doubt that the industry will soon find a way to make the handling of it feasible.

The broad picture of Alaska is one that can be viewed only through the eyes of prophets—men of vision and faith. The Northland is the personification of power. Down its mountains rush streams that will eventually turn the wheels of great industries at low cost. The earth's surface, its subsoil, its natural channels for transportation—and the airways above—are a challenge to man's



Part of the herd of buffalo that have increased from 23 to more than 400 on Alaska's luxuriant grass. (Courtesy Fish and Wildlife Service.)

ingenuity. His petty triumph over nature is still in an embryonic stage. As his knowledge and enterprise advance, he will have to go far to find a more fertile field for them than the Great Land.

Many scientists envision the Northland as "the Living Land." Inherently, disease of both man and mammal seems less prevalent in colder climates than in warmer ones. In fact, many of the ailments of the northern natives were brought from warmer zones by white men. The virgin North today is beckoning to man, inviting him to face its challenge and seize the opportunities it offers. And it is not a defiant challenge. Life in Alaska is not one long battle against a hostile wilderness, as it frequently has been painted. There are vast stretches of earth whose surface has scarcely been scratched by humans. This is an appealing feature to some; to others it is not. For those who want some civilization mingled with their pioneering efforts, Alaska's towns offer as much inducement

as similar towns in the United States. Robert Service's old dogma that one must be a superman to thrive in the North has long been discounted. "That surely the Weak shall perish, and only the Fit survive" might just as well have been written of New York or any other place as of the Yukon. Under the impetus of the struggle to preserve mankind and to maintain a friendly world, the real Alaska has finally become known to the world. As a result, the population will probably increase from thousands to millions.

Aside from the universal tragedy of war, in which she shared heavily, the Great Land was definitely benefited through war activities. The two billion dollars or more which the United States spent in Alaska had a salutary as well as a protective effect. It opened new highways and harbors; built bridges, tunnels, airports, communication channels; made vital improvements on the Alaska Railroad; trebled agricultural production; utilized the Territory's vast forests; and developed new enterprises in mining and fisheries. In short, war set Alaska on her feet economically.

Important alike to Alaskans and newcomers, the Territory's high cost-of-living specter was gone with the wind. The Office of Price Administration was partly responsible, but competition between the States and home industry proved a strong factor in lowering prices. Almost everything but wages came down in price. Food and drink were cheaper; rents were equalized; coal and gasoline costs were reduced. Even liquor prices were set at a sane level.

Airplane transportation rates to the Territory, and within it, were cut for both freight and passengers. Boats, planes, new streamlined buses, and the rejuvenated railroad competed.

Ghost towns were reborn and became thriving villages.

Overnight, Alaska became a good place to live.

Indicative of the interest in Alaska is the fact that the War Department published an educational manual called the *G.I. Roundtable*. Subjects discussed were: "Should I go to Alaska? Should I take my family? How do I get there? What kind of climate does Alaska have? Who built Alaska? How is it governed? How do Alaskans make a living? Women in Alaska; education and health; entertainment and amusement; religious and social life; transportation and communication; Alaska's neighbors; Alaska's future."

It is the aim of this book to answer similar questions now being asked by thousands of civilians.

Come and Get It!

IF YOU are a pioneer at heart and are willing to work hard for your just reward of health, happiness, and fortune, *come and get it!*

These words, in effect, are the message of the Alaska Development Board created by the legislature as the era of postwar progress approached.

The new group, composed of one representative from each of Alaska's four judicial divisions with the governor as a fifth member and chairman, went into action at once. Its motto is: "*Do something—then do something more; let others take care of the planning.*" In a prepared statement as to what awaited newcomers, it declared, "There is ample opportunity for livelihood and for a successful future, provided one is a hustler."

The board emphasized that both old and young were welcome to Alaska. Apparently age is no handicap, for many untired old men are at the helm of important affairs. The future forty-ninth state has high regard for experience. Its richest man, who made four or five millions without digging for gold, is eighty. Alaska's best-known leader in the fishing industry is sixty-three. The man who ran the Alaska Railroad for eighteen years became a colonel in World War I. Foremost pioneers in the mining industry are well advanced in age.

After stating a preference for pioneers with brain and brawn and the desire to use them, the development board mentioned that a well-filled wallet might aid in some fields. To such adventurers Alaska's invitation read, not "Come and get it" but "Come and bring it!" Prospective settlers were warned that fortunes were not likely to be made overnight. They were cautioned against another rush like that of 1898, which netted hardship as well as gold.

Interested persons were advised to write to acquaintances in Alaska or, in lieu of that, to correspond with chambers of commerce. Better still, they were invited to "come up and look the field over."

Any pioneer venture into the Great Land will be aided by examining the results of personal investigations, but a summary of the development board's findings may also be helpful.

The development board foresaw openings "through expansion of current industry and development of new." Agricultural callings—dairying, truck gardening, poultry and rabbit raising, and general farming—will prove profitable.

The recreational field, in view of the certain rush of postwar visitors, offers opportunities to those who like to operate resorts, dude ranches, or cheery roadside inns. Such an inn would have wide rock fireplaces, over which would hang the heads of moose or big-horned mountain goats. On the mantelpiece there might be a stuffed rainbow trout, 30 inches long, while in the stream, only a few hundred yards away, there would be a thousand like it, alive and ready to lunge at the fisherman's lure. In the yard, shaded by towering spruce trees, a cute little bear cub would beg for a lump of sugar.

There are also openings for persons who can conduct sight-seeing tours to such historic spots as Chief Shakes' house at Wrangell, with its blue, red, and yellow ancestral totem poles and war canoes. The cabin of Dan McGrew and the saloon where he was shot by a lover of "the lady that's known as Lou" would make good show places. But that would be stepping out of bounds, for Dan lived across the border in Canada.

To do a good job, the new Alaskan guide would have to rehearse. He would have to cruise over a few thousand square miles of tundra, lakes, mountains, and national parks. At Skagway, formerly the famed gateway to gold at the start of the old Chilkoot Pass, he would say:

"Here, ladies and gentlemen, is the very spot where vigilante Frank Reid plugged that notorious badman Soapy Smith, the Al Capone of Alaska. And here (skipping 500 miles) is Denali, 'home of the Sun.' Someone renamed it Mt. McKinley, but the Indians had the happier designation. And there is Mt. Foraker, Denali's wife, with a snow-white cap she wears summer and winter. The smaller peaks in the distance—Mt. Russell and Mt. Dall—are their



Alaska's ubiquitous porcupine, quite a food source for pioneers. (Courtesy Fish and Wildlife Service.)

children. That, my friends, was the picturesque legend of the Athapascan Indians.

"Look! See that animal crossing the road? That's a McKinley Park wolf. For a late supper he'll have lamb chops from the baby mountain sheep you see up yonder—or maybe this will be his night for caribou steaks. There's never a meat shortage for the wolves of Mt. McKinley National Park, because this is a game sanctuary for all animals that can thrive in it.

"Watch out for that porcupine, ladies; his quills are sharper than your husband's razor blade. Oh, there's a grizzly! Walk right up and pet him, or take his picture. Alaska bears are friendly. They never attack tourists, farmers' livestock, or moose calves. Later, we'll hop over to Kodiak and take a look at the famous brown bear, the largest canivorous animal on earth!"

Moving down the west coast to Valdez, start of the Richardson Highway, the guide would continue: "We take the boat here and in a few minutes I'll show you Alaska's greatest glacier—the Columbia, 4 miles wide and 300 feet high—enough turquoise-blue ice to fill every old-fashioned refrigerator in the world for years.

"Next, we'll take a ride up the Richardson Highway. It's a wonderful scenic route, leading to the new military road at Big Delta. If we're lucky, I'll be able to show you a herd of wild buffalo that have multiplied on Alaska's lush grass faster than our famous mosquitoes.

"Here we are! Nearing the \$140,000,000 Alaska Highway now. It's a masterpiece of engineering, but some West Coast politicians say it isn't worth a dime to Alaska and—oh, look up, quick! There goes a Douglas Skymaster heading for Fairbanks. Seems out of place in this primitive land, but we can't be behind the times. Like the muddy Yukon, as big as your Mississippi, we just keep movin' along."

The guide would then look at his watch and say, "It's near midnight, my friends. Have to close the sight-seeing shop now. It won't be dark for an hour, but we observe union rules. Midnight sun or no midnight sun, it'll soon be another day and I have to punch the clock at twelve. The unions are strict here. Everyone's protected: guides, bus drivers, pilots, fishermen, farm hands, reindeer herders, and even the ivory carvers on King Island. This is Alaska, ladies and gentlemen. We've got everything you've got,



Glacier Highway is a gravel-surfaced road, leading out of Juneau. Although only 44 miles in length, it is heavily used by the suburban residents and outdoor recreationists. This scene is on the Fritz Cove section which skirts the shores of Auke Bay. (Photo by U.S. Forest Service.)

and more of it. We're modern from A to Z. See you tomorrow, and here's hoping the northern lights don't keep you awake!" (No danger of that, Mr. Guide. You know very well that the *aurora borealis* observes union rules, too, and works scarcely at all in summer.)

The transportation field, in the expansion of airline facilities, of steamboat operation on the rivers, and of passenger service and freight trucking on the improved highways, provides many opportunities for newcomers. Increased tourist travel and additional industries naturally mean more use of the roads, the development board pointed out. Some ventures of this kind might require considerable capital; others would suffice for individual occupations or for small company groups.

Although pulp and paper plants are the most important of Alaska's timber industry, many smaller activities can be profitable. More plywood production and a greater variety of wood-working plants are needed. Both skilled and unskilled labor can be used in lumbering and processing. In all forms of the wood industry the field is broad; Alaska, despite its extensive forests, has been importing annually four million dollars worth of lumber,

finished wood, and paper products, exclusive of supplies brought in for the armed forces.

Until quite recently, only a few small factories have manufactured office and home furniture; unquestionably there is room for fifty such. The forests of white birch near Anchorage offer excellent material for the manufacture of fine furniture, fixtures, and trim. These trees, which are abundant in the Territory, compare favorably with those in the hardwood sections of the States. Not all timber enterprises demand heavy investment; some can be treated as a family or small partnership undertaking. There is need, also, for big-scale operations such as plants for preservative treatment of marine piling, railroad ties, and other structural materials.

Exploratory work in fisheries has not only created need for more employees but also extended the length of the fishing season. The king crabs and shrimp, formerly taken from Alaskan waters and canned extensively in Japan, are available in great numbers. New canneries are being built for sea products which until now had not been handled commercially; new processing plants for fishery by-products, once sold almost exclusively to fur ranchers but now intended for human consumption, are in operation.

Alaska announces to farmers that the expansion of agriculture is one of the Territory's biggest jobs. Mining, aviation, railroad-ing, fur ranching, and highway construction also offer inducements to settlers. Chances for livelihood in Alaska are more varied than they were in the West, the pioneer land of a century ago. The Territory is a potpourri of past and present. One man wears a lumberjack shirt and pursues the job that goes with it; another, near by, dresses in a snappy tailored suit and sells ladies' fine lingerie or Eskimo curios. There are good opportunities among the professions. Doctors, nurses, and dentists are needed, especially the latter; there are openings in the retail trades and services; business training schools would succeed in the larger towns. Builders and contractors are none too numerous. Many fields are open to the right sort of people.

After the Alaska Development Board had said all the good things it could, pointing out scores of occupational opportunities, it put in a word for local newspapers and magazines, naming some members thought well suited to enlighten the prospective settler. The *Alaska Sportsman* of Ketchikan, a good magazine with broad



Forest ranger scaling a raft of Sitka spruce saw logs, Tongass National Forest, Alaska. The ranger's launch is in the background. (Photo by U.S. Forest Service.)

national circulation was recommended, as was the *Anchorage Daily Times*, one of Alaska's liveliest newspapers. Printed on high-gloss paper and profusely illustrated, the *Sportsman* is a mirror of Alaskan activities in homesteading, farming, prospecting, and lumbering, as well as in fishing, trapping, and hunting.

The *Alaska Life*, a magazine published in Seattle, was also suggested as a medium which reflects the Northland's progressive spirit.

The old *Alaska Weekly*—full newspaper size—is printed in Seattle. It has correspondents throughout Alaska, plus a pair of sharp shears which it admits using freely. It covers a wide field, both in Alaska and the Yukon, is read by sourdough alumni throughout the States, and is an able guide to the Northland's affairs.

All sizable Alaska communities have dailies, triweeklies, or weekly newspapers. Among them are the *Ketchikan Daily Chronicle*; the *Daily Alaska Fishing News*; the *Wrangell Sentinel*, owned by Lew Williams, the Secretary of Alaska; the *Nome Nugget*, started in 1898; the *Daily Alaska Empire* of Juneau, owned by the daughters of a former governor; the *Alaska Press* of Juneau; the *Gateway* of Seward; the *Cordova Times*; the *Fairbanks Daily News-Miner*, the property of Cap Lathrop, Alaska's number one millionaire; *Jessen's Weekly* of Fairbanks, an enterprising sheet; the *Kodiak Mirror*; *Petersburg Press*; *Sitka Sentinel*; the *Valdez Miner*; and the *Farthest North Collegian*, edited by students of the University of Alaska.

There are several school and trade papers, as well as publications of religious organizations. But strangely enough, in a land often having perpetual daylight, no one has so far thought of starting a daily "Midnight Sun"!

Divided Like Gaul

LIKE GAUL, Alaska is divided into three parts—by reason of its geography, climate, and social life.

There is a cold Alaska; a dry, temperate Alaska; and a comparatively warm, moist Alaska; three-fourths of the Territory is in the north temperate zone, barely one-fourth being north of the Arctic Circle.

Few persons realize the extent of Alaska, north, south, east, and west. They do not stop to consider that such a large territory must naturally have a wide range of temperature, precipitation, and other climatic conditions.

The map of Alaska superimposed on that of the United States is virtually a trademark of the Great Land, far better known than is the country's official flower, the timid little forget-me-not. (Why rugged pioneers chose this meek symbol is one of Alaska's mysteries.) From east to west, Alaska covers a dimensional area equivalent to that extending from South Carolina to California. North to south, it would reach from Canada to the Gulf Coast. It is one-fifth the area of the entire United States—twice as large as Texas. Alaska's coast line is longer than that from northern Maine to Key West, Florida.

The warm Japan current (Kuro Shiwo), flowing up from semi-tropical waters along the Aleutians and southern shore of the Alaska Peninsula, then down the southeast coast of Alaska, influences climate as much as does the better-known Gulf Stream of the Atlantic. As a result, the Panhandle, and the southwest coastal regions have mild winters, similar to those in Arkansas but with more moisture.

The favorite parallel for most commentators on Alaska's climate is the Scandinavian countries, Sweden, Norway, and Finland. The



Alaska, transposed on a map of the United States, is about one-fifth the area of the States. The southern shore line would reach from South Carolina to California.

comparison is apt for interior Alaska, the greater part being in the same latitude, but not for the Panhandle. The more rugged pioneers of Fairbanks, and even Anchorage, scoffingly refer to southeastern Alaska as the "Banana Belt." About one-third of Alaska's people live in this long narrow strip which extends south to $54^{\circ} 40'$.

It is as difficult as it is unfair to try to pin down Alaska's variety of climate and terrain to explicit comparisons with the other parts of the world. The Great Land has every type of climate except tropical—a fact of which the people are proud.

In addition, climate and precipitation vary in different years, just as elsewhere. If a certain locality in Alaska has an extremely cold winter or a particularly wet spring it is immediately set down in the mind of the chance visitor as being a bitterly cold or terribly

wet place. In the coastal town of Cordova on Prince William Sound, it rained nearly every day in the summer of 1931; but in 1933, when many of the residents left to attend the World's Fair in Chicago, the weather was ideal. Compared to its annual precipitation of 140 inches in a year, the area virtually suffered from drought.

The Matanuska Valley farm colony in south central Alaska, well north of the Panhandle, has a mean temperature for January of 11.9 degrees Fahrenheit. Yet Mrs. Victor Johnson, one of the original settlers, wrote to her mother in northern Wisconsin: "We are enjoying our first Christmas here with a temperature of 40 degrees above zero." The reply was: "I certainly envy you in your new home; our Christmas Day was spent indoors. It was 32 degrees below."

A more recent comparison: In Chicago at 10 a.m. on February 1, 1945, it was 2 degrees above zero. In Ketchikan, Alaska, it was 49 degrees above at 10:30 a.m. the same day. Ketchikan, of course, is one of the warmest and wettest spots in Alaska, but even more northerly Alaskan areas are not frighteningly cold. London, with as much fog as the Great Land, has a population a hundred times greater than all Alaska, yet few complain about the weather. Ketchikan's rains, in fact, are largely responsible for its fine sport fishing. They also promote the luxuriant growth of spruce and hemlock, making the town an important lumber center, with resulting jobs for lumberjacks and mill workers.

The Panhandle includes a narrow mainland strip on the seaward side of the Coast Range, together with a group of large and small islands. Officially, the section is designated as the Alexander Archipelago. Most prominent of the larger islands are Baranof, 1,610 square miles; Admiralty, 1,500; Prince of Wales (southernmost of the big islands), 2,800; Chichagof, 2,140 square miles; and Revillagigedo, 1,120, on which Ketchikan is situated. The name of the island, a tongue twister that balks both "chechako" and sourdough, is the full name of its Spanish discoverer, Revilla Gigedo, combined to form one word.

The mainland and islands are indented and separated by a net of waterways, some extending far inland, giving the coast its fiord-like character, famous the world over for scenic beauty. The coast line affords good harbors where the largest steamers can land their cargoes. Motor-driven launches and planes are used to reach



This pastoral scene, except for the snow-capped mountains in the distance, might have been taken in Arkansas. It shows the river flats near Juneau. (Ordway's Photo Service, Juneau.)

outlying points. It is generally conceded that the waterways of the Panhandle should have a system of ferries—boats large enough to carry autos and heavy supplies—but like many other obvious necessities this form of transportation has been neglected in Alaska. Clearly it affords opportunity for a new enterprise.

North of Ketchikan, where rain and snow total 153.66 inches annually, precipitation decreases rapidly. In Juneau, halfway up the Panhandle, the average is 82.29 inches. At Skagway, in the northern end of the strip, the fall of rain and snow is only 29.39 compared to an average of 42.99 in New York City. The climate of Skagway is about as fine as can be found in Alaska. Its mean temperature for January is 21 degrees, for July, 58 degrees. Situated at the head of the beautiful Lynn Canal, the town frequently

has high winds, but the residents approve of them because they blow away the mosquitoes.

Carbonated, sulphur, and hot mineral springs, some of which were used for their medicinal qualities many years ago by the Indians, dot Alexander Archipelago and the southernmost tip of the mainland as well as the interior. These springs, which are not widely known to nonresidents, are scattered over the Great Land's 586,400 square miles: Chena Hot Springs, Circle Hot Springs—an established resort near the Yukon River—Manley Hot Springs, Serpentine Hot Springs, and Pilgrim Springs. In all, there are about 65 springs of importance.

On Bell Island, 45 miles from Ketchikan, the natural mineral hot baths have recognized therapeutic value. A live company could make the minor resort, now thriving there, world famous. Cabins with hot mineral water piped right into the bathtubs are available for nominal sums. A resort proprietor in one of the better establishments of the United States would laugh at the low rates for various accommodations at Bell Island. The place now is patronized mostly by hunters and fishermen.

At present, Bell Island is important merely because it harbors the only resort of its kind near Ketchikan, first stop for the boats from Seattle. Transportation to the island from Ketchikan is by launch or plane. It is a remote and beautiful spot, the jungle overgrowing the fringes. The hot springs bubble into cement tanks from which the water is piped into the buildings. The odor is like that at French Lick, Indiana, or at Hot Springs, Arkansas. The setting is primitive; there is no electricity, nor any of the other services of a modern resort. Cabin lodgers are their own cooks. But the place is crowded in the hunting season, from the first of September until after Christmas.

Many sportsmen like accommodations such as Bell Island affords, but some day a clever airline operator will put half a million dollars into improvements. Then the rich, bringing with them their excess weight, indigestion, and other failings of wealth, will crowd the hunters and fishermen farther back into the wilds, and Alaska will boast a winter resort.

Manley Hot Springs (the first springs recorded in the postal guide, and called merely "Hot Springs") is approximately 80 miles by air from Fairbanks, not far from the Arctic Circle. It displays



Taku, one of the Territory's largest glaciers, is only 40 miles from Juneau, and but half that distance from the pastoral scene shown on page 18. (Ordway's Photo Service, Juneau.)

the many strange quirks of nature in Alaska. The springs were discovered when J. F. (Dad) Karshner, an old sourdough prospecting for gold, saw hot water bubbling from the ground. The earth for many yards around was warm to the touch. Dad threw away his miner's pick and bought a farmer's hoe. He homesteaded a piece of the good earth—the first homestead in Alaska. That was in 1902, four years after the height of the Klondike gold rush.

J. W. Farrell, a resident of Hot Springs for thirty-nine years, in speaking of Karshner and of the town's past fame, said, "When I came here in 1906 there were no roads; just a narrow mule-pack trail. Hot Springs was a miners' camp of five hundred men and a few women. Now, with only about a hundred inhabitants, we have a fine local landing field. Freight and passenger planes are based here the year round. We're modern; still my name for Hot Springs is Sweet Auburn II."

Karshner farmed at the springs for five years. First, he had a truck garden. In the early fall, when the ground elsewhere was frozen, Dad's garden was free of frost. Snow melted as fast as it fell.

"The following year," Farrell continued, "Karshner raised wheat, oats, and barley. He got 300 bushels of spuds an acre, worth \$7 a bushel. He grew fine tomatoes, melons, and squash, vegetables that seldom thrive in Alaska. He produced cabbage, cauliflower, and



A typical beach garden occasionally found along the forested shores of southeastern Alaska. A smokehouse for salmon is at the right. (Photo by U.S. Forest Service.)

excellent root crops. He sold celery at 50 cents a bunch and melons at \$1 each. Miners who had come into the district had plenty of money and were eager buyers.

"Among those who struck it rich was Frank Manley who, in the summer of 1907, took over Karshner's farm. Manley had a quarter of a million dollars, and he spent it freely. He built the big steam-heated and electrically lighted Manley Hotel, at that time one of the finest in Alaska. It had a swimming pool, hot baths, and good rooms.

"Manley enlarged the farm to 100 acres, importing a herd of Guernsey cattle, 500 chickens, horses, and additional implements. He hired landscape gardeners as well as farm hands. The place was beautiful, and the hotel and farm prospered."

In 1911, according to Farrell, the hotel burned. That same year the heat of the gold rush was off. Manley had little insurance, became discouraged, and sold out. "But," Farrell continued, "he sure upset a lot of ideas about Alaska being an icebox."

The springs are still there, and a small roadhouse is operated on the site of the once pretentious hotel. Five acres are cultivated as a garden. Vegetables of the kind that Manley raised still flourish. In addition, sweet corn matures nicely, although it is not considered a practical crop elsewhere. Not all farms have hot springs bubbling underneath.

But far more indicative of the trend of the times is the ghost town that was turned into a thriving village overnight. Latouche, on the island of the same name off the Kenai Peninsula, once was an active mining town with a population of three thousand. But when copper ore, for which it was noted, began to run too low a grade, the mine, owned by the Kennecott Copper Company, was closed, and the town gradually faded into oblivion. Only a few families remained, one of them that of Wallace Bailey. The Baileys finally moved, too, but through the years they retained their interest in the ghost town, with its admirable location and climate.

Bailey and other enthusiasts tried to buy the village. But not until 1942 did they succeed. They became owners of 1,470 acres, which included the town site and water rights. The Bailey family went back to Latouche to fulfill their dreams of the town's future. Thirty homes were rehabilitated, a large hotel was rebuilt, and a cold-storage plant was constructed. Latouche now is a boom town. The storage plant, one of the largest of its kind in Alaska, has a freezing capacity of 40 tons of fish a day and storage for 1,000 tons.

In the spring of 1946, thirty families were living there. Many others wrote that they would like to join in the resurrection of a ghost town. Latouche is typical of the enterprise that showed itself in the Northland as the close of the war approached. Even though the fanfare for statehood died down after a bit, shrewd industrial leaders hurried to get in on the ground floor while the Territory was still relatively free of taxes.

At Fairbanks, Alaska's so-called "Golden Heart," centrally situated in the heart of big placer gold-mining operations, the climate and living conditions are somewhat similar to those in northern parts of the United States. There are July days when the thermometer registers 98 degrees in the shade. More than one old-timer has collapsed from sunstroke. Most visitors from the States, however, find nothing in the climate to distress them.

Nome, slightly farther from the Arctic Circle than Fairbanks and 500 miles to the west, also has warm days, with a record of 84 degrees. Some of the USO girls from Hollywood took along their fur coats when they went to Nome with entertainment troupes. Among them was Helen Parrish of Universal Studios, who headed her own troupe in the Northland, with Nome the first stop after a flight via Edmonton, Alberta. She said, "I sent my furs back to mother, bought a bathing suit, and wore it about half the time I was in Nome."

Nome does not have such extremes in temperature as Fairbanks, its coldest winter reading was 47 degrees below in contrast to Fairbanks' 65 below. The weather relationship between these two cities is one of the commonest misconceptions of outsiders. Most people think of Nome as being farther north than Fairbanks and much colder, whereas the opposite is true. Other variations in the climate and geography of Alaska are as interesting.

People and Pastimes

THE LIFE of the Alaskans in work and play is peculiarly attractive because it is dynamic. The tendency to fraternize is strong, as in most small cities in the States. But discussion at group meetings is usually on a more ambitious scale than that of the average Main Street community, for among other things, Rotarians in Alaska discuss the problems of statehood. Apparently, too, Alaskans have more to gripe about than most people. The cumbersomeness of the administrative machinery in some of the many Federal bureaus is a constant source of peppery imbroglios.

The Territory is a happy hunting ground, not only for sportsmen, but for club forums; it is a fertile field for newspaper editorial writers who are keen on topical and national affairs. After a long absence, visits of various congressional committees bore down on the Great Land in the summer of 1945 and supplied new fuel for contention. The official report and comment by at least one of the committees was not pleasing to the sourdoughs. "He loves me, he loves me not," mused some Alaskans of Uncle Sam, as they figuratively picked daisy petals. They looked longingly, too, at their national flower, the forget-me-not. There was a feeling that, following the hectic activities of war days, the Territory was destined to fade from the national scene and again become a forgotten distant colony. That, however, was not the situation so far as commercial opportunists were concerned. Large corporations, particularly those who derive revenue from transportation, foresaw busy days ahead. The stay-at-home "builders" in Alaska, such as Austin E. Lathrop, also pressed expansion programs based on an expected increase in visitors as well as in permanent population.

But many who had the time and could afford the fare joined an exodus to the States. Bookings on the boats and airlines doubled. From the governor down, sourdoughs migrated here and there in



One of the favorite sports of the Eskimos is skin jumping. A walrus hide is stretched and held by twelve or fifteen persons, and the performer stands in the center of the skin. The tossers heave three times, then give the toss that sends the jumper higher than the house tops. The trick is to keep one's balance and land feet first on the skin. This picture was taken at Nome. (Courtesy Edna Walker Chandler.)

autumn like the wild fowl that annually fly south. One newspaper's perennial news feature carries the stock heading "Sourdoughs on the Wing." A perusal of it raises a question in the reader's mind—whether there are enough people left in Alaska to carry on the business of the day.

The penchant for traveling is inherent with Alaskans. The homes of their ancestors are scattered all over the United States, with not a few of them in Europe. So when sourdoughs visit relatives they usually cover vast distances. As a class they are the transport companies' best customers. Their first port of call is Seattle; then Washington, D.C.; after that, the universe. One is likely to run into an Alaskan in Cairo, Illinois, or Casablanca. In winter, notable Alaskans can always be found in the lobby of the New Washington Hotel in Seattle. Alaskans apparently travel to Seattle to find a new partner at bridge, or to see Bing Crosby's latest picture a year ahead of its showing in Anchorage. Hotel business in Seattle is slow any week that an Alaskan group is not in town for a reunion.

Alaska made Seattle, but Westerners think it is the other way around. They look upon our vast possession in the Northwest as their adopted child and feel it incumbent to guard each step the infant takes. The motive, however, is self-interest. Seattle's zeal for Alaska is the same as that which motivates parents of a child moving picture prodigy. In brief, the Great Land is Seattle's meal ticket.

At home in Alaska there is plenty of action, too. The governor's white colonial mansion in Juneau is the scene of much official and social activity. There are many visitors; Alaska is proud of attention from visiting dignitaries. Although the legislature has members opposed to Gruening, the man, they go all out for Gruening, the governor. With scarcely a dissenting voice the last legislature appropriated \$4,500 for entertainment at the mansion and \$2,000 more for upkeep of the house and grounds.

Mrs. Gruening is a graduate of Vassar, where girls acquire a liking for sports. She fitted easily into the Alaskan scene where women handle a rifle or fly rod better than their sisters in the States swing a golf club. She is considered by all factions as one of the most gracious hostesses who ever occupied the governor's mansion.

Although Alaskans, old and young, are definitely sports-minded, they do not care very much for golf. Only four cities have nine-hole courses: Anchorage, Juneau, Seward, and Valdez. The capital's course, 3 miles from town, is built on debris from a gold mine

and is under water at high tide. Nevertheless, avid fans make use of it.

Thousands of Alaskans fish for sport in addition to those who fish commercially. Among the younger set, skiing is the favorite winter sport; sparse as is the population, probably a hundred persons ski in Alaska to one in the States. Skating is popular, too, except in the lower end of the Panhandle. The mean January temperature in this section, in which lie the cities of Ketchikan, Wrangell, Petersburg, and Sitka, is just about freezing; when cold enough for ice there is usually too much snow for skating. Juneau, 250 miles north of Ketchikan, has a mild winter also, with an average January temperature of 28 degrees above zero.

In central Alaska the story is different; ice abounds at Anchorage and Fairbanks, but the snowfall is comparatively light. Sometimes the skiing fraternity at Anchorage has to import snow from distant localities. The Anchorage ski club has a rendezvous at Grandview, about 50 miles south of the city and convenient to the railroad.

The Douglas ski bowl, directly across the Gastineau Channel from Juneau, reached by a three-mile trail. Skiing is one of the most popular sports of the capital city residents. (Courtesy U.S. Forest Service, William Paul, Jr.)



Special trains and buses bring hundreds of ski fans here over weekends. Both skiers and spectators can be sure of enjoying themselves. The club owns a cabin where, around an open fireplace, teen-agers and their elders sit in warmth and comfort, enjoying bean-feeds and steaming hot coffee, with a more stimulating beverage at hand for those who want it.

This is only one of many ski clubs in Alaska. In Juneau is the Douglas ski bowl, built by the Forest Service across the narrow Gastineau Channel. It is an attraction for work-weary Federal and Territorial employees. Twelve miles from Seward there is a similar setup amid glacial ice-bound mountains of the Kenai Peninsula. There is heavy snow at both Juneau and Seward. Mt. McKinley National Park also has good skiing facilities, used rather sparingly. Cordova is a skiing center; there the amateur who fails to keep his feet is likely to find himself buried in 15 feet of soft snow.

Seasonal sports of all kinds have a big following in Alaska. Every sizable town has its baseball team; some have half a dozen. Competition is keen among intercity leagues, Army and Navy post leagues, high school teams, and those sponsored by commercial firms. Most of the teams, both baseball and basketball, have typical Northland names—Moose, Beavers, Bears, and Malemutes.

Alaska's girls are sports-minded, but they spend most of their spare time rooting at contests of boy friends. For active participation in sports, women turn to fishing and rifle ranges. Many are crack shots. It would be difficult for an invader if women in Alaska took up arms as they did in Russia. A few wanted to join "Gruening's Guerrillas," the wartime name of the Territorial Guard. But threat of invasion on the mainland was not strong enough to warrant such a move, according to the governor.

Basketball, football, boxing, hockey, and tennis have hundreds of participants. In basketball, especially, the players and fans are legion. Bowling is a popular sport, indulged in by both men and women. Many of Alaska's cities have good alleys, heavily patronized in winter.

Young folks in some towns enjoy horseback riding. Saddle horses can be rented from a few entrepreneurs who realize that Alaska is going modern. But not many Alaskans own their own mounts. Sourdoughs have always regarded horses as mere pack animals. Equine stock, however, is higher than it was in 1898 when miners bought horses in the summer and shot them in the fall rather than

feed them. From an economic standpoint the owners could scarcely be blamed; a ton of hay at Dawson cost about \$200. (A horse with a reasonable appetite will eat a ton of hay a month.) Present-day Alaskans have progressed beyond the horse-shooting era.

The country, however, will never have due respect for the horse until someone builds a race track. In Ketchikan the climate is ideal for the sport of kings. The frequent rains are just right for owners of "mudders," and there would be a heavy track for fully half of the meet. But it must be admitted that there is a drawback: Ketchikan's soil is not muddy, it is watery muskeg. Hunters and fishermen frequently sink knee-deep and a race horse would find the going slightly hazardous. But, in a pinch, a floating plank race track might be built. It could be overlaid with Alaska's famous peat, of which there are millions of tons going to waste. Juneau would be a good location, except that there is scarcely space for the sidewalks. With enough capital, race track promoters could blow the top off a mountain, or start another lode mine, pushing the tailings out into Gastineau Channel until there was room for a half-miler.

In lieu of horse racing, Alaska has its dog and reindeer derbies, the latter more or less obsolete. The huskies and malemutes still pit their skill and endurance over courses of ice and snow. Heavy wagers are made, the word of a bettor taking the place of mutuel windows. The sport was suspended in the war days when even the Fairbanks winter ice carnival was discontinued. But in February after the war's close, dog derbies were revived under the direction of Kenneth O'Harra, one of the Territory's leaders in transportation. Using his Santa Claus lodge at Gulkana on the Richardson Highway as a base, O'Harra staged three 44-mile races and one of 176 miles, run in four heats of 44 miles each. Cash prizes totaled \$1,500, together with engraved cups for the winners of the heats. The contests brought out enthusiastic crowds, proving that Alaska's sports followers still have a warm spot in their hearts for the heroic sled dogs.

The Territory's biggest gambling venture, the Nenana Ice Pool, was not called off during the war. G.I.'s participated in it, swelling the purse to a new high. The stunt for which thousands of tickets are sold at \$1 each is a huge lottery held on the date of the ice break-up in the Tanana River at Nenana. Ticket holders attempt to name the day, hour, minute, and second when the ice crack-up will

take place. No other institution is more typically Alaskan. An elaborate system of wire is attached to a clock and a bell. The wire breaks with the movement of the ice, the clock stops, and the bell rings. In that second someone has won a hundred thousand dollars or more!

The ingenious method for determining the lucky prognosticator



A typical Alaska dog team of mixed-breed animals—huskies and malemutes. The lead dog is part St. Bernard, probably crossed with a malemute or wolf. The white dog behind the leader is a Siberian huskie. In the derbies a team is usually composed of ten dogs and a leader. (Courtesy Frank Dufresne, Fish and Wildlife Service.)

is this: a hole is cut in the ice, and a 25-foot pole sunk in the river, while a tripod arrangement of other poles keeps the center one in place. A red flag floats from the top of the pole, and below the flag is a sign, "Nenana Ice Pool." A wire fastened to the end of the pole is extended over a derrick on the wharf by means of a pulley and is pulled taut by a weight attached to the loose end. A string is tied to a small lever on an eight-day clock. The string is

attached to the top of the derrick, and to the wire that extends to the pole in the ice.

When the ice begins to move in the thaw, it carries the pole down with it until the wire is stretched to its limit, and the string tied to the clock snaps. This causes the lever to stop the clock; the second marked at the stop is the official time of the break. The ice usually moves about 100 feet before it breaks the string. Sometimes it moves a few feet and stays in that position for days, giving interested onlookers a mild case of heart disease. Thousands gather to keep constant watch, and side bets are made as to the time the clock will actually stop. Excitement is just as intense as at the finish of a Kentucky Derby.

Aside from the gambling feature, the final break-up is a spectacle worth traveling miles to see. Huge cakes of ice shoot into the air, then settle back, block on block. Some submerge while others roll over and over like logs. The whole river becomes a mass of churning, crunching ice, and the shouts of spectators mingle with the din of the river's uproar.

Uncle Sam won a good share of the pool in 1945. Tom Ringen and Rita Hardin of Anchorage held the lucky ticket, fifty-fifty. The pool management sent them a check for \$105,000, of which \$60,614 went to the internal revenue collector, leaving \$44,386 to share between them. Incidentally, this amount probably never had to be divided, because, romantically enough, the two winners got married.

A few of Alaska's high schools have good gymnasiums but there is agitation for more. Governor Gruening has urged the building of additional armories both for expansion of the National Guard and for use as athletic centers for young people.

In the spring and in vacation time baseball is king. The game has no competition in Alaska, as it has in the States, from horse racing and important golf tournaments. There is no baseball commission to lay down the law as to how many games shall be played at night and how many in the daytime. Alaska's games "under the lights" supplied by Old Sol are after supper at 7 or 7:30 p.m.

On the twenty-first of June, Fairbanks plays baseball at midnight—by daylight. Sometimes it is necessary for the batter to signal that a canvas must be moved up or down to keep the sun—low in the northern sky at midnight—out of his eyes. In the Arctic

the "daylight moon" serves the Eskimos for night football games. They kick the ball all night, usually straight ahead, often traveling miles from the village. In the morning, the parents go to their igloos to sleep, and the children go to school, sleepy-eyed and dead tired.

Impetus was given to all sports in Alaska through participation by the armed forces. The Army and Navy were not sparing of money in setting up facilities for sports and social pastimes. Gymnasiums, as large and finely equipped as any in the country, were hastily constructed in various parts of the Territory—Ladd Field at Fairbanks, Fort Richardson at Anchorage. These buildings were used for dancing and other social recreation, as were similar structures on Kodiak Island and in the Aleutians. In addition to a huge gymnasium at Fort Richardson, headquarters for the Army's Alaska Department, an excellent outdoor ice rink for hockey and exhibition skating was maintained and lighted for night contests.

Never in the history of warfare did the word morale take on such significance and never were there such vast expenditures to maintain it. It was not all work and no play by any means, but at this time even play brought rewards. American fighters had their chins up. Their muscles were kept pliant and their spirits stiffened. They fought to perpetuate a way of life exemplified by the very things that some term luxuries. Athletic sports, together with the better type of social indulgences, did a great deal to inspire a wholesome outlook. All this was perhaps more apparent in Alaska than elsewhere. War progressed in the Northland to the tune of the two-step and rhumba amid plenty of hardship.

Alaska caught the spirit of these activities. Teen-agers began to emulate the military. Recreation and social clubs were formed; leading towns raised money to build centers where youngsters could dance, act, play, read, study, and possibly debate statehood. Even in the lonely Aleutians where opportunity and perhaps inclination for this social progress had not prevailed, a new spirit was in evidence. At Unalaska, a score or more of native Aleut girls formed a group called the Unalaska Girls Club.

This was the new Alaska, unmindful of rain and snow, impervious to cold and to vast distances. This was the phalanx of a second gold rush—whose army came from within as well as from without. It was a young Alaska, finding itself through the vicissitudes and glories of war—an Alaska entering an era of peace with the surge and ambitions of youth.

Cost of Living

MANY ALASKANS use the high cost of living bugaboo as farmers use scarecrows in their corn fields, or else they are grossly misinformed about prices in other regions. No one will go broke in Alaska because of the cost of food. One can buy a good Sunday table d'hote dinner in Juneau or Anchorage for \$1.50. It would be difficult to match the menu anywhere else at that price. Here is a sample of meals served at "The Anchorage Grill," to which a sourdough may treat his wife if he feels that she needs a rest from cooking:

"Tomato juice cocktail, cottage cheese salad, chicken noodle soup. Choice of roast chicken with cranberry sauce, baked ham with candied yams, breaded veal cutlets with country gravy, sweetbreads sautéed with mushrooms, fried pork chops with apple-sauce, roast lamb with current jelly, French lamb chops grilled with bacon, fried eastern oysters with tartare sauce, Italian ravioli and Parmesan cheese. Potatoes and Matanuska Maid vegetables. Dessert: assorted pies, ice cream, jello. Tea or coffee."

Scarcely a starvation diet. Or, at Mrs. Luoma's boardinghouse, Third and C streets, home-cooked meals, with homemade bread and pie like mother made, everything served family style—help yourself, and a second helping—\$1, with special rates by the week or month.

Of course, if one is "asking for it," he can get a good stiff check at some of the supper clubs and higher-priced cafés. On the other hand, such indulgences would seem like partaking of free lunch compared to a la carte prices on Chicago's Rush Street or New York's 57th Street. Texas Guinan would have starved in Alaska.

While Alaska has an abundance of saloons and consumes a lot of liquor, accounts of the drinking proclivities of its people have been exaggerated. Except in the salmon fishing season, when there is



Mrs. Lucille B. Stevens, of Salmon Creek Farm, dressing New Hampshire Red broilers for market.

much imported labor, police court records of intoxication cases are lighter than in San Francisco or Chicago. Sourdoughs apparently can handle their liquor.

Drinks are sold in many places other than saloons. Public card rooms, frequently operated by women, dispense liquor, plain and fancy, and about two-thirds of the restaurants sell drinks. Night clubs and roadhouses dispense their share, as they do everywhere else. Joe E. Brown's wisecrack when he landed in Anchorage to entertain the post boys, "My, what a big saloon!" was circulated throughout the United States. It went over so well that he used it again at Sitka and Ketchikan. It is true enough that about half the electric light signs in Anchorage advertise liquor dealers or saloons. The explanation is that they remain open later than groceries or haberdashers, which have no need of electric signs. The midnight sun is their neon and Mazda in spring and summer. In winter they reflect the glow from the neighboring bar.

Retail food prices for housewives seem to be relatively higher than restaurant prices. Fresh farm eggs in Juneau in January, 1946, were \$1 a dozen. In Anchorage they were 10 cents higher; in Fairbanks, still another 10 cents higher. Milk was 25 cents a quart in Juneau, and 30 cents in Anchorage and Fairbanks.

Food prices always had been considerably higher than on the West Coast because of added transportation costs, but the percentage by which they exceeded costs in the States was materially lowered toward the close of the war. The OPA established ceiling prices for more than 2,000 grocery items. These flat prices—specifics, as they are called—applied in all major towns. Naturally, in remote places where food had to be carried by plane or dog team, higher prices prevailed, but these were known as “freeze-markups.”

In actual dollars and cents costs, some food supplies are 25 to 50 per cent more in Alaska than elsewhere, but as a rule wages are proportionately higher. In Juneau, in the winter of 1945, most food commodities averaged 25 per cent above prices in Seattle. In Fairbanks, some food costs were 50 per cent higher than in the States.

Freight is carried to Juneau directly by boat. Freight to Fairbanks has to be taken 1,200 miles by boat where wharfage charges are paid, then it is transported nearly 500 miles by rail. Throughout Alaska the government allows Federal employees a 25 per cent higher wage scale than it does those in the States. The legislature, in its last session, increased by 15 per cent the salaries of most Territorial employees.

Defense work laborers received from \$300 to \$350 a month, and members of skilled trades still get as high as \$500. The minimum for farm hands, the few who were available, has been \$150 monthly with board. Remuneration for other workers has been on a similar scale. Bank deposits have increased, proportionately, more than those in the United States. A bank in Anchorage had to spend \$30,000 in adding to its safe deposit boxes.

About one white person in eight in Alaska owns a car. Regular gasoline at Juneau has been 22 cents a gallon, ethyl 24 cents, all taxes included. License plates cost about one-half that paid in the States—\$10 for private cars and trucks, \$15 for public carriers.

Clothing costs in the higher price lines are about the same in Juneau as they are in Chicago or New York. Here again cost increases as one goes farther north. Rents are no higher in Juneau than

in Seattle, but comparable accommodations in Anchorage and Fairbanks are higher.

Prices for services vary. Dry cleaning and shoe repair are a little higher than elsewhere, but laundry services in the Panhandle are not much more than on the West Coast, where they admittedly are lower than in the Middle West or the East. Hair cuts are generally \$1, or only 15 or 25 cents more than in large cities in the States. When averaged, the volume of hair cuts and shaves in an Alaskan town of 6,000 nets the barbers no more than in the States. Sourdough barbers charge more, but they also eat the dollar-a-dozen eggs and so they keep their money in circulation.

With its bizarre reputation for two-dollar-a-dozen eggs, five-dollar lamb chops, and exorbitant hotel charges, Alaska has been a Utopia for traveling salesmen who misuse the country's reputation for high living costs as an excuse to pad their "swindle sheet."

Hotel rooms are priced at about the same as those in major cities in the States—\$2 to \$4 single, \$3.50 to \$6 double. Second-rate and third-rate hotels have lower prices. Accommodations of any kind are difficult to get without advance reservations.

The reasons for Alaska's higher cost of living, such as it has been, are to be found, probably, in seasonal peaks and falls in the Territory's business, liberal extension of book credit, absence of chain store competition, high labor costs, the necessity of carrying heavy inventories, and the high cost of the purchasing function in the States; also, of course, transportation from the east across the mountains, or up the length of California and Oregon to Seattle, thence 1,000 to 2,000 miles by ship, lighterage at many ports such as Nome, or railroad into interior Alaska, all adding 50 per cent or more to the wholesale cost of imported goods.

Some of these expenses, as noted, already have been cut, especially plane transport charges. Competition is vastly keener than it was before the war. Processing of raw material has been begun within the Territory, making competitive the wholesale costs of many commodities.

At the height of the meat shortage, last spring and summer, Alaskans turned to poultry. Chicken dinners were featured more than steak dinners. One restaurant in Anchorage advertised a chicken potpie as "something new for Alaska."

The Territory, despoiled of its thick steaks, became poultry-



While their husbands were in the armed services, Helen Dorris (left) and her sister Lucille Stevens rented a fifty-acre ranch on Salmon Creek, a few miles from Juneau, and raised rabbits and poultry for the Juneau market. They built their own hutches, also brooders for baby chicks, finding "pioneer" life in Alaska profitable and not hazardous. More workers like these young women would knock living costs in the Territory down another peg.

mind. Enterprising small farmers began to raise broilers. Pan American passenger planes were crowded with baby chicks which needed a temperature of 72 degrees Fahrenheit en route. That heat was deplored by traveling sourdoughs who had to be appeased by pretty stewardesses tendering cooling drinks, at a dollar a highball or thereabouts.

The meat shortage prompted housewives and women farmers to raise chickens and rabbits. Lucille Stevens and her sister Helen

Dorris, started the Salmon Creek Farm on Glacier Highway, near Juneau. While their husbands were at the front, these young ladies developed a profitable business. With hammer and saw they built with their own hands modern hutches and chicken coops. In a greenhouse, already installed on a leased fifty-acre ranch, they nursed early tomatoes and cucumbers. For their New Hampshire Red broilers, dressed according to the best feminine style, they received a dollar a pound, and were paid 90 cents a pound for their bunnies. They did this with no guide save a book on farming.

Salmon Creek abounds in trout and salmon. Bear, deer, wolves, and coyotes are occasional visitors to the ranch, but the dogs generally keep them at a safe distance. Mrs. Stevens has a side line; she raises pedigreed Doberman pinschers, getting as high as \$100 for the pups. The parents are good watchdogs. Salmon Creek Farm, operated successfully by two inexperienced young women, contradicts many a Chamber of Commerce warning about the hardships of the Great Land.

The Alaska Highway

ALASKA, here we come! More than 4,000,000 Americans will steer their new de luxe sedans or their old jalopies over the Alaska Highway today and tomorrow. This wilderness road, the engineering feat of the century, is ready to provide transportation facilities for the greatest army of sight-seers in history.

So much for the highway's critics who lambasted the Army's supreme accomplishment in building a "life line" to the great Northwest! It is still a life line, not for the preservation of life and property, but for the preservation of the pioneer spirit of those who long for far horizons.

The Alaska or Alcan Highway as it was originally called, was approximately 1,600 miles long when 10,000 U.S. Army engineers, backed by 6,000 civilian workers, pronounced it ready for traffic on November 20, 1942. When the Public Roads Administration took over, modernizing the highway, building high steel bridges instead of wooden ones, they removed a lot of the kinks and curves, shortening the road until it is now 1,523 miles of firm gravel highway from Dawson Creek, British Columbia, to Fairbanks, Alaska. In most places the road is 26 feet wide; the autoist can drive 50 miles an hour with safety and in comfort. Interesting stops en route—approximately a dozen—are equipped to sell not only automotive supplies such as tires, gas, oil, but also food.

The Chicago Motor Club, after checking for a year on the plans of postwar drivers, found that 19 per cent of 23,000,000 persons contemplating trips expressed a desire to travel over the Alaska Highway. That is more than forty times the number of persons residing in Alaska, including the Eskimo, the Indian, and the sociable, but fast-disappearing Aleut. If Alaska is all that sourdoughs think it, a great many tourists traveling up the Alaska Highway



may decide they want to remain in the Great Land, or return to it later. This alone may bring about a sizable increase in Alaska's population.

The stations are seldom more than 150 miles apart. Starting at Dawson Creek, a friendly frontier town in the Peace River country, one can stock up on a few essentials and move on with a feeling of security on the long trail north; no Indians lurking in the brush to scalp the women and children; no masked desperadoes of stage-

coach days; just smooth road winding through prairie and wilderness. At this stage, the highway runs through wheat country, as huge barn-red grain elevators along Dawson's railroad tracks testify.

Forty miles north is Peace River, nearly half a mile wide and crossed by a 2,000-foot swinging bridge built in 18 weeks in sub-zero weather. A few miles farther is Fort St. John which was headquarters for the engineers when the road was begun in the spring of 1942.

Farmlands and prairie give way to wilderness; to swift, trout-laden streams; to virgin forest, with outlines of the Canadian Rockies jutting into the horizon. An hour's drive from Fort St. John, the bold pioneer driver pulls into Blueberry, one of the first camps the Army built. This former relay service station is equipped with necessary facilities for refreshing the car and its occupants. There is a garage, a mess hall, and a place to bunk for the night. But the ambitious driver will be interested only in hot dogs or bear soup, and a supply of gas. It is 100 miles from Blueberry to Trutch, the second Army post, now dominated by the Imperial Oil Company which has half a dozen stations between Dawson Creek and the international line. All these stations have electric lights, hot water, and modern housing equipment, even to inner-spring mattresses. There is also a telephone system, so that one can call the boss or relatives back home and tell them about the hardships of life in the wilds. After hanging up the receiver, he will probably sit down, not to bacon and beans, but to a delicious caribou steak, or one from a fat Canadian steer.

The next stop is Fort Nelson, peopled mostly by Indians and a few traders and trappers. It is only 300 miles from Dawson Creek; at 50 miles an hour, a driver will make the station before dark if he leaves the "end of steel" town in the morning. (Dawson Creek is the terminus of the Northern Alberta Railway, running 420 miles north from Edmonton.)

At Fort Nelson, the Alaska Highway turns northwest, heading for the distant mountains. The smooth graveled road begins to climb until it reaches Summit Lake, 3,900 feet above sea level. The 100 miles between Summit Lake and Muncho Lake, also near peak elevation, is one of the most primitive and beautiful stretches along the highway. Midway between them is Toad River, another small

camp, formerly a post for the 477th QM Truck Regiment. The emerald-green waters of the Toad River swarm with grayling. Here is a place the fisherman will revel in, and if he fails to pull out an 18-inch trout or two for a campfire dinner it will not be because they are not there, waiting for the hook. Moose meat can be had from the Indians who are not too particular about game laws. But have a care, for the Mounties are patrolling the life line to Alaska, and they can smell moose meat frying if they are a mile away.

Do not look for the famous scarlet coats of the technicolor masterpieces. Modern Royal Mounties on duty wear coconut-brown coats and yellow-striped trousers. The resplendent red regalia is reserved for dress affairs.

Beyond the shimmering waters of placid Muncho Lake, the cheechako autoist comes to the big steel bridge over the Liard River. On the far side of this stream are hot springs that bubble from some subterranean furnace, never freezing, not even in winter temperatures of 60 degrees below.

Beyond the Liard River is the Coal River, then Watson Lake, a pretentious station with a big air base. A short run south from the main highway is a town of considerable interest to the tourist—Lower Post—site of one of the Hudson's Bay Company trading posts, most of which are now modern department stores instead of crowded one-room log cabins. But Lower Post's store is not yet one of the de luxe trading centers. It is still in a primitive state, supplying gasoline and the ordinary staples of a small trading post.

Surrounded by towering snow-capped mountains, is a camp at Swift River, 100 miles northwest of Watson Lake. Another 100 brings one to the little Indian Village of Teslin, a few hundred yards off the highway. Here there are two trading posts and a log cabin lodge, built by Robert McCleary over a period of four years, for the tourists he knows will some day be traveling over the highway.

In the village proper, a semigovernment and mission Indian settlement, travelers are permitted to visit the mission and churches. Between the highway and this settlement, the Royal Canadian Mounted Police have a station. Their mounts are no longer the champing steeds of the movies. The Mounties get their man these days with a pick-up truck, used the same as a city squad car; if the snow is too deep in winter, they use dog teams. The Mounties dis-

placed the U.S. Army Military Police nearly a year before Canada officially took over the Canadian part of the road.

The next stop is Brooks' Brook, a place named by Negro troops who built this part of the Alcan route. Brooks was a lieutenant in the company. About 8 miles north of Brooks' Brook is Johnson's Crossing. At this point the Canol Road from the Canadian oil country at Norman Wells meets the Alaska Highway. It was a busy center in war days when Colonel Frank M. Johnson had charge of the famous pipe line carrying crude oil from the Mackenzie River to the highway. The project, which worried U.S. congressmen to

Robert Service, poet of the Yukon, in front of his shack at Dawson. Wanderlust led Service all over the world, and he caught the spirit of the vagabond in verse perhaps better than any other man. (Rolphe Dauphin photo, Canadian Pacific Railway.)



They represented a true cross section of the United States. There were clerks, farmers, merchants, lawyers, doctors, professional soldiers, sailors, truck drivers, miners, mechanics, accountants—men from every trade and profession. Few had ever had more than rudimentary training in road construction. Some of the companies were white, others colored, and among the groups were a sprinkling of Mexicans, Chinese, and Indians. They came from every part of the country, drawn into the Army by the Selective Service law. Some came from hot weather camps in the south.

“To these men, mostly in their twenties, the road savored of high adventure. It was pioneering of the type many of their forefathers had faced in the winning of the West. The environments they were to live and work in were ones dramatized in movies and pulp magazines. They approached the task with enthusiasm and anticipation, and with little conception of the hardships and discomforts ahead.

“When the first contingent arrived at Dawson Creek, it was zero. In the next two weeks the temperature dropped to 47 below and in this period the young engineers worked day and night to make the move to Fort Nelson. The completion of this work, before the thaw, constitutes an outstanding tribute to the men’s endurance. They met the hardships of the near-Arctic weather with high spirit.

“The days that followed were no whit easier than this beginning. With spring came mud and rain—cold, raw days and nights—and then summer, with the plague of mosquitoes, black flies, and gnats. In spite of all this, after a grueling winter, the men never wavered. They kept up their spirit with a typical brand of ‘kidding.’ Road signs cropped up recalling scenes at home—advertising known products, parking lots, roadhouses, and distances to various places in the United States. All in all, it was an accomplishment of which Americans can be proud, as demonstrating that the present generation have all the essential qualities of their forebears.”

When the first troops rolled through Edmonton on the night of March 10, 1942, they received a grand reception. Later, at Dawson Creek, the Northern Alberta Railway’s special train puffed into the little station on a world-important mission. American soldiers set foot on soil that was theirs for the duration. At the “end-of-steel town” hundreds turned out to give the doughboys their second royal welcome. The drawling accent of the soldiers from the Deep

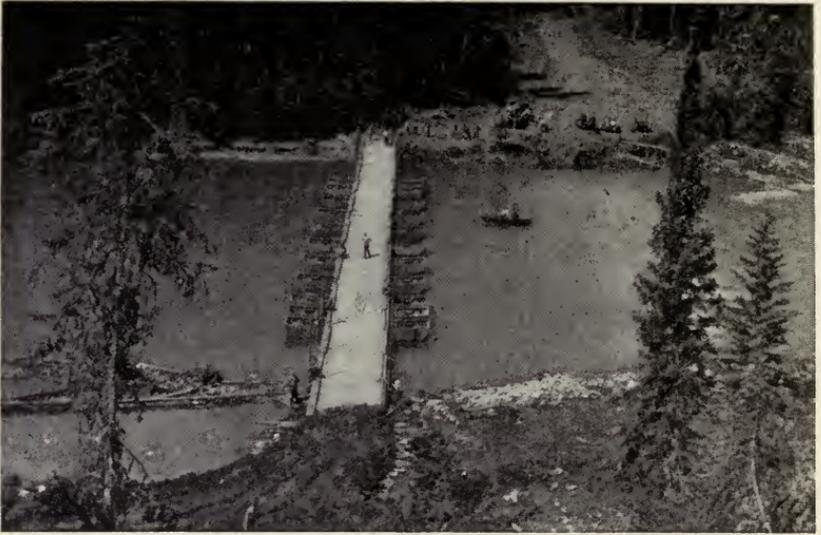


In a race against the time when rivers in the north begin to break, the U.S. engineers building the highway to Alaska placed planks across the Peace River, 40 miles north of Dawson Creek. Trucks and tractors pulling road equipment moved across these planks.

South brought laughter from the northern girls—but they liked the U.S. boys and their breezy manner.

The troops established their camp and made ready for the engineers coming the next day. Trucks and jeeps were unloaded and soon were familiar sights on the streets. The larger multiple-wheeled trucks were built for just that type of terrain and made their way about with little difficulty. Shipments of road-building machinery poured in and were routed to Edmonton, then to Dawson Creek. Headquarters later moved to Fort St. John, then to Whitehorse.

It was a race against time. North of Dawson Creek toward Fort St. John there was a government-surveyed dirt road. Beyond Fort St. John and north 250 miles there was a winter road, crossing 150 miles of muskeg—a swamp bog gathering for centuries in drained



A temporary pontoon bridge spanning a river on the highway is pictured above. The permanent bridge built to replace it is shown below.



lake and river beds from 5 to 40 feet deep. In summer the muck became soggy and soft so that a man could scarcely stand on it.

Rivers between Fort St. John and Fort Nelson were not bridged, nor were there any ferries. The idea was for the engineers to rush through to Fort Nelson with trucks, and to keep going back and forth as long as the road was usable. They beat the thaw and spring break-up of the rivers, but only with the intervention of a high officer—General Jack Frost! Old-timers had said the ice would break up on April 10. Joe Clark, trapper and famed weather prophet, predicted the thaw would come even sooner. He was wrong. It came at 8:29 a.m. on April 22.

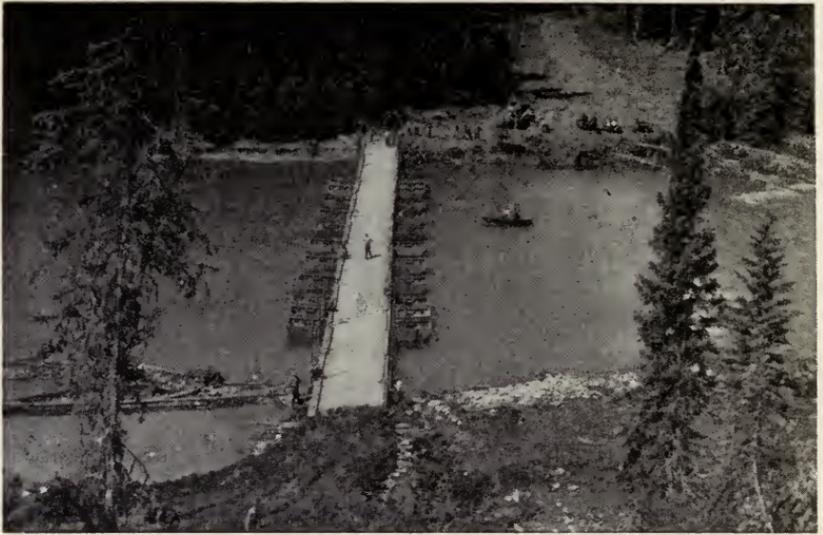
Just as the rivers looked ready to heave and toss, General Jack Frost came to the rescue. He froze the road so hard one could scarcely break it with a pick. Ice cracks in the river were closed and officers danced with glee. It meant they would have time to reach designated points. Civilian trucks as well as military transports moved over the road in never-ending line. One pilot who flew the route said: "At night that stretch to Fort Nelson looked like Fifth Avenue to me, it was so lit up with headlights of cars."

The workers were not in contact with the outside world except by plane. They ate dried fruits and vegetables. Later, as the camps became established, fresh meat was obtained from wild game—caribou and bear.

As the engineers moved northward, Army reconnaissance planes scouted the countryside, carrying topography experts who charted maps as they flew. Trappers and bushmen were pressed into service and dog teams set out with engineers to examine ground conditions. When all the information was obtained, it was pieced together and the 1,600-mile route to Alaska was selected.

At the beginning, the project was under direction of Brig. Gen. William M. Hoge, holder of the Distinguished Service Cross for bravery in France. Later, Hoge was transferred to the northern sector and Brig. Gen. James A. O'Connor was placed in command of the central and southern divisions. Brig. Gen. Clarence L. Sturdevant, assistant chief of the Army Engineers, had the task of bringing up equipment and supplies to the road.

Much of the road was surveyed to dodge the muskeg, but in places it could not be avoided. Where the bog was not more than 12 feet, the Army boys, with powerful road shovels, scooped it



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out. Where it was deeper they laid trees and bushes, then covered it with gravel. When the corduroy makeshift sank, they repeated the work. Frequently, the same work had to be done seven or eight times.

At the start, crossings of rivers and lakes were made on ice. But this ice was full of dangerous air pockets and had to be planked to keep trucks from falling through. In temperatures of 40 degrees below zero, the Army brought in its own portable sawmills and made the planks. The men cut boards for barracks, tool sheds, barges, culverts, pilings, and bridge timbers. There was no importation of modern bridge and ironwork the first six months. It was wood, wood, wood!

In late spring and in summer swift-flowing glacial rivers were spanned in two or three days; sometimes by pontoons, with the use of empty oil drums; sometimes by timber bridges, most of which were later replaced by steel. Two hundred streams were bridged. Negroes starred in this work; young colored soldiers from the Sunny South, some of whom had never before seen snow, plunged neck-deep into icy rivers to lay the pontoons or drive piles. One regiment built a bridge over a wide mountain stream in forty-two hours.

Even more perilous than the bridging of streams was the construction through mountain passes. In one place the road was virtually hung on the side of a cliff that rose perpendicularly above the workers' heads. Men were suspended on ropes to plant dynamite charges.

Summer months brought mosquitoes and gnats, the latter the tiny kind that Indians had dubbed "no-see-ums." The engineers had trucked in 400 gallons of antimosquito oil, but that was not enough. Sloughs and damp areas had to be sprayed with old fuel oil. Most of the workers wore nets over their heads.

Just before the formal opening of the road, Secretary of War Stimson summed up the accomplishment when he declared that 10,000 soldiers divided into seven Army Engineer regiments and 6,000 civilian workers under direction of the Public Roads Administration completed the job in slightly more than six months. They pushed forward at the rate of 8 miles a day, bridged 200 streams and rivers and laid a roadway 24 feet between ditches.

The dedicatory ceremonies were held at Soldiers' Summit, over-

looking beautiful Lake Kluane, on November 20, 1942. E. L. (Bob) Bartlett, then acting governor of Alaska, and Ian MacKenzie, Canadian minister of pensions and national wealth, cut the red, white, and blue ribbon held by four enlisted men of the U.S. Engineers. While a band played the national anthems of the United States and Canada, a convoy of trucks departed for Fairbanks.

Thus began the overland movement of war supplies vital to the strength and safety of the United States and Canada. Thousands of tons of food and other essentials have since been moved from camp to camp in relays and on to Ladd Field near Alaska's "Golden Heart."

In a short span of months the United States Army had built a land route to Alaska, a feat that Japan's war lords had thought would take years. History may record that among the great achievements of millions of men, who gave their all to keep the world livable for peace-loving humanity, the building of the Alaska Highway, which foiled Nippon's submarines, was supreme.

With crews of the Public Roads Administration following in the wake of the Army, laying permanent surfaces, widening the road, constructing culverts, balustrades, and more enduring bridges, a road for peace as well as war loomed for postwar travelers.

Toward the end of the war, after the Japanese menace had been dispelled, West Coast politicians began to clamor for abandonment of the highway, but their attacks were futile. Canadian officials declared their intention of maintaining their portion of the Alaska Highway in perpetuity. In October, 1945, bus lines for civilians started operating on the road from Dawson Creek to Whitehorse, and from Whitehorse to Fairbanks.

The determined fight of Alaskans to obtain an overland life line to the Northwest was an uphill battle. After it was agreed that there should be a road, much time was consumed bickering over the route. The West wanted it to start at Seattle; to proceed north through Prince George, British Columbia, to Whitehorse in the Yukon Territory; and from there to follow much the same line to Fairbanks, Alaska, as the present route does.

This was the so-called A Route, which had the backing of Congressional Delegate Dimond, Senator Magnuson of Washington, Governor Gruening of Alaska, and of Donald MacDonald, pioneer Alaska engineer, who had fought for a highway for many



A novel system of loading dirt in the absence of shovels. The truck backs into the depression and is loaded from above by a bulldozer.

years. Their arguments were that a road over this route would encounter fewer obstacles in construction, that it had already been partly surveyed, and that eventually it would unite Seattle with Juneau, Alaska's capital. The same arguments for a road over this route were advanced to President Truman toward the close of the war.

Opposed to advocates of the A Route were the Army and the Middle West. Congressman Charles R. Robertson of North Dakota pointed out that some day shipment of supplies to Alaska would come chiefly from the Middle West. He said it would be folly to route them west to Seattle, thence north to Alaska—two sides of a triangle—instead of on a direct line through Chicago, Minneapolis, and Edmonton, Alberta.

The attack on Pearl Harbor brought the argument to a close.

It was obvious that a highway near the West Coast would be more exposed to enemy bombers than one farther east, protected by high mountain ranges. The route chosen by the Army, called the Prairie Route—its official name, the C Route—was selected.

A potent argument advanced for the road as presently situated was that it would serve as a ground base for Canadian airports used by the U.S. Army Air Corps. The Army believed that connecting landing fields, hewn out of the wilds, were an essential of any overland route to Alaska. The existence of this wilderness airway in Canada was not widely publicized and its importance apparently had been lost sight of by Alaskans. Col. J. K. Tully of the War Department General Staff said: "It is desired to have a road as a trace for our airmen to fly along, and to put landing strips along that road." Such emergency strips had been speedily established and, upon the completion of the highway, fliers forced down in the Canadian wilds were near food and shelter.

As thousands of tons of defense supplies began passing over the Alaska Highway, complaints against the C Route ceased. Few Canadians had championed the road through Prince George. The old "we're first" Seattle crowd, however, remained adamant in its demand for a route farther west. Even after V-E Day, Governor Gruening and Judge Dimond joined the westerners in urgent support of a highway over the A Route. The *Anchorage Daily Times* said the A Route road would mean nothing to Alaska, and indicated that the wool had been pulled over Alaskans' eyes by calling the proposed road an Alaskan project.

Col. O. F. Ohlson, then head of the Alaska Railroad, declared that such a road would do nothing but accommodate a few tourist cars in summer. He added that the big Seattle boats could carry autos to Ketchikan or Juneau quicker and for half the cost.

Dimond, though convinced that the western link from Seattle is essential for heavy trucking as well as tourist cars, did not criticize the Alaska Highway as Senator Magnuson did toward the close of the war. The Washington senator was quoted as declaring that the Army had made a vital mistake in selecting Route C, that it had wasted money, and that the Alaska Highway wasn't "worth a dime to Alaska." Had he dared say that when the Japs were in the Aleutians he might have courted trouble.

To show how favorable Canada is to the Alaska Highway in its



Army engineers help pull a truck out of a ditch. Accidents like these were unavoidable on the rough snow-covered terrain near Fort Nelson.

present location, read the statement of its minister of trade and commerce, the Hon. James A. MacKinnon:

"No man," MacKinnon said, "can fully realize just what this Alaska Highway will mean. Estimate of its potential value would have to include the value of forests, the mineral wealth, the productive possibilities of the land, and the lakes and streams.

"To attempt an estimate of its true worth, however, one must take the larger view, examine the maps of the north country, and then the whole picture from the air. Only when flying over this country a mile or two up can one fully realize the extent of the area that has now become accessible. It must not be overlooked that Canadians pioneered this route by air and faced hazards because of a vision in which they believed. Their efforts bore fruit with the establishment of up-to-date airports by the Federal department of transport, and the linking of these airports was a primary consideration in the final routing of the road.

"Accessibility is the first essential of development. Through these early airlines, limited areas were opened to us, but without a highway the great northwestern portion of the country could not have been successfully explored. Now, the highway extends through a country hitherto practically unknown except to the trapper and the prospector. *It is a means of access to a vast storehouse of wealth which in turn will open up many possibilities of development.*

"With its military need fulfilled—what then? Can this road be made to serve a useful purpose and bring to reality the dreams of the hardy explorers of our great Northwest? *I believe it can.*

"In the view from the air can be seen potential agricultural areas, tremendous storehouses of forest wealth, rich mineralized regions and places where there are great deposits of coal. There are lakes and rivers teeming with fish. There are streams that when the need arises can supply electrical energy by the hundreds of thousands of horsepower—wealth in its raw state to a value of which can hardly now be even estimated.

"But here lies another source of income for us—a land which will attract a steady flow of money, to serve this country without denuding a single acre of forest or the use of a ton of mineral ore.

"I refer to the sharing of the scenic value of this area with those tourists who long for new worlds to conquer by means of their motor cars. Here is everything that the most ardent tourist could desire—nature in all its grandeur, snow-clad mountain peaks and verdant valleys, fishing to satisfy the most enthusiastic angler, hunting as a man desires, from the game bird to the lordly moose."

That was Mr. MacKinnon's view of the Alaska Highway seven months after it was completed, and he has the same view today. He was one of the strongest advocates of modernizing the 420-mile farm road from Edmonton to Dawson Creek, constituting the essential connecting link from the highway system of the United States, through Canada, to Fairbanks, Alaska.

The Canadian Parliament at its 1944 session arranged with the United States Government to pay for all permanent works in connection with the highway, together with lines of communication on and along the Alaska Highway.

In November, 1945, Mr. MacKinnon expressed the opinion that "Anyone who says the Alaska Highway has few attractions for the tourist is definitely wrong. It runs through a country of mag-

nificent scenery with lakes and rivers and beautiful views, and it is a sportsman's paradise. The road will be maintained."

The Dominion Government assumed responsibility for that part of the Alaska Highway in Canada, and started maintenance of the road on April 1, 1946, when the Americans withdrew. Canada was committed to such maintenance for two years. "But," said Mr. MacKinnon, "there is every possible likelihood that we will continue this policy of maintenance indefinitely."

Prior to improvements made on the southern end of the highway, autoists at times shipped their cars over the Northern Alberta Railway from Edmonton to Dawson Creek.

In December, 1945, Judge Dimond said that he was still convinced there should be a road from Seattle to Whitehorse. The speech he made in Congress on January 12, 1942, was vital and accomplished its purpose. It was more of a debate than a speech, with seven or eight congressmen pinning the Alaskan to the mast, as it were, and getting in return a steady flow of enlightening answers that showed a life line to Alaska was the one important move to forestall Japanese invasion of the Northwest. The Alaskan delegate won his fight; he deserves a high place in the hall of fame for far-seeing American patriots.

A Country on Wings

"THE PLANE from Manila and Tokyo has just landed. . . . One for Calcutta and Bombay will leave in ten minutes. . . . Passengers from Moscow are in the customs room, clearing luggage. . . . The Chicago-Edmonton ship reports it will be half an hour late. . . . All aboard for those leaving for the Orient!"

This is the announcer's voice over the loud-speaker-system: The place, Elmendorf Field, Anchorage, Alaska; the time 8 a.m. in the very near future. The airport is one of the best in the world!

A smartly dressed young woman steps to the radiophone booth, calls Miami and says: "I'll meet you at the Copacabana at midnight."

What a change since Alaska's heroic flier, Col. Carl Ben Eielson, first flew the mail from Fairbanks to McGrath in a jittery single-engined Stinson, or since Noel Wien made the first round trip to Asia in a Hamilton metal plane!

Progress in aviation has been so rapid in Alaska that prophecy concerning its future knows no bounds. The country's strategic location, however, has already established it as one of the important crossroads of world flights for sky giants of the coming age. Definitely, it will be the focus for ships traveling a Great Circle route to the Orient because from the larger cities of the East and Middle West, both Anchorage and Fairbanks are nearly 500 miles closer to points in the Far East than is San Francisco or Seattle.

Alaska is also important as the jumping-off point for transpolar aviation. Some of the stiffest problems are yet to be solved: navigation in the polar areas where magnetic compasses go awry; operation of radar in such zones; weather forecasting; analysis of such forces as the northern lights, magnetism, and the effect of the moon on tides. The University of Alaska, at Fairbanks, maintaining a

geophysical institute for investigation of some of these mysteries, asked Congress for a \$1,000,000 appropriation to further the work.

The per capita use of airplanes in Alaska is seventy times that in the United States. In this respect, the Great Land has long ranked first in the world. Its central location for world flights has become recognized by commercial companies just as General "Billy" Mitchell predicted it would be twenty-five years ago. Alaska today is truly a country on wings.

Air transport service to Alaska did not develop until years after it had been well established within the Territory. Small planes used for local flying were shipped into Alaska by steamship, but many intrepid fliers flew their planes up the coast or over the uncharted regions of western Canada. The demand of air-minded Alaskans for air service from Juneau to Seattle resulted in eighteen survey flights by Pan American in 1938 and 1939. The U.S. Weather Bureau made forecasts for these flights, marking the first time it officially made regular flying forecasts for areas beyond the limits of the United States. The route selected was along the coast, and flying boats were used. It was soon found, however, that the weather was too hazardous for these contact flights. Instrument flying resulted, with planes similar to those used in the States. Pilots were able to fly above much of the bad weather. The primary route from Seattle to Alaska now is along the coast. Two alternate routes are occasionally used, one over the interior via Prince George, British Columbia, and the other, over the ocean 50 to 100 miles west of the coast. The route from the Middle West is via Chicago; the Twin Cities; Edmonton, Alberta; Whitehorse, Yukon Territory; and from Whitehorse either to Juneau, Anchorage, or Fairbanks.

Before the end of the war, development of air transport to Alaska, and within the Territory, had been more rapid than in the States. As aviation's greatest era loomed, Alaska had more than 200 landing fields, an increase of 100 over prewar days. Nearly all these airports had been enlarged and modernized.

Merrill Field, at Anchorage, ranked fifth in continental United States in daily landings and take-offs, including those of private flyers. Pan American was making three round trips daily from Seattle to Alaska, flying 21-passenger planes as far as Fairbanks and Nome and planning for larger ships and more flights. It started semiweekly flights to Alaska in June, 1940.

Alaska Airlines also expected to be certified for the Alaska-Seattle route. Ketchikan, Juneau, and Anchorage had the benefit of the service, either through direct stops or through connection via Alaska Airlines, the latter using big DC-3's obtained from the War Surplus Board and converted into modern passenger ships, with stewardesses and all the de luxe trimmings.

Pan American's plans called for four Constellation transport planes with 60-passenger capacity and a cruising speed of 300 miles an hour. Four other planes, equipped for longer flights, would operate via Hawaii to the Orient. Anchorage would be the hub of two operations—the only Alaskan city in which the Territorial and Oriental operations met. Fairbanks would be the Alaska terminus of Russian ships flying over Siberia.

Air travel at this period has brought Alaska so near the United States in point of time that people on the West Coast are eating trout and salmon from the Territory on the same day they are caught. In the near future, residents of New York, Chicago, and Atlanta will be doing the same.

At this same time, G.I's and "brass hats" were flying from Edmonton, Alberta, to Fort Richardson at Anchorage in 7 hours. From Anchorage to Seattle (1,500 miles), they were flying over glaciers and mountains on a trip just long enough to eat a leisurely meal, read a newspaper, and enjoy a good smoke—5 hours, to be exact. The time, bettered by 4 hours the commercial planes, but not for long! About a year later, civilian service was just as rapid, in Northwest Airlines planes still under Army operation.

One of the most interesting developments in Alaskan aviation toward the end of the war was the transporting of fishery and agricultural products by air, especially the fresh vegetables from the Matanuska and Homer farm belts. Sixty thousand baby chicks were carried to Alaska from Seattle in passenger planes. Big cargo ships brought tons of wool from the Aleutians.

Late in July, 1945, Nome was enjoying crisp lettuce, cabbages, and cauliflower; Pan American and Alaska Airlines had brought them from southern farm areas in a few hours. Not only urban centers but out-of-the-way settlements and camps had their first taste of Matanuska Maid garden delicacies, received the same day they were picked.

The first of Alaska Airlines' new ships, with a crew and pas-



Part of a ton of butter clams carried by plane from the Homer fishermen's and farmers' co-op to Anchorage, 110 miles north. They are delivered about an hour after being caught. Planes make daily trips with fresh fish or vegetables in season. (Courtesy Alaska Airlines.)

senger capacity of twenty-five—the “Starliner Juneau”—was christened by Mrs. Ernest Gruening, wife of the governor, in July, 1945. Other planes followed, each named for one of Alaska's leading cities. Their advent marked a lively era in Alaska's aviation progress.

Theodore Law, Oklahoma millionaire oil man, then president of the company, presided at the ceremonies in Juneau. Marshall C. Hoppin, Civil Aeronautics Administrator for Alaska, made the trip from Anchorage on the new plane, as did Raymond W. Stough, director of the Alaska office of the Civil Aeronautics Board. Hop-

pin later became president of Alaska Airlines, succeeding Law.

Alaska Airlines began as McGee Airways in 1932—with one Stinson. Operation was in the area adjacent to Anchorage, and in the Kuskokwim Valley, lower Yukon, and Bristol Bay. By 1935, McGee Airways was operating three Stinsons and two Bellanca Pace-makers. In 1933, Star Airlines was formed, with one Curtis Robin; and in 1934, Mirror Air Service was organized, covering the Seward Peninsula and lower Yukon River area. At about the same time, the Pollack Service came into being, covering the territory adjacent to Fairbanks. Lavery Airways started in 1938, also covering the Fairbanks sector.

In 1935 McGee Airways sold out to Star Air Service whose fleet then totaled fifteen planes. The following spring, Star Air Service purchased Alaska Interior Airlines, and in 1937 Star Air Service became Star Air Lines. The latter was changed to Alaska Airlines in 1942. During the "grandfather" period of the Civil Aeronautics Act, Alaska Airlines, Mirror Air Service, Pollack Air Service, and Lavery Airways operated routes covering all of Alaska north to the Arctic Circle and west of Valdez. The companies maintained a fleet of thirty airplanes, serving the needs of every town, trading post, mining camp, and fish cannery.

Radio stations, fields, and service facilities were constructed at various points including Fairbanks, Anchorage, and Nome. In 1941, consolidation of the companies was begun, and Alaska Airlines' scheduled operations are now conducted over routes from Juneau through Anchorage to Nome, from Fairbanks through Anchorage to Homer and Naknek, and from Fairbanks through McGrath to Bethel. In addition, the company is covering routes radiating from Nome, Fairbanks, and Bethel, carrying passengers, mail, and express; and from Naknek, carrying passengers and express.

By the end of the war, freight rates for air transport in Alaska had been reduced. They were computed on the basis of one-half the air fares. In other words where a \$50 fare was in effect, the freight was 25 cents a pound for straight air express. For shipments of over 100 pounds on a deferred time basis, the rate was 50 per cent less or 12½ cents a pound. It was anticipated that at this rate all perishable goods, and much clothing and machinery parts, would go by air.

Companies in addition to Pan American and Alaska Airlines,

operating within the Territory, were the Pacific Northern Airlines of Anchorage, servicing the Kenai Peninsula, Kodiak, Juneau, and Bristol Bay; the Wien Alaska Airlines, Inc., pioneer line of Fairbanks and Nome; Alaska Coastal Airlines; and a score of others.

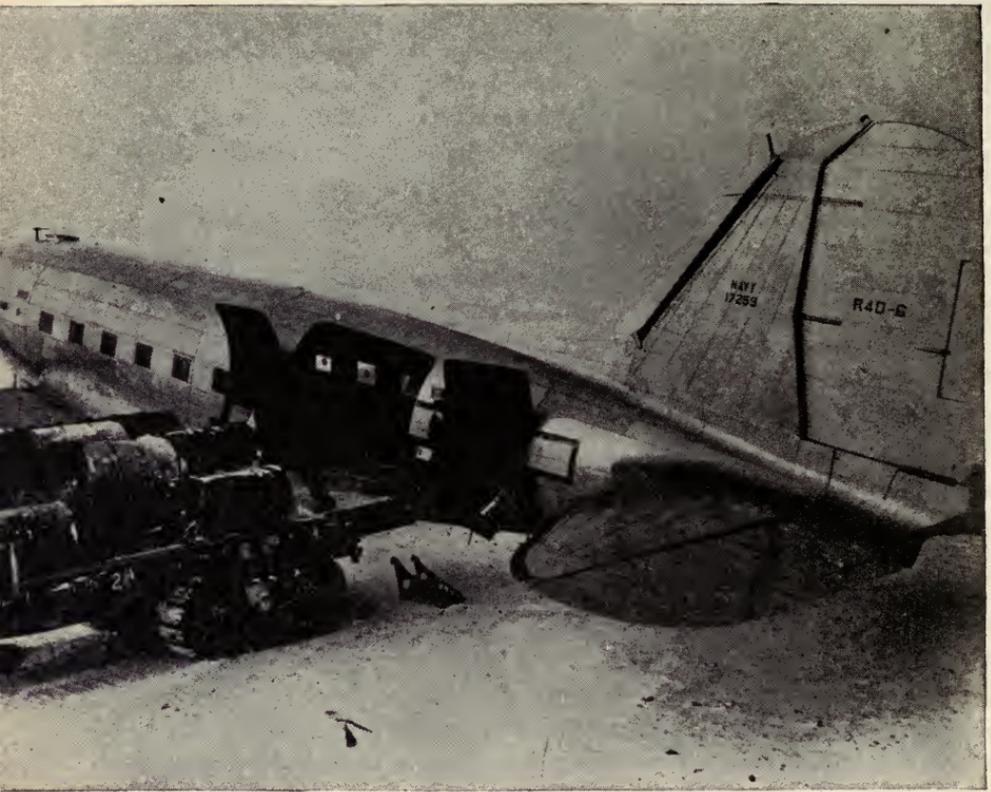
The rapid spread of airline freight service almost marked the doom of the West Coast middleman, so far as distribution of perishable edibles was concerned, but it paved the way for quick expansion of agriculture.

As important as it is, commercial use of the airplane in Alaska is only half the story. The Territory, always keenly air-minded, now has really taken to the clouds. As peace neared, additional flying schools were opened and private flying clubs mushroomed. Girls as well as men rushed to join them. Large groups of young enthusiasts—and a few older ones—took to the air as readily as the Canadian wild geese that annually wing their way between the Arctic and the south.

Anchorage was first with its "Polar Prop Busters," a carefree assembly of air-minded amateurs with seasoned fliers on their advisory board. These youngsters, eighty in number, thought, talked, and rode in the clouds. They made group flights in all types of planes to points 40 to 300 miles away. Officers announced the purpose of the club: "To stimulate interest in flying; to improve field conditions and landing facilities; to establish a feeling of unity among pilots; and in general to better private flying throughout Alaska." Commercial operators and flight instructors were barred from holding office in the Prop Busters. But they were eligible for the advisory board whose duty, among others, was to impose fines on members for traffic violations and other boners. The club took an active part in improving auxiliary airfields so that they could be used for more than mere emergency land strips.

Other cities organized similar clubs and it is highly probable that among these youngsters there will be developed other famous fliers like Jimmy Doolittle, an Alaskan boy, who grew up in Nome.

Alaska has contributed many famous pilots both to commercial companies and to the Army and Navy. Among her aces in World War II was Griffon Quinten, an Anchorage newsboy who became a radio operator, then an air cadet. Shortly after the start of the war, Quinten flew a B-17 across the Atlantic and his completed missions over Europe won him several decorations. Arnold Lorent-



To uncover oil reserves in Northern Alaska which might be available in case of a national petroleum emergency, Navy Seabees, led by Captain Bart W. Gillespie, CEC, USNR, set out from Tacoma, Washington, in two ships loaded with 8,200 long tons of freight, including some of the world's heaviest construction machinery. Amphibious landings were made on the northern tips of Point Barrow and Cape Simpson. (Official U.S. Navy photograph.)

zen had a similar record. Bud Branham came from the woods near Anchorage and advanced rapidly to a lieutenantancy in the Navy for his work in the Aleutians and in the Barrow Area. Bill Geysler, a bookkeeper for the *Anchorage Daily Times*, took three flying lessons at Merrill Field. When the war started he joined the Royal Canadian Air Force, transferring to the U.S. Army when the

United States entered the conflict. For his part in bombing the Japs out of Kiska he was promoted to major.

Alaska bush pilots were to be found in all parts of the world with the Air Transport Command and Army Air Corps. In Alaska they taught Army fliers many tricks of the trade in mastering flying conditions peculiar to that region. They also learned plenty themselves.

The present peak of aviation in Alaska stems from the flying of sourdough or bush pilots. Twenty-five years ago they traveled over frozen lakes and snow-covered tundras much easier and faster than dog teams. These venturesome fliers, in antiquated biplanes, landed in unbelievable places: in dense forests on the sides of icy mountains and on mushy tundra moss, using pontoons in summer and runners in winter. Any small beach, frozen stream, or lake served as a finished airport for the bush pilots. Lonely pioneers and prospectors depended on the plane for necessities, comforts, and contact with the outside world. They still do, and the Alaska pilots never let them down.

The bushers invaded backwoods settlements, carrying newspapers, food, medicine, ammunition, machinery parts, clothing, shoes for the baby—and occasionally the doctor or midwife. They maintained these contacts regardless of weather. Fogs over the blue lakes and along the coast, squalls, williwaws, or blizzards never daunted them. The names of these daring fliers would fill a book.

There still are many small planes, but the Alaska Aeronautics and Communication Commission put new rules into effect. The board called for two-way radio facilities, emergency food and cooking utensils, matches, a pocket compass, an ax, fishing equipment, a rifle or shotgun and ammunition, signal devices, and, in areas where the temperature might go below freezing, a sleeping bag for every three persons, and at least one pair of snowshoes. The new era is quite different from the old days when some ancient crate, patched with wire and cord, used all available space for freight.

While flying in Alaska today—with new airports, beacons, and weather stations—is a far cry from former years, the air currents and fogs have not changed. Wilderness is all about, and very close to the large communities. In some localities the grasshopper plane still prevails and will continue to do so for many a day. But the



Seabees leveling the rough ground on Adak for a landing field. Work of this kind paved the way for modern transportation facilities on the Aleutians. (Official U.S. Navy photo.)

helicopter and flying jeep will take the place of the old-timers and do a better job wherever it is necessary to land and take off on a dime.

Manufacturers of small private planes, cognizant of the big sales field in Alaska, have given special attention to the models desirable there. One of the first small ships manufactured by Taylorcraft Aviation Corporation is called "Model 15 Alaskan Special." It is a four-place plane, built primarily for family use, the cabin carrying a pilot, three passengers, and 100 pounds of freight. Operated on wheels, skis, or floats, it is particularly adapted to the Territory and is used commercially in feeder-line operations as well as for pleasure trips.

The Bell helicopter also is popular because of its ability to do things impossible for any other type of aircraft. It is especially useful on mercy missions.

Despite the fact that the use of planes is so common, air passengers rate daily mention in Alaska's press. Often the name of the pilot is included. The majority of the commercial fliers are young Alaskans, well known in their home towns. Often a pilot is a member of the city council, the chamber of commerce, or he may even be the mayor.

The Army gave Alaskan aviation a tremendous boost. It provided money, men, and material in abundance—and in a hurry. It built new airports and quickly altered others to accommodate big ships. Take-off runs at many airports were lengthened to 4,000 feet, with a width of 500. Thousands of tons of gravel, cinders, and cement were used to concrete fields that had only turf or gravel surfaces. A power paver laid a strip 21 feet wide by 1,400 feet in a day. About 50 major landing fields were added, with as many more small ones.

While it built airports all over the Territory, the Army did particularly heavy work on the Seward Peninsula in northwestern Alaska from Nome to the Arctic Ocean. Little was heard of these airports or of the bases along the Arctic Coast. The importance of the latter was emphasized by Maj. Gen. Harold H. George, chief of the Air Transport Command, U.S. Air Forces. He was proud of the work done by American airmen in the Arctic zones, where some of the weather stations are so remote that the crews have to be dropped by parachute.

"When the full story of the ATC can be written," General George said, "the engineering work done in building major Arctic bases will make construction of the Panama Canal look small."

Farther south in Canada, but still a part of both military and commercial strategy in the Northwest, Canadian Pacific air services were strongly entrenched at the start of the war. They purchased feeder lines established by bush pilots, and the line's network employed one hundred large Lockheed and Douglas transport ships with a flying and ground personnel of more than a thousand men. The services controlled an important air transport industry, accounting for millions of pounds of freight in a year.

Shortly after the close of the war, Canadian Pacific Air Lines started daily (except Sunday) round-trip flights from Edmonton and from Vancouver to Fairbanks via Whitehorse.

Before Alaska became a combat zone, the United States and

Canada had thousands of men in training for pilots or ground-work. Postwar activities were still further broadened.

All transport development in Alaska has been advanced by Federal and Territorial aid as well as by commercial activities. In 1925, the legislature appropriated a small sum for aviation field construction and has continued its support, especially where work concerned progress in mining.

Alaska, however, did not encourage the farmer by offering money to stimulate transport of agricultural products. That was left to the initiative of commercial companies—largely to Alaska Airlines, at the start.

Not all development of large airports was rush work done by the Army. Modern fields had been constructed as far back as 1939. At that time, Marshall C. Hoppin, later Alaska director for the Civil Aeronautics Administration, went to Alaska with a million dollars, building good airways from Ketchikan to Juneau and from Anchorage to Fairbanks. In 1941, the government gave Hoppin an order for a large military airport. As manager for the CAA, he installed still other fields.

The building of an air transportation system was aided by the Aeronautics and Communication Commission, which made regulations designed to safeguard aircraft and passengers. In one of its reports the commission said: "Postwar planning places Alaska as the hub of world aviation operations. The Great Circle route to Manila, Hong Kong, Calcutta, Bombay, and Tokyo is by way of Alaska. Technical developments predict a large volume of private flying in addition to the expansion of commercial air transportation facilities. We have every reason to expect a great aeronautical future for Alaska."

Farming

ALASKA, reputedly a nonagricultural country, has rapidly developed into a promising farming region. Almost everything raised in the States except corn, semitropical fruits, tobacco, and cotton thrives in the Great Land. Wheat, oats, barley, and rye are grown successfully, just as they are in most of the northern states. Potatoes are usually free of disease. Potato specialists on the West Coast buy all the Alaska seed potatoes they can get.

Grasses and annual legumes do well. In the north central part of Alaska, known as the Tanana Valley farm belt, there is virtually no winter kill of alsike clover because of the feathery snow cover that remains most of the winter. Vetch and peas do well. Yellow blossom alfalfa withstands the cold but does not produce much seed and is not considered a good hay crop.

All parts of Alaska where agriculture is practiced have proved adaptable to the raising of dairy cattle. The chief drawback has been the difficulty in curing hay, but this handicap has been over-emphasized, for with sufficient enterprise it can be overcome. In the States, methods have been perfected for drying hay in the barn immediately after it is cut. The hay is chopped and scattered over wooden or metal casings in which fans, operated by electricity, dry it in an hour or two. If the weather is good, the hay is left in the field, cured in the sunshine, stacked and baled. If clouds threaten, the drying process is performed in the barn. Alaska farmers can do the same, if they are backed by the agricultural department of the Territory and by machinery dealers. The majority of Matanuska Valley farms have electricity. Those that do not could use a kerosene motor to operate a hay-drier.

For the prospective Alaskan farmer, the chief consideration is that there is in Alaska today more agricultural land than in the



Strawberry vines half as tall as the boy farmer, at V. C. Spaulding's ranch near Juneau. (U.S. Forest Service photo.)

Scandinavian Peninsula and in Finland, which support about 6,000,000 farmers. Alaska has 300. Furthermore, Alaska's rich alluvial soil, 60 feet deep in some places, is newer and more productive than that of Norway, Sweden, or Finland. It is better than land being farmed in many parts of the States. Markets are expanding.

Alaska's vegetables exposed to the sun—cabbage, lettuce, and cauliflower—are crisp, succulent, and delicious. They grow larger than in most states. Root crops are also famous for their size.

When the wild bush berries of various kinds, abundant in Alaska, are domesticated, they attain a size and flavor unsurpassed. Strawberries in the Homer area are as large as bantam eggs, meaty and sweet. Blueberries are a staple native crop as far north as the Arctic Circle. So are raspberries. Alaska could export enough canned, frozen, or dehydrated fruit to offset all her imports of semitropical fruits and juices. Some day the export of berries may pay a part of Alaska's \$6,000,000 liquor bill.

The importation of \$1,000,000 worth of beer annually is uncalled for because barley raised in Alaska will make as fine a beer as Milwaukee's best. Ketchikan formerly had a good brewery, but West Coast brewers drove it out of business.

Alaska's advancement in agriculture, like its progress in other fields, was enhanced by the war. It was simply a case of necessity being the mother of accomplishment. Since the boats and planes couldn't carry enough food for the armed forces and civilians, the farmers got busy. They were inspired by the demand for their products. The war broke the stranglehold of West Coast commission merchants on foodstuffs for Alaska and helped the local farmer prove that he could deliver the goods. He had known it for fifty years, but Seattle, the guiding spirit of Alaska, had not been convinced. West Coast merchants had continued to ship to Alaska great quantities of potatoes, beets, cabbages, and carrots which grow bigger and better there—and in much less time—than in California, Oregon, or Washington.

When the Army and Navy moved in they said to Alaskan farmers, "Let's get going. We need the space on the Seattle boats for other supplies than food." Local agricultural products trebled the second year of the war. Then the home folks began to realize just how delicious Matanuska celery and lettuce really were—and are. The Gargantuan cabbages, cauliflower, and rutabagas were just as good as the crisp radishes. Fresh Grade A milk began to find a place in households in which the evaporated product in cans had formerly been acceptable.

Many a white lie was told by the Alaskan hostess entertaining "brass hats" when she said, "Oh, of course, we get all our vegetables, berries, poultry, and eggs right from Palmer!" (Palmer is headquarters for the Matanuska farmers Co-op and the Alaska Rural Rehabilitation Corporation.) Now, don't think the Alaskan housewife wasn't loyal to home farmers. She gladly would have patronized the ARRC and the MVFCA (Matanuska Valley Farmers Co-operative Association), but local agricultural products, like feminine dancing partners in Alaska, were hard to get.

The Seattle middleman had said to the Alaskan merchant, "Buy from me the year round, or you don't buy at all." Forced contractual arrangements prevented the Alaskan storekeeper from patronizing the near-by farmers as much as he would have liked,

especially as the season of productivity in Alaska is short. This handicap has now been largely overcome by increased capacity of cold-storage and quick-freeze plants which keep perishable vegetables two or three months.

The use of greenhouses for early vegetables has helped, too. At Ladd Field, the Army's transport and cold weather training station near Fairbanks, the fliers built hothouses and raised in a year more than 10,000 pounds of tomatoes, cucumbers, lettuce, and radishes. It was not a new idea, for a few Tanana Valley farmers had been using greenhouses before the Alaska Railroad came through with tons of canned goods. The hothouse business is one that Alaska's development board overlooked in its array of announced opportunities. Wood and native coal are available for operating greenhouses at reasonable cost.

While the output of potatoes and vegetables was trebled in two years, production of poultry and meat lagged. It takes longer to raise a yearling steer or a 300-pound hog than it does a 5-pound turnip, and "short orders" were filled first. Animal husbandry in Alaska is expanding now, and the yield of dairy products is nearly double that of 1941. The demand for milk, however, is still about twice the capacity of Alaska's cows.

Milk has been retailing in Juneau and other Panhandle cities at 25 cents a quart; in Anchorage, at 30 cents. Fairbanks, where prices generally are higher than in Anchorage, has two large modern dairies, each equipped to handle eighty cows or more, and bottled milk delivered to stores has been selling at 30 cents a quart. In Nome, to which milk is carried from Palmer by plane in paper cartons, the retail price is 70 cents a quart.

All this indicates a substantial market for farm products. The hue and cry falsely raised about the lack of markets in Alaska has done much to retard settlement by new farmers. But now, with the West Coast shippers' propaganda exposed, and with the incentive to meet the demand for home products, Alaskan farmers will say, "Let's keep going! We helped to meet the war demands for food, but let's do something more! Let's build and develop our peacetime farms."

The *Northwest Pacific Study*, prepared by George Sundborg after two years of painstaking investigation and issued in 1944, concludes that Alaska will stand a threefold or fourfold expansion



A native Indian boy at Matanuska with rutabagas about one-third larger than those grown in the States. (Courtesy Father Bernard R. Hubbard.)

in farming. Mr. Sundborg and Alaska's agricultural experts concede that the demand in Alaska will continually increase; as the military personnel departs, they will be replaced by new settlers and tourists.

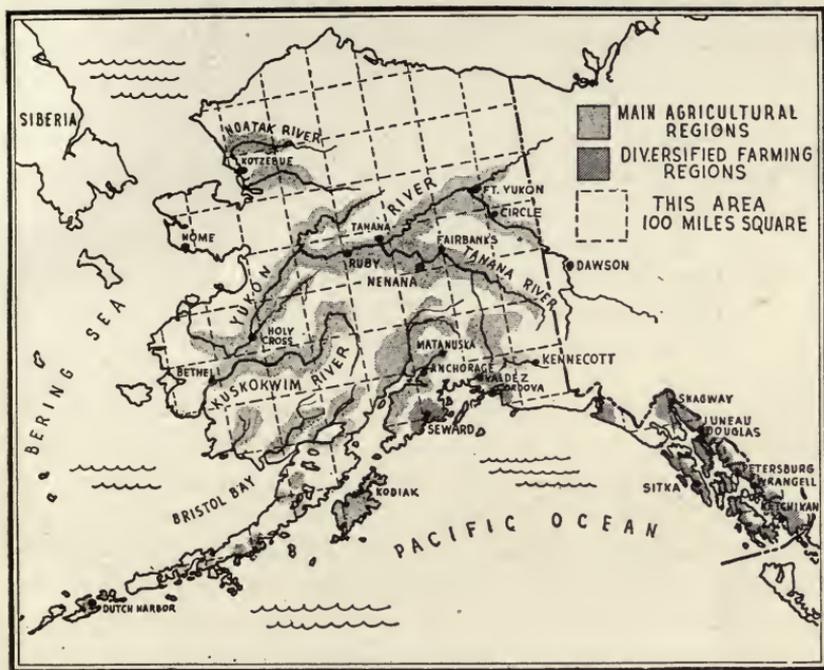
Dr. Charles E. Bunnell, president of the University of Alaska, a land-grant college, concerned with the promotion of agriculture, wrote in the *Alaska Weekly*: "A very definite challenge has been presented to every resident of Alaska. We must know, if we are willing to pay attention to the facts, that we are not going to be on the receiving end of an unlimited supply of food produced in the States . . . for forty-five years the undersigned has been one of those favored individuals, by reason of his good fortune to be a resident of Alaska, who has been privileged to buy the very best food that the Pacific Northwest can produce, of which, saving such items as liquors and tobaccos, 75 per cent can and ought to be produced in Alaska.

"It is an economic waste to ship to Alaska what we can produce for ourselves. If today there were from 100 to 150 more farmers engaged in diversified farming with the co-operation of the distributors, there would be no scarcity in Alaska of the hardier vegetables, the four grains—wheat, oats, barley, and rye—milk, butter, cheese, ham, bacon, pork, beef, mutton, eggs, and poultry.

"Even though the University of Alaska has met with formidable opposition in its efforts to secure funds, both Federal and Territorial, with which to extend its efforts to develop agriculture in Alaska, its duty and its pledge as a land-grant school are to use every reasonable means at its command to meet the challenge."

Alaska is estimated to contain approximately 41,000,000 acres of tillable land, with an additional 22,000,000 acres available for summer grazing. Such a very small part of this area is in use that, with the most optimistic estimates of possible increase in population—varying from 100,000 to 5,000,000 in the next decade or two—there is enough potential farm acreage in Alaska to feed them all.

In agriculture, as in climate, geography, and people, there again appears in Alaska the inevitable division into three parts: central Alaska; the Alaska Peninsula and adjacent southwestern islands; and the southeastern archipelago. Central or interior Alaska also requires a breakdown into three sections. The Tanana Valley, the largest single sector, comprises roughly 3,840,000 acres of farmland. Not one one-hundredth of that area is in use.



Climatic conditions in the Tanana Valley more closely approach those of the north central states than do any other parts of Alaska. The area has rather light precipitation, varying from 9 to 15 inches in different localities and in different years. The winters are cold and the summers hot as is generally the case in the main farm belts in the States. The range in central Alaska, however, may be more extreme than in the States.

At Fairbanks, the chief market, the mean temperature for January is 11 degrees below zero, and for July, 60 degrees above. The annual total snowfall at Fairbanks averages a little over four feet. It is a light snow, remaining virtually throughout the season. Winter winds are negligible. What few there are cause no perceptible drifting. Nor is there alternate thawing and freezing that would ruin seeding. When spring comes in May, it is spring; not summer one day, winter the next, and spring the day following.

The Land of the Midnight Sun has extremely long hours of daylight in spring, summer, and early fall. Not everyone considers, however, what they mean to the farmer, both from the standpoint

of maturing crops and of long working hours. One sees in Alaska no bobbing lights from tractors used at night as he saw in the States when the farmers were asked to double wartime production. In the planting season, the Northland farmer can work a day or night shift, or both. He can do the same at harvest time. Given the manpower and modern machinery, Alaska could raise enough food in one season to sit back and laugh at locusts.

In July the 60-degree mean temperature in the Fairbanks region is scarcely representative of the ripening season. There are many days in July and the first week of August when the thermometer registers 80 degrees or more. Neither is the 10- or 11-inch precipitation representative of soil conditions. Much of Alaska's uncultivated earth is permanently frozen one or two feet below the surface. When cultivated, it thaws to a depth of from 30 inches to 8 feet, the thawing process providing a subsoil irrigation that takes the place of overhead precipitation. Most of the rain falls in the latter part of July and August so that there is scarcely any interference at planting time. The growing season is from 90 to 110 days. The difficulty experienced with moisture in harvest season is not so noticeable in the Tanana Valley as it is farther south.

To be sure, markets farther south are larger, but Fairbanks is a rapidly growing city. Ladd Field also is heavily manned. The locality gets less than half the milk it needs. Local markets consume all the potatoes, which are the main cash crop. With the installation of the military post, the production could not meet the demand for potatoes.

In the various available documents on Alaskan agriculture, seldom is a definite conclusion drawn or specific advice given as to a choice of localities. The man considering Alaska for an agricultural venture is told the facts. Climatic and soil conditions are thoroughly described, since experiment stations run by expert agronomists and livestock authorities have been operating for nearly fifty years. But the prospective agriculturist must also consider many other points, transportation and markets being as important as density of timber stands, moisture, the growing season, and the good earth itself. It is suggested that the would-be farmer look over the field. But it is a rather large field, and if one wanted to cover it, he would have to plan on a two-year jaunt.

Small grains—wheat, barley, oats and rye—grow well and could



The "Butte" district, Matanuska Valley, with Pioneer Peak in the background. The timber line here meets the snow at 1,500 to 3,000 feet. (Courtesy I. M. C. Anderson.)

be raised on a scale large enough to supply other parts of Alaska now importing concentrates from the States. Reduced Alaska railroad rates should make moving of grain practicable. Both merchants and farmers have apparently overlooked the fact that the Alaska Railroad runs both ways—south as well as north—and that if it can bring up four-fifths of Fairbanks' food from Seward and Whittier ports, it can carry back potatoes and grain to south central Alaska and the coast. Also, Fairbanks and southeastern Alaska are now connected by a highway over which grain, hay, and livestock could be trucked.

The greater part of the land in the Tanana region is hillside or old river bottom. The former is preferable for some varieties of crops, those on the southern slopes maturing readily. The lowlands

are productive also, affording good forage when cleared of moss or willow growth. They are prevailingly sandy but much of the soil, intermingled with decaying vegetable matter, is fine for grasses. In general, soils in the Tanana Valley are less acid than those of Matanuska.

It may seem surprising that there has not been more raising of beef cattle in this area and south of it along the railroad, because a strong market for meat prevails and a top sirloin steak on the table in Fairbanks costs \$3.50. The butcher pays 27 to 30 cents a pound for choice carcass beef shipped in. A quarter of local beef sells for 20 to 25 cents a pound. The answer is lack of manpower and of the time required to raise beef. Dairying and 60- to 90-day vegetable crops bring quicker returns. In short, farming as a whole in Alaska is based on the practice of "get it while the getting's good."

Timber in the Tanana Valley is by no means as heavy as in the coastal regions. Land can be cleared more readily and less expensively than at Matanuska or on the Kenai Peninsula. Still, there are enough trees for the farmer's use. In some localities spruce attains a large size; Fairbanks is able to include lumbering among its industries. Birch also is plentiful.

Silt loam in the Fairbanks area is distinctly a slope soil. It is considered the best all-round agricultural soil in interior Alaska, conforming closely to that found in Illinois, Iowa, Missouri, Nebraska, and Wisconsin. It is well drained, yet retentive of moisture, easy to cultivate, and productive.

Seeding of oats and barley, used both as grain and forage, is usually completed before the first of June. The crops are harvested by September 15. Oats yield from 35 to 60 bushels an acre, with an average of 45, which is higher than the crop average in Matanuska, and higher than in some of the states. Early varieties of both oats and barley seeded for grain can be depended on to mature in ample time. Barley runs about 25 bushels an acre. Certain kinds of spring wheat also can be counted on as a safe crop.

The chief hay crop is a mixture of oats and field peas. Yields on bottom land are from two to three tons. Drying hay in the Tanana sector is sometimes a slow process, but the cool September weather prevents mold. The hay has high color and is nutritious feed for stock. Silage made from peas and oats proves a satisfac-



Filling silo on the University of Alaska experimental farm near Fairbanks. (Courtesy Lorin T. Oldroyd.)

tory substitute for corn silage of the States. Cows fed on hay and silage in winter have maintained an even milk flow.

Even near the Arctic Circle, in the huge valley of the Yukon River, there is ample evidence that Alaska has as reliable a climate for legumes as have many of the states. This fact is well known to George W. Gasser, heading Alaska's first department of agriculture.

Dr. Gasser was dean of men at the University of Alaska and teacher of agriculture at the college. The ratio consisted of one boy studying farming to fifty boys studying gold and copper mining. While he was a salesman for a nursery, Dr. Gasser studied agricultural problems in Nebraska, Kansas, and Colorado. He was one of the earlier directors of Alaska's agricultural experiment station at Rampart, on the Yukon, the town where Rex Beach, Jack London, and others founded a literary colony in 1899, after they had stopped shaking gravel in tin pans in quest of "colors." If they had stayed in Rampart a year longer, they would have had a good story—about a development of more economic value to Alaska than the discovery of gold. Alaska's agricultural experiment station was

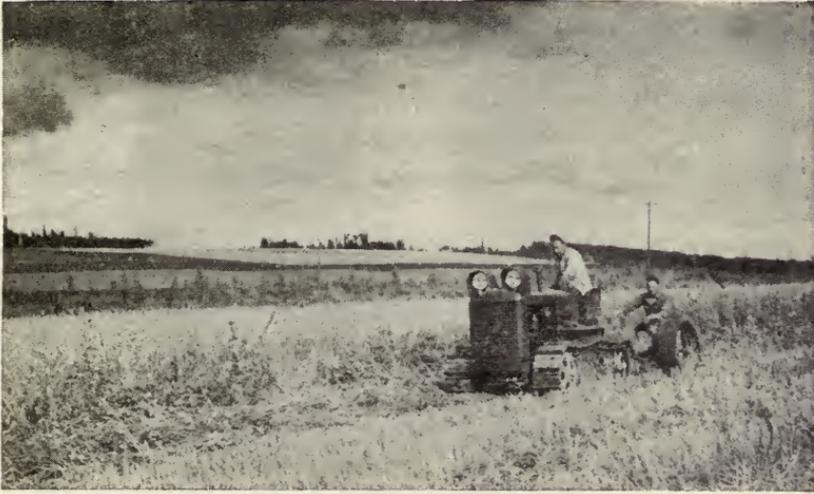
started at Rampart in 1900; crops similar to those grown in the northern states thrived.

Kitty Evans, who came from Rampart to be a pupil of Paul E. Thompson in the native school of Eklutna, wrote about her home village. Kitty's discussion of agriculture is of particular interest because Rampart is only 80 miles from the Arctic Circle. She wrote: "The scenery at Rampart is very pretty, for our little village is almost entirely surrounded by hills. There once was a government experiment station across the river, but it is now uninhabited. The alfalfa and hay still grows in big squares of lavender and yellow, and these, added to the rose of the fields of fireweed and green trees, make a colorful picture. Strawberries still grow on the farm and are picked by the people."

This description was written in 1938. The experiment station had been abandoned in 1925. Kitty added: "The weather is very warm in spring and summer, but from November until late March it is very cold. The coldest weather we have had was 70 degrees below." (Kitty must have been caught in a blizzard. The January mean temperature for Rampart is 16.3 degrees below.) She added that the most interesting thing about her village was the cabin built by Rex Beach (still standing), but the American farmer, reading her naïve account, would be more interested in the "squares of lavender and yellow" hay blooming thirteen years without re-seeding. A good cover of snow, with no alternate thawing and freezing, made this possible.

Dr. Gasser went to Rampart in 1907. It was the most northern agricultural station on the continent. He experimented with new varieties of grain obtained from all parts of the northern world, specializing in those from Scandinavian countries and Siberia. To say that the greater part of the Alaskan farm belt is similar in climatic conditions to those of Norway and Sweden is an obscure comparison, meaning little to many American farmers. On the other hand, Minnesota Swedes and Wisconsin Norwegians know what is meant. The Danes, too, who are among world's best eaters, and who know how to raise food, live in a country similar to some sections of Alaska.

Dr. Gasser also practiced hybridization. A variety of barley, obtained as a result of his experiments, is the standard in interior Alaska today. Experiments were carried on with alfalfa and clover,



Experimental farm at the University of Alaska, at College, Alaska, near Fairbanks. (Courtesy National Park Service.)

as well as with a variety of grasses. The yellow-flowered Siberian alfalfa (the pretty yellow flowers that Kitty Evans described), perfected at the time of those early experiments, has proved hardy throughout Alaska even if it is not favored as a hay crop.

In 1921, Dr. Gasser was transferred to the station at College, near Fairbanks, where he continued his work on grain and potatoes. He had established, however, the fact that the Yukon Valley is a good agricultural belt. The Indians who inhabit these valleys might have cultivated barley for their beer. But, according to Kitty, they merely picked the strawberries—that also flourished for thirteen years!

Long before the press and “slicks” in the magazine field abounded with stories of the pros and cons of the government’s colorful experiment at Matanuska, the Alaska Railroad management, knowing that agriculture was no gamble in Alaska, began to finance a colony of farmers near Anchorage, the seat of the road’s interior traffic. The New Deal has been credited with the great Utopian colony experiment that brought indigent residents of three states to the Matanuska Valley in 1935. The majority were not farmers but they were human beings, and the venture did them and Alaska

no harm. Many succumbed to the rigors of pioneer life amid the towering spruce and tougher birch trees. Space does not permit rehearsal of the Matanuska farm colony's vicissitudes, but the few real farmers among the two hundred families from Minnesota, Wisconsin, and Michigan have prospered and are living in the Matanuska Valley today.

In 1929, six years prior to the government's project, the railroad initiated a program for farm settlement in the valley. It advertised in the States for farmers who would come to Alaska for homesteads, and it offered special inducements of low passenger and freight rates. A representative in Seattle interviewed 300 farmers, 139 of whom migrated to Alaska. Of this group 55 developed homesteads in the Matanuska area, 5 at Anchorage, 7 at Fairbanks, and 1 at Hope on Cook Inlet. The remainder stayed and took up other work in Alaska.

Most of these settlers, in contrast to those who came later, had good reputations as farmers. Forty of this original group are still farming in Alaska, the number being equivalent to that of the government's permanent colonists who had, however, much more aid. This railroad group operated a co-operative community but when the Federal colonists came, the first settlers dissolved and joined forces with the new.

Col. O. F. Ohlson, as manager of the railroad, was chiefly responsible for the first influx of group agriculturists to Alaska. But when the Alaska Rural Rehabilitation Corporation was organized in 1935, the railroad project was swallowed up by the government.

Prior to Colonel Ohlson's group settlement move, some 400 locations had been made in Kenai Peninsula or just north of it, dating as far back as 1912. About 170 of these remained on the land until they received patents, the majority having located in Matanuska Valley or near Anchorage. They are the old-timers who pioneered on their own, battling raw elements without financial aid from an agency. Some are still there and celebrate Old Settlers' Day, while the railroad's pioneers commemorate New Settlers' Day of the vintage of 1930-1933.

There had been some rivalry among the various settlers, but all buried the hatchet and joined in the grand anniversary celebration of May 30, 1945, demonstrating that Matanuska today is the outstanding farming community in Alaska. The colony played host to meat-starved Anchorage folk who had greeted the bedraggled



The best crop of all—a scene at Palmer during the celebration of the tenth anniversary (May 30, 1945) of the founding of the Matanuska farm colony. The youngsters grouped near the American flag are real Alaskans, as they are all ten years or younger. (Courtesy *Anchorage Daily Times*.)

colonists ten years earlier. The 200 trip-weary families with squalling babies and crying mothers had stopped at Anchorage on their way to the government colony, and Anchorage men and women had trooped to the station with sandwiches, hot coffee, and a friendly “Howdy!” Matanuskans never forgot that welcome. When they invited Anchorage up to their grand celebration and barbecue, they killed the fatted calves—and steers—and did them up brown with French-fries and all the trimmings.

In the parade opening the ceremonies, a hundred children, all potential farmers or farmers’ wives, from babies in arms up to sixth-grade youngsters, were in line. The picture was inspiring, with the American flag, in the breeze of a warm spring day, flying over enthusiastic tillers of Alaskan soil. Hundreds of their friends came to acclaim them. This, then, was the Alaska of the future—the forerunner of the day when all the “ifs” and “ands” and “buts” about farming in Alaska would be only a memory.

The Matanuska Valley, lying south of the great Alaska Range

whose towering mountain chain runs east and west across the greater part of Alaska, has a milder climate than the Fairbanks region because it profits by the influences of the coastal region. Matanuska is 125 miles due north from the coast and hence has milder and more moist winters than that part of Alaska removed from the coast. The January mean temperature at Matanuska is 11.9 degrees above zero; July is 58.4 degrees. Precipitation is light, only about 5 inches greater than in the Tanana Valley. As in the latter locality, most of it falls late in July, August, and September. The growing season is from 10 to 20 days longer than in the Tanana Valley.

Matanuska lacks the crisp clear days of the region north of the Alaska Range. With more cloudiness, farmers experience more difficulty in curing hay. They overcome this, largely by poling the hay in the field. That is, stakes with spikes through them are driven into the ground so that the spikes are about 18 inches above the surface. The hay settles down over the spikes but does not come in contact with the earth, and air circulates through the mows, preventing mold. This practice proves satisfactory but involves considerable manual labor.

Most farmers in Matanuska Valley raise all their winter roughage and 60 per cent of their concentrates. They could produce all of the latter they needed, except for the time element; the production of potatoes and the succulent vegetables that the valley readily yields proves more profitable than grain crops. Dairying, also, is of prime importance, necessarily taking time from field work.

The Matanuska Valley Farmers Co-operative Association is a full-fledged going concern at Palmer, a town of 2,500 population. It operates a creamery, a community store, and a storage cellar for sorted and graded vegetables. Most of the Co-op's members have modern electrically lighted barns with cement floors and all the facilities for producing Grade A milk, for which they receive \$7.20 a hundredweight on the basis of 4 per cent butter fat content. A modern 1,000-gallon tank truck takes the milk to Anchorage, forty-eight miles south on a good highway, where it is pasteurized and bottled for store sales.

Approximately 50 farmers in the valley do not belong to the Co-op, preferring to operate independently, but it is generally conceded that there is no more efficient farmers' co-operative any-



A typical Rural Rehabilitation Corporation cabin built by the colonists in 1935. Land for such pioneering effort is still available. (Courtesy Father Bernard R. Hubbard.)

where. The Alaska Rural Rehabilitation Corporation, while it controls the leases and sales of land, is not much more than a real estate agency and bank so far as management of the colony is concerned. It also rents machinery for clearing land.

The agricultural experiment station at Matanuska is under the general direction of the university's experimental and extension service, of which Lorin T. Oldroyd is the director. The agronomist in charge continues experiments with grasses and legumes, fertilizers, silage, and domestication of Alaska's wonderful wild berries, but the Co-op now has a county agent of its own, who tests land for acidity and offers gratuitous advice to which the average experienced farmer merely listens politely.

There are about 8,000 acres under cultivation in the valley. No more land in the immediate area is open for homesteading, but occasionally there are farms for sale, both by the ARRC and by the individual settlers. Some 6,000 acres west of the government colony

were opened for settlement in 1945, and by November a large part had been taken by ex-servicemen. Prices of settled farms, varying according to the acreage cleared and the improvements, are from \$10 to \$75 an acre. Inasmuch as Matanuska now is producing and selling well above \$1,000,000 worth of dairy products, meat, poultry, eggs, and vegetables in contrast to \$150,000 in 1941, the top price quoted for good farms is reasonable.

Crop failure because of drought is unknown in the valley. Planting is usually started the latter part of April and completed in May or the first week of June, approximately two weeks earlier than in the Tanana Valley. Harvesting of grain and hay is begun in August and finished in September.

The Matanuska winters are not nearly so severe as those in North Dakota or Minnesota, and they are milder than in almost any of the north central states. There are rather strong winds, and snow cover is not as reliable as farther north. Most of the Matanuska soil is silt loam to loam in texture. Applications of barnyard and commercial fertilizers are used, but to a lesser degree because the land is newer than in many areas of the States. Another good agricultural belt is the strip of land along Cook Inlet on the Kenai Peninsula. Homer is its chief town.

Skipping the second division of Alaska's agricultural area—Kodiak and other islands—and reserving them for a discussion of livestock for which the islands are best suited, it will now be well to consider southeastern Alaska, or the coastal region. Farms in this section are small—5 to 40 acres—with very little land under cultivation. Except for the flats or river deltas, most of the area is heavily timbered in spruce and cedar. Small fruits and cranberries are cultivated as well as vegetables and thrive in abundance in the mild and very moist climate.

This part of Alaska, aside from its fisheries, is primarily a lumbering and mining district. It is also sprinkled with fur farms whose owners combine minor agriculture with ranching and fishing. But what few cattle there are in the sector are pictures of health. They look like the "contented cows" of the roadside murals.

At least one-third of Alaska's white population lives in this long narrow coastal belt, composed of one island after another. Juneau, north of the center of the Panhandle, is the largest city. Other localities for marketing dairy and farm produce are Petersburg,



A garden patch on V. C. Spaulding's ranch on Auke Bay, near Juneau. (U.S. Forest Service photo.)

Wrangell, Sitka, Skagway, Craig, Hydaburg, Kake, Klawock, and Ketchikan. This section is far removed from the main farm belts. Transportation, except by boat, is so roundabout and difficult that it has been impracticable to move agricultural products from the central farm belts.

Although suitable level land in southeastern Alaska is limited, and precipitation is unusually heavy, small farmers and truck gardeners prosper. Poultry farms and dairying, especially, are successfully managed near the town centers. Luxuriant native grasses on the tidewater flats afford fine pasturage. Some meadows are seeded to tame hay, but persistent rains make curing of hay really hazardous. Small dairies that raise approximately 40 per cent of their winter feed can afford to buy the remainder from Seattle. Boat transportation ties with the States exist the year around, for Alaska's beautiful Inside Passage is never ice-clogged.

Imported hay will cost the Panhandle dairyman \$70 a ton or

more. Freight rates to Ketchikan (750 miles by boat) have been \$9 a ton; to Juneau, \$10; and to Sitka or Skagway, \$11. Wharfage and handling charges at both ends add about \$4 to these costs. Since the climate permits cows to be pastured from five to six months, sometimes longer, and as fresh milk cannot be successfully imported from the States, expansion of dairying in southeastern Alaska is very possible. With the high cost of both hay and concentrates, however, the cows must be excellent producers if dairy ventures are to pay. Dairies near Juneau have progressed so far as to have a modern co-operative plant for pasteurizing and bottling milk. They also supply ice cream to southeastern Alaska.

Aside from the recognized farm belts, valleys of the Yukon and Kuskokwim Rivers contain thousands of acres of fine agricultural land. But they are too far removed from present markets for the newcomer to consider. Several hundred miles down the Yukon from Rampart, the Catholic Mission at Holy Cross has a dairy and truck garden, profitably conducted for years. Winter feed for the cows is obtained from native grasses and cultivated crops. No feed is imported.

Athapascan Indians who inhabit these interior regions, as well as the Eskimos on the lower Kuskokwim, might use a hoe and a spade to good advantage, but they would rather hunt and fish. They exchange their spoils for canned food and the wherewithal for home-brew. John W. Neihardt, director of information for the U.S. Indian Service, headquarters in Chicago, can tell of many farm projects by which Indians in the States have arrived at a fine economy through modern methods of growing and harvesting grain and the breeding of good meat on the hoof. But that is another story.

Green Pastures

RED MEAT and red liquor unquestionably are held in high esteem in Alaska. Commerce figures sustain that statement, showing heavy imports of both. A check by the Internal Revenue Department on Alaskans' fondness for alcoholic drinks establishes that more whiskey is consumed per capita in the Territory than in any other division of the United States. Ella D. Smith of Juneau who, as chairman of the legislative committee of Alaska's Federation of Women's Clubs, delved into the matter, goes further, reporting that Alaska consumes eight times more liquor per capita than any other place in the world. There is agitation for more Territorial control of liquor sales. So far as the tax is concerned, it has about reached the saturation point, the last legislature having boosted it from \$1 to \$1.60 a gallon. Some criticized this move as an attempt to collect minor sums from a molehill while ignoring a mountain of revenue from salmon and gold.

At most, the liquor issue in Alaska is secondary to the problem of red meat. What the Territory really needs is an import tax on sirloin steaks. High and low, Alaskans are big meat eaters. They have been importing around \$4,000,000 in meats and poultry products annually. West Coast shippers have grown rich while the livestock industry in Alaska stagnates.

The Territory's lush grass and sedges cannot be surpassed as green feed for cattle and sheep. But except for meat bought by Army and Navy posts on Kodiak Island, it is doubtful if livestock raisers in Alaska do \$250,000 worth of business in a biennium. The Army and Navy buy some reindeer meat, civilians but little.

There are some wild cattle on Chirikof Island, off the south coast of the Alaska Peninsula. They have taken care of themselves since 1886 when two Holsteins two Jerseys, and two Shorthorns, plus a

Shorthorn bull were landed by an overloaded whaling vessel. According to I. M. C. Anderson, livestock expert and principal area supervisor for the Farm Security Administration in Alaska, this small herd has multiplied into one of approximately 2,000. The cattle have had no feed but native grasses, nor have they had any artificial shelter. The island has rough terrain; it lacks sheltered bays, making it difficult for boats to land. A stockman, Jack McCord of Kodiak, leases the island which obviously affords fine pasturage.

From time to time, some of the cattle, now much smaller in build than the original stock, have been killed by fishermen or natives merely for local use of their meat. Chirikof Island is one of many south of the Peninsula where similar conditions as to climate and natural feed prevail. These islands, including Kodiak and Afognak, are Alaska's "green pastures" where a beef and sheep industry of good proportions could be developed. Kodiak Island, much larger than the others, is especially well adapted to livestock raising. "Beach rye," a sturdy nutritious native grass, is available the year round for grazing.

Shropshire sheep on a farm in the Matanuska Valley.
(Courtesy I. M. C. Anderson.)





Dairy cattle grazing on grass flats in the shadow of Mendenhall Glacier, 12 miles from Juneau. Any farmer will recognize that these cows are in fine condition. These two farms are not in the established agricultural belts, but both are successfully operated. (U.S. Forest Service photo.)

E. E. Ball conducts the largest dairy in Alaska on Kodiak Island. He maintains a hundred cows and supplies milk to the town, the naval base at Woman's Bay, and to the Army post at Fort Greely. Ball imports some feed, but his cows live chiefly on native grasses and can be grazed twelve months of the year. Hay for feed is cut in March and April as a safeguard against late snows, but snowfall on Kodiak and islands to the south of it is negligible.

Formerly, cattle near the town of Kodiak had free run; it was not an uncommon sight to see a contented bull scratching his back against the corner of the village bank, but an ordinance passed after incorporation of the village deprived them of this privilege. Kodiak residents have no fear of bulls, having to contend with fiercer animals in the Kodiak brown bears which are anything but a boon to livestock culture in Alaska.

According to breeders, losses of beef cattle from attacks by bears have been severe, despite reports of the Fish and Wildlife Service to the contrary. Several pioneer cattle men—Tom Felton, Sid Olds, Tom Nelson, and the Wingfield brothers—who have tried to build

up a commercial livestock business on Kodiak have lost from 5 to 20 head each season for six years. In one year Felton lost 26 Herefords of a herd of 101. Breeders from the States, cognizant of the expanded market in Alaska, recently investigated possibilities for an enlarged cattle industry on Kodiak. Among these was Amos Lafron of Silver City, New Mexico, who decided that feed and climatic conditions were ideal, but that until the depredations of the brown bears were checked it would be fatal to attempt ranching on a large scale.

The Kodiak brown bears are an attraction to sportsmen, and some Alaskans feel that as such they should be protected at all costs. But there are vast areas in Alaska where bears can prosper while cattle cannot. The consensus is that it is a shortsighted economic policy to protect the huge carnivorous animals in a region eminently adapted to livestock raising.

On the Aleutians, which are free of bears, there are approximately 5,000 sheep; the Aleutian Livestock Company of Ogden, Utah, has about 2,000 head on Umnak Island. A similar number are grazed on Unalaska Island. About 1,700 pounds of wool were shipped recently from Chernofski on Unalaska to the Pendleon Woolen Mills in Oregon. The Chernofski sheep average 13 pounds of wool a head. They are sheared by Aleut laborers, but are unherded. They graze throughout the year, controlled only by cross fences and natural barriers. There are no trees on the island, but green grass grows all the year; the weather is mild and snowfall infrequent. H. D. Catron and his wife, who went to Chernofski in 1943 to superintend the herd, have been successful and plan to stay indefinitely. They have a comfortable home, a garden, trout from their fish traps, and milk and butter from a herd of cattle which they tend.

Such ventures are proof that Alaska holds possibilities for promotion of livestock industries, particularly with the steady improvement in cold-storage facilities and air transportation.

The armed forces on half a dozen of the Aleutian Islands were interested in the propagation of livestock on a small scale, and their efforts were successful. The Navy shipped food lockers and refrigerator units to the principal installations, and both sheep and cattle are bred by the remaining G.I.'s.

Much of the soil is sour, but it responds to lime and fertilizer. The latter is obtained from the sea—brown kelp, or seaweed that decays quickly and mixes with the earth with beneficial results. Lime



Aleutian sheep carcasses are butchered by band saw. Machinery is used wherever possible. (U.S. Navy photograph.)

may be obtained by crushing clam shells taken from the beaches.

While the Aleutians have been pictured as barren wastes, much of the vegetation is luxurious and nutritious for livestock. Wild flowers are seen everywhere. Sheep raisers have suffered losses from the cold after shearing, but adequate shelter is all that is necessary to offset that difficulty. Shelter has been supplied by many of the structures built by the Seabees, including the Quonset huts. There seems little doubt that with adequate transportation the Aleutians, the Shumagins, and scores of other islands such as Sitkalidak and Afognak will prove valuable for raising cattle and sheep on a much larger scale.

Thousands of acres on the mainland, in addition to those in the cultivated farm areas, are suitable for summer grazing. A small Gallo way herd was raised at the Kenai agricultural station years ago; it did well on native grass which was also used for hay to carry it through the winter. After a year, the cattle were removed to the



Adak Island in the Aleutians, where the late President Roosevelt admired the lush grass and tasted the soil, pronouncing it good for pasture. (U.S. Navy photograph.)

station at Kodiak because of poor transportation facilities on the peninsula. Beef cattle driven up the Richardson Highway from Valdez to Fairbanks remained in fine flesh, even gained weight en route. The stockman who tried this venture intended to carry the cattle through the winter, fattening them in Fairbanks, but a meat shortage caused by a strike on the Alaska Steamship Company prompted him to sell the animals at a good profit.

The Dunbar region between Fairbanks and McKinley National Park is good cattle country. So is the Big Delta area on the Alaska Highway, 100 miles south of Fairbanks. The foothills of the Talkeetna Mountains just north of Matanuska have a fine stand of native grass and sedges—roughage that a good Whiteface herd or sheep would prosper on. The summer feed is there, but now it is used only by wild Dall sheep and goats.

Much of interior Alaska north from Anchorage to Fairbanks along the railroad belt is good for beef cattle or sheep ranches, and some of the land can be homesteaded. While the law allows only 160 acres to one person, two families uniting in a project could get 320 acres, which would be a fairly good-sized area for base opera-

tions. Beyond that area, sheep or cattle could be grazed on public domain. The distance from Seattle to interior centers—1,700 miles to Anchorage and 2,055 miles to Fairbanks—with the high freight on refrigerated fresh meat, would act as a protective tariff in favor of the local producer. The region has a considerable population, and a growing one. Even before defense activities in 1939, nearly \$500,000 worth of fresh meat was imported into the railroad belt from the States each year. Increased settlement and industry, and probable permanent occupancy of the more important Army bases, means a consumption of fresh meat in the area far above this figure.

According to B. Frank Heintzleman, commissioner in Alaska for the Department of Agriculture, interested stockmen would do well to study the upper Cook Inlet-Matanuska region and the Tanana Valley around Fairbanks, or south of it, as prospective locations for cattle or sheep ranches. Lands needed for summer grazing in the mountains can be selected by the rancher and in the absence of conflicting uses he will be given a twenty-year lease for their seasonal use.

Farmers in the Matanuska Valley carry only about a hundred head of beef cattle and, as noted, the Tanana Valley farmers to date have found dairying too profitable to venture into beef production. They have need of all the winter feed they can raise to maintain their dairy herds. As in the States, a really successful rancher has to devote himself to beef cattle alone. Whether Alaska is or is not to be a cow country is not a question of feed but of willingness of stockmen with some capital to take hold, keeping in mind that approximately \$4,000,000 in meat imports is "something to shoot at."

Dr. Gasser's new Territorial department of agriculture may be of help. It has barely taken hold and thus far has not had much legislative support. The schools could aid by promoting the interest of youngsters in livestock. The 4-H Club work, carried on through the Agricultural Extension Service, is not neglected, but it runs more to home economics, vegetable and flower gardening, and canning, than it does to the raising of Hereford calves or Chester White barrows. Lorin Oldroyd has had some success in making Alaskan youths poultry-minded. The shipments of baby chicks to the Territory last spring and summer were nearly double the 1944 amount.

But Alaskans really crave thick steaks or any meat that is red and lusty. The way to get it, without paying twice what it is worth, is to raise it.

Cash Crop No. 1

THE TIME is not far off when Alaska will offer to tourists winter attractions like those at Lake Placid or Sun Valley. While the late fall and winter days are short, they are long enough for the enjoyment of many outdoor sports; and those who have lived in Alaska know that there are times when the air is crisp and clear, as delightful as in early spring or summer. This is true not only of the southeast archipelago, but of the interior within the north temperate zone. Winter sports—skiing, skating, sleighing, and hiking are unsurpassed, and many people who love the rugged life of a midwinter outing eventually will turn to the Great Land.

Resumption of sled dog derbies already has added stimulus to winter attractions, and the development of some of the Territory's hot springs is under way. In addition to lodges and ski cabins, there is ample opportunity for modern hotels, offering quiet forms of relaxation within doors as well as virile outdoor sports. Natural vapor baths after a thrilling slide down a mountain over corn snow, a cocktail, and dancing to a big-name orchestra would give Alaska a reputation in the tourist world. But until such resorts are built—as they will be—it is wiser to concentrate on the current attractions.

Anyone who has seen much of nature's handiwork as a scenic artist will concede Alaska to be the big show. The Alps, the deserts, the jungles of the Nile or Amazon, the winding footpaths of Andalusia, and the bridge of San Luis have appeased the wanderlust of millions. Still they must bow to the Northland, for it combines the lures of various far horizons and adds something more of its own. Reindeer and caribou in Alaska, roaming over thousands of acres of wild tundra, are as fascinating as camels in the Sahara. A herd of buffalo grazing near the Alaska Highway will excite the



The *Alaska* steaming through the Wrangell Narrows in the beautiful Inside Passage, en route from Seattle to Seward. (Courtesy Alaska Steamship Co.)

urban visitor as much as a band of elephants in the Egyptian Sudan. Alaska offers almost everything but boa constrictors; there is hardly a snake in all her vast expanse.

The Great Land is a place of never-ending contrasts and peculiarities. In Fairbanks, sweet peas grow to a height of 12 or 15 feet—tall enough to bury a cottage. Pansies are as big as small saucers. But in the Aleutians asters are not much larger than daisies. The islands, however, have a great variety of flora and from July to early September are aflame with color. The purple-blue lupine and narcissus are particularly beautiful. All Alaska is a paradise to the botanist and naturalist. Scenery and wild life satisfy the longings of the most avid camera fan.

And Alaska is not averse to cashing in on nature's lavish gifts. She receives the tourist and sportsman with open palm. She knows that those who come to view her amazing scenery—glaciers, snow-

capped mountains, evergreen forests, clear streams, lakes and rare wild life—leave a trail of gold and silver that remains. It is not forwarded to absentee capitalists as are profits from a billion salmon and the wealth of mines. By boat and plane, in ever-increasing numbers, lovers of the primitive and bizarre are finding the goal of their dreams in America's last frontier. Already a stream of autoists are following the new highways directly to Russia's back door.

Most vacationists still prefer the steamers that ply the winding mountain-bordered sea lanes of the beautiful Inside Passage, a voyage as enchanting as the scenic splendors farther north. The trip from Seattle or the Middle West in fast-flying clippers is fine for those who have limited time and many Alaskan commuters use the airlines. But when they have the time they never tire of the mystic isles, fiords, and narrow channels of the steamer routes.

Anyone going to Alaska for the first time should take the boat. From the air one sees only the contour of the country; the full beauty cannot be grasped. After landing at Ketchikan, first port of call, Seward on Resurrection Bay, or at Whittier, the new port in Prince William Sound, the ride over the Alaska Railroad in new de luxe parlor cars is a second worth-while treat. But first comes the metropolis of far southeastern Alaska, only 662 miles from Seattle. Some tourists never get any farther than this alluring land of virgin forest, myriad islands, abundant fish and game, and the mysticism of Indian legend.

KETCHIKAN

After about two days' sailing through Canadian waters of the Inside Passage, your steamer crosses Dixon Entrance. You're in Alaska! You follow Revillagigedo Channel past Boca de Quadra and Mary Island—once the first stop in Alaskan waters—past Annette and several lesser islands, and dock at Ketchikan on Revillagigedo Island.

Ketchikan straggles for miles along Tongass Narrows, backed by steep forested hillsides. Its main business and shopping district is confined to a relatively small downtown section. Miles of salmon canneries, marine ways, machine works, and corner groceries crowd homes along the main waterfront street. The permanent population



Ketchikan, known as Alaska's "first city" because it is the first stop for the West Coast boats plying the Inside Passage, is one of the Territory's most progressive industrial cities. (Courtesy Alaska Steamship Co.)

is 6,000, plus 1,000 transient workers in the fishing season. Included in the city's trading area are the 10,000 persons of Hydaburg, Craig, Klawak, Metlakatla, and other towns, predominantly fishing centers.

The docks lining the city's waterfront can accommodate the largest ocean-going vessels. Two mooring basins for small craft are home port for the larger part of southeastern Alaska's fishing fleet. When the fleet is in, it is interesting to see Thomas Basin with its forest of masts and trolling poles rising from the little many-colored gasboats. Tongass Highway, a smooth gravel road, extends 19 miles north and 9 miles south of the city. Year-round homes and summer cottages are scattered along the highway. A short distance south of town is the U.S. Coast Guard Base. Bus service connects suburban residential areas with Ketchikan. Some fishermen's

homes and a few small ranches are built on Pennock and Gravina Islands across the Narrows.

The "first city" has never been a boom town, but has continued to grow steadily since it was incorporated in 1900, fifteen years before Anchorage was born. Fishing is foremost in Ketchikan, and Ketchikan is foremost in fishing, being the salmon capital of the world. The lumber industry ranks second, the town having been the headquarters of the recent Alaska Spruce Logging Program, in which 85,000,000 board feet of lumber were cut hastily from Alaska's green forests, for the manufacture of war planes. The Ketchikan Spruce Mills, one of the best equipped sawmills in Alaska, cuts 200,000 feet of lumber a day. It has branches in Anchorage and Fairbanks.

Although fishing is the lifeblood of Ketchikan, two-thirds of the population engage in other enterprises. There are 33 manufacturing firms, more actual productive enterprises than in all other Alaskan towns combined, and 120 retail establishments, with annual receipts of \$3,000,000.

Ketchikan has three hotels, thirteen churches, two theaters, two daily newspapers, the *Daily Alaska Fishing News* and the *Ketchikan Chronicle*. The *Alaska Sportsman*, a magazine of international circulation, is published in Ketchikan. The Fishery Products Laboratory, a joint enterprise of the Federal and Territorial governments, is devoted to research in new products of the sea and in new methods of processing fish.

Water, telephone, and power services are municipally owned. A building program at Beaver Falls is under way to accommodate increasing demand for power. Most homes use electricity for cooking, and some for heating, the rates being far below those in the States.

A high school and two grade schools provide for 821 pupils, and a Native Service school accommodates Indian children. A modern public library houses a good collection of books. The Catholic-operated General Hospital with a hundred beds and six doctors, three dentists, and a Territorial Health Center serve the medical needs of the city and its trading area. Social life is carried on at a high pitch by various clubs, lodges, and fraternal organizations.

Interesting to newcomers are the many stairways to homes



The U.S. Forest Service was instrumental in rejuvenating Alaska's famed totem poles which are supposed to chronicle the family history of Indians in the southeastern Panhandle. These weird relics of native culture, in Ketchikan City Park, constitute an important tourist attraction. Both Governor Gruening and former Secretary of the Interior Harold L. Ickes backed the move for revival of the totems.

perched high on hills or apparently on the brink of a sheer cliff. One wonders how he could move a piano into such a house or how the house got there! Boardwalks and planked streets of former days have been replaced for the most part, by cement sidewalks and paving.

Running almost through the heart of the town is Ketchikan Creek, which most inlanders would class as a river. Four blocks from the main steamer docks, tourists may watch thousands of salmon swimming up the creek to spawn, and leaping the precipitous falls. In the various seasons this creek is literally alive with trout—rainbows, Dolly Vardens, and steelheads.

A few blocks farther up the stream is the City Park, a beauty spot of wide green lawns, little rippling brooks, a wading pool, well-kept flower gardens, tennis and archery courts, baseball diamond, and totem poles of historic interest “leased” from the Haida tribe on Prince of Wales Island.

Saxman, 2 miles south of town, is a Tlingit Indian village of 600 population, interesting to tourists because it is the site of the

It takes only a few hours to land a mess of gamy rainbow trout like these. It's the fault of the fisherman in the Ketchikan area if he doesn't pull 'em in 14 to 20 inches long.





Petersburg, one of the principal fishing towns in southeast Alaska, is also the home of the experimental fur-ranching farm of the Alaska Game Commission. (Courtesy Alaska Steamship Co.)

largest totem pole collection in the world. At Mud Bight, 11 miles north of town, are other fine totems and an authentic reproduction of a Haida community house.

About 16 miles south of Ketchikan on Annette Island, site of the famous Metlakatla colony, is the Army-built landing field which serves Pan American as its nearest stop to Ketchikan. Passengers are carried to and from the city by yachts or on Ellis Airlines float planes. Ketchikan is planning to build an airport nearer town.

The city urges new settlers to start small industries in wood manufacturing, ceramics, souvenir manufacturing, specialty sea food products, garden truck, berry, and dairy farms, tourist lodges and camps, and cruise services for visitors.

Ketchikan is not only the first port of call, but the "first city" in point of rainfall. Loyal residents, however, boast of the precipitation, and tell you that it is responsible for the valuable salmon industry, the luxurious forest growths, and the abundance of water power.

Nor will the sports-seeking hunter or fishermen, who are the

chief stopover visitors, decry the moisture. For here is the fisherman's paradise. The heavy rains fall mostly in the late fall, winter, and early spring. In May, June, July, and August, old Sol runs Jupiter and his storm clouds a close race. In spring an abundance of water, fresh and cold, flows down the evergreen clad slopes, forming fast streams and clear lakes. As every angler knows, swift streams afford the best sport.

Rainbow, cutthroat, steelhead, eastern brook, and Dolly Varden trout can be caught a few miles from Ketchikan. Within three hours from town by boat is the best steelhead fishing in Alaska. Thirty minutes by plane takes the angler to Wilson, Mirror, Orchard, Reflection, or any one of a dozen other lakes, some accessible only by air. If the fisherman does not land his quota of fine cutthroats within two hours, it is no one's fault but his own.

The trout most common to southeastern Alaska are the cutthroat and Dolly Varden, but near Ketchikan the larger streams and lakes offer limited catches of rainbows. If one's technique is up to par, he can land them in lengths up to 24 inches.

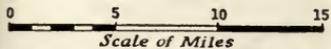
The Dolly comes up the streams in early summer and waits for the salmon runs. One can see them, in schools of literally hundreds, lying in deep pools or at the bars of stream outlets. Local sportsmen regard the Dolly as a nuisance and seek gamier varieties, but the cold-water specie are firm-fleshed, good eating, and game enough for a thrill. The only restrictions are a limit of 20 fish a day, or 15 pounds and an additional fish. If you have caught 14 pounds of trout and then hooked a 10-pounder, you can land him with immunity. Possession limit is two bags daily.

Though Alaska's native fish are among the finest in the world from the sportsman's point of view, Ketchikan imported seedlings of the East's most famous catch—the eastern brook. The Fish and Wildlife Service stocked the streams and landlocked lakes near Ketchikan with this smaller but tricky trout. The fingerlings were raised in a hatchery near town and transported two years later to the cold mountain waters.

As in most areas, late spring, summer, and early fall are the best times for trout fishing. The short summer nights at this latitude (55° 20') give the angler a long day. Fishing parties frequently set out Saturday nights for their favorite grounds, reach the streams at dawn—two or three o'clock—and catch a mess of pan trout for

KETCHIKAN RECREATION AREA

— TONGASS HIGHWAY



breakfast. After a full day of fishing, sight-seeing, and picture-taking, they return home weary but happy in the late evening twilight.

Fishing trips by plane are enjoyable, with the green hills, little clear lakes, and salt-water arms slipping rapidly away, but the trip by small boat is the one the sportsman will always remember—the “mug-up” in the galley as one leaves town; the short night in a sleeping bag with the comforting throb of the gas motor pulsing in your ears as you stretch out in a bunk or on deck under the stars. If you really love the outdoors, this is the life; hitting the upstream trail while the early morning light barely filters through the spruces; the camaraderie of the “gang” cooking and eating in the galley; these things take you away from your troubles, linger in your happiest memories.

Fishing methods are much the same as elsewhere. Early in the season, bait fishermen use salmon eggs either with or without spinners, or fish belly, or any of a dozen artificial lures. Flies are always in season, the black gnat, coachman, royal coachman, brown hackle, parmacheene belle, cow dung, grayhackle, professor, and dusty miller being the most popular.

The strike and reel-stripping runs of king salmon, prize game fish of the Great Land, can nowhere be sought to better advantage than near Ketchikan. King, spring, chinook, tyee—by whatever name he is known—this salmon is king along the Pacific Coast from California to the Bering Sea.

Salmon trollers take their outboards or small cruisers to Mountain Point, south of town, or to Ward Cove and Clover Pass, to the north, where the big kings run. On almost any evening in May and June, someone brings in a 35- or 40-pounder. Milton Atkinson's 62-pounder was the prize trophy for 1945. King fishermen use plugs, herring strips, or metal lures; the egg wobbler, limper, and Mac-Mahon are the best producers.

Late July, August, and early September bring in the smaller but gamy coho, or silver salmon, which runs from 8 to 20 pounds and which prefers the metal spoon.

Among Alaska's top fishermen, never affected by a shortage in tackle, are the bears. Almost anywhere along a lake or stream one is likely to see a black bear intent on snatching his dinner. If the wind is right, you may approach close enough to get moving pic-

tures. And you will be in no danger, for the instant he sees or smells you the black bear will be off like a shot!

Sea gulls follow the salmon up the streams in milling, screaming flocks; the avaricious bald eagle hovers near; occasionally a mink, marten, or land otter will slip up and steal your catch right out from under your nose. Hair seals come into the lagoons to gorge themselves on salmon, and since there's a \$3 bounty on these predatory seals, the fisherman can sometimes manage a little profitable target practice. The diversion offered by these native creatures in primitive regions is not found in the States and adds immeasurably to the thrill of an outing.

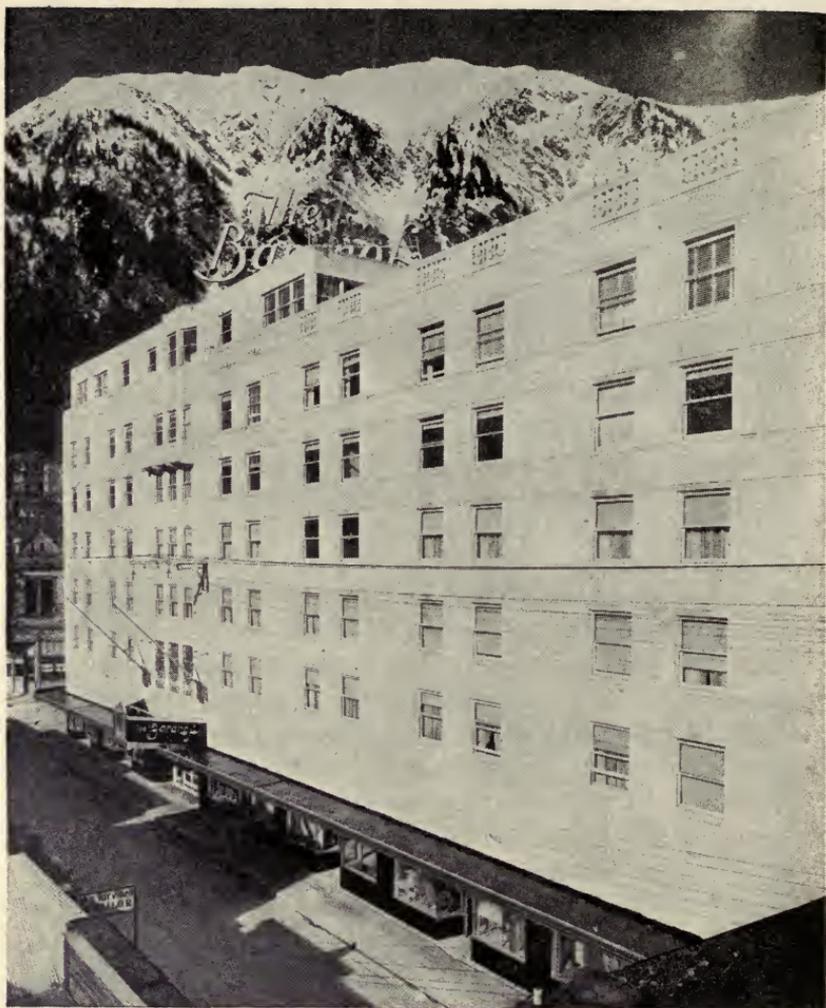
For the hunter, the entire region abounds with little Sitka black-tailed deer, black bears, ptarmigan, grouse, ducks, and geese. Rudyerd Bay, Walker Cove, and Ship Mountain on Cleveland Peninsula are famous for goats, most of the mainland for grizzly bears, the Chickamin and Unuk River valleys for moose.

Whether one wants to fish or hunt, or just see and take pictures, he should arrange a trip around Revillagigedo Island. Traveling up Behm Canal one will see New Eddystone Rock, a picturesque volcanic formation rising in a column straight from midchannel to 230 feet; rivaling Yosemite in their grandeur, the sheer purple cliffs of Rudyerd Bay and Walker Cove tower 3,000 feet and ribbons of water catapult from the brink into the blue-green water below; Chickamin and Unuk Rivers, whose silt-laden waters flow directly from one of the world's largest glaciers; Bell Island, where hot mineral springs bubble out of the ground a few steps from a cold, clear, trout stream; and other wonders of nature that you could visit time and again without wearying of them.

Such is Ketchikan, the first of the "last frontiers."

JUNEAU AREA

At Juneau, the next stop for some of the steamers, a pleasant trip is the ascent of Mt. Roberts. A clear trail from the capital city reaches the timber line and continues along the mountain side to Gastineau Peak from which the whole panorama of Gastineau Channel is visible. As on all mountain trails, there are many beautiful varieties of wild flowers. Another interesting hike is along the



The Baranof, Alaska's modern 250-room hotel at Juneau with accommodations and service rivaling some of the best hotels in the States. It is the center of social gatherings and entertainment for visiting dignitaries. (Ordway-Neff Photo Service.)

road leading into the valley of Gold Creek. The tourist can use a car for the first mile or two, but farther on, driving is unsafe. Walking takes one through a maze of forest verdure among flowering shrubs. At a distance of slightly less than two miles there is a waterfall of rustic beauty. The next attraction, approximately four miles away, is the old mining camp of Perseverance in Silver Bow Basin. This route is rich in history pertaining to earlier-day mining and the founding of Juneau.

When the Auke tribe of Indians, living on the mainland, appeared in Sitka wearing gold ornaments, there was excitement concerning the source of the metal. John Muir, California naturalist for whom the Muir Glacier was named, persuaded a Sitka merchant to grub-stake Richard Harris and Joseph Juneau and send them on a hunt for "colors." The prospectors found rich placer in a stream subsequently named Gold Creek. Gold quartz also was discovered near by. This was in the spring of 1880, seventeen years before the big strike in the Klondike.

News of the find spread and by Christmas a camp was established near the mouth of Gold Creek. It was called Rockwell and later was changed to Harrisburg, but in December, 1881, the miners decided that Juneau, the elder of the prospectors, was entitled to first honors and the little town was renamed for him. One of the world's greatest gold quartz mines—the Alaska Juneau—is a living testimony to the wealth Juneau and Harris uncovered. It is possible to ascend Mt. Juneau by trail, but the trip is difficult and should not be attempted without a guide.

The capital of Alaska today is a modern city, a beehive of activity settled at the base of a majestic mountain that almost shoves it into the sea. Juneau cannot push the mountain back, so it spends thousands of dollars dumping parts of it into Gastineau Channel, making room for more streets, "skyscrapers," and hotels to house its tourists and ever-increasing visitors from a larger capital 4,000 miles away. The city must obtain Congress' consent to dump its rocks into the seas. Such new residences as are built for Alaskans are chiefly on the outskirts, along the beautiful Glacier Highway.

Juneau is a little more metropolitan than any other community in Alaska except Anchorage. Stepping into the lobby of the Baranof Hotel, one is in an atmosphere of comfort comparable to that of any hotel in the States. In the decorative Gold Room there is a

menu as inviting as in the Ritz or the Blackstone. The manager is William R. Hughes, who in October, 1947, succeeded Jack Fletcher, his predecessor for many years.

On special occasions there is an orchestra in the Bubble Room but dance music is usually supplied by the omnipresent juke box, as representative of Alaska as is milk in tin cans. The Baranof is proud of its decorative murals by the late Sidney Laurence and Eustace Ziegler, Alaska's own artists, both nationally famous. After being closed for six months the Bubble Room was reopened shortly before the close of the war as an attractive supper club.

Stores, movies, lodges, churches, hospitals, and restaurants are on a par with those of cities in the States several times Juneau's size. The Federal and Territorial Building, locally called the Capitol Building and containing one of the finest museums in the world, is crowded with a host of government bureaus. It is finished inside with white marble mined in Alaska, and was built at a cost of more than a million dollars. Territorial and Federal authorities have petitioned Congress for funds to enlarge the building.

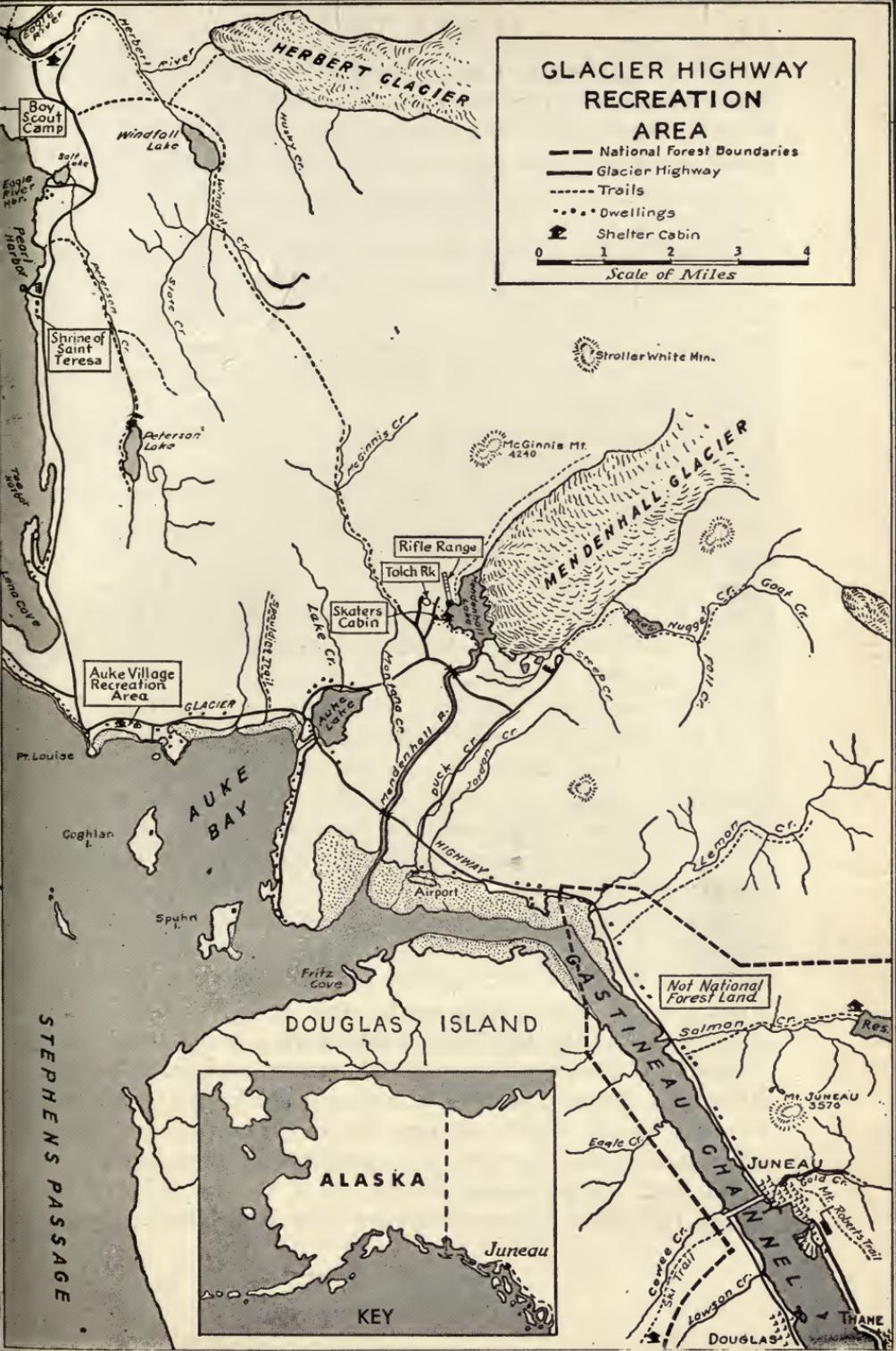
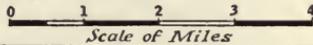
The Alaska Historical Library and Museum on the second floor has a most complete collection of Eskimo artcraft. The native art is expressed in ivory carving and includes replicas of animals, hunting and fishing gear, unique ivory fish hooks, basketry, ancient eating and cooking utensils, and clothing of skin and fur worn centuries ago. Hundreds of old books of historical value written by Russian explorers are on view, as well as rare ethnological specimens. A complete collection of minerals shows the progress in Alaska's mining and the development of coal and other resources.

The town of Douglas on Douglas Island, across Gastineau Channel, is connected with the capital city by a steel bridge, 1,564 feet long, built to replace the old ferry that operated until 1935. South of Douglas is Treadwell and the ruins of the great Treadwell gold mine which operated for 36 years and yielded \$66,000,000 in ore. "Glory Hole" yawns as mute witness to days when the 300 stamp mill was a wonder of the mining world. Another attraction is the Douglas Island ski trail built by the Forest Service. It leaves the road just south of the bridge and extends to the timber line.

A reservoir or small lake where there is excellent fishing for Colorado brook trout may be reached via the northern section of the Glacier Highway on the Juneau side of the channel, which

GLACIER HIGHWAY RECREATION AREA

- National Forest Boundaries
- Glacier Highway
- - - Trails
- Dwellings
- 🏠 Shelter Cabin



STEPHENS PASSAGE

Not National Forest Land

MT. JUNEAU
3570'

JUNEAU

DOUGLAS

extends along Gastineau Channel and Favorite Channel to Herbert River. Three miles from the city is a trail leading up a tramway to the powerhouse, dam, and reservoir. This sparkling clear water afford fine sport for the angler who is not after 20-pounders. Goats and bear can be seen on the ranges flanking the upper reaches of the drainage.

Lemon Creek is $2\frac{1}{2}$ miles from this point, and from there a trail leads to the Lemon Creek Glacier. At a distance of $9\frac{1}{2}$ miles from Juneau is a branch road from the glacier where cars may park in full view of this mass of shimmering blue ice. From here a trail taking off for Nugget Creek Reservoir allows further excellent views of the glacier.

Mendenhall Glacier is the greatest single feature of interest near Juneau, especially to those not accustomed to seeing glaciers. The mighty river of ice is a remnant of the huge ice cap which once filled the valleys and water channels. The lowland areas are made ground built by deposits of glacial silt. The glacier and its vicinity are veritable wonderlands to the botanist and all nature lovers. Remains of a buried forest are gradually being disclosed, notably in the region of the Mendenhall River bridge. The glacier has a frontage of $1\frac{3}{4}$ miles.

Farther along the Loop Road on the west side of Mendenhall Lake is a rifle range with a log shooting house, club, and lunch rooms. There are reinforced concrete butts for target shooting at each 100 yards; also a target butt for experts, placed at 1,000 yards—the distance usually required for a shot at a mountain goat. The Juneau Rifle and Pistol Club welcomes visiting marksmen to this range.

Another point of interest along the Loop Road is Tolch Rock, named in memory of W. T. Tolch, originator of the Boy Scout movement in Alaska. The road joins the main highway just beyond Auke Lake. A road leading south from the highway along the shore of Auke Lake, traversing what is known as the Mendenhall Peninsula, is spotted with homes and summer cottages. Rounding Auke Lake, the most picturesque portion of the highway lies ahead—vistas of beach, islands, cottages, and cabins bordering Favorite Channel, all alternating with green patches of timber. At Mile 16 is the Auke Village recreation area, site of the old Auke Indian village. Here there is a community log house with a broken granite



Skagway, on the Lynn Canal, where the Army turned over a 150-bed hospital for the treatment of tubercular patients. (Courtesy U.S. Forest Service.)

fireplace and other attractions for tourists. A bathhouse or "change place" with individual rooms, and picnic shelters add to the conveniences. A trail from the beach resort extends to Point Louisa and Lena Cove where there is a camping ground.

From early May when the first king salmon appear until late September when the coho run ceases, the water bordering the highway from Point Louisa to Earle River is excellent for strip fishing; light tackle is used to lend additional sport in landing the silver giants. Parking space is provided at Tee Harbor so that tourists may enjoy the superb view of Favorite Channel, tree-covered Shelter Island, and beyond, the Lynn Canal, used by steamers traveling to and from Skagway. Majestic Chilkat is a striking background for this wide expanse of water. The vivid coloring of an Alaskan sunset may be seen from the highway at Inspiration Point.

Farther on, between Tee Harbor and Pearl Harbor is a little island on which the Jesuit Order of the Catholic Church has built a shrine to Saint Terese and a retreat house. The land was given to the Catholics by the government. The chapel is built of native logs and stone with a 28-foot Notre Dame tower. It stands today virtually as a memorial to the Most Reverend Joseph Raphael Crimont, late bishop of Alaska, who died in the spring of 1945, a short time after the shrine was completed. The bishop had administered to the needs of a frontier country for more than fifty years. As a young man in France, his life had been despaired of, but he rapidly regained his health in Alaska's northern wilds and lived to eighty-seven years.

The Jesuit missions in Alaska provide food, clothing, shelter, and educational facilities for six hundred native children. Saint Anne Hospital in Juneau is one of the finest in the Territory. The Catholics also have hospitals at Anchorage, Ketchikan, Fairbanks, and Seward.

Saint Terese is 23 miles from Juneau. At Mile 28, Glacier Highway comes to an end at the bank of the Herbert River. Eagle Glacier is visible 5 miles to the north. From the end of the road a trail leads westward along the Herbert and Eagle rivers to the Boy Scout Camp. A suspension bridge crosses Eagle River to Amalga, a mining camp of earlier days, and to Yankee Basin.

The Glacier Highway has a smooth gravel surface almost com-



Cordova, one of Alaska's most favored cities so far as tourists are concerned. In the background is Mt. Heney, named for Michael J. Heney, builder of the Copper River and Northwestern Railroad, made famous by Rex Beach's *The Iron Trail*. At the foot of the mountain to the left is Eyak Lake, a fresh-water lake famous for its trout and duck hunting. At the extreme right is Mt. Eccles. A hiker's trail leads to its summit. (Courtesy Alaska Steamship Co.)

parable to a hard road. Its width is from 15 to 25 feet, wider in town areas and narrower on the straightaways outside the towns. Including the Loop Road and spurs it is only 45 miles long but it cost \$1,500,000. Aside from running through one of the most attractive regions for tourists, its economic importance is proved by the number of country homes, summer cottages, fur farms, and dairies along the right of way.

CORDOVA

Across Prince William Sound, 150 miles nearer Seattle than the main steamer stop at Seward, is Cordova, at the mouth of the Copper River. The former boom town marked the newly started route of the Copper River and Northwestern Railroad to the Kennecott copper mines. Building this road in record time was one of the marvels of man's battle against the raw elements in the far north. Two of Alaska's huge glaciers—the Miles and Childs—poured millions of tons of ice into the Copper River, lifting the half-frozen water high above the river's banks along the line's right of way. Only 131 miles long, the railroad was completed in 1911 at a cost of \$23,000,000 and abandoned in 1938 after the Morgan-Guggenheim interests had taken out \$100,000,000 in copper ore.

Cordova, with a population of 1,600, is a favorite site for vacationists. It has an important harbor accommodating 500 small ships, a large airport and shipbuilding yards, and is the center of an extensive salmon, crab, and clam fishing area. The salmon canning season is the longest in Alaska, extending from May 1 to September 18. Of the town's many canneries, two are situated close to the wharf where ocean steamers dock, and the interesting process of transferring salmon from the sea to tin cans may be viewed by visitors, just as thousands inspect Packingtown's meat industry in Chicago. The best cannery in Alaska was built at Cordova in 1945 at a cost of more than \$1,000,000.

Seven canneries are engaged in processing razor clams in addition to the salmon. The packs of 45,000 cases annually, which in recent years comprise the entire Alaska pack, are equivalent to 73.8 per cent of the Pacific Coast pack. Three canneries are engaged in packing Dungeness crab, with average packs of 6,600 cases. The clam season is in the early spring and fall; the crab canning season during fall, winter, and spring months. Canneries furnish the principal payroll of the community, the fishermen and cannery labor being for the most part local.

Other industries include logging in Prince William Sound, trapping, boatbuilding, and mining at interior points with operations based at Cordova. Because of the heavy precipitation there is excellent duck hunting on the Copper River flats, a half-hour's

journey in a motor boat. Cordova and Ketchikan, in the Panhandle, vie with each other for honors in rainfall and snow. Cordova is the loser, boasting only 140.65 inches in a year compared to 153.66 at Ketchikan. Cordova sometimes dismisses school on clear days to let the children enjoy the sunshine and acquire a tan. Its residents do not mind the rain, however; they are honest in calling it rain—not Alaska dew. And the town does have some beautiful days.

Winter climate in this attractive seaport town is moderate; the mean temperature for January is 26.5 degrees above zero; for July, 54.8 degrees. At any time the visitor needs only the same clothing he would wear in the middle-western states.

There is no highway connection to the interior although a road is planned over the route of the former Copper River Railroad, to connect with the Richardson Highway at Chitina, thus linking Cordova with the Alaska arterial highway system. The Cordova Air Service provides scheduled air transportation between Cordova, Valdez, and Anchorage, also between coastal points and the interior. Other airlines provide transportation to Juneau.

Good roads and trails lead to near-by recreation centers, one of the most interesting of which is the Mt. Eyak trail, built to reach the scenic area at the mountain's top. The trail follows open beaches through strips of timber to a point where there are rare vistas for the hiker—views of Orca Inlet, Hawkins Island, and Hinchinbrook Island, across beautiful Eyak Lake to the Copper River flats and the Chugach Mountains.

Moisture and abundant light make plant life luxuriant. Cotton grass is especially admired by tourists because the blossoms, when dried, can be kept indefinitely. Tall purple lupine, wild hyacinth, marsh marigold or yellow cowslip, dwarfed dogwood or bunch berry, fireweed, bog laurel, yellow water lily; Labrador tea, blue and yellow violets, and Alpine bluebells grow profusely.

Small boats and cabin planes, available for charter in Cordova, are used by tourists to reach distant lakes and streams. Because of its glaciers, islands, bays, and inlets, the Prince William Sound division of the Chugach National Forest, of which Cordova is a part, is well worth the tourist's time. The most noted tidewater glacier is the Columbia, near Valdez, about fifty miles northwest of Cordova. Valdez, coast terminus of the Richardson Highway, is widely used by vacationists as part of a circle tour to or from



Valdez, nestling at the foot of a huge glacial moraine that looks as if it might bury the city at any moment, is the coastal terminus of the Richardson Highway, the longest road in the Territory. (Courtesy Alaska Steamship Co. and Pacific Aerial Surveys.)

Fairbanks, with the Alaska Railroad the connecting link. Tourist steamers run between Cordova and Valdez, and glaciers can be viewed from the boats.

ALASKA'S GLACIERS

Alaska's awe-inspiring glaciers will always thrill the person who sees them, either for the first time or the tenth. These primeval masses of crystal-blue ice have molded the contours of the Territory to surpassing beauty. The huge rivers of ice, sometimes 4



Wrangell, built on the site of the Stikine Indian village, where the Stikine River meets the sea, is the second oldest town in Alaska and is rich in Indian lore and totem poles. Its large land-locked harbor would hold the entire U.S. Navy. (Courtesy Alaska Steamship Co.)

miles wide and 300 feet high, are things of great beauty in themselves.

The lofty peaks of southeastern Alaska receive heavy snowfalls from moisture-laden ocean breezes and this snow, piling layer on layer, forms ice that pushes down the mountain sides toward the sea. Some are live glaciers that pour millions of pale blue bergs into the fiords and inlets, and some are dead masses of ice that are retreating from year to year.

Starting at Wrangell, the sight-seer can observe how the glacier formations increase in extent as he travels north toward Prince



Seward, since 1923 the coast terminus of the Alaska Railroad and the main port of call. Seward's importance waned with the building of the Whittier-Portage cutoff and the establishment of a new coastal terminus at Whittier. (Courtesy Alaska Steamship Co.)

William Sound. The glaciers and surrounding lands present, in a limited space, a series of related geologic views leading back from present-day conditions to the time of the last Ice Age of North America, of which they are a vestige. Nowhere on this continent, or perhaps in the world, can glaciers be more easily visited than on the Alaska coast. Some can be closely approached by ocean-going vessels, others by roads and foot trails.

The glaciers most frequently visited by tourist steamers are Taku, located on Taku Inlet; Herbert and Eagle River on the Lynn Canal; La Perouse and Crillon, north of Cape Spencer, and Columbia. Glaciers not on the tourist lanes, but reached by mail boats or trails, include North and South Sawyer, on Tracy Arm; Twin and Wright, up Taku Inlet; Harriman, Surprise, Barry, Blackstone, and Tebenkoff in Port Wells. Mendenhall Glacier, near Juneau, receives the greatest number of visitors. Lemon Creek Glacier at Juneau and Denver Glacier at Skagway are tapped by trails. The Alaska Railroad passes near several small glaciers on the Kenai Peninsula, the largest of which is Spencer.

KENAI PENINSULA

From Seward, the main stop of the boats carrying civilian traffic, the steel route to the interior takes one through the most rugged part of Alaska's terrain. The modern diesel-drawn train may have to slow down while a moose or grizzly crosses the track, but you will reach Mt. McKinley National Park in time for supper and arrive at Fairbanks a few hours later.

Anchorage, Seward, and Whittier, all seaports on the railroad, the latter two rail termini, are starting points for sportsmen patronizing the Kenai Peninsula, a mecca for big game hunters. Charter planes and boats can be obtained at Seward and Anchorage and guides are available. All nonresident hunters of big game must employ a registered guide. Buses and the railroad also take sportsmen to their favorite haunts.

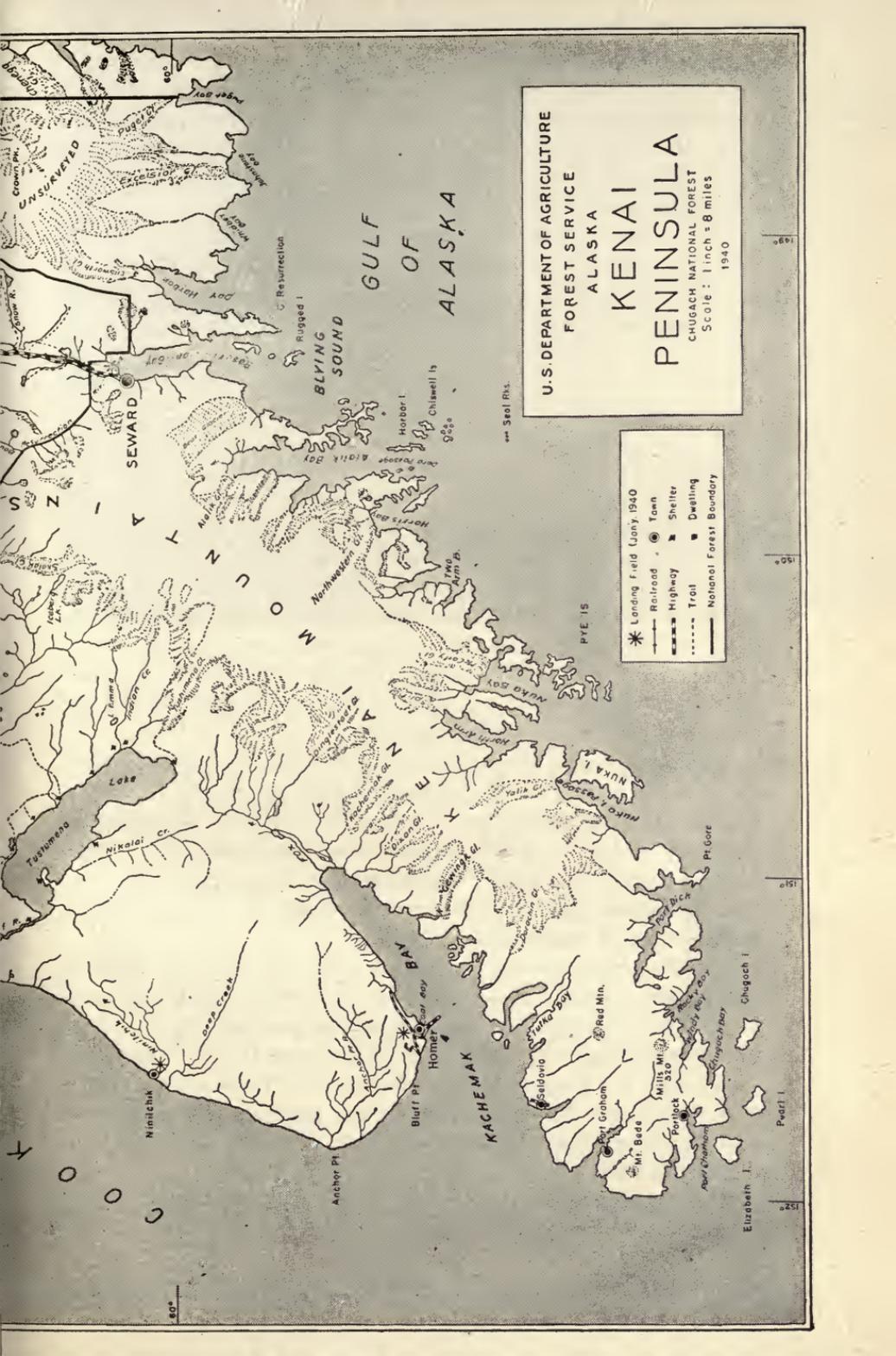
A division of Chugach National Forest is on Kenai, where hiking and photographing the wild life are added attractions. Moose, mountain sheep, the famed Alaskan brown bear, black bears, and ducks, geese, ptarmigan, and grouse are plentiful. In most regions the hunting season opens about the middle of September, but it is always open for black bears.

Russian River, a picturesque, wild stream, marking in part the western boundary of the preserve, is noted for its rainbow trout, measuring 10 to 30 inches. Steelhead, Dolly Varden, and golden fin trout also satisfy the ambitious angler.

In addition to the railroad through the center of the Peninsula, 150 miles of auto roads and 200 miles of trails take the hiker to isolated regions. Near Seward, one can ski as late as July. Use of the Seward Ski Club's cabin at Mile 12 and a portable ski tow are free to visitors.

The Seward Highway, 75 miles long, connects the seaport town with the Turnagain Arm communities of Sunrise and Hope on Cook Inlet. Turnagain Arm was named for the English explorer, Captain James Cook, who sailed up the inlet in quest of the much sought Northwest Passage to Europe. Eventually he had to turn and go back.

Since hunting is barred on the mountain sheep and goat refuge which stretches from Seward to Turnagain Arm, the animals have



U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
 ALASKA
KENAI PENINSULA
 CHUGACH NATIONAL FOREST
 Scale: 1 inch = 8 miles
 1940

- Legend:
- * Landing Field (July 1940)
 - Railroad
 - Highway
 - Trail
 - National Forest Boundary
 - Town
 - Shelter
 - Dwelling

Seal Pks.

PYE 15

190°

190°

151°

152°

60°

GULF OF ALASKA

BLYLING SOUND

SEWARD

Harbor I.

Chiswell Is.

90°

Lotse

Nikolai Cr.

Nimitchik

Anchor Pt.

Bluff Pt.

Homer

KACHEMAK

Saldovia

Pt. Graham

Red Min.

Swine Mt. 320'

Porlock

Pt. Barrow

Chugach Bay

Chugach I.

Pearl I.

Elizabeth I.

UNSURVEYED

S I T Y

K E N A I

P E N I N S U L A

A L A S K A

C O O K

B A Y

become reasonably tame and are easily photographed. Alaska's famed Dall sheep constitute one of its most attractive forms of wildlife. Robert Service, with poetic license, referred to them as "big-horns asleep on the hill," but the real bighorn is found chiefly in the Rocky Mountains.

At Lawing, 23 miles from Seward, Nellie Neal Lawing has for years conducted "Nellie's Place," a lodge with cabins for hunters and fishermen. There are other recreation centers along the railroad and along the highway which parallels it most of the way.

ANCHORAGE

Alaska's largest city, unquestionably destined to remain so, is Anchorage, centrally situated on the railroad, 114 miles from the coast, due north of Seward. This hub city is 550 miles northwest of Juneau by air and 275 miles south of Fairbanks.

Covering more area than any other metropolitan center, Anchorage is laid out on a level plateau of Knik Arm, northern embayment of Cook Inlet. The town site was selected in 1915 by the Alaska Engineering Commission as a division point of the Alaska Railroad. The line's executive office, main shops, and hospital are located there, and 200 employees are residents.

Anchorage today has a population of close to 12,000. Including the forces at Fort Richardson and people in the immediate trading area, the population is 20,000. It is rapidly expanding industrially and as an aviation center. Fort Richardson, the Army's headquarters of the Alaska Department, is about three miles from the city limits, with frequent bus and cab service. The post is virtually a part of Anchorage.

The city government is progressive. Recently it financed \$2,000,000 of public construction, plus an approximate outlay of \$4,000,000 for private building. About 500 new building units have been constructed or are under way. Air transportation to and from Anchorage is a huge industry. There is also much private flying, with one plane to every 40 persons, more per capita than any other city on the continent. Commercial ships serve an area as large as the British Isles.

Anchorage has an even climate, its mean temperature for Jan-



Anchorage is Alaska's leading city, with a population of 12,000. It is the only city laid out in broad squares with wide streets and lots of unoccupied land for growth. The city is on a flat plateau at the head of Cook Inlet, but there is plenty of scenic beauty in the surrounding mountains. (Courtesy Alaska Steamship Co.)

uary being 10.1 degrees; for July, 56.8. The city draws heavily on the rich mining and agriculture of the surrounding countryside. Among recent improvements are a \$305,000 addition to the school—including a large gymnasium—a new \$80,000 church; a \$100,000 newspaper plant, a new hotel, another movie palace seating 1,000, a new water system. A 50-piece symphony orchestra, a city band, new buses, and new planes are all indicative of the progressive spirit prevailing.

Anchorage boasts that it is the front door to 90 per cent of interior and coastal Central Alaska, the base of the chief coal fields and a center of rich placer gold mines. New quartz mines have been developed near by, those at Willow Creek assuming especial



A view of Mt. McKinley across Wonder Lake. (Courtesy Sackman, National Park Service.)

importance. The city is the airways base for Bristol Bay whose waters lead the world in sea products. It is the market for Matanuska farmers, and storage facilities have made it possible to store fresh vegetables from the colony for two months after they are harvested. The Anchorage Cold Storage Company provides space for farm produce, and other companies operate private lockers in which sportsmen can preserve frozen game and fish.

Anchorage is an outfitting base for vacationing hunters and fishermen although for the latter Ketchikan is more important. The city is also a center for much of the fur-farming industry.

Airplane service is available to tourists who wish to visit the "Valley of Ten Thousand Smokes" on the Alaska Peninsula, site of the world's largest chain of volcanoes. The lord of the valley is Mt. Katmai which in 1912 erupted a billion tons of ashes, covering the country for 100 miles. This, however, gave Alaska another national monument with an area of 2,697,590 acres. The crater has a circumference of 8 miles. In it is a lake of milky blue water, with a little crescent-shaped island in its midst. Vapors from the few still active volcanoes rise more than 1,000 feet, merging above the valley into one titanic cloud from which the area derives its name. The number of fumaroles in the valley has decreased greatly during

the last decade and vegetation is again growing on the mountain side.

The trek of work-weary escapists to Alaska has really taken on new life. Thousands want to see what the Japanese coveted most and failed to acquire. The treeless Aleutians, with their curtains of fog and wind-tossed clouds, are no longer neglected. They, too, are a show place of the Far North. If you want to see bomb craters and abandoned foxholes, Kiska, Attu, or Dutch Harbor are your nearest goals. On Adak Island where President Roosevelt admired the luxuriant grass and tasted the good earth like the practical dirt farmer he was, sheep are grazing today, taking shelter in Quonset huts.

When it was first rumored that the Japanese were asking for peace, Alaska started preparations to receive tourists on a broad scale. At Anchorage, Governor Gruening predicted: "The tourist industry will be bigger than the \$50,000,000 salmon industry. Our job is to prepare for tourists, not turn them away with the excuse that we have no accommodations. If necessary, we must take visitors into our homes and make them feel welcome, the same as we did with defense workers."

MT. MCKINLEY NATIONAL PARK

Prior to this time, the Alaska Railroad already had stressed the need of additional hotels in Anchorage and Fairbanks. It had planned a commodious lodge and tourist cabins at Wonder Lake in Mt. McKinley National Park in addition to the hotel it had operated for years at the eastern edge of the park.

The new Wonder Lake resort is 89 miles west of the railroad in the northern foothills of the Alaska Range, with a clear view of Mt. McKinley, highest peak on the North American continent—20,300 feet. The Indians' use of the name Denali—Home of the Sun—is explained by the fact that the sun is frequently hidden by Mt. McKinley's peak, and when seen again seems to burst from a veil of cloud as if the mountain were its birthplace.

Wild animals often cross the park's main street, a gravel road crawling along Alaskan tundras and through mountain passes banked by towering peaks on one side and a sheer drop of thousands of feet on the other.

The only hunting permitted in the park is with a camera. Its entire 3,030 square miles is a game sanctuary, and park rangers guard all forms of animal life. In lieu of hunting, there are swift streams and shimmering lakes for fishing, swimming, and boating. The new camp has facilities for modern pastimes amid primitive settings—tennis, horseback riding, and skiing in season. One can ski even in summer if he wants to climb a thousand feet up Mt. McKinley's steep slopes.

The park was always the pride of Colonel Ohlson who rated its scenic wonders as superior to those of the Alps. "After a few days at the park," said the Colonel, shortly before his retirement as head of the Alaska Railroad, "crowded cities seem like dimly remembered nightmares." And that is true of many a locality in Alaska only a mile or two outside the towns.

While game conservationists rule the Northland with an iron hand, the visitor is scarcely aware of their reign. Wildlife is so plentiful that bag and creel limits satisfy any hunter or fisherman. Regulations for big game are altered from time to time in various localities but they are always sufficiently generous. For sports fishing, one need go only a few miles from urban centers to find trout-filled lakes and streams that are rarely visited. Others, in more remote regions, have not been fished at all. They can be reached in a short time either by trail or plane. The Alaska Game Commission requires a nominal fee of \$2.50 from nonresidents. In general, it sets no season or size limit, restricting only the number of the catch.

FAIRBANKS

Fairbanks, 150 miles north of Mt. McKinley Park, is another up-and-coming city. People are interested in dining, wining, and mining, with a moving picture or two for good measure. The restoration of gold mining whipped up some activity late in the summer of 1945, but not much was accomplished until the following year.

In season, baseball excites the populace; Ladd Field sponsors a league that gets opposition from civilian teams. Roadhouses and gay night clubs attract the younger set and those ATC's at the post who like to dance as well as fly. The students of the University of Alaska (only 3 miles away at College Station), are lively,

too, and participate to some extent in the "Golden Heart" city's gaieties.

The city is built on the Chena Slough, which serves as a landing place for float planes in summer and a field for the winter carnival—when there is ice. Fairbanks also has its Chena Ice Pool, with several thousand dollars at stake—a miniature of the Nenana Classic.

The town is satisfied with its climate even though winter temperatures drop to 50 or 60 degrees below zero. At such times some residents adopt Eskimo garb of skin boots and picturesque parkas. They make rather snappy costumes for the women. However, ladies of the smart set go to dances at the post in evening gowns with only the customary fur coat for warmth.

The airfield has tunnels underground so that workers may walk along heated paths from one building to another. The same is true of the university buildings. Despite the cold, the boast is often heard that Fairbanks has the kind of weather California would like to have—clear days and brilliant sunshine. The air is crisp and clear, healthful and invigorating.

While there has been considerable discussion as to whether Fairbanks or Anchorage would be the strategical air center of Asiatic air commerce, Anchorage apparently has the lead. But Fairbanks will play an important role. More than 5,000 planes were ferried via Fairbanks to Russia during the war. The Army airport, at Ladd Field, cost \$30,000,000.

There are comfortable hotels and attractive homes in Fairbanks, as well as one-room log cabins which are relics of gold-boom days. The Pioneer Hotel, one of the oldest in Alaska, has a clientele of old-timers. The Nordale is a more modern hotel. There are good restaurants, a couple of large movie houses, the Lacey and the Empress, the former seating 700.

Tourists traveling via the railroad or the Richardson Highway, or coming from the Yukon River via Circle and the Steese Highway, seldom fail to visit the Territory's famed seat of higher learning. Neither do they miss the huge placer gold-dredges which scoop up tons of potential colors from gravel beds of near-by creeks or from diggings far below the frozen tundra.

There is mining everywhere in Alaska, but at Fairbanks it is right at one's front door. To the average traveler, however, who

has no financial interest in the output, products other than gold from strip mining are fascinating. In the Fairbanks district, remains of prehistoric animals of the Pleistocene period have been unearthed by powerful streams used in hydraulic attack on the frozen, gold-bearing banks. Skeletons of mammoths, huge bears, bison, camels, and other mammals long extinct in Alaska have been found. They were buried under millions of tons of glacial ice centuries ago. Many of these specimens attract tourists to the university's museum, but the college has more items than it can display, and some are stored in cellars.

The Fairbanks mining region is heaven to paleontologists, ethnologists, geologists, and most other scientists. Not even Africa has yielded more relics of days gone by. No bones of cave men have as yet been dug up or washed out of the muck, but the ethnologists are hopeful. As the war stopped gold mining, so also did it check mining for dinosaurs, but the search has been resumed.

Alaska excels other fields in such research because there is little expense. All the professors have to do is to line up as smokers did in days of the cigarette shortage. When a giant elk appears in the frozen soil, the scientist in front shouts: "That's mine!" If a horse that was a colt a million years ago comes prancing out of the glacial ice, the next paleontologist claims it. Some who are fed up on dinosaurs or saber-toothed tigers step out of line with a claim check and wait until a camel comes through.

Seriously, scientists have ample proof that before glacial ice buried half the New World, Alaska had a much warmer climate than it has now. As the glaciers recede for the fourth time—as they are doing—the time may come when Alaska will produce fine tree-borne fruit. And if this fruit should equal, in size, the country's record for cabbages, Alaska will not have to import many fruit juices.

In addition to the frozen mammals, dead and gone, the Fairbanks area has plenty of live animals, and there is good opportunity for sport afield. Roads radiate from the city and one can use modern buses to reach lodges and resorts or he can hire a car for trips to distant points. For instance, it is only 100 miles to Big Delta on the Alaska Highway, where the military road meets the Richardson Highway. Vast caribou migrations cross this road, and it is close to the herd of wild buffalo, property of Uncle Sam.

At the highway junction, there is an inviting roadhouse serving imported steaks and 5-pound grayling from near-by streams. The Alaska Highway hugs the Tanana River most of the way to Tok Junction, another 110 miles south. Between Big Delta and Tok is wild country with a score of crystal-clear rivers cutting into the Tanana's muddy waters. A short way up these streams one can watch the big grayling as they nose a lure before lunging at it. There are thousands of these game fish, 12 to 30 inches long, itching for a fight.

There is not much spring or early summer rain in this section of Alaska; instead, there are warm sun rays and a lot of game—ducks, Canadian geese, grouse and ptarmigan, cranes, foxes, caribou, moose, and black bears. This is a trapper's country, a place for sportsmen who really like to rough it.

After 295 more miles of the highway, the tourist is at Haines Junction in Canada, heading either 99 miles to Whitehorse or 154 over the cut-off to Haines on the Lynn Canal in Alaska. Here one can take a launch to the north end of the Glacier Highway in Tongass National Forest and drive on to Juneau, 44 miles south.

So now you are out of the wilds, back in Alaska's capital, at the urban Baranof Hotel. Some day soon you will not have to leave Alaska by way of its front door to the Pacific, but will drive from Fairbanks to Whitehorse, to Edmonton; then on to Chicago or Philadelphia, with a caribou and 100 pounds of salmon or trout, riding in the rumble seat!

Wildlife

BY FRANK DUFRESNE

ALASKA is one of the most attractive countries in the world for trappers and hunters because it has vigorously protected its big game. While there are 250,000 square miles where animals can be taken under suitable regulations, more than 15,000 square miles are set aside as game sanctuaries.

In restoration and preservation of mammals and birds indigenous to America's domain, the Interior Department, both the Fish and Wildlife Service and the National Park Service, has done a good job. The situation in Alaska is opposite to that in the States. Reckless slaughter of game by white men stripped the West of its wildlife and robbed the natives of sustenance. It made them paupers and wards of the government. In Alaska, it is the other way around. The aborigines have rather free run of game, being the recipients of special dispensations in which the whites do not share. For one thing, natives pay no license fee for trapping and hunting, while white residents do pay a nominal one. Many natives are not in accord with this program, preferring to pay whatever the white man does.

Its many animal species lure thousands of hunters, naturalists, photographers, artists, and sight-seers to Alaska, for probably nowhere else on earth does game abound in such quantities. Dr. Ira N. Gabrielson, former director of the Fish and Wildlife Service, and W. E. Crouch, chief of game management, are two of the men under whose guidance the Territory assumed top place among wildlife regions. Jack O'Connor, resident game supervisor, also has spent many years as a guardian of Alaska's animal life.

National forests, under the direction of the Department of Agri-



Pacific kittiwakes photographed on the barren rocks at Walrus Island in the Pribilofs by Dr. I. N. Gabrielson, director of the U.S. Fish and Wildlife Service.

culture, contain game sanctuaries as well as large areas where hunting is permitted.

In the war years, the conservation program had to be curtailed on account of a reduction in personnel and facilities for patrolling large areas. Boats that annually had sailed thousands of miles of coast to enforce game laws, took on duties with the armed forces. Agents of the game commission, trappers, and guides proved of vital aid to the Army and Navy through their intimate knowledge of the wild terrain.

The government did its best to protect big game, fish, and fowl, because among other reasons they are a source of food, especially in an emergency. In the Yukon Territory, Army and civilian crews building the Alaska Highway were able to obtain fresh meat and fish as addition to a diet that otherwise would have been inadequate.

BIG GAME

Like Alaska's climate and geography, wildlife has three divisions—the big game animals, the fur-bearing mammals, and the birds. In the big game class, the best known are the bears, which are innumerable and of varied species and subspecies. There are the coastal brown bears—Alaska's famous "Brownies"; the closely allied grizzlies of the interior mountain ranges; the black bears, including the brown and blue glacier color phases; and the polar bears, snow-white visitors from the ice packs, seen periodically on the Arctic and Bering seacoasts. Polar bears, popular in the nation's zoos, are classed as fur animals under the Alaska game laws.

Other big game animals include the moose, caribou, deer, mountain sheep, mountain goat, and the introduced species—elk, bison, muskoxen, and reindeer. The last do not serve as game, however, except for the wolves and coyotes.

The brown or Kodiak bear, is as famous as Alaska's king salmon. Sportsmen travel from all quarters of the globe to bag one or more of these huge carnivorous animals.

It is estimated there are about 19,000 brown and grizzly bears roaming a domain of 200,000 square miles. The brown bears are numerous on Kodiak and Admiralty Islands and the Kenai Peninsula. On Unimak, one of the largest of the Aleutian islands, the king of bears cannot be taken as game, and sometimes he is protected from hunters in other places.

The brown bear is a majestic animal; the black bear, a clown. When the brown bear runs, he sometimes runs in the wrong direction—toward you. But usually he will not attack unless provoked. For the female with cubs, it's another story.

While the brown bear grudgingly gives way to man or woman with a high-powered rifle, an intrepid camera fan finds a worthy subject in this noble animal. For photographers who are not so bold,

there is a bear observatory in the Tongass National Forest on the south bank of Pack Creek, Admiralty Island, just north of Windfall Harbor in the Seymour Canal. It is a secure platform with roof, guardrail, and seats, built around the bole of a large spruce tree and reached by an iron ladder. Since Pack Creek is frequented by bears in the salmon spawning season, the Forest Service constructed the observatory to afford a safe place for tourists to watch the bears as they catch fish.

Seen from a distance, the brown and grizzly bears appear similar, but under close examination they are different in color, claws, skull, and teeth. The pelage of the Brownie is more uniform in color, with less admixture of gold- or silver-tipped hairs.

Bears emerge from hibernation late in April or early in May and mate in June of every other year. In summer, when salmon are spawning the fish form the favorite food of brown and black bears. At other seasons, grasses, roots, and berries are staples. The grizzly inhabits the mountains and supplements its fare with a diet of ground squirrels and marmots. In October and November the long hibernation begins for this species, and late in January or early in February, one to four cubs are born.

Black bears, ranging over three-fifths of the land area of Alaska, adapt themselves to the ways of man. Hunters generally bypass them because the value of their hides is negligible. These bears are not especially desirable for food, as they are scavengers. Their estimated number is about 75,000. Alaskans consider black bears a nuisance, since they enter cabins for food, raid caches of miners and prospectors, and menace domestic livestock. Near Palmer a bear was caught dragging off a 300-pound sow when the porker was about ready to farrow. This raid was at the height of the meat shortage when the sow, and possible ten pigs, would have been worth a hundred black bears. The predatory animal was shot, but the sow died of her injuries.

Conservationists have set off about 3,000 square miles where black bears cannot be hunted, and for this guardianship there is scarcely any logical reason.

The wild mountain goat is an elusive target for hunters. By the astronomical figures by which Alaska measures everything, the mountain goat is comparatively scarce—only about 12,000—and he intends to hold that minimum. Not many sportsmen have come



This observatory built by the Forest Service at Pack Creek on Admiralty Island is a safe place for camera fans to take pictures of bears catching salmon. (Courtesy U.S. Forest Service.)

back from Alaska with a wild Billy's head as a trophy. Those who have, know how to draw a true bead at 400 yards, and they are lucky to get that close.

One does not have to be a millionaire to hunt north of $54^{\circ} 40'$. Still, such men have been assets to the Territory because they hired boats, dog teams, planes, and guides, bought quantities of food supplies, and scattered generous tips. Alaska gave them what they could not find elsewhere—the wild at its best—and they paid well for it; so well that in regions where domestic livestock and wildlife compete with each other in economic importance, the balance is in favor of bears, moose, and goats. However, there are plenty of men of moderate means who enjoy sport in Alaska.

Mountain goats and Dall sheep are the camera fan's best shots. The beautiful Dall sheep are far more numerous than goats and inhabit a wider area. Their number is estimated at not more than



Alaska's famed Dall sheep are one of the greatest attractions among its plentiful wildlife. On the Kenai Peninsula, along the railroad, there is a sheep and goat sanctuary where the animals may be photographed. (Courtesy Fish and Wildlife Service.)

40,000. They live in the heights sheltered from wet coastal storms—about a 70,000 square mile range, extending from the Kenai Peninsula, northward, westward, and also eastward to the Canadian boundary. Sanctuaries aggregating 5,000 square miles protect them, the largest being in Mt. McKinley National Park. Similar sheep are found in the Rockies and even on the tourist-flecked slopes of Pike's Peak, but Alaska sheep are almost pure white while those in the States are a smudgy gray with some brown.

Wild sheep herds, as well as caribou and reindeer, have suffered from depredations of wolves, and the protection afforded wolves in Mt. McKinley National Park has caused controversy between Alaskans and the Interior Department's management of the park. As a result, the government sent Adolph Murie, naturalist, to the park to study the life habits of the wolf families. Alone, in a cabin in a desolate region, Mr. Murie spent six months keeping tab on

the predators. The observer's conclusions were that wolves may possibly have a salutary effect on sheep and caribou because they usually overtake the weaker animals. So, with what amounts to Spartanlike selectivity, wolves knock off the no-accounts, while the fittest survive through escape. He concedes, however, that wolves kill many lambs and calves.

Jack O'Connor, wildlife authority in Alaska, says that the Territory is so large and predators are so numerous that it is difficult to determine just how much damage wolves and coyotes do. "But," he added, "I have seen wolves pass up the weaker animals at the end of a group in flight and haul down the leaders. And I have seen wolves herd fine fat sheep to where they could be easily killed and devoured. On more than one occasion I had the chance to intervene and spoil their plans. All forms of animal life have their ups and downs. Recently, there has been a lot of talk about wolves, but it is difficult to say whether there are any more in Alaska today than there were ten years ago. If they have increased, they are just as likely to decrease in another cycle."

Other big game in Alaska include moose, caribou, and deer, caribou being the most numerous. In fact, they sometimes are too plentiful to suit the Yukon River steamboat captains. In groups of thousands, they cross rivers at any time of day or night, swimming in front of an approaching steamer, and there is nothing for the boat crew to do but backwater and wait. Two kinds of caribou inhabit the Territory—the mountain and barren ground types. They rove over half of Alaska and enjoy refuges totaling 8,829 square miles. In the Yukon and Northwest territories of Canada, there are hundreds of thousands. Caribou herds in Alaska have been diminishing, but not on as pronounced a scale as reindeer.

The Alaskan moose is far less plentiful and more exclusive in his habits than any other animal. For hunters coming from afar, the moose and brown bear are the prize mammals. Alaskans know the popularity of these majestic animals and give them preference in conservation programs. On 11,307 square miles of sanctuary no hunting of moose is allowed. The Far North moose is the largest of its kind on earth, the bulls standing 7 feet at the shoulder and attaining a weight of more than 1,400 pounds. The larger bulls have an antler spread exceeding 6 feet. The world's record for a moose brought down by a hunter's rifle is an antler reach of 75



A huge band of caribou crossing the Yukon River near Whitehorse. (Courtesy White Pass & Yukon Route.)

and 15/16 inches. A larger set found on a dead moose on the Kenai Peninsula was placed in the Museum of Natural History in New York City.

The Alaskan animal is a darker shade than the Canadian moose, with more solid black coloring. The mating season is in September and October. The young, usually one, rarely two, are born late in May or early in June. Moose feed on the willow, the predominant small tree growth in the Territory, thus enabling them to pasture over 240,000 square miles of brush and open forest lands. Although most abundant in Kenai Peninsula and Rainy Pass, this lonely animal has extended its range well out on the treeless Alaska Peninsula and to the islands of the Aleutian group. Its chief physical enemies are the wolf and man, but at long intervals, when severe winters coincide with the cyclical peak of the snowshoe rabbit, which competes with the moose for food in the willow patches, many of these huge creatures die of starvation.

In the heavily forested regions of southeastern Alaska lives the only deer native to the Territory. The small Sitka black-tailed

deer, until recently numbering about 40,000, occupy 12,000 square miles of range among the islands of the Inner Passage and also a narrow strip of mainland shore line from Dixon Entrance to the Gulf of Alaska, 1,000 miles northwest. Being at the extreme north of the deer range in North America, they suffer losses during severe winters. Deep snows and sharp cold frequently drive them to the beach line, where they require protection from wolves and from men. Sanctuaries of 4,860 square miles have been provided.

Among the introduced big game species are the elk, bison, muskoxen, and reindeer. The last now, to all intents and purposes, is a domestic animal. In fact, a reindeer cannot even be owned except by a native or by the government.

A shipment of Roosevelt elk, liberated in 1927 on Afognak Island, a comparatively small isle immediately north of Kodiak, is now a herd of 300 or more fine animals. Some have been "seeded" on the larger neighboring island and, under proscriptive hunting laws, have increased.

Another interesting experiment was the moving of 23 buffalo from the national bison range at Flathead, Montana, to the Big Delta region in Alaska. From the first, these animals showed ability to care for themselves and have multiplied until the herd now numbers about 400. Some have migrated 150 miles down the Richardson Highway as far south as Copper Center. The severest winter weather has not bothered them. Soon the American sportsman may be able to take a shot at a buffalo in Alaska as his forebears did on the western plains.

Introduction of muskoxen to Alaska, after an absence of seventy-five years, also was accomplished some few years prior to World War II. At one time these shaggy-coated Ovibos were well distributed along the Arctic coast, but because the muskoxen never learned to fear man, they soon were almost exterminated by traders and whalers. Thirty-four of these husky animals, captured in Greenland, were brought to Fairbanks and later placed on Nunivak Island in the Bering Sea. This is the island where the Alaskan Native Service has the greater number of its reindeer. The muskoxen herd has more than trebled there.

Alaska is so large and its variety of wildlife so great that its own residents are by no means familiar with all the species. A muskox would be as much of a novelty to a schoolboy in Anchorage or



The muskox bull, a rare animal, was common in Alaska before the coming of the white man. The government has now developed a sizable herd on Nunivak Island. (Courtesy Fish and Wildlife Service.)

Ketchikan as to a youngster in New York. Hence, in Alaskan cities educational wildlife films are much in demand.

BIRDS AND FOWL

In Alaska, not only is big game protected, but birds and water fowl are guarded wherever they rear their broods. On its vast nesting grounds the Territory is host to myriads of valuable migrants. April and May find them seeking their summer homes; September and October see them leave, streaming back across the skies in even greater numbers, for wintering grounds in the United States and Mexico.

Hunters will be amazed at the vast assortment of birds and water fowl in Alaska. The most common duck is the pintail, the main-

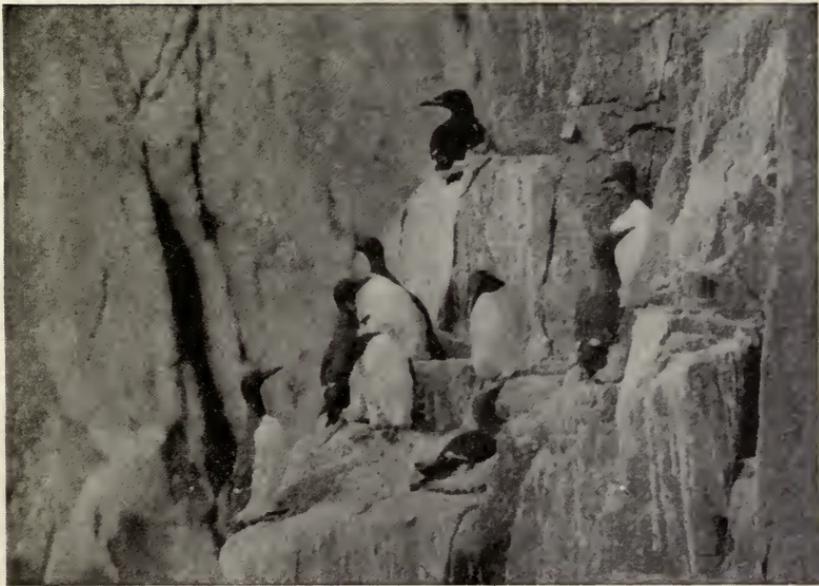


The short-tailed albatross in the act of feeding its young.
(Courtesy Fish and Wildlife Service.)

stay of gunners in the western states. The mallard and the American widgeon are next, although green-winged teals and greater and lesser scaups breed in the Territory, as do also smaller populations of ringnecks, shovelers, gadwalls, blue-winged teals, and canvasbacks.

The salt-water ducks are well represented by the ubiquitous oldsquaw, with its organlike voice, and by the white-winged surf and American scoters. The American and Barrow's goldeneyes also are abundant along the coast line, and the bufflehead and the harlequin are almost as plentiful. The goldeneyes are the last ducks to migrate south in the fall.

Widespread throughout the Territory are the saw-billed or fish ducks—the American, red-breasted, and hooded mergansers. Nesting along the Arctic and Bering coasts and migrating southward and westward to Bristol Bay and the Aleutian Islands are the beautiful eiders, four species in all. The commonest of these is the large



The California murrelets, a common summer nester in western Alaska, photographed on the Kiliktogik Islands, near the Afognak Islands. (Courtesy Fish and Wildlife Service.)

Pacific eider, an isolated colony of which nests in the Glacier Bay National Monument in southeastern Alaska. The king eider, the male of which has a characteristic fleshy protuberance on the upper bill is one of the best known of the four.

Well distributed but not quite so abundant are the spectacled eider and the teal-sized Steller's eider. Rare and beautiful ducks from the other hemisphere occasionally reach Alaska; the European teal is the common nesting teal of the Aleutians, while the European widgeon, the Baikal and falcated teals, the pochard, and the European goldeneye have been taken as stragglers in other parts of the Great Land.

While the occurrence of so many kinds of ducks in Alaska may be surprising, of equal interest is the presence of various kinds of wild geese, of which eight kinds nest there: Commonest are the three races of the Canada goose, namely, the white-cheeked goose, restricted to the islands of southeastern Alaska; the lesser Canada



The tufted puffin, Amchitka Island in the Aleutians. The skin is used by natives for clothing. (Courtesy Fish and Wildlife Service.)

goose; and the diminutive cackling goose, which are found over large areas of the northern and western parts.

Two varieties of white geese, both with jet-black wing tips, visit Alaska: the lesser snow goose and the tiny Ross' goose, the nest of which has only recently been found in the Perry River district, Northwest Territory, Canada. A common nester throughout western Alaska is the white-fronted, or speckle-bellied goose, relative of the common graylag of Europe, the reputed progenitor of the domestic goose.

Alaska's most beautiful goose, the emperor, never leaves the Territory except as a rare straggler. This slate-blue bird, with white neck and head washed with orange, nests along the Bering Sea tidal lands and winters in the Aleutian Islands.

The great flocks of black brant, which form such a striking attraction on the California coast in winter, have their nesting grounds along the western and northern shores of Alaska. To the



The rock ptarmigan, which stays in the Territory the year round, has been suggested as the official Alaska bird. It is a valuable source of food. The ptarmigan is here shown in partial winter plumage. (Courtesy Fish and Wildlife Service.)

Eskimos, the long waving cobweb patterns of these birds heading northward over the broken ice floes herald spring, and their equally impressive southward flight portends the approach of winter.

Among water birds protected at all times are the whistling swan and the little brown crane, both plentiful in the Territory.

Alaska has an amazing number and variety of shore birds including the black oyster catcher, golden and black-bellied plovers, surf birds, turnstones, Wilson's snipe, dowitcher, Hudsonian and bristle-thighed curlews, wandering tatter, greater and lesser yellowlegs, knot, Pacific godwit, and northern and red phalaropes, as

well as numerous sandpipers. Attracted to the lakes and waterways is a profusion of gulls, jaegers, terns, loons, cormorants, grebes, blue herons, and other nongame birds.

Literally millions of sea birds frequent the rock islands and rugged headlands of Alaska each summer to rear their young. Colonies of murre, auklets, kittiwakes, guillemots, puffins, petrels, albatrosses, fulmars, and shearwaters fill the seascape with abundant life.

In addition to such well-known forms of grouse as the ruffed and sharp-tailed and the less familiar spruce and sooty grouse, Alaska has three varieties that turn white in winter. These white grouse, or ptarmigans, in furnishing almost the only diet available at times to explorers, prospectors, and trappers, have played an important part in the settling of northern Alaska. As a result of their year-round occupancy of the Territory, the white grouse are held in high regard.

Probably the most abundant of upland game birds is the willow ptarmigan, which lives in most of the willow-grown sections of the Territory and sometimes forms flocks so large as to obscure the sun when they take to the air with a thunderous roar of wings. Flocks of 10,000 to 20,000 have been recorded. The rock ptarmigan, slightly smaller in size, is found at greater elevations, and the white-tailed ptarmigan, not much larger than the domestic pigeon, rarely descends from the extremely high peaks.

In summer, the ptarmigans are colored various shades of brown and gray, but in winter the plumage becomes pure white except for the black undertail coverts in the willow and rock species. Early in fall the flesh of these birds has a delicate flavor as a result of their diet of mountain blueberries, cranberries, and grass seed, but during the long winters, which force them to subsist almost exclusively on willow buds, the meat becomes bitter, although they still afford the lone prospector a welcome change of diet from his fare of bacon and beans.

As a result of the uncertainty of the native game-bird crop, experiments are being made with hardy types of pheasants, including the brown and blue-eared, cheer, kallege, Mongolian, and reeves. It is planned to rear and liberate enough of these birds to determine whether they will survive the Alaska winters.

Largest of Alaska's birds of prey are the bald eagle, which is



The avaricious bald eagle stands watch near streams or lakes ready to swoop down on a playful salmon or steelhead trout. (Courtesy Fish and Wildlife Service.)

abundant along the coast line, and the golden eagle, scattered throughout the interior mountain ranges. In the far north the black and white gyrfalcons prey on the ptarmigan flocks.

The snowy owl, as well as the migratory short-eared owl, frequents the northern tundra. In timber sections are the great gray owl, great horned owl, hawk owl, Richardson's owl, and the small pygmy and screech owls. Among the hawks, the goshawk and the red-tailed hawk are the most frequently seen, although the duck hawk, rough-legged hawk, osprey, sparrow hawk, sharp-shinned hawk, pigeon hawk, and marsh hawk are also familiar.

The song birds of Alaska include an unusual number variety of thrushes. Most common is the western robin. Bird students are amazed to find in these latitudes such a wide assortment not only of thrushes, but also of warblers, sparrows, vireos, swallows, wrens,

kinglets, crossbills, chickadees, flycatchers, finches, juncos, red polls, waxwings, woodpeckers, bluebirds, hummingbirds, snow buntings, longspurs, pine grosbeaks, flickers, phoebes, blackbirds, pipits, and siskins. The sprightly water ousel, or dipper, is a common sight along the mountain streams.

Among the distinctive birds of larger size are the bold Alaska jay, the dark-blue Steller's jay, and the black-and-white magpie. The northern shrike and the kingfisher are well distributed. Around the villages, the northern raven and northwest crow are common scavengers.

For many years, game-law enforcement in Alaska was a haphazard undertaking, divided among several Federal agencies delegated by Congress to administer laws which were inadequate and which had gradually become obsolete. Under these conditions, both game and land fur animals were diminishing. The intensive killing of beavers and the overtrapping of martens endangered the future of these species. It was important that the government exercise better guardianship.

The passage of the Alaska Game Law in 1925 set up a game commission to function as the operating agency of the Bureau of Biological Survey (now the Fish and Wildlife Service) in the formation of suitable regulations. The Alaska Game Law, as modified by Federal reorganization, provides that the Secretary of the Interior appoint a resident game commission composed of five members, of whom four, not Federal employees, are required to come, one each, from the four judicial divisions; and the fifth member, the executive officer of the commission, is to be the resident representative of the Fish and Wildlife Service.

The Alaska Game Commission meets annually, at which time it proposes, for action by the Fish and Wildlife Service and the Secretary of the Interior, regulations with respect to hunting seasons, bag limits, establishment of game and fur districts, and designation of areas as wild sanctuaries. The work of the commission has brought about a wholesome respect for the game laws and cooperation in their enforcement from the residents of the Territory, both natives and whites. The result is that Alaska probably leads the world as an attractive mecca for hunters and naturalists.

Fur Farms

PROBABLY NO COUNTRY on earth is better adapted to the raising of fine furs than is Alaska. The climate induces good pelts, and natural food is abundant. Yet, the industry is diminutive compared with its possibilities. Only a little more than \$2,000,000 is realized annually from island and pen-raised stock, and from pelts obtained by trappers. Breeders say Alaska should yield fifty times as many furs as it does.

Prior to the war, Alaska had 300 licensed fur farmers. Norway and Sweden had 12,000. Alaska today has fewer than 100 ranchers.

The collapse of blue fox farming in Alaska was similar to the break in the stock market in the hectic days of 1929. Too many blue fox pelts were sold. Processors and retailers became overstocked. Suddenly, blue fox pelts were a drug on the market. The trend today is toward mink and marten, with the platinum fox, a cross of the original Alaskan blue fox and the Arctic white fox, running a close second.

The blue fox is a native of Alaska. Its reign in fur marts of the world was an epic in the Territory's history, second only to the gold rush. Hundreds of islands in southeastern Alaska and westward, far out on the Aleutians, were stocked with blue foxes. Fancy prices were obtained for breeding stock—\$300 or more a pair for animals whose pups would yield pelts worth from \$50 to \$75. Breeders in the northern states of the Union bought mated Alaskan foxes by the scores.

Fur farming in southeastern Alaska began in 1895 when Fred Liljegren occupied and stocked Storey Island in Prince William Sound. He obtained his breeders from one of the free-run ranches in the Aleutians. Peak and Naked Islands, in the same locality, were stocked by James McPherson in 1898. These men were

pioneers, accustomed to living off the country. They erected log buildings and by hunting, trapping, and fishing, in addition to fox farming, made a good living. Liljegren married and raised children as well as blue foxes. Descendants of these two pioneers are still carrying on the business at the original locations.

In 1901, James York occupied Sumdum Island in Endicott Arm, fifty miles south of Juneau, stocking it with 39 blue foxes. In 1909 these islands and others were included in the national forests, and the fur farms were placed under "special use" permits which is the system today for acquiring land for fur farms in southeastern Alaska, or in the Chugach National Forest including the northeastern part of Kenai Peninsula.

In the ten-year period from 1910 to 1919 more fox farmers entered the field. Wingham and Middleton Islands in the Gulf of Alaska were stocked as were also the Sukoi Islands just north of Petersburg in Frederick Sound. During World War I and for a few years thereafter, fur prices were good, the demand exceeding the supply. Pioneer farmers experienced a boom. News of the "easy money" spread as it did in the case of the Klondike, and every available island, suitable or otherwise, was taken up and stocked. That was the peak; the decline in values started; then came the crash.

An embryonic fur boom is on again for those who can read the signs, not necessarily for Alaska, but for all fur farmers. The beautiful platinum fox fur is likely to prove a small Eldorado. Top quality pelts are harder to obtain than were those of the native blue foxes. The market is not likely to be overrun with first-class platinum furs because of the skill required in crossing the right shades, together with an element of chance. After all, when it comes to pelts of whitefaces, platina, or even silver foxes, Nature spins the wheel.

The first pups from a cross of blue and white foxes were born on the ranch of George R. Goshaw, owner of large fur farms on Shishmaref Island in northwestern Alaska. That was back in the early thirties. So far as is known, the first white fox raised in captivity for breeding purposes was also born at Shishmaref in 1924.

George Goshaw claims to have crossed a blue female with a ranch-born red fox from wild parents. The pups were mated and remated with various pronounced opposites. Those that would



Feeding blue foxes on a ranch on Wingham Island. Free-range ranching for foxes has now largely given way to pens. (Courtesy U.S. Forest Service.)

not breed were killed. Armchair fur farmers with technical knowledge of foxes say Mr. Goshaw's breeding experiment, as above narrated, is impossible, for the reason that the wild red and blue fox have entirely different mating seasons. Nevertheless, he obtained fine specimens of cross foxes which are in fair demand.

The blue-white platinum fox, however, brings the highest prices of any exported from Alaska today. Mr. Goshaw says some have netted him as high as \$104 with an average of \$65. Although the States have approximately 4,000 fur farms to Alaska's 75, the best foxes still come from Alaska. Fromm Brothers of Wisconsin and New York State, the biggest ranchers in America, recently purchased 75 pups of the blue-white cross from the Alaskan rancher. He said: "Alaska is a right and proper country for the raising of mink and foxes—greater than Canada; greater than the combined areas of Norway and Sweden."



A typical fur ranch in the Tongass National Forest. The buildings are conveniently arranged for the fox rancher: from left to right, the dwelling, woodshed, smokehouse, and feed-storage house. (Courtesy Fish and Wildlife Service.)

While the blue fox is a color species of the white, the latter an inhabitant of the Arctic regions, the blue's history and distinctive breeding date back so far that it may now be regarded as a separate variety. Although the normal winter coat of the Arctic fox is white, its summer coat becomes brown or tawny. The blue fox is dark blue in winter, but tends toward brown in summer. There are also intermediates in which the coat may be spotted blue and white, or the blue and white may be blended, producing a dingy or smoky white appearance. Such mottled animals sometimes occur among blue foxes, thus showing the connection between the blue and its progenitor.

While light-blue fox skins generally bring a good price on the raw fur market, there still is a market for the cheaper pelts for

the so-called popular trade. To supply the latter, white skins are dyed blue, steel, taupe, and rose. Also, there is ample market for the common red fox pelts, both in their natural colors and dyed.

The biggest fur farmer in Alaska is the man of many trades known as Alaska's shrimp king—Earl Ohmer of Petersburg. His Yukon Fur Farms near the town are mostly interested in mink, though they also breed a few foxes and are making progress with platina foxes. Mr. Ohmer also owns canneries and several fishing boats, and has a *payroll*, so he does not get caught short on either feed or labor.

Earl Ohmer explains Alaska's failure in fox farming as due not only to the fact that too many blue fox pelts were put on the market but that many of the pelts, because of bad conditions for denning on the islands, were not first-class fur and were of a woolly nature. After years of ranching, the island-ranched foxes, lacking personal attention from breeders, developed parasites which infested the ground and dens. With foxes running wild on an island, it is impossible to treat them for ailments as can be done if they are raised in pens.

"The war, with the scarcity of labor, high cost of feed, and government ceilings on pelts was another adverse factor," Mr. Ohmer said. "These things taken together just naturally forced the blue fox ranchers out of business. Ceiling price on mink pelts, with the high cost of feed, also put the majority of the mink ranchers out of the game. We stayed, although we had to cut down on the number of breeders. A few others did likewise. Now, some men are going back into the industry, and I believe in the coming years, unless there is a real depression in fur prices, that many who have been ranching fur, as well as others, will go into fur farming. However, I do not look for any strong return to island-raised animals."

Other factors than disease and parasites worked to make free-run fox ranches impracticable. For one thing, inbred half-starved males proved just as active breeders as the superior animals but of course produced inferior progeny. Also, the young of foxes on remote islands became the prey of predatory birds. Breeders say the bald eagle made off with many pups. Sometimes, too, the foxes escaped on the ice when there was a hard freeze-up; or if there was land near by, a half mile or less, they would obtain freedom by swimming.

The really successful fur farmer tends his animals in pens and fenced runs, watching their progress and ailments just as carefully as a dairy farmer watches a prize Guernsey herd.

While farms for raising mink, foxes, and other fur-bearing animals are scattered all over Alaska, especially on islands in the Tongass National Forest, in central Alaska and the northwest sector, the industry is now in its infancy compared to the opportunities. Reduced freight rates on planes are a favorable factor now.

The war took the profit out of the business. A sales tax of 20 per cent was established on breeders' sales of pelts to processors. The buyer of finished fur garments also was confronted with a 20 per cent sales tax, since fur coats were classed as a luxury. In both cases, the unfavorable reaction was felt by the fur breeders. The processor did not suffer except in volume reduction of business. The retail fur merchant had the same experience. But the retailer, with approval of OPA, held prices up while the processors lowered them to ranchers. There was a ceiling but no cellar. Probably in all the war economy no person was hit harder than was the fur rancher.

While three-fourths of Alaska's small raisers of foxes and mink went out of business, the government fur seal industry on the Pribilof Islands prospered because Uncle Sam forgot to tax himself with the 20 per cent sales tax. The Fouke Fur Company of St. Louis is the seal fur processor, but serves merely as an agent for the government. Foxes are also raised on the government islands—St. Paul and St. George. Women's sealskin coats command a high price. The genuine seal fur is a beautiful product that cannot be surpassed, especially as it is now popular in natural shades rather than the old-time black. The government could well afford to step out of the fur coat business, or at least equalize taxes on the raw product comparable to those on mink, marten, and foxes, which are definite competitors of seal. Uncle Sam talks a lot about taking care of his war veterans and of how thousands of them want to go to Alaska to begin life anew. Fur ranching could be made the most attractive inducement in the Territory to hundreds of veterans. As this is written, it offers the poorest field of all.

Normally, fur farming is an alluring life in Alaska. The work is pleasant for those who like outdoor jobs, and it is not too arduous. Living conditions for a family so engaged are good, and so



One of the first prize male mink from the Yukon Fur Farms near St. Petersburg, the largest mink-raising ranch in Alaska. (Courtesy Earl N. Ohmer.)

is the environment near towns. Fish, the main food for the animals, is plentiful. Most farms are on or close to water, and the rancher who can catch his own supply of fish is that much ahead.

Because the production of a fine quality of fur is closely related to climate, Alaska is eminently suited to fur ranching. A reasonably cold winter with a moderate amount of shade and sunshine is necessary for the comfort and health of the foxes. Rainfall, particularly in the spring, is also conducive to the production of good pelts. Hot summers are not detrimental to pelts if the heat lasts only a short time and is followed by cold severe enough to cause the renewal of heavy coats. While excessive sunshine is said to make the fur fade, foxes, like most other animals, will seek shade if it is available. And sunshine and rain are the best natural means of keeping the ground clean and sanitary. Alaska has enough of both.

Some of the treeless islands in the Aleutian chain, with their luxuriant growth of grasses and herbaceous vegetation, have proved good for fox ranching, but others with little plant life and much outcropping of bedrock have proved disastrous.

Generally, Alaska's mainland is just as good for fur farms as are the islands, although ranches along the railroad belt went out of business in the war years. There are also good farms on the Seward Peninsula, where the cold winters are particularly conducive to heavy coats.

In southeastern Alaska, fox farms extend as far south as Hyda-burg, near Ketchikan, although the winter climate in this sector is exceedingly mild. Such localities are advantageous because they are near salmon canneries where for two months or more scrap fish can be obtained cheaply. As fish is the basic article of diet for mink and foxes, location near a source of ready supply at low cost is decidedly an economic advantage.

The presence of fresh-water streams, springs, or ponds also is important to the fur rancher. Though it is almost impossible in pen-raising of stock to avoid carrying water, the task is simplified if the source is convenient. Other factors to consider for a fur farm are the location of the pens, the cook house, the feed storage room, the smoke house and other structures, as well as the rancher's dwelling house.

The U.S. Fish and Wildlife Service, in conjunction with the University of Alaska, maintains an experiment station at Petersburg in southeastern Alaska, devoted to the problems of fur farming: diet, diseases, and other subjects confronting the breeder of pen-raised or semifree run stock. When possible, this station also aids the prospective rancher in planning the arrangement of his farm. Anyone not familiar with conditions in Alaska should communicate with the station if he contemplates going into the fur-ranching business. James R. Leekley is in charge. The Petersburg station, however, is small, undermanned, and inadequately financed. Also, conditions for fur ranching in southeastern Alaska are different from those in western or in the interior sections, and for that reason there should be experimental farms conveniently situated to these areas. Similar stations in Canada and Siberia are on a larger scale, and fur farming in those countries is progressing faster than it is in the United States or in Alaska.

The feed problem on Alaska fur farms is perhaps the most serious. All the fish fed to fur-bearing animals—flounders, gray cod, halibut, red cod, salmon, and grayling—have a high cash value if sold for human consumption. Therefore, even if a man catches his own

supply of fish, he must charge his fur ranch with the cost in cash that he would get if he sold the fish. The manager of a big fur farm in the Panhandle said: "I doubt if the near future will offer any relief in the high price of fish. The rancher will have to depend chiefly on his own fishing ability. He will have to have boats, gear, and the knowledge of where and how to fish; that cannot be obtained in a short time. Certain kinds of fish are best for production, others for pup growth, and others for fur. This knowledge cannot be absorbed in a day.

"My advice to anyone wishing to go into the fur farming in Alaska is to get a job on one of the ranches here, and learn the game. He should work at least a year; then decide if he wants to go on his own."

Some of the government experiments for utilizing heads, tails, and other surplus parts of fish for human consumption might well be directed to methods of manufacturing a product useful for fur animals and poultry. There are enough fish in the seas, rivers, and lakes to feed humans the parts they have always eaten. Alaska's famed "cannery loaf," which was well meant during the wartime food shortage, might be diverted to fur husbandry. It might pay for Mr. Leekley and the management of the Federal and Territorial experimental fish laboratory at Ketchikan to get together. Texas tomato juice canners found that the pulp remaining after the juice was extracted, made a good vitamin food for livestock. The Petersburg experimental fur farm buys bricks of tomato pulp, skins, and seeds, using it advantageously in feeding its mink and foxes.

In a sense, despite the favorable climate, low cost of land, abundance of feed, and the wide market for pelts, fur ranching in Alaska is in the same boat with the reindeer industry. Both are failures, where they could, with proper management, be tremendous successes.

In fur farming, as in other matters, it is obvious that the congressional subcommittee on appropriations got only half the story in Alaska. The committee's report said: "The production of fur ranks third among the industries of Alaska, being surpassed only by fisheries and minerals. During the past several years, the value of raw furs shipped from Alaska exceeded \$7,000,000 annually, of which more than \$5,000,000 was derived from seals taken from

the seal herds on the Pribilof Islands. The remainder was obtained from land fur animals. The committee was advised that between six and seven thousand trappers, a majority of whom are Indians and Eskimos, spend a large portion of the winter months hunting and trapping, and that their income from this seasonal occupation ranges generally from \$250 to \$1,000. The committee met one native trapper in the vicinity of Circle, northeast of Fairbanks, who had made in excess of \$2,000 from fur trapping during the past winter. On the other hand, the committee visited several fur farms which were not a financial success. The main obstacle to fur farming in Alaska appears to be the scarcity of red meat required by fur-bearing animals to produce high-quality furs. In this connection it should be added that a visit was made to the experimental fur farm operated by the Fish and Wildlife Service at Petersburg, Alaska, which is performing outstanding experimental work in the breeding, care, and feeding of fur-bearing animals."

Despite the committee's emphasis on the necessity of providing red meat, it should be pointed out that where plenty of fish is fed to foxes and mink, the animals require very little red meat. Seventy-five per cent of the diet can be fish, and the balance a mixed cereal and mineral commercial feed that at present is shipped to Alaska from the West Coast in the States, but which by sufficient enterprise, could be produced in Alaska at a lower cost to fur ranchers. The subcommittee of the House appropriation committee which spent thirty-eight days in Alaska, discovered "outstanding experimental work in breeding, care, and feeding of fur-bearing animals" done at the government experimental station, but it did not learn how that work can be of value to fur breeders, or how it can be directed to make fur ranching in Alaska practical and profitable. It did not find out why, if Canada and Siberia can supply the necessary feed for mink and foxes at reasonable rates, Alaska cannot do the same. That is the problem that confronts the Alaskan ranchers—not how to obtain red meat.

The Silver Millions

BY WARD T. BOWER

AMERICAN HOUSEWIVES know that the Alaska salmon, like the Alaska fur seal, yields a product of excellent quality. Not many know, however, that in every can of this world-famous fish is encased a piscatorial romance rivaling the most exciting fiction. The story of the salmon is Mother Nature's best seller among all her mystery yarns.

From the rivers that drain into the North Pacific come over half of the world's supply of salmon: the silver millions that have made a great industry possible. The Pacific salmon is born in fresh water and makes its way to the sea. After two to six years, depending on the species, it returns with true homing instinct to the fresh-water stream or lake of its birth. There it spawns, giving life to many of its kind, and completing its own life mission.

This homing instinct is so remarkably developed that, as the spawning season approaches, the fish gather in great numbers, fighting their way upstream in such masses that sometimes individuals are crowded out upon the bank. In this rush for the spawning grounds, many cannot survive the hardships encountered. When once in fresh water, the spawning urge is so strong that they neither eat nor rest, always pushing toward their objective, in some instances hundreds of miles away, or, in the Yukon, more than a thousand miles distant. After arrival at their individual spawning grounds, usually in some quiet place, the female prepares a nest and deposits several thousand eggs. The male fertilizes them and, by the use of his tail, covers as many as possible with a thin layer of gravel. The eggs hatch in from two to three months, depending on the temperature of the water; the colder it is, the



The homing instinct of salmon is so strongly developed that as the spawning season approaches they ascend swift fresh-water streams to the place of their birth, leaping over falls and surmounting every other difficulty to reach the pools where they bring forth countless more of their species. (Courtesy U.S. Fish and Wildlife Service.)

longer the time for development. Emaciated and weakened after spawning, the parent fish die, having accomplished the job nature ordained for them.

Trout and other fish gorge themselves on the eggs as well as on the young salmon after they have hatched. Gulls, terns, and other water birds find the young salmon a delicate morsel and consume them freely. The young fish are never without enemies along the route to the sea. It would seem that only by rare good fortune could any salmon survive; but millions do, however, and they in

turn become equally active in appeasing their own hunger in their years of growth at sea.

Having outwitted their enemies, and now grown to maturity, the salmon seek, in the final cycle of their lives, the waters of their birth. As they move in from the sea toward the fresh-water streams, they must deal with man's cunning and run the gauntlet of fishing devices. But those fishermen who are wise keep an eye to the future and abide by the Federal regulations which specify that an adequate number of spawning salmon must be permitted to escape to maintain the species. Some salmon that have passed the fishing gear may encounter natural enemies, such as bears and wolves, which invade the spawning streams and lakes. But apparently there is a balance of nature which serves to maintain the stocks of fish, provided reasonable protection is given. This protection is one of the important jobs of the Fish and Wildlife Service.

The wisdom of control in order to permit enough salmon to escape to meet spawning ground needs is so evident that most fishermen and canners are strong supporters of conservation. In the days when the lone coastal fisherman supplied only the small adjacent community with his spear and net, there was little danger of overfishing, but modern fishing equipment and facilities for processing and preserving the catch have altered the picture. Protective measures include the use of airplanes, speedboats, and patrol vessels to prevent and detect infractions of regulations.

Before conservation could be applied effectively, many details in the life history of the fish had to be known. Years ago, extensive biological studies were begun by the Bureau of Fisheries, merged in 1940 with the Bureau of Biological Survey to form the Fish and Wildlife Service. These investigations, actively continued, concern migration routes of the different species of salmon, spawning habits, and mortality rates, and the resulting information plays a highly important part in determining regulatory measures.

There are five species of Pacific salmon, each with two or more trade names: (1) chinook, spring, king, or tyee; (2) sockeye, red, or blueback; (3) coho, or silver; (4) pink, or humpback; and (5) chum, or keta. The steelhead trout also is classed commercially with the Pacific salmons. Each species of salmon has certain characteristics as to flesh texture, color, and oil content.

Although the chinook or king salmon is the largest and most



Fishing for salmon with a purse seine in Yes Bay, near Ketchikan. This is the commonest form of seine used for big-scale netting of salmon, so named because it is let out and drawn together at the surface like a bag or purse. A powerboat is used with a power winch for drawing the seine together for the catch. (Courtesy U.S. Fish and Wildlife Service.)

highly prized, it is the least abundant. It occasionally reaches a weight of over 100 pounds, but averages about 20 pounds. The king salmon was the first to be canned in quantity and has become prominent in the fresh and frozen trade. Its red flesh may be regarded as setting the color fashion for a high-quality product, for to many housewives color is the major factor in judging excellence.

The sockeye or red salmon has, as its name indicates, red flesh and it is a close competitor with the chinook. The largest Alaskan runs of red salmon are in Bristol Bay, an arm of Bering Sea. The sockeye, like the chinook, remains in fresh water a full year after hatching. At maturity, four or five years later, it returns to rivers

having lakes at their headwaters, and spawns in the tributaries of the lakes. It averages 7 pounds in weight and is used almost exclusively in the canning trade.

The coho or silver, which has lighter-colored flesh, goes not only into cans but also is frozen and mild-cured. Its average weight is about 8 pounds, with a maximum of 30 pounds. This species, found all the way from Monterey, California, to the Yukon River in Alaska, enters fresh-water streams from July to November. It spawns in the third or sometimes fourth year, the young going to sea during their first or second year.

The pink or humpback salmon is the most numerous, and also the smallest of the Pacific salmons, averaging about 4 pounds in weight. Its flesh when taken from the sea is a light red, but turns to a pale pink in the canning process. This species ordinarily does not ascend the larger streams but seeks shorter tributary waters near the sea in which to spawn. The young start to sea in about two months and return at the end of the second year to complete another cycle. This species appears in Alaskan waters from June to September, with the peak runs late in July and in August.

The chum or keta salmon averages about 9 pounds in weight. It has a good flavor and is nutritious, but its pale yellowish color after processing lessens its value in the eyes of those who want only a pink or red product. The major runs arrive from the sea later in the summer and fall, and spawning occurs principally in the smaller streams near tidewater. Soon after hatching the young go to sea, returning in from three to five years to start another cycle.

Mechanization has greatly changed the old hand method of canning salmon, although mild curing, dry salting, smoking, and kippering are carried on much as formerly. The fish arrive at the cannery in a boat or scow and are unloaded by an automatic elevator similar to that used in handling grain. One of the most ingenious machines in the salmon canning operation is the "iron chink" which has replaced many hands, chiefly Chinese, formerly imported for the season from the States. This remarkable device cuts off heads, tails, and fins, and removes viscera in a single rotary operation.

After the "iron chink" does its work, revolving knives slice the salmon to fit the cans and still another machine with a plunger arrangement fills each can with fish. Other devices add the proper



Unloading salmon from a scow at Ketchikan, and hoisting the fish into cannery bins by means of an escalator. (U.S. Fish and Wildlife Service.)

amount of salt, discard cans that are underweight, and vacuum-seal each container. From beginning to end the process is as modern as an assembly line in an automobile plant. After sealing, the cans are cooked in steam retorts for 90 minutes at a temperature of about 240 degrees fahrenheit. The result is an excellent product rich in protein and other body-building essentials such as calcium, phosphorus, and sulphur.

Salmon are caught chiefly by traps, purse seines, and gill nets, and in smaller numbers by beach seines, fish wheels, and troll lines. The hook and line or trolling method of fishing for chinook and coho salmon is carried on both in Territorial and extra-Territorial waters and goes on throughout the year, weather permitting. Small powerboats, manned by a crew of two, are generally used for this type of fishing.

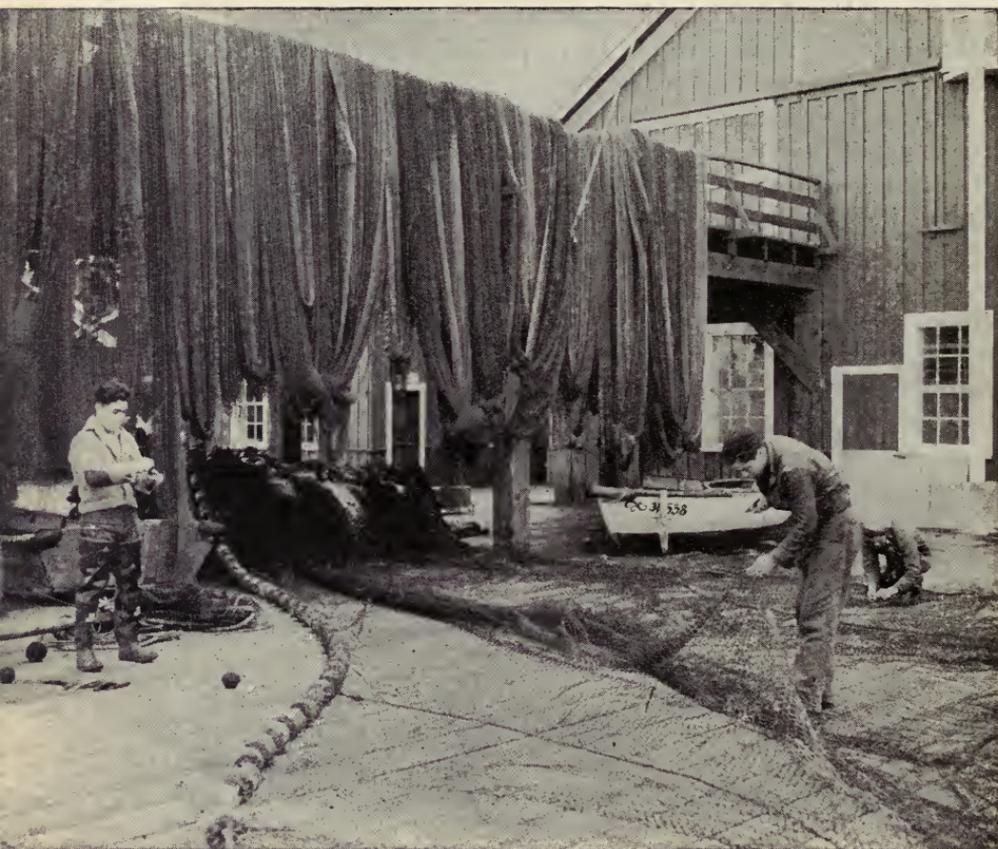
During World War I, the number of canneries operated in Alaska increased from 81 to 135, with a pack increase of from 4,100,000 to 6,600,000 cases. This emphasized the realization that there was a limit to the number of fish that could be taken without exhausting the resource. In 1919 the Federal government warned that the normal supply of salmon was threatened, that some runs were definitely on the wane, and that it was a mistake to judge total abundance by the increased output. Conditions culminated in the passage by Congress of the comprehensive White Act of 1924, an important feature of which was that not less than 50 per cent of the fish should be permitted to pass to the spawning grounds.

The White Act also gave the Secretary of Commerce, and later to the Secretary of the Interior, full authority to administer the law and to regulate the size and character of nets, traps, and other fishing apparatus, and to limit the catch taken from any specified area. This law, with some amendments, provides broad authority for conservation of the fisheries, and fixes the responsibility for formulating and enforcing regulatory measures applicable in widely separated areas, with over more than 10,000 miles of coast line.

One of the difficulties in judging the trend in the salmon runs is the length of time required before the survivors of one generation come back at maturity to spawn. The percentage of loss during the spawning process and during the period of life in the sea has not been fully established, although marine biological studies are making excellent progress in this direction. The constant objective is to secure information to enable the rebuilding of those runs showing evidence of depletion and to increase productivity elsewhere.

Incidental to the regulation of commercial fishing to obtain adequate escapements of salmon to spawning grounds, the Fish and Wildlife Service carries on stream improvement work. Each season the most important spawning streams are inspected to determine to what degree the spawning areas have been utilized. Obstructions to the passage of salmon upstream are removed or altered to permit the easiest possible access to spawning grounds. The construction of fishways where necessary and the blasting out of steps over lower waterfalls are included in this program.

In some of the most representative spawning streams, weirs,



Boys repairing fishing nets at the Annette Islands Cannery at Metlakatla. (Courtesy Alaska Native Service.)

which resemble picket fences, are constructed each season to facilitate an accurate check on the number of spawning salmon passing upstream through the counting gates. These annual counts provide an index of the extent of spawning operations and also serve as a means of regulating the commercial catch in a particular area to balance the escapement.

The fisheries of Alaska are the backbone of the Territory's economy with regard to permanent value, employment, and taxable wealth. More than one-half the entire revenue collected by

the Territorial government comes from the fisheries. The products of these fisheries and the supplies and equipment necessary to their operation make up the major items in cargo shipments to and from Alaska. In some years more than nine-tenths of all Alaska freight shipments have been related to the fisheries. The industry, however, draws on Alaska for only about half of its labor. Operators point out that this is unavoidable, because of the sparse local population in most places and the highly seasonal nature of the business.

Capital to the extent of approximately \$60,000,000 is invested in the salmon fisheries of Alaska. Seasonal employment is given to more than 20,000 persons. The products, as ready for the consumer, are worth in excess of \$50,000,000 each year.

These fisheries are in a high state of development and, apart from seasonal fluctuations common to any wildlife resource, should continue at a satisfactory rate of productivity.

A Colossal Industry

NEW METHODS of fishing and the quest for additional sea products promise to double Alaska's \$60,000,000 fishing enterprises. This development will not come in a year or two years, but it will come in time. The huge salmon canning industry, which accounts for more than 90 per cent of all Alaska's fisheries, will have a rival when steps are taken to fill the gap caused by withdrawal of the Japs from North Pacific waters and from the Bering Sea.

So-called bottom or ground fish—flounders, cod, halibut, red snapper, pollack, crabs, and shrimp, as well as many varieties of rock fish—are being taken in much greater quantities than formerly. Generally, this form of fishing takes place in early spring and in late fall, thus greatly extending the season of fishing activities and serving to promote year-round employment.

Another development that will increase export of Alaskan fish is expansion of the quick-freeze and packaging method. Experts predict that one- and two-pound packages of neatly wrapped frozen fish will soon be marketed on a scale approaching that of the canned product. This new processing will also result in more employment, and the extended period of work will induce permanent residence of fishermen and processors in Alaska, dispensing with much of the itinerant labor which has been imported from the West Coast. The mass movement of these employees from Puget Sound and from San Francisco has been fine for the boat lines and West Coast labor unions, but has done more to retard permanent growth of population in Alaska than any other cause. Though Governor Gruening and Congressional Delegates Bartlett and Dimond have fought for years to curtail this movement

of outside labor, they have been powerless, chiefly because Alaska could not supply sufficient workers at the right time. Helpers on farms and in mines have left their jobs to take others during the fishing and canning season, thus aiding in the maintenance of a poor Alaskan economy.

Year-round fishing and processing, with industrial plants manufacturing accessories used in the fishing and canning trade, is the only method of abolishing the West Coast's grip on Alaska's fisheries. Such a remedy is apparently in the offing. With the greatly reduced time schedules of airplanes flying from Chicago and Minneapolis, Great Lakes fishermen who can now make the trip from the Twin Cities to Anchorage in ten hours are likely to enter the Alaskan field. Obviously, Alaska is no longer to be looked on as a suburb of Seattle, and the so-called Alaska Fishermen's Union, dominated by West Coast locals, will have to yield to national agreements and give a wider range of access to fishermen from the Middle West, as well as those able to carry on the work from their homes in the Territory.

The 1945 salmon yield was a disappointment. Only about 4,300,000 cases were packed, compared to a normal pack of 5,500,000 cases. A case contains 48 one-pound cans.

Considerable criticism ensued concerning management of Alaska salmon fisheries by the U.S. Fish and Wildlife Service, especially regarding arbitrary dates for opening and closing the season. A Federal grand jury in Ketchikan declared that "millions of dollars worth of food fish are wasted because of the present fisheries regulations." The jurors recommended that the opening and closing of the fishing season be made flexible to fit escapement of the salmon, that is, the time the fish leave the sea for streams and fresh-water lakes to spawn. The jury further urged that three Alaskan fishermen be appointed as an advisory board "to consult with and make recommendations to the Fish and Wildlife Service respecting all things relative to the control of fish."

This action was regarded as Alaska's first substantial move toward severing Federal apron strings, which to date, the average Alaskan says, have tied the fishing industry in a tight knot. If the Territory should win statehood, it would undoubtedly act to control its fisheries. Plans have been devised to accomplish that end.

At the last session of the legislature, a bill was introduced to abolish fish traps, which are the means of taking 55 to 60 per cent of all the salmon caught in Alaskan waters. Fully 90 per cent of the traps are owned by large corporations, many of whose stockholders and executives are not residents of Alaska. The bill, reported to have had the approval of Governor Gruening, was passed in the house, but was defeated in the senate by a vote of nine to seven.

Meanwhile, of more interest to the American housewife is the fact that she will now see an abundance of canned salmon and delicious crab meat again stocking her grocer's shelves. The Alaskan king crab, a monstrous crustacean that has been neglected as a fine food source except by the Japs, is being taken in Alaskan waters in no small quantities. It will never rival the famous king or the other red salmon, but it will quickly assume an important place in Alaska's fishery exports.

Between 1931 and 1940 the United States paid to Japan more than \$27,000,000 for canned crab meat, and in the last five years of that decade the imported product accounted for 95 per cent of our canned, and 50 per cent of our entire crab meat consumption. Japan supplied 78 per cent of the canned product, while most of the remainder came from Soviet Russia. Much of the Japanese pack was obtained from Alaskan waters.

Fresh crab meat is prepared from the so-called "blue" crabs of the Atlantic and from the Dungeness crabs common to the entire Pacific Coast. The latter are about one-fifth as large as the average king crab. Some king crabs, however, are ten times as big as the Dungeness species.

When relations with Japan reached a crisis, prior to Pearl Harbor, the U.S. Fish and Wildlife Service moved to develop fisheries and processing to make up for the shortage that would be caused by the retirement of Japanese fishermen from Alaskan waters. An investigation was begun to determine whether American enterprises could successfully engage in the crabmeat industry. Three fishing vessels and a floating cannery were employed, and in ten months these boats explored likely areas from southeast Alaska to within sight of Siberia. Results established the presence of a large king crab population in the Bering Sea and a smaller but still important one in bays on the south shore of the Alaska Peninsula.



Vincent Creed, one of the Fish and Wildlife experts on a tour of exploration of Alaskan waters in 1940-41, holds a giant king crab. (Courtesy U.S. Fish and Wildlife Service.)

around Kodiak Island, and in lower Cook Inlet. The famed Bristol Bay area probably is the most fertile field.

Virtually all of our imported crabmeat was obtained from the large king crab that American fishermen have ignored in favor of the salmon, halibut, herring, and cod. In some Alaskan waters, notably around Petersburg, the catch of the smaller species of crab—the Dungeness—the taking of shrimp, and the digging for

clams have assumed considerable proportions. But with the exception of shrimp, the industry is confined mostly to local trade.

Lemuel Gulliver, hero of Swift's *Gulliver's Travels*, paid a hypothetical visit to Alaska in 1703, beating Vitus Bering by nearly two-score years. Lemuel found cats three times the size of oxen, and horses 54 and 60 feet high, but the king crab, an actuality at which he might just as well have marveled, escaped him. It is a giant compared to the popular conception of an edible crab. Male king crabs with an over-all spread of 4 to 5 feet—that is, from end to end of legs—and weighing 15 or more pounds are not uncommon in Alaskan waters. One specimen caught in the Kodiak area weighed 22.2 pounds, with a 7-foot spread of legs.

The carapace (body) of a 15-pound crab will measure approximately $9\frac{1}{2}$ inches. The legs, however, supply the best meat, containing twice as much as the body. The huge length of the king crab's legs is a spectacular and commercially valuable feature of the species. The leg meat is an attractive pinkish red color. It is packed at the top and the bottom of the cans, with white meat from the body in the center. From 5 to 15 king crabs will fill a case, or 48 cans, of $6\frac{1}{2}$ ounces each. A crab yields from 25 to 30 per cent pure meat. Shells and viscera are dried, ground, and used in poultry feed mixtures and for fertilizers.

The king crab is quite a hiker, traveling great distances in the sea with the ease that the ostrich does on land. This was demonstrated by the investigating group which tagged hundreds of the crabs, throwing them back for recapture, to study migratory habits. One was retaken 80 miles from the point where it had been dropped overboard. Migrations are governed largely by the molting seasons when the kings seek the shallower waters of inland bays. Ordinarily, they are recognized as deep-water denizens, being taken in depths varying from 5 to 80 fathoms (30 to 480 feet).

Operators planning to catch and process king crabs have to be informed on the molting seasons as well as on the courses of migration. The king crab molts more completely than the smaller species; the flesh is not suitable for canning during this period. Molting takes place frequently in the life of young crabs and annually during the life of the adult. When a king crab molts, no hard portion remains; the entire exoskeleton, the lining of the mouth, esophagus, stomach, and its calceous structures, gills, tendons, and a portion

of the intestine are shed. In short, virtually a new crab emerges, and for that reason the flesh of the huge 15- or 20-pound king crab is as delectable as that of a youngster weighing three or four pounds. Molting of individual crabs in a given locality takes place over a considerable period of time; mature males and females have seasons peculiar to their sex. Most of the shell shedding of the females seems to occur in March and April, whereas the males shed in winter.

The advantage of crab fishing either as a specialized business or as an adjunct to the commoner forms is that the best seasons are apparently earlier or later than the salmon runs, when labor is available.

J. Steele Culbertson, formerly fishery management supervisor for the Fish and Wildlife Service in Alaska, stated that salmon canneries could well process and can a great deal of the king crab meat in off seasons, except that many are too far removed from the scene of the catch. The Japs relied almost entirely on floating canneries, but very few of such vessels are now in use in the Alaskan field. It is believed that several will be built or converted, and equipped for the new enterprise. Equipment is expensive, for the big trawl and tangle nets cost from \$2,000 to \$5,000. The operation as a whole is much more costly than scooping salmon out of the huge traps common to coastal Alaska but almost nowhere else. British Columbia abolished them in favor of gill nets, and they are not tolerated in the Bristol Bay area of Alaska.

The housewife anticipating a plethora of delicious salads with crab meat as the base need not look for cheaper prices, for besides the cost of fishing equipment, other items make crab production high. The crabs have to be kept alive after the catch, and they must be butchered when they are active and in good flesh. The frequent changing of water or spraying with water, necessary to maintain a favorable condition on long trips to shore canneries, involves considerable labor. Some of the cost is obviated by the floating cannery.

Alaska's great fishing industry was curtailed by the war, but development of plans for utilizing by-products such as fish scrap, oil, meal, and fertilizer, together with improved methods of curing and preserving all kinds of fish, opened new channels for revenue. Informed experts predicted a \$25,000,000 industry eventually in

this field. In the first year of World War II, combined efforts of Territorial and Federal agencies resulted in establishment of an experimental laboratory in Ketchikan to aid in developing production from fishery resources and in finding improved methods for processing fish. More than \$100,000 has been spent for buildings, equipment, and a research staff, headed currently by Harris W. Magnuson, chemist in charge. Developments at Ketchikan unquestionably would result in employment for hundreds of Alaskans, both men and women.

Cod and halibut fishing are also on the upgrade in Alaskan waters. About three million pounds of cod were taken the year before the war. During hostilities, some of the cod fishing grounds were in the combat zone, precluding use by civilians. Cod fishing on the continental shelf off Alaskan shores is undertaken mostly by fishermen from San Francisco or Puget Sound. If Alaska had a license fee from this and other forms of gratuitous fishing in its waters, the Territory would gain considerable additional revenue, but a move for such a tax would raise a storm of protest from the West Coast clique which has long looked on Alaskan waters as its own. The Federal government will do nothing to further such a tax, and the Territorial government seems unable to stand on its legs in anything contrary to the wishes of outside capitalists. Union labor could remedy this matter and other vital affairs concerning fishing, but here again, Alaska is weak; there is much talk, with very little action.

Codfish are caught singlehanded by men in small boats, 15 or 20 of which are sent out at daylight from a schooner. The fishermen—one man to a boat—are paid from \$35 to \$45 a thousand for cod they haul up on a double-baited line. So there is an element of skill and sport to this kind of fishing. Halibut are caught with "skates" of baited line strung from the sides or rear of a boat, with the crew generally operating on a share basis. Considerably increased activities in these fisheries were evidenced in 1946.

The catch of Alaska herring also is important and definitely is open to expansion. Normally, it is more than 200,000,000 pounds. It is generally believed that herring fisheries can be made more profitable by developing the trade in salt and pickled herring, formerly imported largely from Great Britain, Canada, Labrador, Norway, and Iceland. The Alaska herring are as good as any in the



Herring purse-seine boats with deckloads of fish at Crab Bay, Alaska. The United States formerly imported great quantities of salted and pickled herring, but these fisheries in Alaska are being expanded. (Courtesy U.S. Fish and Wildlife Service.)

world, but in the past they have been used mostly for fish meal and oil. The United States formerly imported more than 37,000,000 pounds of salted and pickled herring annually; Alaska supplied only a little better than 5 per cent.

No layman in the States can grasp the monumental industrial opportunities offered through participation in Alaska's fisheries. The Smithsonian Institution is authority for the statement that 75 species of food fish are found in Alaska or off its shores. Other authorities say there are at least 200 varieties. Whitefish abound

in rivers and lakes where trout are plentiful, too; the fresh waters also hold grayling and blackfish. Everything from the oyster to the whale is the best summary of Alaska's marine and fresh-water life.

No one runs the risk of exaggeration when talking or writing about Alaska's fish. Even ironical darts of intended overstatement hurled when Alaska's purchase was attacked in Congress proved in time to be a boomerang of prophetic truth. A striking example is that of the Honorable Hiram Price of Iowa, where chubs and bullheads are better known than trout or salmon. In 1868, Mr. Price told the House: "By a movement as quick and a change as sudden as ever was produced by Aladdin's lamp, we were standing on the margins of the inlets, bays, and water courses of Alaska. There, the gentleman from Massachusetts (Banks) pointed out to me the fish with which these waters swarm; no, sir, I beg your pardon; not swarm; there is no room for them to swarm; they are piled up, fish upon fish, pile upon pile; no human arithmetic can compute their numbers. And, sir, such fish—shad, salmon, cod—according to the description, a foot and over through the shoulders, with sides and tails to match. As I stood there, Mr. Chairman, listening to the gentleman from Massachusetts, with fish to the right of me, fish to the left of me, fish all in front of me, rolling and tumbling, I had to acknowledge that the picture as painted made Alaska a good place for fish."

And it has proved to be *just that*—not only a good place, but probably the best place in the world for fish.

The Forest Primeval

CAPITAL for logging and lumber processing of Alaska's huge forests of spruce, hemlock, and cedar began to develop at the close of World War II, but scarcely on a scale commensurate with the possibilities. The timber supply is so great that it would require a large force of investors with big ideas and big pocket-books to make a sizable dent in the vast expanse of wooded areas.

The United States today is buying more than half its pulp paper from Canada, whereas Alaska could annually furnish one-fourth the total newsprint used. The accepted explanation for this state of affairs is that development of Canada's forests was undertaken at a time of much more favorable world economy. The Canadian authorities also granted concessions in the nature of favorable stumpage contracts and tax concessions which were not available in connection with the Alaska development. Labor costs also have been cheaper in Canada than Alaska. Encouragement of trade relations, too, may have accounted to a great extent for the purchase of Canadian wood and pulp.

On the other hand, a situation that now looks encouraging for the Alaska lumber industry is that timber in the northwest states is being rapidly depleted. The War Department was faced with the necessity of going into the national parks for trees three years ago, when Alaska came to the rescue. The National Park Service pointed out that much of the fine Sitka spruce in Alaska was going to waste and could be used instead of chopping down trees in the parks.

B. Frank Heintzleman, regional forester in Alaska, also urged that Alaska be allowed to contribute to the war effort. As a result, the Secretary of Agriculture approved an agreement between the Commodity Credit Corporation and the Forest Service under

which the Alaska Spruce Log Program began producing spruce logs for airplane lumber from areas in the Tongass National Forest. This new source of log supply from the northern end of the spruce belt counted heavily in meeting increased demand for spruce of airplane grade.

The Commodity Credit Corporation made available a revolving fund of \$3,500,000 to cover field operations. The corporation bought stumpage from the Forest Service after which the program officers contracted the work to independent logging companies. The logs were assembled into rafts of about one million feet each and towed to Puget Sound, where they were offered for sale to mills specializing in cutting spruce airplane stock.

The lower grade logs were sawed by the Alaska mills, large quantities of this lumber being shipped to the Aleutians for defense work. The program was liquidated in the fall of 1944 because of decreased need for airplane lumber.

Most of Alaska's superior timber is in the two national forests, the Tongass Forest in southeastern Alaska and the Chugach in the central southwest area. The two forests have a combined area of 20,880,000 acres, capable of producing 800,000 tons of sulphate pulp, or over 1,000,000 tons of newsprint a year in perpetuity, the latter being more than 25 per cent of the requirements of the United States. Trees adapted to such use are chiefly the Sitka spruce and western hemlock. Hemlock trees are much more numerous than the spruce.

Shortly before the depression in 1929, the Alaska Forest Service was able to interest West Coast publishers and a large paper corporation (Zellerbach) in the establishment of two pulp and paper mills, one to be located near Juneau and the other near Ketchikan. The economic slump canceled all plans in this respect—plans that were close to fruition; in ensuing years the Forest Service was unable to interest manufacturers. But negotiations with large pulp manufacturers have been renewed.

After a lapse of sixteen years the government decided to renew its efforts to establish a privately owned and operated pulp manufacturing industry in Alaska. An offer of 14,000,000 cords (about 7,500,000,000 feet) of hemlock and spruce near Ketchikan, for sulphate, sulphite, or newsprint was made. However, ten times this amount of commercial timber is available.



Native spruce saw timber with a mixture of hemlock, at Bond Bay, Tongass National Forest. (Courtesy Pulp and Paper Industry Magazine, U.S. Forest Service.)

The decision to push development of pulp and paper plants came at a time when the industry was facing not only a shortage of pulpwood but of available forest resources. Like other Alaskan opportunities, little has been known by the general public of Alaska's vast forest reserves, but an active campaign was carried on by the Forest Service in trade circles to have postwar planners realize the timber possibilities.

Largely secret also were the fine harbor installations, built in wartime, in what were once quiet little seaports. The effect of the increase in good roads and the expansion of air and sea transport on the development of the pulpwood and lumber industry, was publicized only in trade papers and commercial circles.

While the shortage of newsprint in the United States and Canada was largely due to lack of manpower, Alaska should have no dif-



An aerial view of Camp Three, the main camp of the Alaska Spruce Log Program, on Kosciusko Island, Tongass National Forest. The quarry shown at the left produced the rock required for surfacing the logging road. (Courtesy U.S. Forest Service.)

ficulty in this respect. As has been pointed out, there is a great deal of seasonable work in Alaska, limited only to three or four months. Lumbering, on the other hand, may be pursued in winter as well as summer, housing facilities being easily provided. The mild fall and winter temperatures in southeastern Alaska make living and work there feasible; tidewater operations may be carried on throughout the year. Logging crews are housed on floating camps—comfortable frame cabins built on rafts that move from one logging show to another.

The Sitka spruce is one of the most useful trees on the North American continent, yet until Alaska became combat territory great quantities of the lumber used for building houses and for other purposes were shipped up from Seattle. Alaska has a few good sawmills, but most of them are comparatively small, not even supplying local needs. Two of the largest are at Ketchikan and Juneau where the best of modern equipment has been installed. Another of the larger mills is now operating at Whittier, the new seaport town established by building a cut-off on the Alaska Railroad. A sawmill at Wrangell has also, been improved

for processing local timber. Carl Edlund, Pacific Coast logging and mill man, took over the plant in 1945, installing \$50,000 worth of new machinery. He said Wrangell's spruce and cedar will be shipped to China and the Far Eastern market. While the capacity of this mill will be only about 70,000 board feet daily, still, it is a boon to Wrangell's activities and means year-round jobs for quite a few more residents. The Ketchikan Spruce Mills carry on large operations in Ketchikan and Anchorage.

There also is much timber in the interior, but not of such quality as that in southeastern Alaska. Although the vegetative cover of central Alaska has never been fully mapped, the area in tree growth is estimated at 80,000,000 acres. Of this, at least half consists of fairly dense stands with well-formed trees. Even the more scant and brushy growth of the northern sectors would make pulpwood. As it is, lumber and logging is an important industry in parts of the interior. White spruce is the predominant commercial tree and occurs in natural locations along river valleys and streams. Woodcutting for fuel offers considerable employment.

With resumption of postwar shipping, there seems little doubt Alaska will offer practical means of a greatly increased logging and mill industry. Low cost of power to produce and bring the wood to the mills is a favorable factor in Alaska. At present, the largest users of newsprint avail themselves of water transportation, but the bulk movement of paper over the Great Lakes from Canada by this means cannot be relied on for more than seven months in the year because of freeze-ups.

The important consideration for publishers, Alaskans point out, is the great quantity of timber at hand and the permanency of the supply. All of Alaska's national forest resources are available for use. Standing timber can be purchased by manufacturing industries, or by individuals; areas needed for waterpower development may be leased for fifty years.

The only drawback to an intensive logging program in southeast Alaska is that it might prove a menace to the highly profitable salmon industry. While this idea has not been widely discussed, experienced conservationists have given serious thought to it. The heavy growth of spruce and hemlock protect the countless mountain streams where salmon spawn. The trees break the heavy rains while the deep moss beneath them absorbs the dripping moisture,



A "Davis" raft of high-grade Sitka spruce logs, produced by the Alaska Spruce Log Program, starting on its 1,000-mile journey to Puget Sound mills. (Courtesy U.S. Forest Service.)

releasing it gradually so that a rush of water, with consequent erosion, is averted. This tends to keep the streams at a steady level which, fish experts say, is an essential. Salmon will not spawn successfully in water that is too deep or too shallow. Also, torrential flow of water will wash the eggs away before they hatch.

It is a fact, too; that the discharge of sulphite waste from paper mills plays havoc with marine life. British Columbia and Washington state have had bitter proof of that. Where pulp mills have operated at the water's edge and dumped their refuse into a river or into the sea, fishing as an industry has practically ceased, marine life disappearing from the contaminated water as far as 8 or 10 miles from shore. So some wildlife experts believe that Alaska's virgin forests account largely for the Territory's supremacy in salmon, and that heavy encroachment on the forests for logging might prove a severe blow to nature's program for propagation of fish. It is possible, however, that a happy medium can be struck by utilizing only sections of the forests remote from the salmon streams.

In the fourth year of World War II, Canada and the United States got together for the first time regarding forests. The Pacific Northwest Trade Association was formed with offices at Victoria,



One of the floating camps used by the Alaska Spruce Log Program. As most merchantable timber is located close to tidewater, loggers can be housed in this manner. (Courtesy U.S. Forest Service.)

B.C., and Portland, Oregon, to undertake a study of forest potentialities. It was expected that eventually a total of 140,000,000 cords of timber (78,500,000,000 feet), virtually all the commercially available stands in the Tongass National Forest, might be utilized for timber industries.

In addition to pulpwood and lumber for building, newly developed refining and bleaching processes have resulted in many new uses for the forests. The Forest Service sought a purchaser to install a large pulp mill in Alaska within three years after the end of the war, or, at least, before April, 1949. It was tentatively proposed that a fifty-year agreement would be drawn up and that the timber would be paid for in advance installments as cutting proceeded.

Ketchikan and Juneau, the two largest centers for lumbering, are 750 and 1,000 miles respectively from Seattle. Year-round steamship service is provided from Seattle and from Vancouver. The network of protected sea channels is admirably suited to the use of motor-driven boats; and a railroad service, or barge service, could easily be operated between Alaska ports and the Prince Rupert, terminus of the Canadian National Railroad, to permit Alaska pulp and paper to be shipped by this short route to middle-



Outlet of Brantwood Lake on the east side of Baranof Island. This is typical of the many high lakes in the Tongass National Forest which are potential cheaply developed water-power sites. (Courtesy U.S. Forest Service.)

western states. Also, the pulp and paper markets of the Orient and Australia are as readily accessible to Alaska as they are to the Pacific Northwest and British Columbia.

There are no climatic conditions that hinder operation of forest industries in Alaska and in the southeastern sector, heavy precipitation reduces the peril of fires. The ocean inlets generally are free of ice in winter. The only drawback to heavy production in winter period is the shortness of the days.

The population of southeastern Alaska in 1945 was about 35,000, including Indians. The latter, as a whole, are not disposed to do heavy work. So long as the Interior Department continues to set aside millions of acres in Alaska where natives need do nothing but fish and hunt, they are not likely to become applicants for tim-

ber jobs. But there are plenty of white men who would gladly work in timber under favorable living conditions, especially when the commercial fishing industry is not at its height. In addition to Ketchikan, Juneau, and Wrangell, Sitka and Petersburg have satisfactory locations for pulp mills and could supply considerable labor.

Since many of the trees in these virgin forests are either overmature or young timber, they could be relied on to supply a large part of the wood for pulp mills. Other timber could be used as shingles and piling. The overmature hemlock is 3 to 4 feet in diameter and the spruce, 4 to 6 feet. But stands of nearly matured young growth timber, varying from a few acres to several square miles, are found throughout the region. These trees, ranging from 1 to 2 feet in diameter, are from 90 to 150 feet high.

In the year preceding the United States' entry into the war, 37,972,000 board feet, with a stumpage value of \$55,267 were cut on the two national forests. The yield was tripled in the war years. The total estimated stand is 84,760,000,000 board feet of timber, so that the amount cut thus far is infinitesimal.

The national forests in Alaska were set apart from the public domain and placed under supervision of the Forest Service for development under methods to insure continuous forest productivity. The chief administrative officer is the regional forester with headquarters in Juneau. Subordinate officers are located at Ketchikan, Petersburg, Cordova, and Seward.

Regarding waterpower, a survey of the best known sites in southeastern Alaska disclosed a potential year-round capacity of 800,000 horsepower. With an aggregate capacity of 28,000 horsepower, 52 power sites had been developed by the first year of the war and more than 40 were in use. The largest single power site of record has a year-long capacity of 32,000 horsepower. In many places, power from several sites can easily be concentrated at one manufacturing plant. The regional forester is the Alaska representative of the Federal Power Commission.

The national forests are governed with the idea of putting every resource to its best use. The use of large tracts of timber for wood pulp or lumber should, however, require chief consideration in the future. The stumpage for saw timber averages \$1.50 a thousand for spruce and \$1 for hemlock. Development of minor wood-using

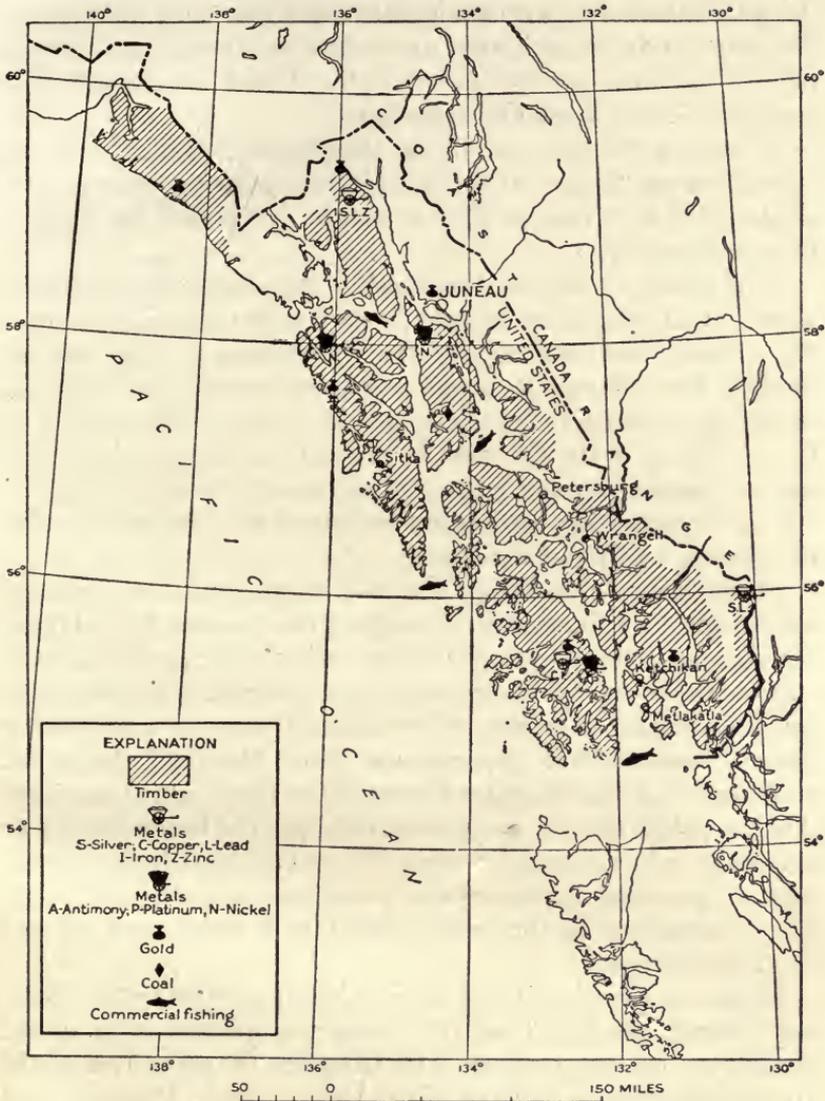
industries to relieve seasonal unemployment in Alaska is progressing. Since the forests have extensive peat beds, many of them close to shipping, the markets for peat moss have been investigated.

The national forests gave employment to workers who were deprived of a means of livelihood when, for military reasons, fishing, hunting, and trapping were curtailed in certain areas.

FOREST FIRE CONTROL

Alaska needs more money for adequate protection of its forests from fire, especially in those areas north of the Panhandle. It would seem that in lieu of sufficient Federal funds to carry on fire control, the meager amount received from the sale of logs might be used for patrols and means of combating forest fires. Frequently in the past they have raged for long periods, being extinguished only by unusually heavy rains or by streams wide enough to check the flames. The Forest Service maintains a fire control setup supposed to handle all fires within the two national forests, and because of the heavy rainfall in most of this area, fire menace is at a minimum. In fact, these timber stands have often been designated as "fire-proof forests." In the Kenai Peninsula, fires are more of a problem because the climate is drier. The National Park Service, controlling the parks such as Mt. McKinley, the Glacier Bay National Park, and the national monuments, has a certain amount of fire control equipment, but its small personnel and the scattered areas leave it inadequately prepared to cope with serious fires.

These are the only agencies in Alaska, other than the Alaskan Fire Control Service, organized to handle fire control activities. Some 323,000,000 acres of public domain lands are dependent on the Alaskan Fire Control Service for safety, although not all of this huge area is timbered. For years there were sporadic attempts made to decrease the heavy losses of natural resources from fire, but the vast size of Alaska, its small population, and its meager communication and transportation facilities, combined to make the task one of hardship and high cost. In 1924 the first serious attempt was made by the General Land Office to establish fire control in conjunction with the district land offices. Fire patrolmen were employed for three to four months each season to patrol



This map of southeastern Alaska shows the principal timber, mineral-deposit, and commercial-fishing areas.

highways and lands adjacent to Anchorage, Fairbanks, and the Alaska Railroad, but with inadequate funds the work was limited. This type of fire organization was maintained through 1933 when depression-forced economies wiped the Alaska fire control item from the General Land Office budget.

From 1934 through 1938 by far the greater part of Alaska was left to risk the ravages of fire. Large conflagrations occurred and smoke-filled skies hampered air travel. In that period the regional forester reported:

"The effects of fire far transcend in importance the combined results of all other agencies which work toward the depletion of the valuable land resources of the Territory. . . . Not uncommonly a fire will rage for many weeks and extend over hundreds of square miles before being checked by barriers such as rivers or by the coming of the fall rains. In 1935 a fire in the Kvichak River section, burning for more than two months in brush, grass, tundra, and scrub timber, covered an area estimated at 1,000 square miles, eliminating wildlife of every sort. . . ."

These serious losses finally stirred Washington into establishing an Alaskan Fire Control Service under the General Land Office. It was organized in July, 1939, with a budget of \$37,500. This small appropriation enabled the service to buy equipment, employ a few persons, initiate a system of fire detection, and undertake a limited amount of fire suppression activities. On April 1, 1940, the administration of all Civilian Conservation Corps activities on the Alaskan public domain was transferred from the Forest Service to the Alaskan Fire Control Service. The CCC, until its liquidation in 1942, provided equipment and manpower, not otherwise available or possible under the limited annual funds which were reduced to \$27,000 in 1941.

In 1942, as a result of the war and Alaska's position in the Pacific war theater, the Fire Control Service was granted some of the emergency funds appropriated by Congress for protection of the forests and strategic facilities of the United States. This additional fund was continued through June, 1945, amounting to about \$125,000 a year. This sum, coupled with the regular appropriation of \$27,000, enabled the Fire Control Service to establish a skeleton organization of year-long personnel which was supplemented during the 6-month fire season with from 25 to 30 fire guards.

Federal funds, as appropriated by Congress, are the only monies available for fire control activities. The territory of Alaska does not provide funds in any form. "Let her burn," is the attitude of the Territorial legislature.

No complete records were kept by any organization of the annual burned acreage prior to the 1940 fire season. That it was large is plainly evident to any air traveler. Since 1940 the total burned acreages have been: 1940, 4,500,000 acres; 1941, 3,654,774; 1942, 452,510; 1943, 666,773; 1944, 110,603; 1945, 117,314. This reduction, representing millions of dollars of natural resources, demonstrated what could be done even with comparatively small appropriations, although the Alaskan Fire Control Service conceded that exceptionally wet summers for three years, coupled with co-operation of all Federal and private agencies in Alaska, aided materially in suppression of fires.

(Editor's note)—Success in the long drive to establish a paper pulp industry in Alaska finally came in August, 1948, when the Forest Service announced it had accepted the bid of a west coast company involving the cutting and processing of 1 billion 500 million cubic feet of timber from the Tongass National Forest near Ketchikan. The contract was for fifty years. The bid was from the Ketchikan Pulp and Paper Company, an affiliate of the Puget Sound Pulp and Timber Company, Bellingham, Wash. Under the agreement, a mill costing about 30 million dollars was to begin at once. At peak production, the mill will have an output of 500 tons a day and employ 1,200 workers.

Mining

DRAW UP a chair and listen to the oft-told tale of Alaska's buried treasures, amended a bit to include postwar developments. Thar's gold in them thar hills—more of it known today than in '98 when fifty thousand cheechakos from afar tried to find it.

The Northland's mineral wealth stirs the imagination of the white-collar city worker, the Iowa farm boy, and even the old-timer warming his toes near a radiator in Alaska's Pioneer Home. *He* would like another chance! For every capitalist with banks and movies, for every transportation executive with streamlined buses, for every governor fighting outside vested interests for a few more dollars in taxes, for every president of a land grant college struggling to set Alaska on her feet in agriculture—for every one of these, there are a hundred hopefuls planning, prospecting, or digging in the frozen soil for gold.

If it's not gold they're seeking, it could be titanium, zirconium, rubidium, cesium, cerium, rhenium, molybdenum, platinum, or just plain tin and copper. Almost all the elements for which commercial use was developed during the war years have been found in Alaska.

In the search for strategic and critical minerals, engineers surveyed Alaska's great mineral wealth on a wider scale than ever before. They went into unexplored regions to seek ores vital to the war effort, with the result that many new projects were opened in the three-year period in which gold mining was suspended. Toward the approach of V-E Day, however, mining for "colors" was renewed under certain priorities; and on June 30, 1945, the ban on gold mining was lifted, too late for much progress until the following year.

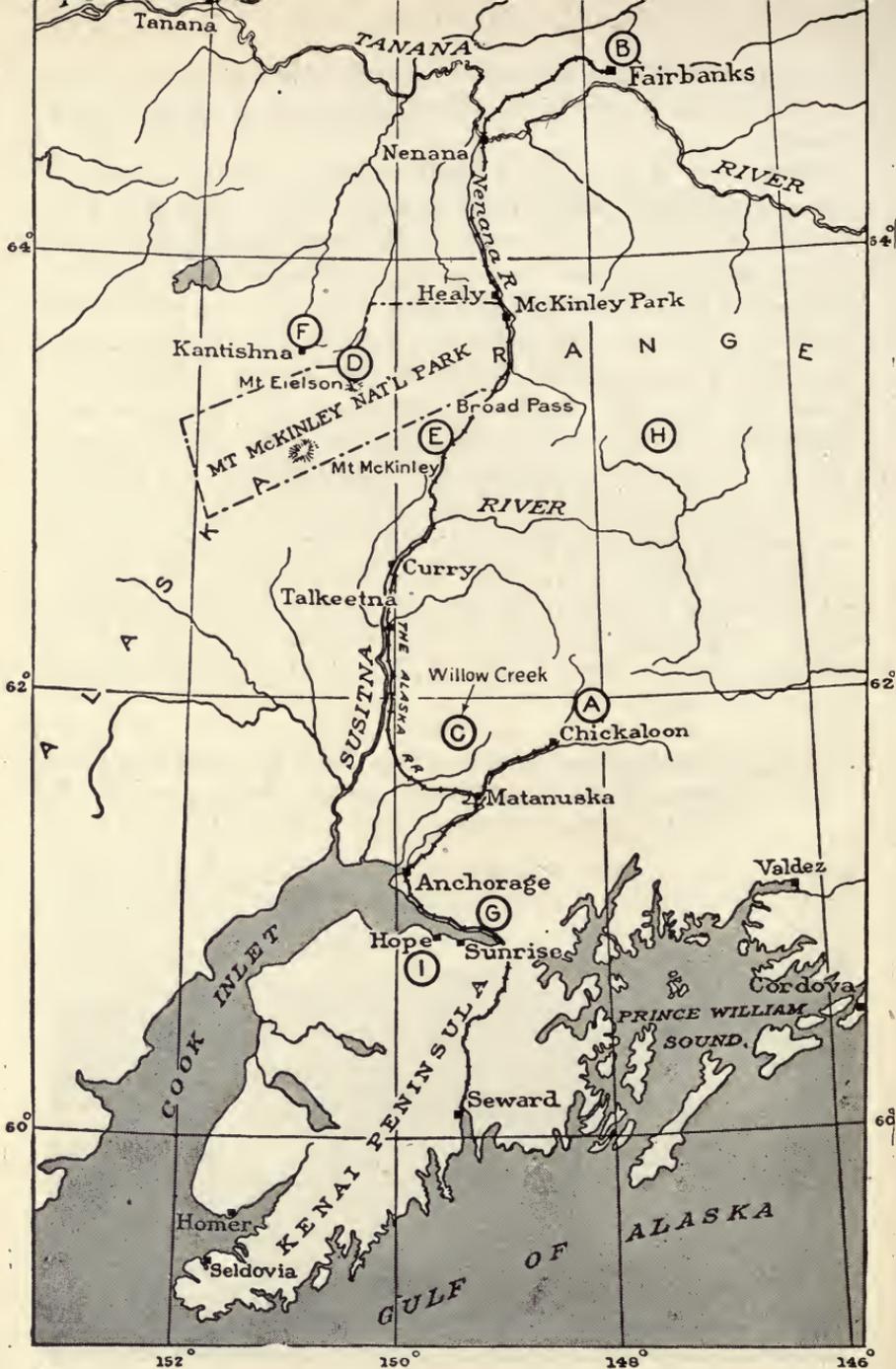
In 1944 and 1945, there was some activity in the tin fields on the Seward Peninsula, but production of this essential mineral was

not as great as demand seemed to warrant. Alaska is the only place on the North American continent where tin is mined in any quantity.

Production of platinum, a highly strategic mineral, especially for construction of aircraft parts, centers almost entirely in Alaska, so far as this country is concerned. Platinum was first discovered in the area of Goodnews Bay in 1927 by a native who excitedly announced he had found white gold. A sample was sent to the University of Alaska, where the true identity of the ore was determined. One company, the Goodnews Bay Mining Company, situated ten miles from the town of Platinum on Goodnews Bay, north of Bristol Bay, mines about 90 per cent of the total recovered. The camp, under the direction of Edward Ohlson, is a hustling community with 20 miles of roads, modern homes for executives, and smaller cottages for the miners. Movies and dances are regular events; a bowling alley is another attraction, together with a library for the miners' families. Quite different from the old days at Nome when Tex Rickard, smoking a big black cigar, paced the floor of his gambling hall with a sharp eye on his roulette dealers. Never-

Dredge of the Goodnews Bay Mining Company near Platinum, Alaska, where nearly all the platinum ore in the United States is mined. (Courtesy Edward Ohlson.)





Investigated mining areas in Alaska Railroad belt: A—Anthracite Ridge; B—Fairbanks; C—Willow Creek; D—Mt. Eielson; E—West Fork of Chulitna River; F—Eureka and vicinity; G—Girdwood; H—Valdez Creek; I—Moose Pass and Hope.

theless, modern methods pay. The camp has been producing \$1,000,000 in platinum annually. An 8-cubic-foot dredge handles 1,250,000 yards of platinum and gold-bearing ground. The company holds or leases 150 claims.

During the war, the mining of tungsten ore, used chiefly in making high-grade steel, was also pushed. Mines at the southern end of Alaska, that formerly were a moderate source of tungsten ore, were reopened. An increased output of mercury was obtained from Alaska deposits near Sleitmut in the central part of the Kuskokwim district on the northern flanks of the Alaska Range and, in a lesser degree, in other places.

One of the most interesting discoveries of the exploratory work was the valuable deposit of jade in the Shungnak area of the Arctic. So far as is known, this is the only place on the North American continent, except a minor field in Wyoming, where jade, almost exclusively a product of southern China, is found. Experts in rare stones who have examined the Alaska product say it is of a good type, not what is known as jadite. Although jade is marketed largely as costume jewelry, tests made on the Shungnak deposit determined it could be used in bearings for airplanes; therefore, equipment for a complete laboratory to cut and grind the jade was immediately forwarded to Shungnak.

The Arctic Circle Exploration Company, which discovered the jade deposits, also found large quantities of tremolite asbestos, used as a filtering agent for blood plasma. The supply in the United States was almost exhausted at the time of the discovery. The company reported that 25 tons were shipped out the first season, and that the government was calling for full development of the vein. Shipments were made from Shungnak to Fairbanks by plane at transportation costs of \$500 a ton.

Such enterprises as these show that Alaska has a large field for development of mining aside from that of gold. It is known that more than 150 commercially important metals exist in Alaska, but many still lie as untouched resources. Deposits of mineral commodities, such as petroleum, marble, varite, graphite, gypsum, and sulphur, which occur in Alaska, attracted minor attention in the war years. An excellent bill to aid prospectors was introduced in the seventeenth legislative session; it was passed by the House but was killed by the Senate.

Governor Gruening and B. D. Stewart, Alaska's commissioner of mines, have made strong pleas for funds to stimulate research for minerals. Mr. Stewart said: "More extensive, better directed, and better financed exploratory, prospecting, and development activity is the primary need of the mining industry in Alaska. . . . Too great a percentage of the efforts and resources of mining operators is being devoted to the task of extracting mineral wealth from developed sources and far too little to the search for new deposits.

"This problem is met in Canada by syndicates organized for that purpose, and by mining companies. One maintains a corps of experienced prospectors in widely scattered localities. The prospectors are paid a salary and are assured of liberal cash purchase prices, plus a share in any productive enterprises resulting from their discoveries. The company maintains a fleet of airplanes, keeping touch with the prospecting parties, supplying them with provisions and equipment."

Despite such examples as described by Mr. Stewart, neither the Federal nor Territorial government in Alaska has done enough to encourage emulation of them.

The two main domestic coal fields are the Healy River mines in the interior and the field at Matanuska, both served by the Alaska Railroad. The largest amount of coal, but not the best, comes from the Healy field on the northern slope of the Alaska Range. This coal, used chiefly in the Fairbanks region, is a high-grade lignite, adapted to generating power because it is relatively cheap. A large interest in the mines is owned by Cap Lathrop, as well as by the railroad. Healy, north of midway between Anchorage and Fairbanks, is a growing community, the Alaska Railroad having just completed a new hotel, cottages, and repair shops at a cost of nearly \$500,000.

The Matanuska fields, with a railroad spur running to the mines, yield 1,000 tons daily of high-grade bituminous coal. Located less than 50 miles from Anchorage, the mines are highly profitable because of the short haul to market. Recently, a vein producing 500 tons daily, and indicating millions of tons, was opened. The seam is 2 miles long and 12 feet deep. Above it is a second vein, 5 feet thick and approximately the same length. The new coal, part of the Evan Jones property, is 25 per cent higher in heat units than



Alaska Juneau gold mine, one of the largest low-grade gold-ore mines in the world. Its unique feature is that the shafts go up instead of down.

that formerly mined, and leaves only 8 per cent ash, compared to a former 16 per cent.

In addition, small properties throughout Alaska are in various stages of development. One of them is in the Costello Creek region in the southern foothills of the Alaska Range, west of Broad Pass, a railroad stop. For years small supplies of coal have been taken in the Homer area. At Wainwright on the Arctic Coast, coal is mined by the natives with a pick and wheelbarrow, practically at ground level. Recently, under direction of Don C. Foster, director of the Native Service, this mine has been improved by tunneling and by imported machinery. In the summer of 1945, about 200 Eskimos were engaged in working the mine with the result that sufficient coal was obtained not only for the immediate vicinity, but also for Barrow and other distant native settlements. It was hauled by dog-team or tractor-drawn sleds.

A small amount of coal is mined in the Yukon Valley. Many

small strip properties were uncovered in the building of the Alaska Highway. There is also some coal on the Alaska Peninsula. The situation as a whole is that Alaska not only has enough coal for present needs in the vicinity of the various coal-mining properties, but could also produce it in sufficient quantities to ship coal to southeastern Alaska, where most of the people live. The problem of inadequate transportation, at present blocking such a move, could be solved by a good ferry system from Haines now reached by highway. The Alaska Railroad is not especially active in producing a good ferry system.

Among other Alaska mineral products prized in the war effort was lead. Because it comes as a by-product of ores mined for their gold, a number of gold mines that otherwise might have been closed were allowed to continue. Quantities of lead come from the huge Alaska Juneau mine which, during most of the war era, continued operating at about one-fifth its capacity. In 1944, however, it discontinued work entirely rather than meet a requested wage increase of 14 cents an hour. In the spring of 1946, these differences between the management and the miners' union (AFL) were adjusted and Alaska Juneau got under way again. Normally, it employs more than 1,000 workers.

Mining in Alaska ranks as the second industry. Eventually, it may again assume first place over the fishing and canning industry, for fish to a large degree are governed by nature and mining by man. Lode and placer mining of gold still hold first place, despite all the development in other fields. At present, about 7,000 persons find seasonal employment in mines, compared to approximately 18,000 in fisheries.

While hundreds of Alaska's residents engage in mining on their own and thousands of others obtain seasonal employment, a large percentage of the gold mining is in the hands of big companies controlled by nonresidents. There is, however, considerable local capital in the Alaska Juneau mine, the largest quartz mine in Alaska as well as one of the largest low-grade gold ore mines in the world. Its stock on the New York exchange has been selling at about \$9 a share. The mine is unusual because its shafts go up from the base into the mountain, instead of down.

In the Fairbanks area, several local companies operate dredges and draglines for placer gold mining where large-scale operations



This old sourdough is panning the precious yellow metal in the swift current of a mountain stream in the Yukon country. While this form of gold mining is comparatively rare, it is not entirely obsolete in the Northland. (Courtesy Canadian Pacific Railway.)

are carried on by the Fairbanks Exploration Company, a subsidiary of the United States Smelting, Refining and Mining Company. The latter has little Alaska capital involved. It has, however, plenty of influence in Alaska's legislature and does not hesitate to use it.

Stripped of most of the glamor of gold-rush days, mining for "colors" in Alaska recently has been chiefly an organized business. But there is nothing to prevent individuals or small groups from going out after gold on their own if they want to. There is still some of the old-time color in remote camps; sensational strikes, however, are rare. The picturesque Alaska prospector, panning gold in the creeks, has been missing for years. Now huge dredges are used for digging creek and river beds. Bulldozers slash away the topsoil; steam drills push down to bedrock so that pipes can be easily driven to flush the subsoil with water for thawing. Hydraulic pressure streams play on the big gravel banks in strip mining; washing out low-grade muck that yields gold and by-products.

Labor troubles have been few since 1941, when there was a strike of United States Smelting employees. The CIO, under the leadership of W. A. Rasmussen, became firmly entrenched and extracted favorable terms for its workers. Living conditions of the miners have been greatly improved. Many men who prospected and mined for themselves are now willing to work in established mines for good wages and at fixed hours. In normal times it is not too difficult to get help, but early in 1946 employers were struggling to line up men for the rush that was expected after the long suspension of gold mining.

Now there are no stampedes or marathon "runs" to stake a claim; no fabulous Wilson Mizner's staging prize fights and barroom shows for spendthrift miners; no dollar-a-dance girls; no \$6 a dozen eggs. But since the days of the Klondike and Nome gold rushes, forty-odd years ago, the working of known gold deposits and the search for new ones have gone on continuously. While Alaska does not yield its yellow metal so spectacularly as before, it surrenders the gold in almost as great a quantity as during the hell-raising days; and, of course, gold brings a much higher price an ounce than it did in 1898.

The total value of minerals from Alaska mines in the year before the war was \$26,791,000. Gold accounted for 91 per cent. But in the war years, shipments of gold and silver ores amounted only



Thawing the frozen gravel beds by means of cold-water pipes driven into the ground for many feet. This process permits the big dredge to go to work.

to about \$2,000,000 annually. Other minerals used in the war were not listed in the foreign trade figures. Since 1880, the start of official records, approximately \$860,000,000 has been taken out of Alaska in minerals. Including the minerals used for war purposes, the value to date has been \$1,000,000,000.

Alaska gold comes from two types of deposits—placer and lode. In placer mining, gold is recovered from gravel or other unconsolidated deposits; in lodes, it occurs in the solid rock or vein matter. Placer mining, widely scattered, formerly supplied twice as much gold as was obtained from lode mines. The greater part of the lode gold comes from southeastern Alaska, near Juneau and on Chichagof Island, with the Willow Creek district, fifty miles northwest of Anchorage, next in yield.

Development of Willow Creek and other areas along the line was promoted by the Alaska Railroad to increase tonnage. Congress voted \$250,000 for reconnaissance in these and other sections near the railroad, the grant being made to the geological survey with Dr. Philip S. Smith as its representative. Ten selected projects involved the examination of two localities valuable for coal: Anthra-

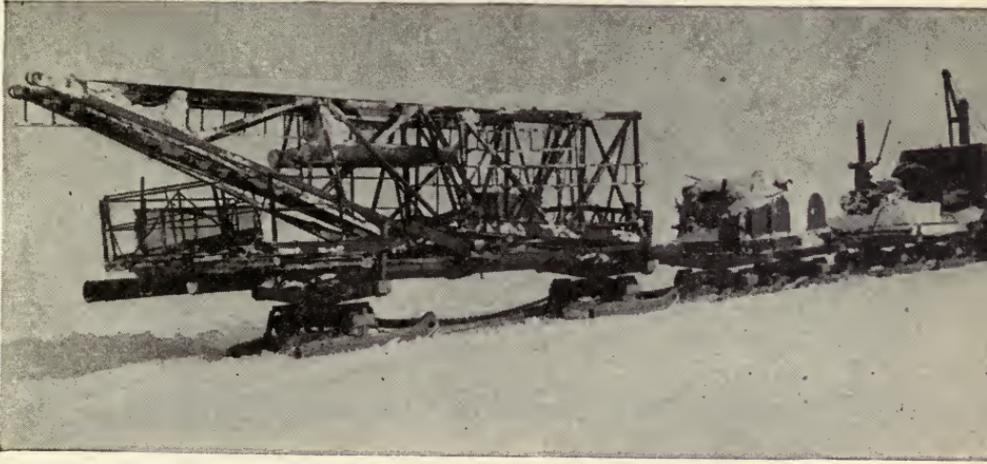
cite Ridge and Moose Creek; five areas likely to be valuable for gold: Fairbanks, Willow Creek, Girdwood, Moose Pass, and Valdez Creek; and three areas whose lodes consisted mainly of mixed sulphides: the Eureka area in the Kantishna district, Mount Eielson (formerly known as Copper Mountain), and the head of West Fork of the Chulitna River.

A general study of the nonmetalliferous resources of the region traversed by the railroad was included in the projects. The Willow Creek district, in the southwestern part of the Talkeetna Mountains, 20 miles north of Knik Arm, is accessible by automobile road from Wasilla. The district is 16 miles long from east to west, 6 to 8 miles wide, with an area of about 112 square miles. Gold was discovered in the vicinity in 1888, but no extensive knowledge of the region was gained until 1906. Now it is one of the most promising gold developments in Alaska. Some of the best-known mines are the Independence, War Baby, and the Lucky Strike.

The Talkeetna Mountain region is deeply scarred by glacial erosion. At elevations above 2,500 feet, it assumes proportions of rugged grandeur. Typical U-shaped glacial valleys separate the ridges, which in turn are deeply scalloped by closely spaced glacial cirques. Within the Willow Creek district proper, the elevation ranges from 1,500 feet in the valley of the Little Susitna River to 6,000 feet at the crest of the highest peaks in the northeastern part. Farther northeast, beyond the limits of the district are elevations of 8,000 feet. Above the lateral moraines and talus slopes rise precipitous cliffs and narrow ridges whose saw-toothed edges and craggy pinnacles exhibit many grotesque silhouettes.

Aside from its commercial aspects, this section is one of Alaska's outstanding scenic wonders. Lieut. Gen. Simon Bolivar Buckner, Jr., loved these mountains and the Susitna Valley. He had bought property in the vicinity and had planned, when the war was ended, to transplant the Buckner family from their native home in Kentucky to a strip of land along Cook Inlet. "The sun going down and that beautiful red sky with Susitna silhouetted in the foreground is a sight I want to see in my last days," he told a friend. But fate decided otherwise for General Buckner when he fell on Okinawa.

Copper mining, which at its peak in 1916 surpassed gold in value, later became almost a forgotten project. Mining of this ore has



A section of the huge drill rig used by Seabees to uncover naval oil reserves in northern Alaska. It is en route to Umiat at the southern end of the 35,000-square-mile reserve. (U.S. Navy photograph.)

been renewed to some extent in the past few years. In 1916, copper mined in Alaska was worth \$29,484,291. Stock market investors well remember the three-figure values chalked up in the flush days of 1928 and 1929, for Kennecott Copper is one of the richest copper properties in the world. The Morgan-Guggenheim interests added many millions to their well-stocked coffers. The ticker often showed a sale of 1,000 to 5,000 shares of Kennecott Copper every half hour, with the stock bringing around \$150 a share. It reached a high of \$162. When production failed in 1938, as already mentioned, one of Alaska's three railroads—the Copper River and Northwestern—went out of business.

The potential oil reserves in Alaska in the Arctic region near Barrow are controlled for the most part by the U.S. Navy. It has held 35,000 square miles there since 1923, when President Harding signed the order placing the vast tract under naval control. In 1944, the Navy put a force of Seabees to work in the Arctic field known as Naval Petroleum Reserve No. 4. The expert in charge of drilling was Captain Bart W. Gillespie, Civil Engineer Corps, U.S.N.R. The work was continued in 1945. The expedition's leader presented

details of the exploration and its purpose, before a Senate committee investigating national oil reserves.

Results of the drilling have not yet been announced but the Navy spokesman did say that even if a gusher were developed it would be capped, and that no oil would be taken from the reserve. Under the law creating the four reserves controlled by the Navy, only a national emergency will cause oil to be taken from any of the tracts held. In World War II, the government spent \$130,000,000 in developing and piping oil from the "Canol" Norman Wells field in Canada to the Alaska Highway. The emergency was still not considered desperate enough to draw on Naval Reserve No. 4 in American territory. Also, engineers considered the distance from Barrow to the nearest point on the highway too great to make such a venture practical.

The Canol project was abandoned by the United States shortly before the close of the war, but despite the hue and cry against it, the project might have proved highly useful had the Japanese made more progress than they did in the North Pacific. Canada was asked to make a bid on the U.S. property—the pipe line and refinery—which supplied considerable fuel for trucks and planes at the height of heavy traffic on and over the Alaska Highway.

Geologists and independent oil men say that there is undoubtedly a good amount of oil in the U.S. Naval Reserve. Shortly after he began actual work in the reserve, Captain Gillespie advised the Navy Department: "There is every reason to believe the reserve contains oil in quantity."

Oil exists in other parts of Alaska, especially on the Alaska Peninsula and at Kattalla, on the Pacific Coast east of the mouth of the Copper River. H. Foster Bain, special consultant to the U.S. Bureau of Mines, told Alaskans in the summer of 1945 that as yet Alaska oil deposits had had no fair test as to their potentialities, and that he had great hopes that good Alaska oil fields will be found. He mentioned that the Standard Oil Company spent \$11,000,000 in the Dutch East Indies before the rich fields there were finally developed. Federal and Territorial authorities, aside from the Navy, have spent possibly \$20,000 in Alaska.

Meat for the Wolves

THE WOLVES of Alaska are licking their chops! Why not? Nightly, they feast on choice reindeer steaks. Time was when reindeer meat was a luxury on transcontinental trains and in swank hotels and restaurants of the nation. But in 1938 Congress began tossing it to the wolves and the Eskimos, and today the wolves have most of it.

More than a decade ago, Alaska's famous reindeer husbandry loomed as a \$20,000,000 industry, but now it is just a headache for Uncle Sam. The deer have dwindled from 750,000 to an estimated 65,000. During the war, herders left to take high-priced defense jobs, and the wolves had free run of almost all Alaska's reindeer herds.

At the ceiling price of 16 cents a pound for dressed reindeer carcasses, plus the value of hides, this decline in the number of deer represents a loss of approximately \$10,000,000. The potential loss is many times that, as it will take years to rout the wolves and restore the reindeer.

The average weight of a reindeer, ready for market, is 105 pounds; the skins are worth from \$1 to \$4. Fawn hides, from which beautiful cold weather garments are made, command the top price. The meat is as good as beef and formerly it brought more than beef in the States, where it was widely marketed.

With the Army and Alaskan meat markets bidding for reindeer that could not be supplied, the Territory exploded with fury over depletion of the herds which, since 1940, have been solely under government and native management. Four years before the war, Congress passed a law barring white men from reindeer ownership. The U.S. Indian Service, a division of the Interior Department, was instructed to buy out white operators and turn the herds over



J. Sidney Rood, for many years general reindeer supervisor for the Alaska Native Service. He directed the Eskimo organizations and also supervised the installation of the important government plant at Nunivak Island.

to the natives. Negotiations were begun as far back as 1934, but they were not consummated until much later. The purchase, according to former owners, was about as sharp a bargain as that by which Secretary Seward bought all Alaska—for a song. The number of animals involved in the deal was 84,442; the amount paid for them was \$328,614, or an average of \$3.98 apiece. At the wartime poundage ceiling established later, each reindeer would have been worth \$16.80, exclusive of hides.

Abattoirs, refrigerators, corrals, and herders' cabins also were bought by the government for about one-fourth their cost, the total outlay being \$445,916. The 84,000 reindeer, of course, did not represent all those in Alaska, as the Eskimos already owned far more than half of them. The count was made by Charles G. Burdick, special appointee of the government, who, with J. Sidney Rood, reindeer supervisor, flew low in a plane over Alaska's wild tundra, circling and estimating the scattered herds. Other means of checking white ownership were employed, such as herd brands (clipped ears) used by both white operators and natives.

In July, 1945, Mr. Rood said: "I do not think there are more than 65,000 reindeer in Alaska today, including some 20,000 on the mainland." Shortly after publication of his official report, Mr. Rood lost his job.

Reindeer are considered a highly economical source of revenue in Alaska because they graze on millions of acres of tundra plain and mountainous regions that cannot be utilized for any other purpose. In the war years they proved of definite aid to the armed forces, in providing both sustenance and hides for cold weather garments. A great deal of the material used for parkas, mukluks (skin boots), mittens, socks, leggings, and sleeping equipment are provided by the deer. These garments are made by Eskimo women. Naval headquarters at Barrow is one of the chief markets, although apparel is sold at other places, and to civilians as well as to the military.

In the first year of the war the Eskimos sold 300,000 pounds of reindeer meat to the Army and Navy. Sales have continued on a diminishing scale. With the depletion of the mainland herds, through waning activity on the part of the Eskimos, the reindeer industry now centers on Nunivak Island in northwestern Alaska, where the government owns 30,000 animals—about three times as



Reindeer of both sexes have large antlers which are shed annually. Horned and hornless deer are found together in the herds. (Courtesy U.S. Indian Service.)

many as forage facilities permit. Consequently, extensive butchering of fawns as well as adult reindeer has been under way there.

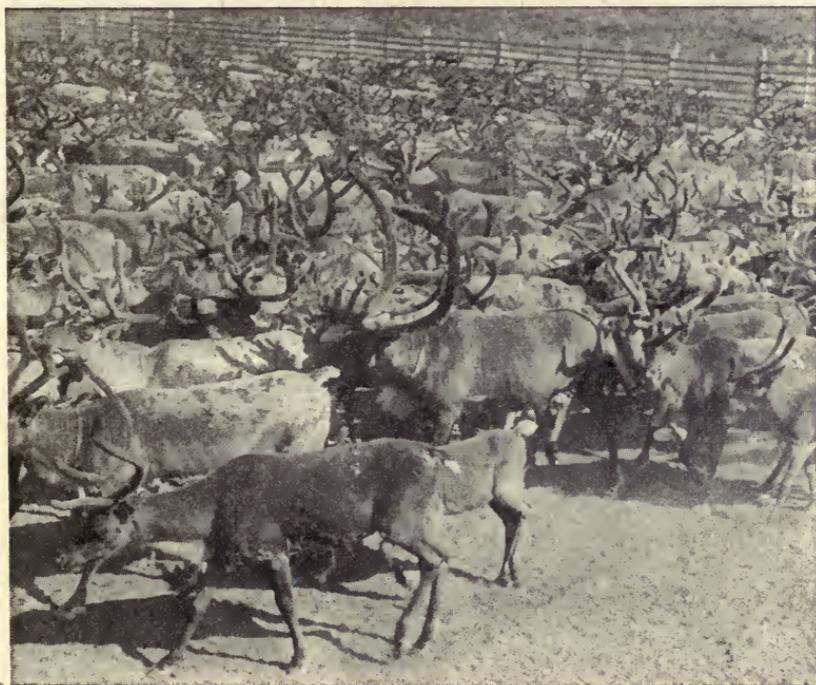
In 1944, the Army released to the Reindeer Service a quick-freeze and storage plant it had maintained at Nome. This was erected at Nunivak. Nearly all the occupants of the island are Eskimos who tend the reindeer and operate the slaughter and cold storage plant under white supervision. The plant holds 1,500 frozen adult carcasses, or 4,000 fawns. Butchering began in the early fall of 1945 when 4,000 fawns were "harvested." "Our main objective in slaughtering fawns instead of the older animals," Mr. Rood said, "was to meet the strong demand for their hides; also a greater number of fawns could be handled by the plant. We used the quickest way to cut down on the number of reindeer grazing on the island."

While Alaskan reindeer herds on the mainland grew thinner

and thinner, Alaska's wolves, practically unmolested, waxed fat. Meanwhile, across Bering Strait in Siberia, the reindeer industry prospered. Thousands of natives there gain sustenance and financial income from the deer. They not only use the animals' hides for clothing and the meat as food, but they milk the reindeer, making an excellent cheese, which is widely distributed.

The turning point in Alaska's booming reindeer industry came when Congress hearkened to lobbyists representing the sheep and cattle men of the West. At that time, white owners of reindeer had progressed to a point where reindeer meat was extremely popular. Not only was it produced more cheaply than beef or mutton, but it had the lure attached to game products and was looked on as a luxury. The Department of Agriculture considered reindeer a sufficiently important food source to issue a pamphlet of

Reindeer grouped in a large range corral at the start of the annual roundup. (Courtesy U.S. Indian Service.)



recipes for cooking the meat. Food specialists of the former bureau of home economics supplied directions for preparing reindeer roasts, steaks, chops, breaded cutlets, stews, and pot roasts.

All parts of the deer are good. The meat differs little from beef or veal, generally containing less fat and more protein. The flavor is characteristic, gamy but not strong; and the texture is fine. These qualities become widely recognized. Wholesale meat dealers in the States began handling reindeer on a big scale. New York, Chicago, and San Francisco provided especially good markets. A whole shipload of reindeer carcasses was sent east via the Panama Canal, the meat arriving in New York in prime condition.

Stockmen of the western states became alarmed. Their lobbyists in Washington centered their complaint on alleged injustice being done to the Eskimos, for whom reindeer were first imported to Alaska. Congress decided to eliminate white men from the industry.

The majority of present-day Eskimos are not good reindeer herders. They know how to tend the deer, but the Alaska Native Service has taught them an economy alien to the nomadic job of the herder. The attractions of village community life have been emphasized. By contrast, life on the wild tundra plains is obnoxious. Little by little, the herders became weary of tasks they found hard and lonely. There were rains, blizzards, maddening insects. The few really diligent herders were discouraged by having to carry the burden of tending deer which inactive owners had turned loose to wander in "association" herds. The government encouraged these native associations or stock companies, ownership of one reindeer being equivalent to one share of stock. The herders themselves usually were not large stockholders. They were merely paid hands, deprived of the joys of social life in the settlements where most of the actual owners lived in comparative ease and comfort, waiting only for the annual roundups when they could butcher a good supply of reindeer for a winter's supply of meat for themselves and their dogs.

Unlike western cowboys in the States, around whose lives there is a certain element of romance as well as good living, the reindeer herders of Alaska were the "goats" of the faltering industry, underpaid and generally discontented. Reports of Native Service teachers who, among other multitudinous duties, were expected to keep herders on the job, as well as check up on the count at roundup

time, are full of stories about Eskimos hiking back into villages under any pretext—feigned illness or to obtain food when they already were well supplied. At such times, the wolves had full sway, and the herds suffered accordingly. The entire management and economy of the industry was—and is—wrong; the result, a tragic sequel.

The Siberian reindeer farmers, or “industrialists,” tend much smaller herds than Alaskan Eskimos do. The herders are mostly owners. With their families and their dogs they live with the deer, guarding groups of 200 to 400. When the reindeer moss or other forage is cropped close enough, the Siberian Eskimos pull up stakes and move on to fresh pasturage. While they are with the deer they know no other life. Seldom do they lose an animal to predatory foes.

Though Alaskan Eskimos have always followed a different system of herding reindeer, they formerly were attracted to it for two reasons. Some took pride in ownership of small herds while others appreciated the monthly checks paid by white owners. But from the time the Office of Indian Affairs took full charge, with its meager wages, the Eskimos began to step out and the wolves stepped in.

Carl J. Lomen of Seattle and Nome who, with his brothers, was the leader of the reindeer industry in Alaska, and who formerly sold many thousands of pounds of meat in New York, Chicago, and on the West Coast, has said: “The story of the reindeer industry, its rapid growth and success up to 1932 or 1933, contrasted with its present deplorable condition, is a sad one. There was a time when it was conceded that there were between 500,000 and 800,000 deer in Alaska, but in my opinion, 1,000,000 would have been nearer the right figure.”

Mr. Lomen's explanation of the startling decline in numbers of the deer is wolves and huntsmen. “But a small percentage of Alaskan Eskimos are interested in reindeer to the extent of devoting time and attention to their care,” the former “reindeer king” declared. Government officials blame the wolves and the war. They say that with defense workers earning \$15 to \$20 a day, it was impossible to hire reindeer herders at \$40 to \$60 a month, with keep, which seems fairly logical. The white operators, however, long before the era of wartime wages, paid their Eskimo herders from



Blanketing the reindeer, preparatory to herding them toward chutes leading to the smaller corrals. (Courtesy U.S. Indian Service.)

\$75 to \$150 monthly, together with board, and \$5 a day to extra helpers during the roundups.

Carl Lomen's story of the reindeer fiasco, new in its detail, is enlightening. "The industry cannot properly develop unless, and until, it is commercialized and managed by people interested in its development. There must be an incentive other than simply a local meat supply.

"As to the decrease in number of animals: There was a time over a period of years, that our payroll for herders alone totaled more than \$40,000 annually.* The Department of the Interior, under Mr. Ickes, wanted control of all the reindeer in Alaska and approached me asking for a 'proposition.' Our herds were grazed on public domain, and we were given to understand that we would be required to pay a grazing fee. Control of the public lands was lodged with the General Land Office, Department of the Interior. We agreed to sell, and letters were exchanged. Believing that matters would be settled in a short time, we stopped all butchering and discontinued our close herding. The 'short time' proved to be six years, during which period the uncared-for herds grew wilder each year, were preyed on by wolves and by huntsmen. Entire

* Prior to the war, the government appropriation to the Reindeer Service was \$55,000 for a year. In 1943 it was raised to \$80,000. In 1944, with the herds rapidly decreasing, the appropriation was \$80,000, plus \$10,200 for overtime. In 1945, \$85,650 was granted, and \$77,180 for 1946.

herds disappeared, and the total number of animals shrank annually.

"Figures as to numbers of reindeer have been given out from time to time by agents of the department, but these are all estimates. No one knows within thousands the number of reindeer in Alaska, either today or during the years we were active. Ranges are vast—millions of acres—made up of mountains and valleys. There are no roads; herders travel on foot. Our herds were well organized. Our estimates as to number of the deer were built up over a period of years. For example: We rounded up a given herd and handled 15,000 reindeer. They were passed through chutes and counted. Records showed the number of adult males, adult females, yearling males, yearling females, and the number of fawns. The percentage of fawn to female was, say, 72 per cent. We knew how many we handled in that herd, but we did not know the number left on the range.

"The following year we again handled 15,000 in said herd, but then we found 1,500 unmarked yearlings in the herd. These animals were fawns the year before, but had not been brought in, for they were unmarked. We then added a count of 1,500 animals to the number we handled the year before, giving us 16,500. Also, we knew that the 1,500 fawns were running with their mothers the year before, and that those mothers had not been brought in. More than that, the percentage of fawn to mother, running 72 per cent, would give 2,000 females and up the herd to 18,500. Then would come the percentage of adult male to female, which would build the herd up another 300 or more.

"A year later, we would take any two-year-olds found unmarked and add each number, so, eventually, we would have a fair idea as to numbers in that particular herd for the two- or three-year earlier period. We would also know the approximate rate of increase, and so keep our annual estimates as to the size of each herd.

"I would not make a guess as to the number of reindeer today, but feel safe in saying that there are far fewer than 50 per cent of the number ten years ago.

"As to refrigeration plants, we operated ammonia cold storage plants at Teller, Nome, Golovin, and Egavik as well as a large natural cold storage plant at Elephant Point, near Teller. The department has operated only the plant at Teller, and, recently, a plant



Seven wolves killed from an airplane by Dr. M. R. Kennedy, Nome dentist. "Incomparable as a sport," says the hunter, "but a cold and dangerous business." Wolves were particularly vicious in attacks on deer and caribou in the winter of 1945-46. (Photo by Dr. M. R. Kennedy.)

on Nunivak Island. (The Teller plant was abandoned also as soon as the one at Nunivak was installed.) Lack of meat animals has prevented operation of other plants. We also operated modern abattoirs at each cold storage plant location. The natural cold storage plant at Elephant proved successful. It had a capacity of 10,000 carcasses.

"It may interest some to know that our 'settlement' with the government, after payment of banking obligations, did not leave one dollar for our stockholders after twenty-six years of work. We accepted an arbitrary offer set by the Interior rather than have 'certificates of taking' filed against us, for by that time it would have taken most of the price offered to prove our property, with reindeer scattered in forty to fifty herds, over most of which we had no control.

"As to present value of the herds, or of the individual animal, I

will only say that in a country where but one domestic food animal can thrive without shelter, the reindeer should prove of great value in the future as it has in the past."

Looking at the reindeer picture as it is today, it is obvious that radical changes must be made if Alaska is to take advantage of opportunities to restore a great industry. At a time when this industry was at its height, the management of the Alaska Railroad was interested in establishing centers along its right of way for corralling the deer, and for butchering and freezing the meat. General Foods had even drawn plans for a large cold storage plant at the road's terminus at Seward. All these proposed developments vanished when the white operators were taken out of the business.

Handled properly, reindeer meat could be produced so cheaply that the parts less attractive for human consumption would be available to fur farmers at reasonable cost—something comparable to horsemeat which is the chief food source for foxes in the States. The one industry might dovetail into the other, making both successful, where now both are failures.

Before anything tangible can be accomplished the present laws must be amended; and, according to one who has held a high position in Alaska, they will be. There is no reason why reindeer meat, a fine food, should not be utilized by white persons in Alaska as well as by all those in the States who are willing to pay for it. In Norway and Sweden it is relished by a large percentage of the populace. In reindeer husbandry, as in dirt farming, Siberia is far ahead of Alaska.

The Home of Milady's Seal Coat

BY EDWARD C. JOHNSTON

ONE of the treasures of Alaska which Japan has always coveted is the great fur-seal herd whose summer home for thousands of years has been on the Pribilof Islands in the Bering Sea.

This group of islands with its half a million fur seals came into the possession of the United States when the territory of Alaska was acquired by purchase from Russia in 1867. The deal was one of the best the United States ever made. The fur-seal herd—to say nothing of the islands—has proved to be worth many times the sum the United States paid for all of Alaska.

St. Paul Island, about 14 miles in length, is the largest island in the group. Three relatively unimportant small islands are located near St. Paul, and about 40 miles distant is St. George Island, 12 miles long. The islands are devoid of standing trees although many areas are covered with creeping willows and other dwarfed shrubs. The profusion of wild flowers and grasses is remarkable during the months of June, July, and August. It is during the summer months when the Pribilof Islands are almost continuously enshrouded with fog banks that the fur seals visit this isolated summer resort.

After the purchase of Alaska there followed two years of indiscriminate killing of the valuable fur-bearing inhabitants by various independent groups who actually waged war among themselves. Then in 1870 the Federal government, realizing that a continuation of such depredations would soon exterminate the fur seals, took measures to regulate the killing of seals on land. For the next 40



Part of the huge fur-seal herd on the beach at St. Paul Island. (Courtesy U.S. Fish and Wildlife Service.)

years the right to take fur-sealskins was leased to private corporations. The government limited the take and placed agents on the islands to see that the regulations were carried out.

It became evident, however, that the problem remained unsolved since it was still possible to take sealskins legally outside the 3-mile limit. The practice, called pelagic sealing, accelerated the decline of the seal herd since no selection could be made between males and females; only a small percentage of the seals killed or wounded could be recovered and the killing of females while out feeding resulted in the death of their offspring on shore.

Diplomatic negotiations were initiated between the United States, Great Britain (Canada), Russia, and Japan with a view of stopping pelagic sealing. On December 15, 1911, the North Pacific Sealing Convention was concluded which prohibited the nationals of the four countries from killing seals at sea.

The government of the United States took over direct control of the Pribilof Islands and the fur-seal herd at the termination of the last lease to a private corporation in 1910. Under government management a program of conservation was instituted which increased the size of the fur-seal herd from approximately 125,000 animals in 1911 to over 3,000,000 in 1945.

On October 23, 1941, Japan abrogated the treaty of 1911, claiming that her fishing industry was suffering on account of the increased size of the fur-seal herd.

After the attack on Dutch Harbor in 1942 all inhabitants of the Pribilof Islands were evacuated for two years to southeastern Alaska, 1,500 miles away, because it was believed that Japan would surely strike at St. Paul and St. George islands. Fortunately for the United States the attack did not develop. During the period of the evacuation the islands were occupied by combat forces. No organized sealing operations were carried on in 1942. The evacuation of the Pribilof Islands occurred in the first summer of the war, after one small killing had been made to provide fresh meat for the native residents. As all native Aleut families as well as all civilian government personnel were removed, the fur seals were left to themselves.

In 1943, with the approval of the United States Army, a sealing party was organized at the evacuation camp. The party, consisting of 151 men with the assistance of some 80 enlisted personnel who were placed on special duty during the sealing season, secured 117,164 sealskins, a record take. As about six or seven skins are required for a full-size fur coat, this one year's take furnished material for about 20,000 of these beautiful garments. The finished skins are disposed of at public auction in St. Louis, Missouri, one sale in the spring and one in the fall.

The Alaska fur seals spend their summer on land and the remainder of the year in the water. The long migrations, made with uniform regularity, and the picturesque life of the herd in its northern domain, form an interesting chapter in the history of marine life. The killing of surplus males for milady's fur coat in no way retards the growth of the herd because these young bachelors have never been admitted to the rights and responsibilities of matrimony. Polygamy is the rule for seasoned bulls, those six or seven years old and, as their harems vary in size from one to one hundred

females, preservation of 10 per cent of the males is more than sufficient to meet all requirements. If they were not killed systematically for their skins, many would be lost in fights among themselves and to natural enemies or disease.

Even in wartime the purchase of an Alaska fur-seal coat was not looked on as an extravagance. In fact such a buy was nearly as patriotic as that of a war bond, for the United States government owns the seal herd outright and revenue from the sales of the skins accrues to it for any purpose it sees fit. Under the terms of a Provisional Fur-Seal Agreement between Canada and the United States signed in 1942, 20 per cent of the skins, or the revenue derived from them go to Canada. Japan, before her withdrawal from the treaty, received 15 per cent.

The American fur-seal herd is truly an Alaskan institution. When the Pribilof Islands were discovered in 1786, the herd was estimated as 4,000,000 to 5,000,000 seals. The present herd, over 3,000,000, constitutes nearly 90 per cent of the fur seals in the world. The Alaska fur seal is one of the three races of the species, having been given the name *Callorhinus ursinus cynocephalus* (Walbaum). It inhabits the Pribilof Islands only. There are two other closely related groups on islands off the Asiatic Coast, *Callorhinus ursinus ursinus* (Linnaeus), the Siberian fur seal of close to 100,000 animals, and *Callorhinus ursinus mimicus* (Tilesius), the Japanese fur seal of not more than 25,000 animals. The Russian fur seals inhabit the Commander Islands, owned by Russia, located west of Attu Island. The Japanese herd lives on Robben Island off the east coast of southern Sakhalin Island. Fur seals are also found to a limited degree on Lobos Island, Uruguay; on islands off the Cape of Good Hope, Africa; and a scant few in other cold parts of the southern hemisphere.

In the years following the transfer of Alaska and the Pribilof Islands from Russia to the United States, the Alaska fur seal came near extinction. Russia, alarmed over the rapid depletion of the herd, had given protection to the animals; their control had been placed in the hands of the Russian American Company. Under its administration the seals increased. With American acquisition in 1867, when all control ceased for two seasons, the islands were wide open to merciless slaughter of both sexes. Rival gangs of sealers killed 329,000 seals in 1868 and 1869. Washington, burdened

with the problems of reconstruction, gave small attention to Alaska. However, after a few years of intensive agitation by a small number of people interested in conserving a great natural resource, the sealing privilege at the Pribilof Islands was leased in 1870 to the Alaska Commercial Company for a period of twenty years. A second lease for a like number of years was made in 1890 to the North American Commercial Company. In both leases a limit of 100,000 male seals was fixed as the yearly take. The ruthless poachers thus were banished from the rookeries, but they transferred their activities to adjacent waters, killing thousands of mother seals when they went to sea for food. For every mother slain, two more seals perished—the pup left to starve on the islands and the one already conceived.

A large part of present knowledge concerning the migrations of the fur seals has come from the logs of vessels engaged in pelagic sealing. When the Treasury Department issued permits for such operations it was required that each vessel report the number of animals taken daily. From these records it was evident that the main body of the herd moved southward during the last three months of each year, the general course being a straight line from the Aleutian passes out of Bering Sea to Southern California. The return of the herd followed the shore line more closely and at a much slower pace but always outside the continental shelf about 20 miles offshore.

When the huge herd began moving south in October, scores of vessels were ready to follow it and continue the slaughter all the way to California waters. Although the herd is scattered over an enormous area and only a very few seals can be seen at a time, each vessel, by putting out a dozen or more small boats loaded with men armed with shotguns could make a nice daily profit. Of the seals shot, only about one in five was recovered, as they sank before the killers could reach them or if wounded could swim away to die elsewhere. By 1890, with pelagic sealing an organized business, regulations were flouted and by 1911 the number of seals had dwindled to the alarming low of about 125,000 animals. The annual take by the Alaska Commercial Company alone from 1870 to 1890 was 100,000. The rookeries, once loud with the bellowing of great hordes, were now relatively quiet.

The Pribilof Islands are a lonely group over 200 miles from the

nearest land. Only part of St. Paul Island, which comprises 43 square miles, is used for rookeries or breeding grounds. The island was originally a group of small volcanic eruptions which have been joined together by sand dunes thrown up between them by the rough storms of Bering Sea. It has a diversified make-up; parts are rough and rocky, others with small rounded hills merging into grassy flats. Volcanic craters are numerous and many of the hills consist of scoria, a volcanic cinder which has proved an excellent material for road building.

St. George Island, with an area of 34 square miles is different from St. Paul in that the larger part of the shore line consists of bold precipitous cliffs, rising from the water's edge to a maximum height of a thousand feet. In the crevasses and nooks of the rocks millions of sea birds—murre, auklets, puffins, gulls—find safe haven to nest and rear their young. Wild foxes cannot scale the cliffs. Only a few miles of the low rocky shore is occupied by the seals. There are no streams on either island, but both are dotted with fresh-water lakes.

To many it may seem strange that the seals have limited themselves to the beaches of the Pribilof Islands. Yet few areas anywhere seem so admirably fitted for them. Frequent drizzling rains of the region keep the shores wet and cool. Even in the far north the herd suffers on those rare dry days when the sun appears in a cloudless sky. At such times the animals assume grotesque poses, fanning themselves with their flippers.

The Pribilof Islands are also well adapted to the seal herd as a feeding ground. The contact of colder and warmer waters in near-by areas supplies a rich sea fauna, essential for such a dense population. Mothers, while suckling their young, must find food relatively abundant and near. At their summer abode, fish constitute only a part of the seals' diet; probably their chief food is squid. Another advantage of the sharp contrasts in temperatures of these oceanic waters where North Pacific and Arctic currents meet is that they give rise in the summer months to dense fogs and drizzling rains, enveloping the islands for weeks without letup. The Pribilof Islands lie on the line marking the southern limit of drift ice so that they are seldom icebound. It is a severe winter when the temperature goes below zero.

The islands annually present the most dramatic panorama of

animal life known to the world. The old bulls come as the vanguard, beginning usually about the end of April and often claim the same rock homestead they occupied the year before. It is near the end of June before all bulls have arrived. The cows begin to arrive a month later. The bulls take up their selected homesites before the cows arrive and will fight to hold them but will not leave their positions voluntarily to attack another home master. After a bull has established his position he awaits in majesty the coming of the harem cows, interrupted only by challenging roars and furious battles with overambitious rivals. They are the acme of vitality, rolling in fat, with shoulder manes and wigs erect and smart mustaches bristling from their upper lips. Their reserve strength accumulated during months at sea on distant feeding grounds is among the most remarkable of all of nature's phenomena. It is so great that in the entire mating season of three months or more these tyrants of the rookeries neither eat nor drink. Also, they usually spurn sleep, except for short naps, for fear of losing one of their wives to a rival; they pay dearly for their vigil and jealousies. In the fall they are emaciated and battle-scarred, cut and bruised, and sometimes are minus an eye or a tooth as a result of desperate fights. At the conclusion of the tour of harem duties, the bulls will move back into unpopulated areas to sleep a week or ten days before taking to the water in search for food.

The old monarchs do not make the long autumnal migration southward with the cows and young. They usually winter in the Gulf of Alaska or other northerly waters, while the females, their offspring making their first migration, and the bachelors or immature males go south as far as southern California.

In most forms of life the male is credited with seeking the female. With fur seals, the opposite seems to be true. The cows, singly or in small groups, will cruise back and forth in the water off a rookery where the bulls have settled, until they decide which lord and master they prefer. Often one particular bull near the water will have a good-sized harem before any other bull in his vicinity is able to secure a cow. While the old sultan is stocking his matrimonial retreat, some younger intruder often invades the sanctum and tries to carry off a wife. If caught a fight ensues and frequently the interloper will be tossed back and forth by the old



Only six wives—but there are probably a dozen or more at sea in search of food. A typical harem among barren rocks on St. Paul Island. (Courtesy Alaska Native Service.)

bulls until dead. Often, also, the flirtatious and unfaithful wife will share the same fate. A bull has been known to throw a cow fifteen feet in trying to teach her to stay where he wants her.

In the rookeries, herded and guarded by their masters, the females bring forth their young, one each, and mate again within a few days for the young of the next spring. The pups are born sometimes a few hours after the mother arrives on shore. A young female's first pup comes in her third year nine to ten months after conception. After that the gestation period is a year. Young females come to the rookeries and mate the first time in the fall, after the regular season is over and the old cows are beginning to spend more time at sea.

During the mating season of the older animals, bulls that have been unable to secure cows form a fringe around the harem areas. When the regular harem masters become worn out from their

arduous duties they move out to rest. Then the fringe of idle bulls moves in to take their places. This occurs at the time the virgin cows begin to come ashore. The timing of births and the provision of two branches to the womb to permit breeding quickly after birth are facts that many naturalists, unfamiliar with the fur seals, are loath to accept.

For nearly the entire summer the pups feed on the rich creamy milk of the mother, getting fat and strong. To supply this nourishment, she must make almost daily trips to the sea for food. On her return she marvelously finds her pup among the thousands of others. She will not nurse any other pup but her own. The blatting of the mothers and their young trying to locate each other may be heard for miles. It was during this period, when the mother traveled beyond the 3-mile limit as far as 150 miles for her food, that the pelagic sealers did their most destructive work.

About mid-August with the main breeding season over, the scarred and scraggly bulls, no longer the slick bold fighters of two months ago, take their first uninterrupted rest of the summer. The mothers, after having shown great care in nursing their offspring, begin to take less interest in them. Unlike the sea lion and particularly the sea otter, the fur-seal mother does not teach her pup to swim nor pay attention to its antics in the water. Mid-August is also a turning point in the pup's life. He has developed and grown strong enough to begin to wander about. He soon locates shallow pools of tidewater in which he paddles around learning the rudiments of swimming. The ocean is the natural habitat of the fur seal, and a pup has very little to learn in order to handle himself in it. After playing in pools and shallow water for a week or so, a few venturesome individuals go farther into deep water. Others follow, and soon the pups spend most of their time in the water. Their excursions away from home become longer and longer; they begin catching their own food; they learn to sleep in the water—all of which prepares them for the long journey soon to be undertaken. When a seal sleeps in the water, one of the rear flippers is curved up and forward until its tip touches his nose, probably to keep the balance such that the nose remains out of water. Seals breathe air just as land mammals do. The pelagic sealers called a sleeping seal a "jug" because the arched flipper looked like the handle of a floating jug.

Everyone has seen boys building forts in their play and defending them against Indian pirates or other enemies. The fur-seal pups have a similar game they play which may be called "hold the fort." At various stages of the tides, small rounded boulders occur, rising eight or ten inches above the water. A pup will climb on one and challenge his playmates to dislodge him. His challenge is accepted. Pups in the water on all sides begin nipping at his flippers; they try to climb on the rock to shove him off. He holds his position as long as he can, but sooner or later he makes a misstep, slips off the slippery rock or is washed off by the surf, and another pup takes his place. At times the youngsters romp and play just as boys do at the old swimming hole. They play tag, race in pairs and groups, leap over one another, float belly up, do corkscrews in the water and are almost human in their antics.

Soon the mothers wean their pudgy youngsters and let them shift for themselves. In a month they will make their way south alone, or at least without maternal guidance. The span of youth is very short for the seal, yet it may seem too long for the males, as several seasons must come and go before they acquire the strength and courage to assume the role of harem master. The females mate in the second year after birth while the males do not mature until six or seven years of age. A female lives a maximum of twenty-two years and the male a maximum of sixteen years. Although polygamous, the sexes are born in equal numbers and there is a natural mortality of 50 per cent by the end of the first complete migration.

The villages on St. Paul and St. George islands are the scenes of much commercial activity during the sealing season. Formerly the villages consisted of a Byzantine-domed Greek Orthodox church, a few frame buildings and a number of underground huts that were the homes of Aleuts imported by the Russian American Company to kill the seals and do the rough work of salting the skins. Now there are two villages of modern concrete houses. The natives have good schools with gymnasiums, recreation hall, modern motion-picture shows, native-owned stores or canteens, baseball teams and a strong complex of American citizenship. The villages also have radio communication with the States and radio-telephone between the islands; St. Paul Island has an airfield.

On each island are maintained all the buildings and equipment



Aleut workers and government men removing the blubber or excess fat from the seal pelts, preparing them for shipment to St. Louis, where they are made into finished skins for fur auctions. (Courtesy U.S. Fish and Wildlife Service.)

used in the initial treatment of the thousands of seal pelts before they are packed in barrels and shipped to the firm in St. Louis, Missouri, which has the contract to dress, dye, machine, and finish the skins before they are sold for the account of the United States government. Most of the blubbering—the removal of layers of protective fat—is done before shipment from the islands. Over the years the Aleuts residing on the islands have become expert executioners of seals and adept workers in the handling and curing of pelts.

At the St. Louis plant the proper curing, tanning, and dyeing of the skins is an intricate work requiring sixty or more days for each skin. There are about 125 different hand operations required in preparing the skins for market. Half a century ago virtually all Alaska seal fur was dyed black. Now the favorite colors are two shades of brown—safari and matara. The dyeing process is a particularly expert one, and the colors always endure for the life of the fur, which under ordinary wear is more than twenty-five years.

While the fur seals are sought primarily for their wonderful fur, they are also a source of food. The meat is prized by the Aleuts both in a fresh or frozen state or salted for winter use. Seal liver is more delicious than calves' liver. The remaining parts of the carcasses are put through a rendering plant to extract the oil, following which the residue is ground into meal chiefly for use as meat scrap in poultry and animal foods. No part is wasted.

The Alaska seal, an aristocrat in life, remains one in the ateliers of fashion. The rebuilding of the fur-seal herd from a comparatively few animals to its present size is one of the best-known examples of profitable conservation.

Alaska's Roads

ALASKANS have said, "Once we get roads, development and population will follow quickly." Many good roads have been perfected but the notable increase in civilian population is yet to come. The war brought an increase in appropriations to established road agencies, and Army engineers helped to improve old highways and construct new ones.

Improvements and relocations were made on the Richardson Highway from Valdez, on the coast, to Fairbanks in the interior. This is the oldest road of consequence in Alaska, and is the longest, not excepting that part of the new Alaska Highway that is within the Territory. It meets the military road at Big Delta, 100 miles south of Fairbanks, at which junction motorists may continue north to Fairbanks or south, connecting with the new Haines Highway at Haines Junction. From there, they can continue south to Haines and use launches along the Lynn Canal. Thus, for the first time in Alaska's history, the interior is connected with the southeastern Panhandle by highway.

The greater part of Haines Highway runs through Canadian territory. Maintenance lagged when the Army discontinued using it. But the highway is destined to be one of the most frequently used of all.

The congressional road committee that toured Alaska in the summer of 1945 pronounced the Haines cut-off of great economic importance.

Alaska at that time had 3,200 miles of highways, approximately 2,000 of them connected. In addition, there were 1,161 miles of sled, or winter roads and 5,000 miles of trails for foot use or for pack horses and dog teams.

The fight waged by Congressional Delegate Bartlett and Ter-

ritorial authorities to obtain for Alaska the benefits of the Federal Aid and Highway Acts, from which it had been excluded, seems about to be victorious. With commensurate funds from the legislature, such aid would just about treble Alaska's available money for highways.

The Territory's congressional bill called for amendments to the highway act to permit one-half of federally appropriated funds to be used for maintenance. As it applies to states and territories where it now functions, the act allows expenditures only for construction. Alaska justly argues that its road maintenance costs, because of terrain and climate, are relatively much higher than in the States, Hawaii, or Puerto Rico.

The frozen condition of the subsoil with constant thawing in summer requires special precautions for drainage. Sloughing banks, caused by the thawing of subsurface ice frequently result in slides which cover and block the road. Also, special methods of revetment and stream control must be used to withstand the destructive effects of freshets and washouts from heavy rains in the mountains, or the release of impounded waters by breaks in glaciers. Bridges are especially susceptible to damage.

About \$50,000,000 has been spent on roads and trails in Alaska in 40 years. California spends on an average of \$40,000,000 annually. That figure includes only expenditure for state and Federal projects—not funds from county or municipal sources which would swell the total materially. So California spends about the same for highways in one year that Alaska did in 30 years. While the population of California is of course many times greater than that of Alaska, still a lot of the West Coast's fine paved highways run for hundreds of miles through sparsely settled agricultural areas.

Good roads populated California and other western states, and they would populate Alaska if she had them. If she had possessed them years ago there would be more farmers and the Great Land would not have had to import millions of dollars in food in wartime when there was a shortage in the States.

In a raw country, access to sawmills and markets are a necessity if agriculture is to prosper. On a 100-mile strip along Cook Inlet in the Kenai country, possibilities for successful farming are perhaps greater than in the Matanuska Valley, but for 75 years the



**PRINCIPAL
ALASKA ROAD SYSTEM**



district has been virtually devoid of roads. One now is projected to connect this belt with Anchorage and the Alaska Railroad. It should have been built 25 years ago.

This new highway will be one of the most interesting in Alaska's long chain of difficult road buildings. It involves a fill and bridge more than two miles long across Turnagain Arm at the north-eastern end of Cook Inlet. The cost will be approximately \$6,000,000, but the road will open to agricultural development land worth twenty times that sum.

The highway will start at Sunrise, which with Hope is one of the northern termini of the Seward Highway. It will cross a large expanse of water to Bird Point on the Alaska Railroad, thence along Turnagain Arm and Ship Creek to Anchorage, covering 33 miles. When the new highway is completed—probably the fall of 1947 or the summer of 1948—the Alaska Railroad will cease to use Seward as a seacoast terminus, and will rely on the new port of Whittier built by the Army.

Some say the new highway will do more for development of the Kenai Peninsula than the railroad did. Already, farm activity is on the increase, especially in the Homer area at the southern end of the agricultural belt.

The Turnagain Arm road will rival some of the accomplishments on the Alaska Highway as an engineering feat. In addition to aiding agriculture, it will tap a country rich in wildlife. Along the shore of Cook Inlet and back of it, northeast of Ninilchik, moose are more plentiful than in any other place in Alaska.

The Army played a prominent role in the development of Alaska's road system, both in pioneer days and in World War II—not necessarily because its engineers were more efficient than civilians, but because it could obtain funds with less red tape than local boards or Federal bureaus. On the other hand, Alaska is proud of the men whose names its principal highways bear—Steese, Richardson, Glenn—all Army engineers or surveyors of early days who battled terrific odds to find and lay the trails that later became good surfaced roads. Wild terrain and merciless elements—cold and storms that even their pack horses could not endure—stood between these men and their goals, but the men won.

The Richardson Highway was mapped as a trail in 1898 and 1899 by Capt. William Abercrombie, assigned by the Army.



Heavy rock work under way in 1944 on Mile 2½ relocation of Richardson Highway, Mile 14½ from Valdez. (Courtesy Ike P. Taylor.)

Starting at the coast town of Valdez on Prince William Sound, the route first crossed the huge Valdez Glacier, but because of hardships involved, later was changed to go around it. Scores of miners died during, or soon after, attempts to cross the icy trail in the gold-rush days.

In 1907, under supervision of Gen. W. P. Richardson, the trail was improved so it was made passable by sleigh or bobsled, the journey to Fairbanks taking 8 days. The first auto trip was made in 1913, requiring nearly 4 days. Now, travel from the coast to Fairbanks is usually about 18 hours for loaded trucks or buses, or 12 to 14 hours for passenger cars.

From sea level at Valdez, the highway crosses the Chugach Mountain Range through Thompson Pass—Mile 25.5—at an elevation of 2,722 feet. Skirting the Wrangell Mountains, it ascends the Alaska Range and at Isabelle Pass—Mile 203—reaches a height of 3,310 feet. It then begins the descent to Fairbanks in the Tanana Valley. As mentioned, relocations were made from 1942 to 1945, shortening the highway from 371 to 368 miles. Scenically, the Richardson Highway affords beautiful views, typical of Alaska's imposing contour and terrain. A trip over the road is well worth one's time.

Another important road development of the last decade was the Glenn Highway, connecting the Richardson Highway with Anchorage. The Glenn Highway is 141 miles long. It cost about \$3,000,000, including improvements made since it was opened in 1942. Building this road was another useful step toward connecting Alaska's interior with the coast. It connected Anchorage, situated on the south shore of Knik Arm, with the Alaska Highway into Fairbanks.

The Steese Highway, next in length to the Glenn, extends 163 miles from Fairbanks to Circle, on the Yukon River, also connecting salt water with fresh. This is not a new road, but it serves as a link between Yukon River boats and centrally located Fairbanks.

With rather limited funds, authorities planned much of the road work done in Alaska in the last few years with the view of freeing the Territory from sole reliance on ocean and air travel. While overland transportation along the Alaska Highway may not be economically advantageous at present, future growth of Alaska will make it so.

Railroad history contains eminent examples of boat travel being superseded by rails and highways, notably along the Mississippi where the old side-wheelers finally lost their long-held supremacy.

The military road through Alaska pierces territory equal in potential value to the southern Panhandle. Agricultural experts concede that the country around Big Delta, where the Alaska and Richardson highways meet, is one of the best areas for grazing beef cattle. The distance along the highway to Fairbanks is not too far to make trucking of beef cattle practical. A packing industry situated in the "Golden Heart" city would give its people and the servicemen at Ladd Field good steaks at half their present cost.

In the summer of 1942 a highway was built over the old Chickaloon trail from Copper Center, making it possible for residents of Anchorage to get to Fairbanks without using the railroad. Then came the great Alaska Highway. The Alaska Road Commission in 1934 had built a highway from Gulkana, on the Richardson Highway, through Slana to Nabesna. Using the first 64 miles of this road, as a connection with the Richardson Highway, the Army in 1942 carried the road to Tok Junction on the Alaska Highway. Another spur from the Richardson Highway had long connected Copper Center with Chitina on the abandoned railroad that had been used to take out the fabulous riches of the Kennecott copper mines. Scenically, this is one of the most attractive routes in the Territory.

About 165 miles of roads radiate from Nome, mostly to mining settlements, and there are an additional 98 miles in various parts of the Seward Peninsula. A narrow-gauge railroad, 80 miles long, maintained as a public tramroad, connects Nome with the Kougarok mining district.

Ninety-five miles of roads in Mt. McKinley National Park are being improved and possibly will be added to. There is talk of extending this road to the Alaska Highway. The Elliott Highway is a road branching from the Steese Highway at Mile 11 and extending 70 miles to Livengood, its northern terminus. The Matanuska Valley has 250 miles of roads, the longest being that connecting Palmer with Anchorage. There is a spur to the important Willow Creek mining district at the headwaters of Willow near



Looking west on Glenn Highway, 33 miles from Palmer. The Matanuska River is at the left. The Chickaloon River enters at the right, at the bottom of the grade. (Courtesy Ike P. Taylor.)

the Little Susitna River, through Wasilla, center of a new 6,000-acre farming area recently opened for homesteading.

The Anchorage-Palmer road, 48 miles long, crossing several rivers including the Matanuska and Knik is attractive from a scenic standpoint and leads to resort centers as well as to Palmer, seat of the government farm colony. Two bus companies, the O'Harra and the Matanuska Valley lines, give good accommodation over the Palmer road. Fire Lake Roadhouse, 18 miles out of Anchorage, is an attractive resort with cabins, boats, "New York" steaks, and big Saturday nights.

Wasilla, 60 miles from Anchorage, is a resort center with special bus service Saturday and Sunday. Buses also run to Fairbanks, Circle Hot Springs, near the Yukon River, where there is a lodge accommodating 150 persons, and to Valdez on the coast.

The new cut-off from Haines at the head of the Lynn Canal, to Haines Junction, 108 miles west of Whitehorse, was built to make further connection with the Alaska Highway. The Army pushed this road through with its corps of engineers aided by Territorial



Grading on the Glenn Highway, Mile 3 from Palmer—a relocation of the old road. (Courtesy Alaska Road Commission.)

road builders, but left 40 miles of it as a dirt road, while the remainder was graveled and made a good highway. Former Congressional Delegate Dimond had urged Congress to finish the job and his successor, E. L. Bartlett, presented a similar bill. The full length of the road is 154 miles. The general route is over the old trail laid by Jack Dalton, famed hero of paper-bound trail-blazing stories. These rather lurid tales were read by thousands of American boys at the turn of the century, and generally read surreptitiously, for most parents considered them blood and thunder. Jack Dalton died in San Francisco, December 15, 1944, glorying in the fact that one of his most strenuous tasks had been of use to Alaska and the United States Army.

Back in the gold-rush days, when men and women from all over the world swarmed north to make their fortunes in the Klondike creeks, this route was followed by thousands of would-be miners. Dalton drove a herd of cattle across Chilkoot Pass to Dawson City, making a small fortune. He established a permanent trade route through the wilderness. The road came to be known as the "Jack Dalton Trail." The Army survey followed this route much of the way. Even before Dalton's time, Indian tribes of the region had a summer hunting and fishing camp on this trail. Some of the

mountain tribes exacted tributes of fur and gold from travelers bent on reaching either the interior or the coast. That gave Uncle Sam an idea, so for many years he collected a toll on the Richardson Highway. But the Army broke up that program in 1942 and the charge has not been renewed.

Haines Highway will prove a favorite with tourists, as it affords magnificent views of tall, shimmering peaks, fragrant breaths of evergreen forests of spruce and pine, as well as glimpses of swift-flowing rivers and jungle-fringed northern lakes.

Road-building activities in Alaska are administered by three agencies—the Public Roads Administration under the Federal Works Agency; the Alaska Road Commission under the Interior Department; and the Territorial Board of Road Commissioners, consisting of the governor, the Territorial highway engineer, and the Territorial treasurer.

The Territorial Board has no field organization. Funds appro-

Why Alaska needs road money. Opening Thompson Pass section of the Richardson Highway in the early spring. (Courtesy Alaska Road Commission.)



priated by the legislature are allocated by the board for road and airfield construction and maintenance. Approximately 80 per cent of such funds are set up for expenditure on a co-operative basis with the Alaska Road Commission or the Public Roads Administration, known as the PRA. The balance is allotted to mining operators or others having suitable equipment to perform the work, who co-operate in construction of short roads or airfields.

In the first two and a half years of the war, the Army carried out a large program of road construction, including its work on the Alaska Highway, but the regular road agencies continued to function. The work of the Alaska Road Commission was considerably increased as a result of military requirements. Also, the commission has maintained that section of the Alaska Highway within the Territory (302.3 miles) since July 1, 1944. Funds and equipment for this particular job were provided by the Army. The Army pushed connecting road links primarily with the objective of getting supplies to the Alaska Peninsula and the Aleutians via overland route from the military highway. Since the close of the war, the trend has been more toward uniting central and southeastern Alaska.

The PRA confines its road work in Alaska to the national forests of which the Territory has 33,000 square miles. Forest road funds authorized by Congress are apportioned among the states and territories having national forests, on a basis of the relative forest areas and timber values. But Congress, in June, 1938, eliminated Alaska from participation on this basis. The Territory was restricted to \$400,000 annually, which at the time was about one-third of its rightful apportionment. Had \$1,200,000 been appropriated, as it should have been, some of the rush later by Army engineers would have been obviated.

The Alaska Road Commission builds and maintains roads outside the national forests. It is supported by congressional appropriations as supplemented by the Alaska Fund, made up of taxes collected by the Federal government outside incorporated towns. This fund is Alaska money pure and simple. Sixty-five per cent of it is given back by the government for construction and maintenance of roads.

Territorial appropriations to its own board of road commissioners are augmented by receipts from sale of timber in the national forests. Part of the sales (25 per cent) are turned over by



An attractive stretch of rolling road on the Haines cutoff, Alaska's new and important road connecting the Alaska Highway and the interior highway system with southeastern Alaska. Much of this road follows the old Jack Dalton trail and runs through Canadian territory. (Courtesy National Park Service.)

the Forest Service with stipulation that 75 per cent go for roads and 25 per cent for schools. From 1908 through June 30, 1944, this sum amounted to \$660,764 or a little more than \$18,000 a year. In addition, 10 per cent of the timber sales was used by the Forest Service for roads and trails in the national forests. This amount in the same period was \$256,259. With increasing timber sales, if the arrangement is continued, considerably more money should be raised for Alaska roads. However, these scattered and meager funds in the past have held back adequate development.

Recently, road maintenance costs in Alaska have approached \$2,000,000 a year, which is in excess of six times the amount ever provided by the Territory for roads in one year.

According to highway officials, road planning has proceeded without friction among the various agencies, but funds have not been provided either by Territorial or congressional action to implement the plans. Generally Territorial legislators take the stand that as 98 per cent of the land in Alaska is government-owned, it is up to Washington to build roads. Congress is not always in accord with that view.

The forty-first annual report of the Alaska Road Commission,

in 1945, showed 2,816.25 miles of road and tramroad in Alaska, including that part of the Alaska Highway within the Territory. PRA and forest roads mileage brought the total to approximately 3,200 miles. About 80 per cent of highway was suitable for automobiles in summer. All the roads could be used throughout the year if funds were available to keep them open. Expenditures on roads and trails were about equally divided between construction and maintenance.

In the future, when Alaska fulfills her destiny by becoming a great state with a population of 10,000,000, road builders will drill through the frozen subsoil and sink caissons on bedrock so that alternate freezing and thawing will have no effect on highways. They will hard-surface all roads, allowing snowplows to run over them and toss the drifts aside in a few hours, as is done now in the northern states. Bridges will be built so high that spring and fall freshets will not interfere with traffic. The Territory already has learned its lesson from the Seabees who swung from pillar to post in the Aleutians, laughed at mountains and muskeg, accomplishing the impossible with unruffled ease.

What Army engineers and the Public Roads Administration achieved on the Alaska Highway, where they encountered terrain as tough as anywhere in the world, can be duplicated by Alaska's own road builders if they are given the machinery and money to go ahead. And this will come to pass. Another generation will see Alaska's concrete highways the marvel of a new century. There will be four-lane superhighways with two-level approaches at crossings so that the autoist can traverse the center lanes safely at 70 miles an hour.

Milk delivery trucks will run from Palmer, in the Matanuska Valley, 48 miles to Anchorage in half an hour. A man with a fast car will toss a coin to determine whether he drives 350 miles to Fairbanks or takes a plane. Airline companies, to compete with ground traffic, will offer rates one-half what they are today. Man has a place in the clouds, but many will always prefer to travel on the good earth, especially when it is surfaced with concrete.

With more roads and better ones, there will be a bigger market for farm machinery and trucks. Under the stimulus of improved marketing conditions, through the building of additional highways, livestock breeders will take hold, since they will be able to get beef, pork, and mutton to cold storage plants in a hurry.

Northern Commercial Company, the Lomens, and Glenn Carington—all of Seattle—have many outlets in Alaska for mining machinery, road equipment, and various supplies, but the farmer has had to buy implements practically sight unseen. The co-op at Palmer has helped its Matanuska members in purchasing tractors, but its means are limited. If the large machinery dealers would fight for and back an expanded road program and feature farm implements as well as mining equipment, they would help their own business and the farmer, too.

Good roads eventually will make Alaska self-sufficient. In the meantime, airlines with private capital, have accomplished more in a year for advance of agriculture than the legislature has in ten years. In the era before the airplane came into wide use in Alaska, a dog team traveled from Fairbanks to Nome, 525 miles, in 28 days. Now a fast plane makes it in 3 hours or less, according to weather conditions. On a good concrete highway, a truck or bus could do it in a day.

As a source of more revenue for roads, adjustment of automobile licenses is in order. At present there is a \$10 license plate charge for passenger cars and privately operated trucks, \$15 for commercial trucks or buses. In the States, a motorcar driver may be obliged to pay a combined state and city tax. Commercial trucks pay much more. That situation apparently does not worry Alaska's legislators who generally try to keep all taxes down. Highway executives also complain of lack of cooperation from the courts, in that offending motorists are let off with minor fines for serious violations of the traffic laws.

Alaska has very few motor police. With the highways—formerly under control of the Army—thrown open for public travel, need of expansion of the road patrol system became apparent. Travel increased and motorists became more troublesome. Shelter cabins along roads and trails, intended for emergency use, were damaged by vandals. The lack of an adequate policing system always has been obvious in Alaska and is responsible for many destructive forest fires. The resultant waste would build half as many more roads as Alaska now has. The country has nothing to compare with Canada's famous Royal Mounties, now policing that part of the Alaska Highway that is in Canada. Congress, until recently, has ignored appeals for expansion of the fire protection service.

Railroads and Rivers

ALASKA has two railroads. First, the more important government-owned Alaska Railroad with coast termini at Seward on Resurrection Bay and Whittier on Prince William Sound, both with a northern terminus at Fairbanks in the interior. The second road is the White Pass and Yukon Route from Skagway, Alaska, to Whitehorse in Canada's Yukon Territory.

The Alaska Railroad has been in use 23 years. In the past eight years, it has shown an operating profit—rather an unusual feat for a Federal line. In the war years, transport of military supplies brought this profit to approximately \$6,000,000, but the line had begun to be a financial success before hostilities.

At the time Col. O. F. Ohlson, a transportation expert who had filled an important post in World War I, went to Alaska to pull the railroad out of the red (1928), Congress and the Interior Department were discouraged over its prospects. It had been losing a great deal. Some Alaskans had stamped it as a white elephant, and the government was inclined to agree.

The fight to make the road self-sufficient was indeed a hard one. Colonel Ohlson raised freight and passenger rates, so Alaskans regarded him as a second Jesse James. At a hearing before the congressional subcommittee on appropriations, touring Alaska in the summer of 1945, the suggestion that Colonel Ohlson was a first-class highwayman was repeated in the open. The complainant was a bit taken back by the Hon. Jed Johnson of Oklahoma, chairman of the committee, who announced firmly that if anyone was at fault for the transgressions of the Alaska Railroad, it was Washington, D.C. "Colonel Ohlson," he said, "merely carried out orders. If you want to blame anyone, blame us, not him."

As an experienced railroad man, following directions from

superiors and using also such discretion as he deemed advisable, Colonel Ohlson never stooped to defend his actions. The increase in rates brought down on Federal management of the road a storm of protest and abuse.

Inasmuch as Alaskans, prior to the building of the line, had made insistent demands on Congress for a railroad, then seemed put out because they got one, Colonel Ohlson liked to repeat a story by Thane Williamson, a westerner who worked on the Alaska Railroad and in the canneries before a physical ailment forced him to turn author.

Mr. Williamson was fishing in Bristol Bay. He had employed an old-timer to row the boat. Toward late afternoon, when the distant snow-capped mountains stood out in bold relief against a purple-blue sky, the boatman said: "Ain't it beautiful? Did you ever see anything like it? Did you ever see anything like Alaska or Alaskans any place in the world?"

Mr. Williamson hadn't had a strike in an hour. He may have been in an off mood. He answered: "Yes, I have seen scenery similar to Alaska's. And I have met people who are very much like Alaskans."

"Where?" retorted the old-timer. "Where have you seen the like of this?" sweeping a hand toward the distant shore. "Where have you met people like us?"

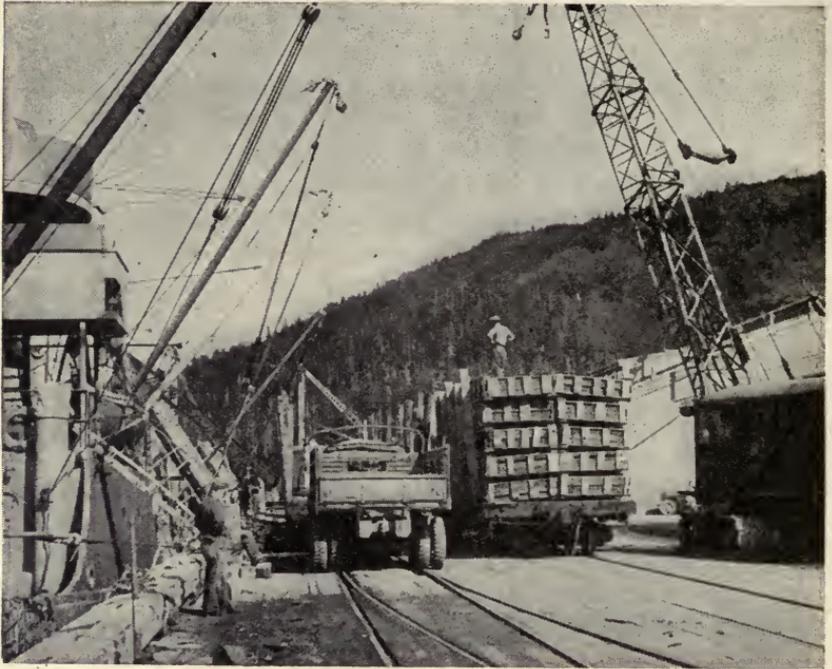
"In India," Williamson replied quietly.

"India! That's a long way off. How are people way over there like Alaskans?"

"Because they don't know what they want."

Although construction and maintenance of the Alaska Railroad cost the United States in excess of \$75,000,000, it has accomplished more for Alaska than any other development. While the war boosted traffic 90 per cent, the road's success cannot be wholly attributed to hostilities. In fact, it was more the other way around, for the Alaska Railroad moved hundreds of thousands of tons of equipment, supplies, and food to Army camps at Anchorage and Fairbanks. It is conceded the military forces scarcely could have carried on without the railroad.

A costly improvement was made on the line in 1942—one advocated by Colonel Ohlson long before the war. To establish a new tidewater terminal at Whittier, shortening the line 52 miles



Loading freight on the dock at Whittier, the new terminus of the Whittier-Anchorage cutoff of the Alaska Railroad. The new route, built as a war measure, will materially aid Alaska's postwar economic development. At Whittier, docks accommodating three ships were built, and oil tanks installed. (Courtesy American Locomotive Co.)

and doing away with steep grades, a cut-off was built from Portage, on the old route, to Whittier, which has equally as good a harbor as Seward and one easier to protect.

The job entailed the building of two tunnels through the Kenai Mountains: the longer, 13,090 feet, the fifth longest railroad tunnel under the American flag; and a shorter one, 4,911 feet. They are separated by the narrow Bear Valley, the terrain and glaciers in this region being among the most rugged in Alaska.

The two tunnel bores, started from the far side of each mountain, met with a variation of only one-half inch in elevation and one-eighth of an inch in line—an engineering feat that has seldom

been equaled. The railroad project and the great Alaska Highway were completed on the same day—November 20, 1942. Both were finished far ahead of schedule.

Work on the Whittier-Portage cut-off was done by a private construction company under supervision of Army engineers and the railroad management. While actual length of the new cut-off is only 12.34 miles, a whole day is saved in travel from the coast to Fairbanks, with resultant lowering of freight rates.

Just as the Ohlson regime was the first to raise rates when the line was operating at a loss, so also it was the first to recommend a decrease when the road began to show a profit. The railroad management made it clear recently that freight reduction to Anchorage probably would be at least 30 per cent, with graded reduction of lesser amounts as the line approached Fairbanks. Colonel Ohlson said: "I have always contended that the Federal government should not make a profit on transportation in Alaska. But so long as the road operated at a deficit I was not so keen about a rate reduction. However, when the Alaska Railroad began to stick its head above a mass of red figures, I recommended that the Interstate Commerce Commission be detailed to make a study to determine just what the passenger and freight rates should be. This, together with rate reductions to come into effect when commercial tonnage is handled via Whittier, should bring satisfactory results. I do not believe the public will have any further complaints."

When Army operation over the new cut-off began, American-built diesel locomotives that could move 45 cars compared to 25 powered by steam engines were put in use. Civilian freight and passenger travel continue over the Seward route. Colonel Ohlson, before his retirement on December 31, 1945, disclosed that eventually the railroad to Seward would be abandoned. The idea of constructing the cut-off was to shorten the distance from the seaport to the interior; also, to eliminate the hazardous and costly operation of the Seward end of the line, where winter snowfall is exceedingly heavy.

The Alaska Railroad in this area was built in the bottom of a series of narrow canyons. Heavy rains in the fall brought down millions of yards of earth which built up the ground adjacent to the road, sometimes considerably above the roadbed. This caused

water to inundate the track for distances of from 10 to 15 miles. Colonel Ohlson said that without the cut-off the railroad never would have been able to handle the heavy tonnage transported for the Army.

As an offset to eventual discontinuance of the railroad to Seward, a highway connection between the Seward-Hope road and Anchorage is projected, and reconnaissance work has been under way for some time to determine the best route across the Turnagain Arm from the Kenai Peninsula to Anchorage. This road will connect Seward with Anchorage by highway and will assist in the development of Kenai Peninsula, especially the farm belt. Tourists are likely to prefer a highway to a railroad.

Had the Whittier cut-off been selected in the first place, it is conceded that there would have been a saving of approximately \$20,000,000 to the Federal government. The general public also might have saved several millions in reduced freight and passenger rates. Practical railroad men knew this, but contention by interested communities caused one of the bitterest political upheavals in Alaska's history. Seward, led by a former mayor, fought to retain the Resurrection Bay terminus. A mere fishing village before the railroad was built, Seward became a port of call for most of the freight for the interior and for 75 per cent of the tourists. However, opposition from Seward did not affect the proposed change.

The significance of these improvements in Alaska's main artery of travel cannot be overemphasized from an economic standpoint. Saving of time on the Alaska Railroad was not the only advantage. After abandonment of the Seward road, the Alaska Steamship Line would run its larger tourist steamers direct from Seattle to Whittier, touching only the ports of Ketchikan and Juneau, enabling it to make the trip in four days instead of six.

The Alaska Railroad would then run a tourist train direct from Whittier to Fairbanks in one day, eliminating the night stopover in a hotel at Curry, which in the early days of the road was known as "Dead Horse." This would reduce the time of travel from Seattle to Fairbanks by three days, or a total saving of six days on the round trip. That is less than half the time allotted for the average vacation and makes a trip to Alaska feasible for the great majority of summer travelers who prefer steamer and railroad

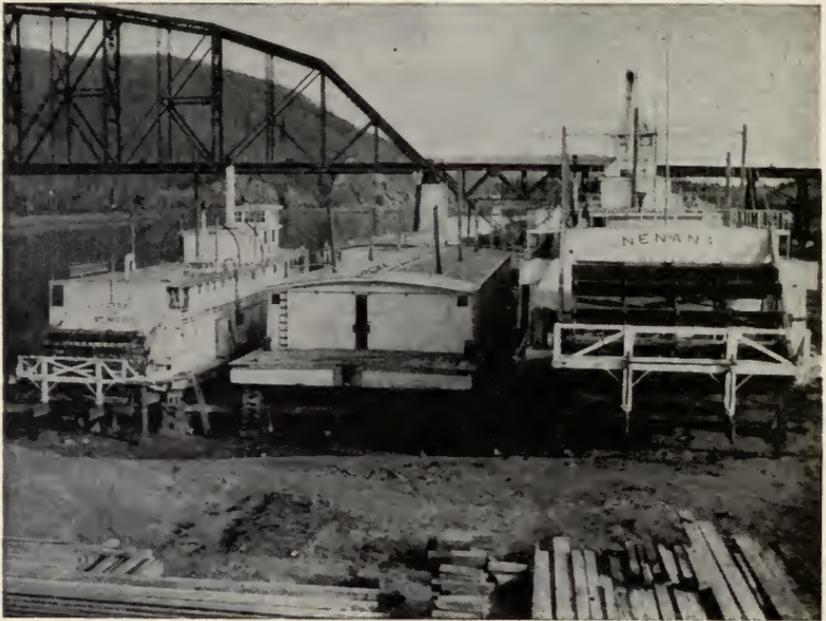


Two 1,000-horsepower diesel engines, operating in tandem, speeded war supplies to the interior of Alaska over the new Whittier-Anchorage cutoff. Though only 12.34 miles long, the route required the boring of two tunnels, one of which is the fifth longest under the American flag. (Courtesy American Locomotive Co.)

transportation. After its abandonment as a tourist stopover, Curry will be used as a division terminal where freight trains will tie up at night.

The Alaska Railroad also operates steamers on the Nenana and Yukon rivers, between Nenana, the railhead situated on the Tanana River, and Marshall on the lower Yukon, a distance of 774 miles. The fleet is composed of four river steamers and nine barges. These serve the mining and fur industries and the native population and traders during the navigation season from about May 25 to October 1. Tourists who have the time take these river trips which afford a close-up view of life in interior Alaska.

Alaska's second railroad is the White Pass and Yukon Route,



The Alaska Railroad also operates a fleet of steamers and barges on the Yukon and Nenana rivers, which carries supplies to the outposts of the territory and brings out available raw materials. The steamships *Alice* and *Nenana* are shown here at the Marine Ways in Nenana, with the Alaska Railroad bridge in the background. (Courtesy American Locomotive Co.)

a narrow-gauge line, British-built and privately owned. It was operated in wartime by the Army. The road runs in Alaska for only 22 miles—mostly up—from Skagway to Summit, the international boundary, then proceeds through British Columbia and Yukon Territory to Whitehorse, the head of navigation on the Yukon River. Built in 1889 and 1900, the railroad follows the canyon trail used by hordes of gold seekers en route to the Klondike fields. With its termini at Skagway and Whitehorse, it connects the ocean with the interior.

Despite its high cost, the road has paid for itself over and over again. London capital financed the line, which is 111 miles long, and it still is one of the twentieth-century marvels of engineering.

Nearing the highest elevation, which marks the boundary between Alaska and British Columbia, the roadbed in places was blasted out of solid rock, a work entailing months of perilous and patient labor. Before it reaches the crest, the track crosses a number of bridges, spanning desolate gorges at dizzy heights. These and other scenes of awe-inspiring beauty are not always comforting to a passenger afflicted with nerves. At one spot the train passes over an artificial roadway of sleepers supported by wooden trestles clamped to the rock by means of steel girders. Men employed in constructing this and other parts of the track were lowered to it by ropes made fast to the sheer cliff hundreds of feet above them. The Chamounix Road in Switzerland was for years considered the wonder of mountain railroads, but the White Pass and Yukon Route surpasses it.

Much new equipment for the White Pass and Yukon Route was brought in at great effort under Army supervision, and it carried the brunt of supplying the Yukon and Mackenzie River projects all the winter of 1942-1943, the worst in that part of the North since 1917. New rotary plows kept White Pass open in spite of snow that often was 30 feet deep.

Preparations for increased postwar tourist travel also were made by this railroad and by the White Pass and Yukon Navigation Company. The latter agreed to deliver down-river tourists to Circle instead of taking them down to Tanana Junction, thence up the Tanana River to Nenana. This will reduce the time of travel for tourists by two days. After arriving at Circle, these tourists would then be moved by bus from Circle to Fairbanks, and from there the Alaska Railroad would take them to Mt. McKinley National Park, then to Whittier, where they could board the Alaska Steamship Company's steamers at that point. The upstream Yukon River tourists would also be handled by bus from Fairbanks to Circle over the Steese Highway.

These changes in routes and methods of travel were agreed to in conferences between the different companies co-operating in a broad move for postwar transportation. It was the unanimous view that tourist movement to Alaska the year following the close of hostilities would be double that of any previous time, and that the influx of prospective settlers might be even greater than that of tourists. Plans were made accordingly.

A Home for the Asking

THE SPELL of the Yukon that Robert Service pictured so vividly years ago was no stronger than the lure of Alaska is to the modern pioneer. A home for the asking is the attraction—a piece of the good earth! A place to call your own where every effort expended means that much more for the future, where you build for your children, not for the boss' children.

Some persons regard a free homestead merely as the means of getting something for nothing, but the few attracted by that mirage will be disappointed in Alaska, as they would be anywhere else. Homesteading land and developing it means getting it the hard way. If you want to lead an easy life, follow the compass in some other direction. But if you long for new worlds to conquer, love a rugged outdoor life, and can "take it," Alaska is your goal.

Most Americans probably have forgotten, if they ever knew it, that theoretically every citizen is entitled to 160 acres of land for a homestead. They have forgotten it, because for the last 50 years there has been little such land offered within the continental United States.

In Alaska there are 375,396,000 acres of which about 75,000,000 are restricted for forests, parks, game preserves, and other reservations, the last mostly of a military character. Only a little more than 3,000,000 acres have been surveyed, most of this land being subject to private entry either through purchase or residence. Large areas of it are excellent for farms or ranches.

The experiences of those who have pioneered in Alaska have in the main proved satisfactory. The country is chiefly populated by pioneers. Not all of them built cabins in the woods, cleared land with an ax and a brush hook, and watched the wilderness yield under their brawn and blossom into a Garden of Eden.

Pioneering in Alaska has various interpretations. One can pioneer in moccasins and mukluks, in a farmer's overalls, or in a tweed suit, with an entrepreneur's eye on his waiters or barkeeps. In fact, some of the most successful of Alaska's "select few" have had little to do with forests, belly-deep muskeg, or mountains. They have not hewn logs for their parlor, bedroom, and bath in the Utopian land of opportunity. They have steered other courses to fortune.

Three areas in Alaska, long restricted to civilians, were the Alaska Peninsula, which terminates in the Aleutian Islands, Kodiak Island, which lies just below the peninsula, and the Aleutians themselves. These were all military reservations, and most of the land there was withdrawn from public entry. However, none of these areas holds unusual interest to the homesteader, unless he is interested in big-scale livestock husbandry.

The settler who plans to make a home in Alaska, first should study the maps reproduced in this book and other maps of Alaska. The district land offices at Anchorage, Fairbanks, or Nome, or the commissioner of the General Land Office in Washington, D.C., will supply maps and information as to the possibilities for settlement in various locations.

If you go to the Northland, do not take along a lot of special Alaska clothes. Where you are going will determine the kind of clothing you should have, and no outfitter in the States can tell you what that should be. Plenty of clothing suited to the district where it is bought is to be had in Alaska. The cheechako who goes north burdened with special attire or sports paraphernalia will wish he had worn only his Sunday suit and a topcoat.

Before one heads for Alaska he should have a definite idea of what he wants to do after he gets there—whether to farm, go into fur ranching, run a roadhouse, to mine, or fish, to become a lumberjack or teach dancing. Climate and geography enter into the decision in each case to a greater or less degree. There are no special drawbacks to settlement in Alaska. The matter of vast distances is being rapidly solved by the airplane and by the new highways. The question of home markets for farm products likewise is being answered by new highways and by air transportation as well as by the military installations and by the influx of new civilian residents.

A homestead claim in Alaska may be initiated by anyone having the qualifications required of an applicant for land in the United States. He may obtain, under the present laws, no more than 160 acres. Where the land has been surveyed, regulations governing initiation and completion of the claim are the same as those in the United States. Where the land is unsurveyed, the claim must be located in rectangular form, not more than a mile long, with side lines due north and south, the four corners being marked by stakes, rocks, or other permanent monuments. To secure the land against adverse claim, the location must be recorded at the nearest recording office (the United States Commissioner), within 90 days from the date of settlement. Notice of the claim must be posted on the land and should contain the name of the settler, date of settlement, together with a description of the land by reference to some natural object or permanent monument.

When a homesteader files with the registrar and shows that he is in a position to submit final proof, acceptable as to residence, cultivation, and improvements, the public service office will be so advised, and not later than the next succeeding surveying season, it will have the parcel of land surveyed without expense to the entryman.

A civilian must live on the homesteaded land three years, making certain improvements before he can secure title. He must build a house and cultivate one-sixteenth of the area during the second year of the entry, and a total of one-eighth during the third year. A war veteran need devote only one year to settlement. Residence in either case must be established within 6 months. After 14 months of residence on the land, the homesteader may, if he chooses, commute his entry by paying \$1.25 an acre and thus obtain immediate patent.

Those are the general principles for claiming 160 acres of land in Alaska. On the other hand, land can be leased or purchased almost as cheaply as it can be homesteaded. The General Land Office leases lands on the public domain for grazing, use of timber, fur farming, and for certain waterpower developments. Patents are issued on lands for homesteads, industrial sites, and for mining, exclusive of coal and oil.

In order that fishermen, traders, manufacturers, or any persons engaged in productive industry may have a homestead or head-

quarters for their activities, a law provides that they may purchase 5 acres or less at \$2.50 an acre, with a minimum payment of \$10. Among places where good land can be purchased are the Matanuska and Susitna valleys. Also, there are attractive homesite offerings in the national forests, under the direction of the Forest Service, a division of the Department of Agriculture. These can be patented. While Forest Service certainly suggests trees, not all the land obtainable would prove shelter for a Robin Hood. There are some open places.

Alaska's national forests comprise about 5½ per cent of the total area. The remaining land is largely composed of open public domain, also under Federal ownership. The Tongass National Forest covers 70 per cent, or more than 16,000,000 acres of southeastern Alaska, the section which extends southerly along British Columbia and in which the towns of Skagway, Haines, Juneau, Sitka, Petersburg, Wrangell, and Ketchikan are situated. The smaller national forest consists of nearly 5,000,000 acres, covering the shores of Prince William Sound, and the eastern part of Kenai Peninsula. It is called the Chugach National Forest. Its principal towns are Cordova, Whittier, and Seward, with Valdez and Anchorage not far away.

Tree growth in the national forests generally starts at the shoreline, extending to an elevation of between 2,000 and 3,000 feet. The country is rugged, the mountains usually rising from the water's edge. Many of the few level sections are muskeg (peat bogs). Hundreds of large and small islands, with irregular shore lines, dot the area, creating a pattern of beautiful coves, harbors, bays, inlets, and "canals."

The climate is wet and the temperature is mild; the summers are cool, with winter temperatures seldom going below zero. Most of the population is found in small towns which are miles apart and not often connected by roads. Local transportation as well as from the States is by water and air. With its mountains, virgin forests, glaciers, and narrow winding fiords, the region is exceptionally interesting to newcomers. Game and fish are plentiful.

The national forests are managed by the Federal government primarily to provide the nation with a continuous supply of wood products, but this does not mean that the lands are closed to other uses. Lands within the forests are available for patenting: first, as

forest homesteads; second, as mining claims under the Federal mining laws; and third, as homesites or industrial sites. Only a small percentage of the land is suitable for general farming because of the steep slopes, thin soil, and heavy precipitation. Clearing the heavier forested lands is costly. However, the relatively small areas that are good for agriculture, including timbered tracts that can be economically cleared, are available for homesteading.

For prospective farmers there have been made available 336 homestead tracts of varying sizes up to 160 acres. Of these 300 have been entered by homesteaders, but only 100 were occupied late in 1945. Some of the 200 remaining tracts were patented before owners moved elsewhere, and most of these can be purchased. Tracts vacated without being patented are available for entry by someone else. A re-examination of lands heretofore classed as nonagricultural is under way.

In studying the chances for making a living in whole or in part from a national forest homestead in Alaska one must consider the following factors. (1) Since the climate is too wet to grow many field crops, vegetable gardening offers the best livelihood. Choose soils and sites which are well drained, catch most of the limited sunshine, and have the longest possible growing season. (2) Locate as closely as possible to a town, salmon cannery, or mine, as such places constitute the settler's market. You may need a launch to reach the market unless you select a place on a road leading out of a town. In such sites a settler may earn extra money by fishing, working in a cannery in the late summer and fall, or by fur trapping in winter. (3) If a settler wants the advantages of public schools, mails, medical, and other community services, he should locate in a place holding possibilities for development of a town, if one does not already exist.

The matter of homesteads may be summed up as follows. Make a personal examination on the ground before severing present economic connections. Decide on the kind of work you want to do, then choose a region suitable, always taking into consideration the available market. Get as close to that market as possible. Do not start to carve out a farm in an isolated locality unless you are sure you want to stay there indefinitely.

As to patent on a piece of national forest land through the homesite laws, the maximum for such sites is 5 acres. Homesites are

not available in sections far from established communities. Instead, the Forest Service lays out tracts along the national forest roads. The purpose of the Alaska homesite law, as distinguished from the regular Federal homestead laws, is to provide small tracts on which settlers can speedily establish permanent homes through their own efforts, at the least financial outlay.

Many homesite residents who are wage earners in a near-by town use the bus line or their own cars in reaching their jobs. Others are fishermen and loggers who are away from home during the working seasons, but who permanently maintain their families on homesites. It is scarcely possible to make a living on homesites solely from the growing of vegetables, but by combining this with other pursuits, an energetic family of three or four persons can succeed. Dairying is possible as a homesite activity around the towns, but most localities have little natural grassland to support cows, and dairy feed has to be bought elsewhere.

No objection is made to using homesites for business enterprises, such as resorts, fur farms, chicken and rabbit ranches, stores, garages, filling stations, or similar small business ventures, provided the settler makes the tract his permanent home.

The requirements and the various steps leading toward patent and permanent occupancy are: (1) United States citizenship; (2) special use permit issued by the Forest Service to authorize occupancy at a rental of \$5 a year; (3) construction of a good dwelling; (4) occupancy as a permanent home to the exclusion of a home elsewhere for a period of three consecutive years (no cultivation requirement); (5) elimination from the national forest after the above requirements are met; and (6) application for patent to the registrar, district land office, Anchorage, at a purchase price of \$2.50 an acre, with a minimum payment of \$10.

If you want to start an industry of a larger size than can be accommodated on a homesite tract, you can get title to the required area up to 80 acres. Substantial investments in improvements designed for trade, manufacture, or other productive industry are required before the land is eliminated from the national forest for patenting. Many salmon cannery projects started on national forest land have patented their plant sites by this method.

In addition to the use of national forest land under certain laws which allow for eventual patent, a large number of tracts may be

occupied for a variety of purposes under special use permits, which offer no chance of title. Temporary uses, such as camping, hunting, and fishing do not require permits. Special use permits, except for certain uses carrying a large public interest, involve a reasonable yearly charge, such as \$5 for a residence or summer home. This is the most widely held form of national forest permit. It has been used for 30 years with apparent general satisfaction. More than 1,300 special use permits are in effect in the two Alaska national forests, representing a range of investments from a few hundred to many thousands of dollars.

Among the enterprises authorized by special use permits, in addition to salmon canneries, are dairies, fur farms, stores, marine-ways, tramways, storage grounds, residences, resorts, summer homes, electric power lines, telephone lines, warehouses, and wharves. Free special use permits in effect include trapper and prospector cabins, schoolhouses, churches, missions, cemeteries, and rifle ranges.

For fur farms, entire islands of not more than 1,000 acres, or tracts of land not in excess of 80 acres on the larger islands or on the mainland can be leased. Annual rentals are \$12.50 and \$25 for entire islands and from \$5 to \$25 for tracts. Fur-farm permittees are granted exclusive occupancy and use of the land for the purpose of raising definitely designated fur-bearing animals. Before a permit is issued, the applicant must show financial ability for carrying on the enterprise. Islands or tracts under fur-farm permit are not available for patent. Many islands and other sites are available for fur-farm purposes.

The exceptionally fine outdoor recreational features of the national forests are attracting more and more people, and additional resorts are necessary to accommodate them. Sites are available for both large and small developments. To avoid the tar-paper shack type of construction, simple descriptive plans must be submitted with applications for small resorts. More elaborate plans with proof of ability to carry them out are required for the large developments. Annual rentals are from \$10 up for small sites and from \$75 up for large sites.

Ordinary special use permits are issued for resorts valued at \$5,000 or less. A term permit is available for resorts costing more than \$5,000. The law authorizing this type limits the area to 5 acres and the period to 30 years. The usual period granted is from

10 to 20 years with privilege of renewal. For resorts in connection with the use of mineral springs, a lease issued by the Secretary of Agriculture can be obtained.

The Forest Service is making special efforts to further the establishment of resorts on the national forest areas. No objection is made to a homesite permittee operating a resort on his homesite, provided he complies with the residence requirements. However, it must be remembered that homesite tracts are limited to areas readily accessible to existing settlements, and cannot be obtained in the isolated locations that so frequently offer good resort possibilities.

Special use permits are also issued for small plots of land for summer home purposes at an annual rental fee of \$5. These are located at points offering exceptional scenic or recreational attractions. They are classed as a recreational feature and cannot be made available for patenting. Many summer homes, some representing substantial investments, have been built under special use permits on scenic plots along the highways and beaches outside the large towns, especially near Juneau and Ketchikan. Additional desirable sites are available. Simple restrictions on the design of summer cottages and the use of the land are imposed by the Forest Service to preclude features that would be objectionable to neighboring owners.

Lands for community centers, subdivided into streets and lots to insure orderly growth, are laid out in localities which show signs of becoming concentrated settlements. The lots are rented for a nominal yearly fee until the population is sufficient to maintain a town government; then the area is eliminated from the national forest to permit title to be obtained under general township laws. Graded and planked streets are frequently constructed to stimulate the growth of the new community.

The national forests of Alaska are administered through a regional forester and staff resident in Alaska. Only important matters involving questions of policy are referred to Washington. This form of administrative procedure expedites action in dealing with the public. The regional forester's headquarters are in Juneau. Field offices in charge of division supervisors are situated in Ketchikan, Petersburg, and Juneau for the Tongass National Forest, and at Cordova and Seward for the Chugach National Forest.

The Native

THE NATIVE question has been the main bone of contention between Alaskans and the Office of Indian Affairs. Some feel that with an increase of reservations, plus the present game sanctuaries, national parks, monuments, and Army and Navy reserves, the white resident soon will not have a place to hang his hat. At present, however, each one has about 6 square miles all to himself.

A large part of the land withdrawn from the public domain is for use of the natives. Special grants are made assuring perpetual proprietorship, together with exclusive rights for trapping, hunting, and fishing. But in huge areas thus set aside, there may be opportunity for mining or other industries in which not many natives engage. In the Venetie reservation in northeastern Alaska approximately 7,000 acres were withdrawn for each of the 202 natives.

Congressional Delegate Bartlett protested certification of the Venetie reserve, although he has approved of smaller ones. Governor Gruening has opposed all reservations for natives, not that he denies certain priority rights for the Eskimos, Indians, and Aleuts, but because he does not favor the principle involved in segregating the natives from the whites. Some outstanding native leaders have disapproved of special reserves, asking, "How can we expect to be on a plane of equality with whites if we allow ourselves to be penned in separate areas, whether one or a million acres?"

So the native question, like others in Alaska, is definitely two-sided. The consensus has been that withdrawal of public domain has been carried too far. The most even-keeled editor and publisher in Alaska said: "You haven't seen much about natives and

the land question in our editorials because there is much confusion here. I have been unable to unravel the problem to my satisfaction and so say nothing."

The Alaskan natives might have checked discrimination against their race earlier than they did by electing representatives to the legislature and enacting laws to back up the United States Constitution. That document, calling for equality of all races, creeds, and colors, apparently had escaped the notice of Alaskans, some of whom barred aborigines from shops, cafes, and places of amusement.

In the general election of October, 1944, Tlingit and Haida Indians, living in the First Division of the four judicial districts—the southeastern Panhandle—seated two of their race in the lower House. As a result, the Seventeenth Assembly, meeting the following February, passed the antidiscrimination bill, a step indicative of social progress. Similar measures, introduced by fair-minded whites, had come up before and had been defeated. This time, however, legislators supported the natives and enacted a stiff law.

The bill was introduced by an Indian. It had teeth in it, making it a jail offense to display signs reading, "No Natives Allowed," or "We Do Not Cater to Natives." It had been rather brazen for whites to notify the original inhabitants they were intruders, but they had done that for years without the natives offering effective opposition. The Aleuts are a mild people who believe the Aleutians are the Garden of Eden. The Eskimos lived so far away that the signs did not bother them. But one would have expected descendants of the ferocious Tlingits, formerly a lordly race boasting high-caste slave owners, to have thrown a brick through a plate glass window now and then.

This disgraceful and un-American practice on the part of some Alaskan whites had been virtually the one blot on a clean escutcheon. That it endured as long as it did seems unbelievable. It lowered the spirit and economic status of the native, for it served to deprive him of a means of livelihood. Now the native has the will to better his condition as well as the opportunity to do so.

The aborigines still are beset by handicaps. The tuberculosis rate is high—some say 26 per cent—and their love for whisky remains at par. Some natives deteriorated through contact with whites by



Watching the local team play ball on St. Paul Island in the Pribilofs. (Courtesy Alaska Native Service.)

falling heir to their faults and ailments without profiting from their virtues. They went the whites one better on drink. Venereal diseases also played havoc with them. However, through tireless effort of the Native Service, aided by Territorial welfare workers, these diseases have been held in check to a great extent.

So the Alaskan scene for native peoples is portrayed in brighter hue. To make it still more attractive, the natives need good jobs, more tuberculosis hospitals, additional doctors, and honest politicians. The last is quite an order but it is being filled. Stronger

leadership in their own ranks also has developed. No one doubts that the aborigine can hold his own if he is encouraged. On the battle line, in sports, in agriculture and industry he has demonstrated qualifications for success.

In Alaska is an Indian colony that equals in accomplishment, if it does not surpass, any group management in all the country. Near the southern boundary on Annette Island, the Metlakatlan Indians have shown they can follow inspiring leadership. These natives, reputedly victims of religious persecution in Canada, went to Alaska at the time Grover Cleveland was president and started life anew under the guidance of a determined white missionary. Many a white man in Alaska today would like to be in a Metlakatlan's shoes. Most of these Indians rank high in this world's goods. They have modern homes, the best community hall in the Territory, a prosperous salmon cannery, a good school, and two fine churches. Most of them own motor launches for fishing and pleasure, costing from \$2,000 to \$20,000. When these Indians speak of the Cubs they are not referring to Alaska's black bears. In 1937-1938, the Metlakatlans had the champion basketball team in Alaska.

The story of this colony's success is told in one word—*diligence*. "Father" William Duncan, their friend and preceptor, taught them the meaning of diligence through his own exemplary conduct. He left them a heritage they cherished and made good use of. In a sense, the Annette Island colony, numbering about 700, offers a solution to most problems of the aborigines as well as to the troubles of their protectors. William Duncan put industry next to religion for his protégés. Sheldon Jackson tried the same plan with the Eskimos but they did not follow their leader so well as did the Metlakatlans.

Both these recognized friends of the natives considered temperance important. Lack of it has proved a handicap to Indians, Eskimos, and Aleuts. Governor Gruening, in addressing the Alaska Native Brotherhood at its thirty-first annual convention, did no pussyfooting on the subject. He told them: "A large part of the revenue received from fishing and labor in the canneries is dissipated in excessive consumption of liquor. This is not a peculiarity of any one race, group, or community. While I am not an advocate of total abstinence, I must confess I have often been shocked at the extent to which liquor in Alaska is abused. The consequences of

such dissipation are deplorable in their effects on the welfare of the people, particularly on that of the children.

“Why is it that so many native communities are poorly housed, and that their inhabitants are often poorly clothed and poorly nourished? We must explore this matter and try to arrive at a policy which offers hope of improvement. . . . While it is desirable that you acquire the machinery for livelihood in the form of canneries and fish traps to increase your income, this will avail nothing if a larger income is annually squandered in a long debauch. . . . If there are those who cannot control their appetites for strong drink, then for them total abstinence is the only solution. . . . There can be no real progress of the native people unless they grapple squarely with this problem.”

There are good Indians and bad Indians, just as there are good and bad whites. Likewise, there is good and bad liquor. The low-income natives generally get hold of cheap whisky or moonshine and suffer accordingly. Not only is it cheaper, but there is more of it than of bonded whisky, and consequently a debauch is likely to last longer than one started with high-priced liquor. If you reversed the situation of the two drinkers—that is, put a well-dressed Indian in a comfortable hotel lounge with a white-jacketed waiter serving him highballs in leisurely fashion, and stripped a white cannery owner of his wealth and up-to-date clothes, placed him in a one-room hovel with plenty to brood about, plus a gallon of cheap whisky—which man do you think would acquire the worst jag? There’s many a white beachcomber on the sands at Tahiti who could answer that question.

THE ALEUTS

All Alaskan natives have decreased in numbers, the greatest depletion being among the Aleuts. There were 20,000 or more when the Russians came. Now they scarcely exceed 3,000. The czar’s soldiers surpassed the worst tactics of Cortez’ greedy followers. Whole islands in the Aleutians were depopulated. Some Aleuts migrated to the mainland. Others were transported to the Pribilofs, 250 miles north of Dutch Harbor, to work at butchering the fur seals.



Attu women making sea-grass baskets. Attu Island is at the western tip of the Aleutians. (Courtesy Alaska Native Service.)

Later, under American supervision, more Aleuts were sent to these islands—St. Paul and St. George—where the government built modern villages for them. The natives now are well paid for a short season's employment. In addition to killing the seals and aiding in processing the skins, some of the Aleuts attend to fox ranching, also under government control in the Pribilofs.

The island colony, too, is a happy one, but the people are not nearly so self-sufficient as the Metlakatlans for the reason that Uncle Sam has been a prodigal spender. He can afford it, as the sealskins yield big profits. Also, the Aleuts do a good job. They go in for fun as well as work, indulge in sports, have a jive orchestra that played for G.I.'s in all Alaskan camps, and generally are as modern as whites. They are not very well schooled in economics, however; instead of buying life's necessities, cash and carry, the Aleuts obtain them at a community store and charge them. Aleut girls on the Pribilofs seldom know the difference in cost between nylon and rayon, but they can recognize a distinction in appearance and take the nylon stockings if any are on hand.

When the Japanese struck in the Aleutians, the Pribilof Aleuts as well as those from the "stepping stones" to and from Japan were evacuated to southeastern Alaska. The government sent shiploads of food and clothes to the natives. They liked the oranges and name-brand coffee in vacuum-sealed tins. They also were pleased with the bright-colored sweaters and slacks allotted to them. The only fault they found with their new home on Admiralty Island was the heavy growth of timber. It came right down to the pebbled beach. Neither the Aleutians nor the Pribilofs have trees and the Aleuts were used to the open spaces. "No place to walk here," said old Larry Mercheenen, chief of the Atka settlement. "The trees get in your way."

Attu, at the far western tip of the Aleutians, was the first island attacked and most of its inhabitants were lost.

The village on Adak Island, also demolished by the Japanese, has been rebuilt. Better houses and a better school were erected, but the old Russian Greek Orthodox church was duplicated in its entirety. Adak later became the chief outpost of Army and Navy bases in the Aleutians. Many changes were introduced, including breeding of livestock.

When the Navy carried the Aleuts back to their native shores,

it played host to them at Unalaska, treating the youngsters to loads of pop, candy, and cake—sweets that they are too fond of. Unlike a diet of fish and seal oil, these tidbits call for doctors and dentists, not too numerous in native habitats.

The evacuees were returned just in time for Easter services in their home churches, a boon to the older folks, as the Aleuts are very religious and attentive to formalities of worship begun in Baranof's day. His fur hunters and soldiers took away the sources of bodily sustenance, but his priests supplied spiritual nourishment aplenty.

THE ESKIMOS

The story of the Eskimos is different. This race has suffered less than the Aleuts from contact with the whites, but has not escaped entirely. There are 15,000 to 18,000 Eskimos in Alaska today compared to about 20,000 thirty years ago. No slaughter of the Eskimos followed the advent of the whites as in the case of the Aleuts. The white man's diseases, however, were readily communicated to what formerly had been a hardy people. Measles, flu, pneumonia, smallpox, and tuberculosis have taken a heavy toll for years. Many died in a flu epidemic at Point Barrow, despite heroic efforts of Native Service workers and missionaries.

Arctic Coast Eskimos were the first to suffer from the encroachment of white trappers and whalers. Later, the interior tribes contracted contagious diseases when they came to the coast to trade skins for seal oil. Whole villages have been wiped out by ailments common to children in the civilized world; measles was one of the worst scourges. But this menace is passing, and most of the adults are now immune to such diseases.

The Eskimo is generally shrewder and of a more buoyant disposition than the Indian. Such depletion of the American Eskimos as has taken place has been chiefly the penalty of physical change. This mutation still is in process, but gradually the Eskimos are adjusting themselves to the ways of the whites.

There is more intermarriage of Eskimos and white Alaskans than among whites and other natives, possibly because there are more Eskimos than Indians, but also because regions inhabited by



George Aden Ahgupuk, Eskimo artist. (Courtesy Lillian V. Russell.)

Eskimos are isolated, making the white man living there more susceptible than he is farther south.

All natives gave good aid in the war effort, both in combat and in financial support, through purchase of bonds and contributions to the Red Cross. Eskimos were possibly the heaviest subscribers.

The Eskimo is a crack shot and an unusually good mechanic. He can take an ailing outboard motor apart and put it together in excellent working condition.

Many Eskimos have inherent cultural tastes, in some instances highly developed. One of Alaska's artists is George Aden Ahgupuk, an Eskimo who draws on finely prepared reindeer hides. He will not touch a "canvas" until it has been well tanned, bleached, and split five or six times to reach a state of perfection, this process taking a month.

Simeon Oliver, born an Eskimo but raised in the Aleutians, is a student of Alaskan history, concert pianist, author, and lecturer. He has a home near Anchorage, overlooking Smuggler's Cove where he is host at Sunday breakfasts to a mixed assemblage of

interesting people, consisting of the literati, artists, and other friends with good appetites, who enjoy their host's sourdough pancakes. The view from the veranda is wonderful, and the informal forums are intellectually stimulating. Among Mr. Oliver's guests will be found Ziegler, Alaska's best known painter; Peter Wood, newspaper reporter and columnist; Marvin Hart, editor of *Let's See Alaska*; Ted Lambert, author and artist; and others of an artistic vein.

The sourdough batter is reputedly forty-seven years old. The sourdough "starter" is something miners concocted to make bread, biscuits, and pancakes in lieu of yeast. This relic of pioneer days accounts for the term "sourdough" by which old-time Alaskans are known.

Simeon Oliver's first book, *Son of the Smoky Sea*, was well received as was its sequel, *Return to the Smoky Sea*. Now he is writing a history of Alaska. He was born to the name of Nutchuk and christened in the Russian church. He is widely traveled and although half Norwegian is typical of the cultural development possible to members of the Eskimo race.

Ivory carvings of the Eskimos are famous and no meager source of revenue. Jade is used also. The sale of all Northland trinkets doubled when the G.I.'s came, equaling in a year about half the

A carved ivory paper weight typical of the native craft of the King Island Eskimos. (Courtesy Dame, Alaska Native Service.)



amount the Native Service in Alaska spends annually for education—\$1,374,910 was appropriated for 1946.

While ivory and jade carving is the chief art of the Eskimos, the manufacture of winter garments from furs and skins is more important from a utilitarian standpoint. Women of the Nome Skin Sewers Association are prominent in the work, but it is not limited to this group. The native craft supplied the armed forces with parkas, mukluks (skin boots), mittens, sleeping bags, and other essentials.

THE KING ISLANDERS

Among the ivory carvers, the best known are those on King Island, a 2-mile-square granite rock, 75 miles northwest of Nome. Fewer than 200 Eskimo cliff-dwellers have inhabited this bleak Bering Sea island since the day Captain Cook discovered it in 1778, and probably for centuries before that. The village igloos are built of driftwood, with the back against the steep cliff and the front supported by poles, thirty feet high. The houses are covered with walrus hides, making the little buildings secure and weatherproof.

King Island is one place where the natives have not changed much in their mode of life. They have adopted only a few of the conveniences bestowed on their cousins on the mainland. The little huts usually are 9 feet square and not high enough for the owners to stand erect. The people sit, eat, and sleep on the floor. Adjoining each shack is a shed for surplus household goods and fishing gear. Large community sheds, in which the single men sleep, are used as workshops and for social gatherings. In these shops, sleds and boats are built and new skin covering is put on the oomiaks—the large boats used for hunting trips and for marketing their ivory artwork.

The kashima, as the community halls are called, serve as places for village dances and for other release of the convivial spirit for which the Eskimo is noted. The young people jive while the older folks eat and tell tall tales. Those who can read carry a Miller's joke book. Though he leads a hard life in fog and cold, the King Islander, like most other Eskimos, would rather play than

eat; but he generally prefers either of these indulgences to a white man's work.

Seal and walrus are the sources of food. Also, the wild migratory birds help out by laying far more eggs than they hatch. The walrus herds come in the spring from Siberia, and at this season the natives keep a lookout atop the island. When warned of an approaching herd, the hunters, dressed in white, the chief color motif of the Arctic, shove out to sea, grounding the oomiaks on ice cakes. There they wait the signal to shoot. This is the time the Eskimos are all business, for the walrus hunt means filling their natural cold-storage cellars with a year's supply of meat.

The most valuable trophies obtained, in addition to food, are the ivory tusks from which they carve attractive trinkets to sell on their annual visit to the Nome beach, where they continue the work all summer. The whole population makes the trip in large skin boats of the kind used for centuries, but for a recent trip the natives chartered a tug. On the beach they live in pup tents or under their boats, turned upside down and propped with paddles, and not only work at artcraft but dance and sing for the benefit of tourists who toss coins as they would to aspiring amateurs at home. It's a festive scene and one of Nome's biggest attractions. Natives from Little Diomedé Island also flock to Nome in the summer.

Fine rifles, motors for propelling their oomiaks, and acceptance of the Catholic faith are the King Islanders' only concessions to modernity. Their missionary for years has been Father La Fortune, a friend of Father Bernard Hubbard. Before the missionaries drove the native "devil-drivers" back to Hades, the morals of the Eskimo were scarcely the same as those of the whites—or as those the whites should have. When he first encountered the whaler on Arctic shores, the native voluntarily loaned his wife to his guest. So if the fishermen went a step further and appropriated the natives' daughters, carrying them to the ships and virtually dumping them overboard after orgies, one has to admit the Eskimo set a precedent.

That was long ago. Whales and whalers became almost extinct with the passing of whalebone corsets. By that time the Arctic natives had learned a lot of the white man's tricks. Today at gin rummy or solo, a white cardsharp has to look sharp when he has

an Eskimo opponent. And in his modern home of imported spruce and hemlock, not nearly so warm as his igloo with its long snow-tunneled entrance, the native resident at Wainwright or Barrow long has ceased to bow to the magic of the devil-doctors; nor will he trade the sanctity of his home for tobacco or whisky.

While the Eskimo is a capable citizen, one can go too far in exalting him. He can maneuver a kayak, his small narrow skin boat, better than a white man, but aside from that he has few talents which the white man cannot equal. Evidence of that was demonstrated by Charles D. Brower, uncrowned "King of the Arctic," who died in 1944 at the age of eighty-four. Charles Brower spent sixty years near the North Pole, and was known from coast to coast in the States for his outstanding ivory carvings. They were equal if not superior to anything done by natives. He also excelled in taxidermy and preservation of rare flora as well as unique specimens of fauna. There is scarcely a big museum in the country that does not cherish his memory and the trophies he gave them during his long stay in the Arctic.

Everything the aborigine did, Charles Brower did a little better, from knocking over a caribou at a quarter of a mile, to removing a ruptured appendix. While he was a shining light in the Far North's winter gloom, his supremacy more or less acknowledged, he never boasted or looked down on the Eskimo, for he recognized many laudable traits along with some questionable ones. The "king" learned as much as he taught. What he learned served him so well that he usually became more adept than the native.

Born in New York City, self-educated and highly cultured, the Eskimos' friend married an Eskimo—three of them, in fact, but of course at different times. And there were no divorces. Separation of married natives is on a much smaller scale than among whites, it being conceded that native girls regard the marriage vows as sacred. He had fourteen children, all of whom were educated either in Alaska or in the States; one was graduated from West Point and served in World War I. Two of his seven sons and several grandchildren were in World War II. Most of his children married whites whom they met at school. Their marriages, as well as his own, proved happy ones. This is interesting because many missionaries and white teachers maintain that it is preferable to keep the aborigines socially and economically distinct from the



"Eskimo kiss okay, but we like white man's way much better!" (Courtesy Edna Walker Chandler.)

whites. The Arctic king's history and that of his descendants upset that theory. Perhaps in his useful life and the benefits he passed on, one can see another solution to the native question entirely different from that of Metlakatla, where intermarriage with whites is relatively uncommon.

Charles Brower gave little attention to social questions. Though inherently artistic in his tastes, he gained his livelihood from the Arctic and did business at his trading post with white trappers and natives alike. He was not a severe critic of native shortcomings, nor of the zealous efforts of missionaries; but he was at variance with some of the policies of both missionaries and Native Service teachers. He thought it a mistake to urge the Eskimo to don a warm fur shirt indoors merely to cover his or her nakedness from the waist up. He knew that so dressed in their heated igloos they perspired and contracted pneumonia when they went out in the biting cold. He was aware that when they built modern cabins with thin walls they were not as healthy as in their well-ventilated igloos of driftwood and skins, warmed by oil lamps instead of overheated potbellied stoves. He questioned not a few of the new economy's "musts" and "don'ts" for the native, but he didn't rant about them.

Charlie Brower's friends, like the famous Amundsen, Stefansson, and Wilkins, were not explorers in the field of social problems but rather seekers after scientific facts. They and others of their type, together with Alaska's Capt. Bob Bartlett, whalers, traders, and old-time skippers loved to sit at the "king's" festive board of an evening when an Arctic wind was howling outside and the temperature 50 degrees below.

Had the tragedy that ended Will Rogers' and Wiley Post's lives been only a few miles closer to Point Barrow, Will Rogers would have died in Charlie Brower's arms. It was he who prepared Will Rogers' body for burial in an Arctic grave.

The lesson to be drawn from the life of Charles Brower and his associates at Point Barrow is that the Arctic is not necessarily a country adapted solely to the pursuits and manner of life of the Eskimos. While it is not a land that the average white man might voluntarily select as a place of abode, Charles Brower proved that should opportunities arise—mining, oil development, or any pursuit offering profit for labor—the whites are as able to cope with

the rigors of the climate as are the natives. In some respects, he and his crew seemed to meet the requisites for healthful life there better than the Eskimos. Whaling took Charles Brower and his men to Point Barrow; industrial development may eventually draw many other white workers to the same region.

The Eskimos are generous and circumspect in their relations with others. They are trustful and in the main trustworthy. The girls quickly adapt themselves to modern ways. At the native boarding schools—Eklutna, near Anchorage, and at White Mountain on the Seward Peninsula—both boys and girls are good students. More than a few show artistic talent of one sort or another.

So far as attractiveness is concerned, and in a metropolitan environment, the Eskimo girl is as appealing as the white girl. An Alaskan girl, born on the lower Kuskokwim, whose father was an Eskimo and mother a Frenchwoman, was educated at Holy Cross on the Yukon and after working in Anchorage was taken to Chicago to exhibit sledge dogs, hunting and fishing gear, and Arctic apparel. There were frolicsome malemute pups and other things to attract the curious throng, but most of the crowd in front of the 60-foot booth centered on Lisa. Her job was to explain the customs of a strange people and the use of native implements. She did this in soft leisurely speech, and her listeners seemed highly interested. Her employer overlooked an opportunity. He could have sold 500 portraits of Lisa to 5 of his heroic and always hungry hounds of the North.

Eskimo girls are good workers. As with the Indians, if there is any tiresome chore to be done, it is the mothers and daughters who do it. When the Eskimo goes hunting, he lets his wife go along to drag home the game, often a 600-pound caribou or two, which she helps the dogs to pull on a sled. Also, she may carry a couple of foxes across her shoulder with an heir apparent on her back. Teacher Thompson of Eklutna reported that when it came to repairing the school's fish nets, he found the native boys reluctant to assist. "At home, our mothers and sisters do that sort of work," they informed him.

Eskimos have many superstitions, usually based on a premise that makes life easy for the men. Exposing such superstitions is one accomplishment on the credit side of the missionaries.



Aleut boys treated to pop on their return to Unalaska, in the Aleutians, after the three-year evacuation to southeastern Alaska. (Courtesy U.S. Navy.)

THE INDIANS

The Indians in Alaska are the Athapascans, Tlingits, Haidas, and Tsimshians. The first named are the most numerous; they inhabit the valleys of the interior rivers, including the Yukon, Tanana, Kuskokwim, and their tributaries. The lower portions of the Yukon and Kuskokwim and their deltas are peopled by Eskimos, speaking a different tongue from those of the Arctic coast.

Athapascans number approximately 6,000 against 3,000 Tlingits

and about 700 Haidas. The Tsimshians are the Metlakatians already described as residents of the Annette Island reservation. The Haidas occupy the southern half of Prince of Wales Island, largest of the southeastern archipelago. This island contains the native towns of Klawock, Craig, and Hydaburg, all fairly close to Ketchikan on neighboring Revillagigedo Island. Klawock, with 500 population, is the home of Frank Peratrovich, author of the anti-discrimination bill. The Indians on Prince of Wales Island are of the same origin as those on the Queen Charlotte Islands in Canada.

Of all the Indians, the Athapascans remain the most primitive. Missions of various faiths as well as Native Service teachers are spread over thousands of square miles in the domain of the Athapascans but the work in their behalf is difficult. While a few Athapascans earn a part-time living cutting wood and working on the river boats, some becoming expert pilots, the majority depend on hunting, fishing, and trapping. The Venetie reservation contains 1,804,000 acres and is peopled almost entirely by Athapascans, with a few interior tribes of Eskimos. With the exception of Metlakatla, a closely knit colony of long duration and much enterprise, the native reservations are devoted merely to use of the land's game resources.

Little attempt has been made in Alaska to turn the native toward cultivation of the land. In Idaho and other states, Indian colonies have been highly successful in the development of agricultural pursuits and livestock projects. While the Alaskan economy is of course different in many respects, the chief explanation for this contrast is disinclination on the part of the Alaskan native or his leaders to turn to the physical labor involved in agriculture. The Alaskan Indian has been encouraged to fight for special fishing rights rather than to fight grub worms or potato rust. The fight over land and fishing rights was dragged out for so long that it cost the taxpayer more than the whole question is worth. It was carried to the bar, to the council chambers of labor unions, to Congress, and to the innermost sanctums of government in Washington. The claims of the Indian are about as logical as the heirs of Hendrik Hudson demanding a deed to Manhattan.

A more interesting picture is found in the intellectual progress of the younger generation of Athapascans, who are not concerned with the land and water controversy in southeastern Alaska. The

older generation has untold respect for the dead. They build cabins over graves and paint the shelters with bright colors, while the homes of the living are drab and cheerless. They believe their departed ones crave food and so they leave delicacies in the graveyard. The youngsters, more enlightened, know spirits need no mundane nourishment and that the bears and ground squirrels will get the food if they don't. So at night they trek to the burial ground and have a bobby-sox feast.

Indians who live in the larger towns or on the outskirts present the most deplorable picture. Their homes, in most cases, have been decaying shacks built close together, poorly heated and ventilated. Tuberculosis has been taking an ever increasing toll. The chief work of the Native Service, aside from education, has been caring for invalided hospital patients instead of slum clearance and adequate housing. An exception to this was the reconstruction of Hoonah which burned in 1944, leaving 97 Indian families homeless. Through the Native Service and the Federal Projects Housing Administration, 80 individual housing units were built on lots about twice as wide as formerly, with lights, water, sewer, and other utilities.

After fishing, the most important source of revenue for Indians of southeastern Alaska, especially for youngsters, is the carving of miniature totem poles which are sold to visiting tourists and shipped to the States as well. Before the war, the CCC, under direction of the Forest Service, restored many genuine totem poles, taking them to the Sitka National Monument park, Saxman Park near Ketchikan, Wrangell, and other places where tourists could see them. Thus an interest in the ancestral art that the Indians themselves had abandoned years ago was revived. The totem pole originally was a heraldic emblem by which the chiefs of the Pacific Northwest proclaimed their family history and supernatural connections, and though indigenous only to certain tribes and localities, came to be identified by outsiders with all of Alaska.

In spite of the land controversy, there are good prospects ahead for Alaskan Indians and the only hindrance to their realization was summarized by Governor Gruening in his talk to the Alaska Native Brotherhood. More work and less liquor will make them as progressive as the whites—real Americans as well as first Americans.

Alaska's Schools

THE TIME is ripe for Alaska's twofold educational system—one for natives and one for whites—to be merged into a single program. Such a procedure has been urged by some educators, but it has encountered opposition from both sides—the U.S. Office of Indian Affairs and the Territorial authorities.

One uniform school system under Territorial control—or under jurisdiction of the state, if and when Alaska becomes the forty-ninth state, probably cannot be achieved at one stroke. But according to Dr. James C. Ryan, commissioner of education since 1941, some transfer of individual schools from the Alaska Native Service to the Territory should take place at once. He adds that in certain areas the Native Service must remain in charge for quite awhile. Alaska, he says, would be unable to get supplies to sections where there is no commercial transportation. The Alaska Native Service has the means for that purpose.

The United States government (the nation's taxpayers) spends in excess of \$2,000,000 annually for education, welfare, and health of Eskimos, Indians, and Aleuts in Alaska, but little toward schools for whites, many of whom live in villages as small and remote as the native settlements.

With its own funds the Territory tries to maintain the same educational opportunities for children in far Arctic regions as it provides in thriving cities. Alaska deserves high praise for this effort, but a unified system would make the task easier.

At a hearing before the subcommittee of the congressional committee on territories, touring Alaska in August, 1945, Dr. Ryan testified in favor of partial unification of the two school systems. Subsequently, another congressional committee—that on Federal appropriations, also visiting Alaska, made a written report



The Juneau grade school with typical Juneau homes in the background. (Ordway's Photo Service, Juneau.)

under the direction of Representative Jed Johnson of Oklahoma, chairman. This said in part:

“Indian (native) schools in the Territory, for the most part have been and continue to be inferior to Territorial white schools. Conditions with which Indians (teachers) have been compelled to cope made it difficult to obtain or retain qualified teachers. Some Indian school buildings are a disgrace to the Indian Service and to Congress. Improvements have been made under the leadership of Don C. Foster, recently installed as general superintendent of the Alaska Native Service, but many additional improvements are essential. The Indian Service, generally, has made little effort to instruct the native children in trades, and has failed especially to teach or encourage gardening. . . . For example, the school near Wrangell, known as the

Wrangell Vocational Institute, does not have a garden although it is situated in one of the richest agricultural areas which the committee visited. (A statement factually incorrect, since the appropriations committee inspected Matanuska, the Homer area, and the Tanana Valley.) Practically the only attempt to give vocational instruction to the children was in connection with the building of fishing boats, which the natives had been building in a satisfactory manner long before the white man migrated to Alaska." The congressmen disclosed flaws in the Alaska Native Service; nevertheless, its work as a whole has been good.

Aside from any question of social distinction or prejudice, the advantage of a single school system would be that funds available from Federal and Territorial sources would go further if united. The feelings of some persons might be hurt, but better educational facilities for Alaska youth would be provided. In one community there may be a teacher for half a dozen white and (or) mixed blood pupils, and another for the same type of native children. Hence, in a single locality, two "little red schoolhouses" are provided where one would serve.

Alaska's legislature has been generous in its appropriations for education. Out of \$5,631,822 appropriated for the biennial, April 1, 1945, through March 31, 1947, \$2,557,274 of the total Territorial funds to be expended were earmarked for the school system. In general, Territorial schools are better equipped and teachers better paid than are those in the Federal government service. Salaries range from \$2,250 to \$2,625 a year, according to the location of the school.

The recent passage of the antidiscrimination bill, putting natives and whites on an equal social plane, has done much to further the argument favoring one school program. In Alaska, the aborigine is considered as such, if he has one-half or more of native blood. Full-blooded Eskimos, Indians, or Aleuts are not excluded from Territorial schools; probably many attend the Federal schools merely because such schools exist for them. During the 1944-1945 school year, however, 26 per cent of the Territorial school enrollment was one-fourth or more native. It is getting more and more difficult to draw the line, and there is no just reason for drawing one at all.

The number of both Territorial and Federal schools, the latter conducted by the Alaska Native Service under the Office of Indian Affairs, varies from year to year according to shifts in population.

If gold were discovered at Kashega, which has 26 inhabitants, families with school-age children would soon move there, and a school would be provided. The Territory, more sensitive to educational needs than is the Federal government, will open a school for as few as 6 pupils, whereas the Alaska Native Service requires 15 to 20. Shortly after V-J Day a number of families returned to Haycock, a small settlement in northwestern Alaska. Parents requested reopening of the school which had been discontinued. Dr. Ryan flew to the town. Twenty-four hours after his arrival a teacher had been engaged, supplies were rushed in from Nome, and the school was in full operation.

Public schools in incorporated cities and towns have stable enrollments and, so far as academic studies are concerned, are as good as can be found anywhere. All the high schools are small, the largest having approximately 200 pupils, but the curriculums and efficiency of instructors are on a par with larger high schools in the States.

The only point at issue in Alaska's school system is whether vocational training might not be expanded in the high schools. Some Alaskans feel it should play a more important part than it does; Congressional Delegate Bartlett is among them. "I believe vocational training is perhaps even more pertinent in Alaska than elsewhere," he has declared. "It is all very well to hold that the happiest person through life is the person well educated academically. There are two difficulties in carrying out that program. The first is that when the boy (or girl) so educated leaves school he is—except in isolated cases where his parents are rich—thrown into a world in which he must compete with trained workers. The graduate is then starting with a definite handicap. If he has difficulty in making a living, the perfect life envisioned for him goes awry. Second, only a small percentage of the youth in any country are so mentally equipped that a purely academic education is sufficient base for earning a livelihood. I am firmly of the opinion that vocational training in Alaska should be strongly emphasized."

Territorial schools usually remain about 70 in number, and Federal schools about 112, the larger number of native schools being due to the fact that they are scattered over a wider domain.

All Territorial high schools have been graduating annually a total of fewer than 300 pupils, with the majority from the cities and towns. High school enrollment outside the corporate limits has been



Indian day school, Douglas, Alaska. (Courtesy Alaska Native Service.)

light, but with better transportation facilities it is now increasing. Registration in both high and elementary schools increased in the cities at the opening of the fall season in 1945. The Territory pays 70 to 80 per cent of current operation costs in all city schools. In lieu of the balance, it pays a tuition fee for each student from outside the corporate bounds and transportation costs for such pupils.

As a further means of extending education to children in distant localities, Alaska offers correspondence courses. High school mail courses are purchased from the University of Nebraska, while elementary courses are bought from the Calvert School in Baltimore. Cost to the Territory is \$85 a course. A small deposit is required from students to insure that the work will be taken seriously, but it is refunded when the course is completed satisfactorily. Tests are sent out by the correspondence school and papers are returned for correction and criticism. A certificate of promotion is issued at the close of each year's course.

Mail order education has proved feasible in several middle-western states and is regarded as a permanent feature of school pro-

grams in areas with widely scattered population. But any educator knows that half the stimulation to learning is found in the classroom. Dr. Ryan concedes that Alaska uses correspondence courses as an emergency measure, realizing that they are far from ideal.

Rural school life in Alaska is all-absorbing for youngsters because there are fewer distractions than elsewhere; isolation has barred competing interests to a large degree. The boys and girls in the wilds regard school as the prime center of activities. With their snowmen, and snowball fights in which the teacher may join, the youngsters have a good time. In some schools children assist the instructor by doing such odd jobs as fetching wood, tending the fire, or doing other chores that a part-time janitor may choose to omit. Away from school, library books are in strong demand. In the long winter nights when the northern lights are playing across a purple-blue sky, children of Alaska's rural schools are avid readers, poring over all the magazines and books that the school can supply.

Alaskans patterned their schools largely after those of the States, with which they were familiar. In the legislative statute initiating the school system it was stipulated that a community with six or more pupils should be entitled to a school. Rural schools are supported 100 per cent from Territorial funds, including construction and equipping of buildings, free textbooks and school supplies to students, salaries of teachers and janitors, fuel, and all other costs. Settlers can obtain special schools by petition, but in that case parents must provide the building, fuel, lights, and janitor. The Territory supplies the teacher, books, and all other essentials.

Qualifications for teachers in Alaska are the same as in the States; for elementary schools, three years training beyond high school; for high school teachers, four years; and for superintendents, five years beyond high school graduation. Teachers are employed by the local school boards and by the commissioner of education. Those trained by the University of Alaska, and who are residents of Alaska, are given preference, but persons from outside, adequately qualified, are not barred. Ninety per cent of the Alaska teachers are university, college, or normal school graduates. In consideration of this, and because of the increasing cost of living, the 1943 legislature passed a bill raising the salaries of all teachers.

The pay for instructors in the small settlements is the same as in the city schools. Many teachers prefer the rural schools because

living costs are comparatively low and they can save a considerable part of their pay; also, they have more independence—no conferences with superintendents or other duties outside the classroom. Although the objectives of education in the rural districts are the same as in urban schools, the means of achieving them differ. The work of the rural teacher is strongly influenced by environment, and there is demand for greater resourcefulness and ingenuity than is required of the city teacher. Whether children in small isolated rural schools receive as good an education as those in the towns depends to a great extent on the energy, patience, and ideals of the teacher. In many such schools the instructors are young girls, fresh from college. They like their pupils and are eager to meet the responsibilities encountered.

As in small schools elsewhere, rural teachers instruct in all grades, sometimes having one or two pupils taking high school studies while others just past the kindergarten stage are learning to read. But twelfth-grade graduates from these schools readily hold their own in college.

Supervision of the public schools is vested in the Territorial Board of Education with five members appointed by the governor and approved by the legislature. The board appoints as its executive officer a commissioner of education who is less subject to political pressure than any other Territorial or Federal official in Alaska. Eighty-five per cent of the fund for support of the Territorial schools is appropriated by the legislature. Alaska levies a \$5 school tax on all persons aged twenty-one to fifty, including employed women and employed natives. This tax supplies about 8 per cent of the school funds. Another 2 per cent comes from the Alaska Game Commission through fines from game law violators. Thus, if a man shoots two bears where regulations call for one he is twice a benefactor to the Alaskan community; he creates money for schools and helps the farmer get rid of predatory animals.

Five per cent of the school fund is obtained through receipt of 25 per cent of the Alaska Fund, a small Federal fund fed by license levies on Alaska business outside the incorporated towns. With gallant gesture, Uncle Sam gives back a part of the money he takes, offering it as almost his sole contribution toward education of white children in Alaska. For Eskimos and Indians, he does decidedly better, graciously bearing the whole burden. The Alaska Fund is spent



Students and teachers at Eklutna Vocational School catch and prepare sufficient salmon for school needs each summer. The fish are caught by beach seines on near-by Knik Arm and are brought to the school by motorboat and truck. During the "fish run," everyone may work as much as twenty-four hours at a time to take care of a large catch. (Courtesy Dr. G. A. Dale, Alaska Native Service.)

mostly on the school at Palmer that educates children of the Matanuska Valley farm colony.

A percentage of the sales of timber in Alaska's national forests also goes to the public schools. It is not a heavy contribution at

present, but should some millionaire pulp-paper manufacturer come along and start utilizing the virgin forests, Alaska speedily could build a branch of the University of Alaska, something it has been talking about doing for years.

Eighteen of the 21 incorporated cities offer regular four-year high school courses, all of which are accredited through the Territorial Department of Education with the University of Alaska. Fully accredited by the Northwest Association of Secondary and High schools are: Anchorage, Cordova, Douglas, Fairbanks, Juneau, Ketchikan, Nome, Petersburg, Seward, Sitka, Skagway, and Wrangell. The Territorial rural school at Palmer, the Sheldon Jackson denominational school at Sitka, and Wrangell Institute (an Indian school) also are accredited by the Northwest Association. The Palmer school is large and modern, equipped with a good laboratory, a manual training shop, and a gymnasium.

Alaska owns 54 Territorial rural school buildings but did not operate 9 in 1945, largely because of the curtailment of mining which caused many families to move to the cities.

SCHOOLS FOR NATIVES

In schools for natives in isolated regions, Federal government teachers have to be even more resourceful than those in the Territorial schools. Usually, instructors in Eskimo, Indian, and Aleut villages include man and wife, although such an arrangement is not an inviolable rule. They are selected from civil service lists, and must have completed a four-year college course or its equivalent. But a few of the things they are called on to do, they would not have learned at college. Some must supervise management of reindeer herds owned by the natives, and in about forty communities teachers confer with native storekeepers on such matters as markets, credit, inventories, banking, and bookkeeping. They also take charge of conservation of food by encouraging gardening (frequently supplying the seeds) and the preserving of berries, meat, and fish. Where there is no nurse, they may even assist at births or handle medical problems of a complicated nature.

Nurses in the Native Service are directed through the two-way short-wave radio by doctors speaking from hospitals; in emer-



Indian boys carving miniature totem poles in the native school at Ketchikan. (Courtesy Alaska Native Service.)

gencies even minor operations may be performed under such conditions. Teachers in isolated native settlements also are able to communicate with hospitals through the two-way radio service.

Promising native students are trained through an apprentice program, loaned money to attend college, and at conclusion of their training are taken on as apprentice teachers. Other loan beneficiaries secure business training and become highly efficient stenographers and secretaries.

In the war years, native schools averaged 2 principals, 16 principal teachers, 193 teachers, 86 special assistants, and 32 Indian

assistants. Many teachers were deferred from war service because of their usefulness in civilian defense work.

The Alaskan Indians and Eskimos, according to Dr. George A. Dale, educational director of the Native Service, are willing students and seem eager to better their condition. The younger generation is making rapid strides in a new economy. Social welfare work includes assistance in adoption and child placement and aid in cases of destitution or neglect. These services are under the direction of Dr. Evelyn E. Butler, welfare supervisor. Old-age assistance is administered by the Alaska Territorial Department of Public Welfare, with teachers of the Native Service co-operating.

Federal appropriations for hospitals and medical aid have been considered inadequate as indicated by the growth in tuberculosis; hospitalization facilities have been lately increased. Missionaries and religious organizations have aided greatly in building and conducting some of the best schools and hospitals in Alaska.

The Native Service, in addition to its hundred-odd day schools, maintains three boarding schools in widely different parts of Alaska for pupils of from fourteen to twenty years. The one at Eklutna, 23 miles from Anchorage, is attended mostly by Indians. Eskimo children formerly came to this school from far reaches of the Arctic coast—so far that some did not return home even for the summer vacations. Now a newer school at White Mountain on the Seward Peninsula cares for those from the Arctic Circle.

Pupils in these schools and in the Wrangell Institute for Indian children of southeastern Alaska, are trained in fisheries, carpentry, painting, and other vocational pursuits, as well as in languages and mathematics. Enrollment at the native boarding schools averages about 225 at Wrangell, 150 at Eklutna, and 75 at White Mountain.

UNIVERSITY OF ALASKA

Alaska's land-grant college is the University of Alaska at College, about 3 miles west of Fairbanks on the Alaska Railroad. Dr. Charles E. Bunnell has been president of the University since 1922. It is the most northerly situated institution of higher learning in the world. This geographical distinction, frequently publicized, is in itself of little moment, but the distance from which the college draws



Aerial view of the buildings of the University of Alaska,
at Fairbanks, Alaska.

students is significant. They come from Florida and Texas, from southern California and Maine. Near-by facilities for field study in geology, mineralogy, paleontology, and anthropology are exceptional, as Alaska is famous for its mineral wealth and buried relics of past ages.

The University of Alaska, directed by an efficient board of regents which has served during the last three national administrations, is one of the broadest yet most closely knit organizations in the Great Land. It offers four-year courses in arts and letters (including two years in journalism), agriculture, business administration, education, chemistry, civil engineering, general science (including military science), and home economics, as well as geology, mining, mining engineering, and metallurgy. In all these studies the school ranks high.

Five-year courses are offered in civil engineering and in mining engineering, with options in geology and metallurgy. A non-specialized three-year course for teachers is available. The Bureau of Mines has a station on the campus where assaying and identification tests are performed for prospectors and miners.

Entrance requirements are on a standard with those of leading universities elsewhere. The college is a member of the Northwest Association of Secondary and Higher Schools, and is fully accredited in civil engineering and its school of mines by the Engineer's Council for Professional Development. Normal student enrollment is approximately 300, but more than 1,700 other students receive education through the university's extension and short courses.

The principal extension courses are for prospectors and miners. These courses, lasting five weeks, are held in several Alaska towns. At the conclusion of the courses, successful students are awarded certificates in mining, mineralogy, and geology. Agricultural extension courses also are given in several centers of population.

The university conducts agricultural experiment stations at Fairbanks and at Matanuska; it also operates a fur-farm station at Petersburg. The director of the agricultural experiment stations is also the director of the co-operative extension service, with its main office at the university and district offices at Anchorage, Juneau, and Palmer in the Matanuska Valley. The extension service supervises 4-H Club work and conducts home demonstration in canning and other forms of service for the home. Also, it assembles subject matter on agriculture for free distribution. Federal and Territorial appropriations have not been sufficient to meet the requirements of this growing institution.

While the college buildings were taken over during the war as quarters for the armed forces, none of the school work was suspended. Normal conditions were partially restored soon after January, 1945, when the last Army unit was withdrawn.

Ten buildings provide administrative offices, classrooms, laboratories, a library, a gymnasium, a well-equipped power plant, a mine and shop building, a motor building, dormitories for men, and a dormitory for women. The newer structures are concrete while the older ones are frame with concrete basements.

The university museum with its fine collection of Eskimo artifacts—approximately 75,000 specimens—and other features of the

college have drawn many tourists to interior Alaska. The library contains more than 22,000 bound volumes, and about 15,000 booklets and pamphlets; the college subscribes to some 130 newspapers and periodicals.

In 1926 the university began systematic archeological research for evidence of early human migration from northeast Asia through Alaska to continental America. This research was accomplished through both Federal and Territorial funds. A report of these investigations has been published and discloses new evidence that man, presumably from northeast Asia, hunted mammoth and mastodon in the Tanana Valley thousands of years ago.

The Rockefeller Foundation made a grant of \$17,000 to the university for classifying and translating materials essential to a history of Alaska. Priceless manuscripts, mostly in Russian, were obtained and translated. In the field of physical science, the Rockefeller Foundation gave \$10,000 for study of the aurora borealis. The project was carried on for a period of five years and a report of the findings has been published. Research also has been done in measurements of the ionosphere. Laboratory equipment supplied by the Department of Terrestrial Magnetism of Carnegie Institute, Washington, D.C., is installed for that purpose. Laboratory facilities and equipment of the university also have been made available for this work.

In September, 1943, the U.S. Weather Bureau established an atmospheric optics station at the university. Measurements and study of visible illumination and associated phenomena including albedo, surface and sky brightness, and air transparency have been undertaken.

In the summer, research in paleontology under co-operative arrangement with the American Museum of Natural History and the United States Smelting, Refining and Mining Company has been continued in the Fairbanks region where mining operations disclose deposits of the skeletal remains of animals of the late pleistocene age.

The university established an ROTC unit in 1940, and two years later one-third of the students were members. Many of them saw service in World War II.

The Territorial legislature provides for a scholarship of two years' free dormitory rent to one member of each high school graduating class. Sears Roebuck and Company grant \$250 each to

three freshmen students entering the departments of mining, agriculture, or fisheries. The student loan fund, first created by the Anchorage Woman's Club and since then increased by other groups, totals more than \$12,500.

There is no tuition fee for Alaskans. Many of these students are entirely self-supporting; in the long summer vacations, which include 121 working days, they work in mines, at the fisheries, on the railroad, or take farm jobs. During the school year, they wait on table and do odd jobs to help pay for room and board. Students may borrow money from the university loan fund at 4 per cent.

In athletics, the boys have hockey and basketball teams, and the girls join them in skiing and intramural sports. The ski club has a cabin and several ski runs near the campus. Other groups enjoy the social life and entertainment provided by participation in dramatics and similar college societies.

Who's Who in Alaska

NELLIE NEAL LAWING

LEAVING ROSES, snapdragons, and cactus blooming in her cozy log cabin, Nellie Neal Lawing of Lawing sallied forth at dawn last December 1 with her rifle in quest of the winter's supply of meat: a moose and two mountain sheep. She wore a parka of reindeer fawn skin, with heavy wool trousers encasing legs as shapely as Marlene Dietrich's. And Nellie is seventy-two.

Hollywood once beckoned to "Alaska Nellie." She heeded the call, but her sojourn in the land of make-believe was brief. The lure of the wild was too strong, and she returned to the mountains and glaciers of Kenai Peninsula where she had lived for thirty-five years.

As a child on a Missouri farm, Nellie Neal dreamed of Alaska. Her parents, who brought up eleven children, hoped the dream would fade, for Nellie was needed at home as an assistant mother. Today, after a storybook struggle against man, wild beasts, and the elements, she is mistress of all she surveys, in her home at Lawing, old Mile 23 on the Alaska Railroad.

Wesley Neal, her first husband, was an assayer in the States, when she married him in Cripple Creek, Colorado, in 1906. The marriage didn't last, but the name, Nellie Neal, stuck, though she married Bill Lawing in 1923, after having nearly married his cousin. The pioneer lady sourdough had feminine charms. She was slim and pretty. Bill died at Nellie's show place, a whistle stop on the railroad, named for him. It was there that Nellie got her first job as cook.

Nellie could cook, and as early as 1915 she dreamed again, this time of becoming the "Fred Harvey of Alaska." Her first step

toward the goal was running the eating house at Mile 45 on the new southern division of the United States railroad from Seward to Anchorage. All meals were four bits. She supplanted a picturesque, although not entirely ethical, character known as "T-Bone" Clark, who had a neat trick of slipping a T-bone from a genuine steak into a hunk of chuck or round steak. And he got away with it, thanks to the sourdough appetites.

The cheechako girl from "outside" was regarded as a "softie" when she reached Alaska—but not for long. In time away from her busy cook stove, Nellie drove dog teams through dark freezing nights to rescue stranded pioneers; they would have died without her aid. Once she carried the mail and the half-stiffened mailman on her sled, hitching herself into harness when a malemute fell exhausted. She put the helpless dog on the sled with the mail carrier, bringing them both to warmth and safety.

Nellie slept and fed 75 miners in a four-room roadhouse during a blizzard. She worked all night preparing breakfast—250 biscuits, 4 sides of bacon; 10 gallons of coffee. On another night when a couple of half-frozen miners came in, packing \$750,000 in gold dust, Nellie said, "Chuck it under the dining-room table. No one bothers anything in my place."

The girl from the States helped shovel stalled government trains out of mountainous snowdrifts. She runs a trapline in the perilous Kenai region where a misstep would plunge her a thousand feet into a glacier's crevice. She has gloried in this life. It is her dream come true. "I always managed," Nellie said, "to see the bright side; the rainbow that would follow the storm. The blue of the early night and the gold of a brief noonday morning seemed in silent conflict. This was the Land of the Midnight Sun!"

Nellie shot her first bear—a huge female—at a distance of 50 feet. Had she missed the charging animal, her story would have been told long since. She captured the cubs and made a pet of the male. The female was just naturally too mean. Nellie laughs when she tells how she found them both stupefied from lapping up her homemade blueberry wine. And what hangovers! "It kept me busy all day filling their water pan."

Next she shot a 1,400-pound moose. Every fall, Nellie took her dog team and sled and went into the wilds alone to bag the king of Alaska's edible wildlife for her winter store of steaks and stews.

That first year she even snared a wolverine, a vicious, crafty, savage fighter that robs traps and outfoxes the smartest hunters.

When Warren G. Harding, the first president of the United States to visit its greatest territory during a term of office, went to Alaska in 1923 with a man later to be president—Herbert Hoover—he and Nellie were friends immediately, for two reasons. He had once had a sweetheart by the name of Nellie Neal; also, he was familiar with Alaska Nellie's signature on hundreds of vouchers for railroad employees and supplies that had been audited in Washington.

That was Alaska Nellie's early life in the Great Land. Her dream, her faith, and her fortitude paid off. Now she lives at Lawing, rich in memories and well-to-do in tangible assets—a lodge with a museum full of trophies. Her remodeled home is a treasure house of skins and heads that pay eloquent tribute to Nellie's marksmanship. Occasionally she sits by her huge open fireplace, where spruce logs blaze and crackle, and she beguiles her guests with stories of the Northland. Civilization is moving in, but it has not yet reached "Nellie's Place."

HARRIET S. PULLEN

The grand old lady of Alaska is Harriet "Ma" Pullen of Skagway, aged 86. She is one of the country's chief characters. In her picturesque hotel, the Pullen House, is a museum with priceless souvenirs of the good old days. She has piloted thousands of tourists through her "theater," and some have dubbed her the Sarah Bernhardt of the Northland.

It was not the spirit of adventure that sent Mrs. Pullen, a young widow with three small sons, to the mythical land of fortune; it was necessity. She wanted to make a living for her brood, to get rich if possible. Her husband, prosperous in the seal trade in Seattle, crashed in the panic of 1896. She paid off his debts, salvaged the remaining dollars, locked her front door, and went off to Alaska.

Why Alaska?

The old lady twinkles at the question.

"A neighbor shook a newspaper in my face," she said. "'They've



Nellie Neal Lawing



Harriet S. Pullen

found gold up there!' the woman shouted. 'Everybody's going to be a millionaire. You can't fail to get rich!'

With her boys and seven horses, Harriet Pullen got off the boat at Skagway. Actresslike, she rode a horse down the gangplank into the crowded town. And that town has been her home ever since.

In her long eventful life, "Ma" has known many and diverse characters, from Warren Harding to Jefferson Randolph Smith, alias Soapy. President Harding was better known, but Soapy was the more interesting.

Soapy was early Alaska's boss con-man. He was a mixture of Yellow Kid Weil, Jesse James, with a little of Al Capone thrown in. Soapy used trickery, but his barkeeps used brass knuckles. In his earlier days in mining camps in the States, he earned his sobriquet through the artistry of wrapping a \$100 bill around a bar of soap and selling the two for \$1. The only catch in the sale was that the purchaser never got the \$100 note. The Soapy hand was quicker than the sucker's eye.

"Wasn't that a bit—let's say—dishonest?" Mrs. Pullen was asked. She thought a moment, then she said:

"Well, he was a bit sharp. But in those days, understand, being sharp was sometimes considered good business."

Mrs. Pullen no doubt was somewhat fond of the affable limber-fingered Soapy. "He was a polite young fellow," she mused, "with perfect manners. He always tipped his hat and said, 'Good morning' or 'Good evening, Mrs. Pullen.'"

Nor was Soapy slow at repartee. One day a friend asked him why he didn't turn his acknowledged talents to better purposes—for, "the way of the transgressor is hard."

"Yes," admitted Jefferson Randolph Smith, "hard to quit!" And he didn't cease his transgressing ways. About the time the Spanish-American War started, vigilantes went out to get him, and did. But the leader, one Frank Reid, was killed along with Smith in the exchange of bullets. Reid has the bigger monument, but Soapy's is better cared for. Mrs. Pullen had a bronze grill built around it, to keep it safe from a curious, souvenir-hungry public.

Ma Pullen started her hotel at Skagway, and it is today one of the best in the Far Northwest. The spot was strategic, the start of the trail to the Klondike, over the Chilkoot and White passes. Skagway was a metropolis with bright lights (lamps with large reflectors), where miners who had found gold stopped to spend it on their way home. Soapy Smith helped them do that to perfection. Mrs. Pullen prospered too by legitimate means.

The pride and joy of "Ma" Pullen's life was her boy Dan—Col. Daniel Dee Pullen—first West Pointer from Alaska, a tackle on the football team, winner of decorations in France from General Pershing and from King Albert of Belgium. Dan was a classmate of General Buckner, hero of Okinawa. He probably would have been a general in World War II had he not died in an epidemic of influenza.

As proprietress of the only worth-while hotel in town, Harriet Pullen, even at her age, works sixteen hours a day, besides showing the glories of her museum to visitors. She has been offered fancy prices for her treasures and for her private airport, but she won't sell.

Mrs. Pullen puts on Dan's West Point coat to begin the sight-seeing tour in her museum. Here are Soapy Smith's gambling paraphernalia in apple-pie order, as well oiled as when that dubious gentleman left them. She sometimes puts a chip on the double zero

of the roulette wheel, spinning it just for old time's sake. Here are Danny's trophies also, from the gold football won on the gridiron at the "Point" to the medals for bravery in France. Near the heroic soldier's souvenirs are those of a soldier of fortune: mahogany poker tables, scarred with bullet holes and with broken side mirrors; Soapy's roulette, faro, and chemin-de-fer tables; a silver-plated 41-caliber horse pistol. There is even a daguerreotype of the gambler propped in his coffin.

Sometimes Ma Pullen's thoughts stray back to her young days in her fine gabled house and her 1,700-acre estate at Cape Flattery, near Puget Sound. It's then that she pulls off a shelf the leather hatbox that belonged to her grandfather. Out of it she takes a shining black beaver hat, which rather wistfully she slaps rakishly on her snow-white hair. When she wore that hat to the hunt, she had never heard of the Skagway! (Editor's note)—Harriet Pullen died in August, 1947.

GOVERNOR ERNEST GRUENING

Ernest Gruening was appointed governor of Alaska late in 1939. The incumbent, John W. Troy, whose term was about completed, was not in good health. According to the best reports, President Roosevelt had already scented war with Japan and felt that Alaska should have a governor who was in close touch with Washington. Governor Gruening, born in New York City in 1887, is a graduate of Harvard University, and had had military training at Camp Zachary Taylor, Louisville, Kentucky, in World War I. He was a candidate for a commission when the armistice was signed. At the time of his appointment to the Alaska post, he was director of the Division of Territories and Island Possessions, a branch of the Department of the Interior, and was therefore familiar with Alaska as well as Hawaii, Puerto Rico, the Virgin Islands, and other possessions. Some people have said that Governor Gruening had fallen in love with Alaska and wanted to go there. That was not the case. When approached by President Roosevelt regarding the appointment, he advised his superior that it might be better to name an Alaskan and suggested a number of persons he thought eminently fitted for the job. But the President had his own

ideas. He considered the list of eligibles, then decided that Ernest Gruening would prove more useful than any of them.

Governor Gruening has had six years of hard work in Alaska. He is liked by progressives who take cognizance of his energy and ability. He is not so much in favor with old-timers, some of whom, while realizing that his judgments and principles are sound, resent the manner in which he presents them.

No one questions that Ernest Gruening made a good war governor. When the federalized National Guard was made part of the Army prior to Pearl Harbor, the governor organized the Territorial Guard which became known as "Gruening's Guerrillas." The strength of this defense force grew apace, until it was fully as great as the four companies of guards that had been taken into the regular armed forces.

Alaska's governor has sound views on taxation, and his greatest effort has been directed against antiquated tax laws in Alaska. His first job of consequence was the employment of tax experts, both Federal and civilian, to draw up a program that would bring adequate revenue to the Territory without proving burdensome to the people. When presented to the legislature in 1941, the program was coldly received, presumably because old-time Alaskans had not been sufficiently consulted before its presentation. Governor Gruening was not hesitant in expressing his views as to why the proposed tax measures were buried. He attributed defeat to the lobbying of the gold and salmon interests, controlled largely by "outside" capitalists. However, what constitutes an Alaskan and an "outsider" is two-sided; their interests are more or less entwined.

Progress was made in the last legislature in social reforms and in the expansion of Territorial departments, but the old-timers still barred essential tax measures. The governor has futilely recommended an equitable income tax as well as increased taxes on the salmon industry. He also has made a strong fight for statehood.

EARL N. OHMER

"Shrimp king of Alaska"; owner of two canneries; chairman of the important Alaska Game Commission; boss of a chamber of commerce, and former mayor; president of the Yukon Fur Farms;



Governor Ernest Gruening



Earl N. Ohmer

chairman of the Selective Service Board; captain of the Auxiliary Coast Guard; local representative of the Office of Indian Affairs; guardian of Japanese property, with power of attorney for the United States government; agent for four wholesale fish companies; marine surveyor; travelogue representative; adopted chief of the Eagle Clan of the Tlingits, with the Indian title of Tah-Tu-Tan—all these jobs and titles belong to one man, Earl N. Ohmer of Petersburg. They suggest that he has gathered little moss during his thirty-nine-year sojourn in the Great Land.

In appearance something of a cross between Teddy Roosevelt and Buffalo Bill and about the size of both, Earl Ohmer stands six feet, six inches, in his ten-gallon white sombrero. The only thing out of line about Mr. Ohmer is his Indian name. Tah-Tu-Tan means "quiet waters," but he is more of a Niagara Falls or a Five Finger Rapids. The Tlingits meant well in bestowing the title, for Quiet Waters was a chieftain; they think a lot of his namesake.

Earl Ohmer is typical of the successful Alaskan pioneer. He was born in Dayton, Ohio, in 1882. "Six kids in the family," says Earl,

"starting with me, then swinging to girls, and closing with my brother Paul who weighs twice as much as the record king salmon. A pretty good wind-up." He went west with his mother, was reared on a Minnesota ranch, was graduated from high school, and had some finishing touches of college at Winnipeg. Next he rode range in Alberta for the CO outfit and the Circle Dot, and later broke horses for the Royal Mounties at Calgary. After that tempered life, Earl Ohmer entered the strenuous career of a superintendent for the American Cigar Company in the States. Then he went back to the sagebrush in eastern Oregon, working at railroad-ing, lumbering, and mining, being sheriff in a wild country, and again punching cows.

At the famed Pendleton Roundup, which set Gary Cooper up in cinema neons, Earl Ohmer won the chaps. In a toss-up between Hollywood and Alaska, the cowboy decided on the Panhandle. He settled just north of 54° 40', taking root and marrying a fine Alaskan girl. They have three sons and a daughter—Bob, Dave, Jim, Patti. During the war, one boy served in the South Pacific and another in the Aleutians, but all are now in business with Dad, handling a more diversified fish pack than any other operator in Alaska.

It must be mentioned that the world-record salmon—126 pounds—was taken in one of Earl Ohmer's fish traps. It's stuffed, and is on view in Petersburg.

B. FRANK HEINTZLEMAN

Alaska's forest primeval, with its towering spruce and its hemlock, is the pride of B. Frank Heintzleman, regional forester. A graduate in forestry from Yale University in 1910, Mr. Heintzleman has been with the Forest Service in the Pacific Northwest and in Alaska since he left college. His Alaska career covers a quarter of a century and since 1937 he has been in charge for the Department of Agriculture. The regional forester is another Federal employee who is regarded as almost a native son, not as an aborigine, but as a dyed-in-the-wool sourdough with a job that would give many another man a prolonged headache.

In a small way the lumbering industry is on the up grade, but the trees keep growing. Prior to the depression of the early thirties,

Heintzleman almost convinced Pacific Coast pulp manufacturers to consider Alaska's virgin timber for the manufacture of newsprint. Since then it has been like a kid's game of hide and seek. Heintzleman is still the "seeker" and in the postwar era he has, as the youngsters say, been "getting warm." But he is still looking for a millionaire pulp king who will take advantage of the vast possibilities in Alaska.

Aside from the forestry job, Mr. Heintzleman is commissioner for Alaska in the Department of Agriculture, a position which brings him in contact with the problems of Alaska's farming and livestock industry. In addition, he represents the Federal Power Commission in matters dealing with hydroelectric development in the Territory. The regional forester's specialty, however, is logging and immediate timber utilization. He envisions not only paper plants, but plywood mills and woodworking enterprises commensurate with the huge forest reserves. Their sustained yield is estimated at one billion board feet a year.

Mr. Heintzleman takes an active interest in many other phases of Alaska development, especially homesites in the National Forests, and has served on many Federal and Territorial boards and commissions.

JUDGE ANTHONY J. DIMOND

Anthony J. Dimond (Tony to countless friends) served twelve strenuous years in Washington as Alaska's representative in Congress. The official title is "delegate," but Dimond made his job more inclusive than this implies. One usually hears that the war first put Alaska on the map, but Dimond had a hand in making the more astute congressmen aware of its existence, even before Pearl Harbor.

While Donald MacDonald is credited as the patient parent of the Alaska Highway, it was Anthony Dimond who made Congress see the light. His personal ideas and knowledge of events preceding the war were prophetic, just as were those of General "Billy" Mitchell in 1935.

Tony Dimond, at the close of the Seventy-eighth Congress, decided to let someone else take up the cudgel in Washington. When



B. Frank Heintzleman



Judge Anthony J. Dimond

he announced that he would not again be a candidate, President Roosevelt appointed him as U.S. district judge in Alaska's third judicial division, the sector of which Anchorage is the hub. Judge Dimond's change of jobs was scarcely retirement to a more peaceful life, as some describe it. He still is a very busy citizen. He sits in the Aleutians as well as in Alaska's largest city, and takes what are often rough air trips for his "flying court," which periodically tours leading towns on the Alaska Peninsula and the "stepping stones."

Judge Dimond has the quality of firmness combined with a sympathetic view of human frailties, together with a dry wit which he can use to account. In Washington he was a match for any statesman on the House floor or in committee room. The judge believes that taxes are the price we pay for civilization and that Alaska might well become more "civilized." His bill urging statehood for Alaska was introduced December 2, 1943. It was the strongest bid for home rule in Alaska made up to that time, and was recognized as the expression of a tried statesman—recognized, but not acted on.

Anthony Dimond was born at Palatine Bridge on the Mohawk River, New York State, sixty-three years ago. The lure of gold

took him to Alaska in 1905, where he prospected for six years, then turned to the law, starting his practice at Valdez in 1913. He became assistant U.S. district attorney, later the mayor of Valdez. Next he was elected to the Territorial Senate, serving two terms, and was elected congressional delegate in 1932. Judge Dimond was married to Dorothea Miller of Valdez in 1916. Their son, Lieutenant John Dimond, recently was awarded the Silver Star and the Bronze Star medals for his services in the Philippines. They also have two daughters—Anne and Marie.

COL. OTTO F. OHLSON

One of Alaska's most colorful figures is Col. Otto Frederick Ohlson, born in Sweden in 1870. He was a railroad telegraph operator in Sweden, South America, and India before coming to America, where he was first employed for seven years as a switchman and brakeman on the Pennsylvania Railroad. Transferring to the Northern Pacific, Ohlson's advancement was rapid—station agent, train dispatcher, train master, assistant to the general superintendent. At the beginning of World War I, he entered the Officers' Training Corps at Camp Grant, Illinois, going to France as major and later becoming lieutenant colonel in the Engineer Reserve Corps. He served as aide to Gen. W. W. Atterbury in the Transportation Corps, and at the close of the war, returned to the Northern Pacific as district superintendent with headquarters at Duluth.

During President Coolidge's administration, in 1928, Colonel Ohlson was named by the Secretary of the Interior as general manager of the Alaska Railroad. His job was to change a white elephant into a going concern. By devious means, managerial acumen, and above all by hard work, Colonel Ohlson accomplished the task assigned. He was a natural-born trouble shooter.

When there was a wreck—not an infrequent occurrence—day or night, the Colonel, using his unique "scooter," an automobile with steering wheel removed and with hard rubber tires adjusted to the rails, was on the job posthaste, traveling 60 to 70 miles an hour for great distances, often in blizzard weather. Bears, moose, and railroad trackwalkers learned to respect the honk of the Colonel's horn. His frequent inspection trips from one end to the other of Uncle

Sam's 470-mile road kept workmen on their toes. At 75, he was still as agile as a mountain goat. Good health and Scandinavian tenacity fitted him eminently for the tough post he filled in a rugged land.

Though hard-boiled in matters of management, and impervious to complaints of Alaskans about time schedules or freight rates, Colonel Ohlson had his softer moods when he admired Alaska's scenic vistas and its flora and fauna. When he pronounced Alaska's mountains and wild streams superior to any others, he spoke with authority, for few men had seen more of nature's handiwork throughout the world. Next to successful operation of the railroad, his chief ambition was the development of Mt. McKinley National Park. He still sees a great future for this huge reservation of the Interior Department, which up to now has not been widely patronized.

The highest salaried man in Alaska, not barring the governor, Colonel Ohlson resigned on December 31, 1945, and paid a long-delayed visit to his native home in Sweden, but left behind varied interests in Alaska. Colonel Ohlson's successor as general manager of the Alaska Railroad is Col. John P. Johnson, of the Army Transportation Corps.

FRANK DUFRESNE

Frank Dufresne, a resident of Alaska for a quarter of a century, is recognized nationally for his knowledge of wildlife. As chief executive of the Alaska Game Commission for many years, Dufresne traveled thousands of miles over mountain trails and followed every bay and inlet in the broad expanse of varied terrain and waters. He has driven his own dog team more than 4,000 miles in a single winter; has gone beyond the known haunts of animals and birds into their little known breeding grounds; has penetrated the dense forests of southeastern Alaska, climbing rock cliffs in the bleak Aleutians; and has traced the rare sea otter's bobbing head in the kelp patches off Amchitka Island.

Dufresne was born in New Hampshire and later served overseas with the famous Yankee Division in 1918-1919 before going to Alaska as a free-lance writer. His interest in nature drew him into the role he has followed throughout the years, that of wildlife protector. He was a tough enforcer of the game laws. Despite his many



Col. Otto F. Ohlson
(Courtesy American Locomotive Co.)



Frank Dufresne

administrative duties Mr. Dufresne found time to write several hundred articles and stories about Alaska, and his illustrated book, *Wild Animals in Alaska*, is considered an authoritative account of its subject. He has been commissioned by the government to bring out a similar work dealing with the game fishes of the Territory.

Frank Dufresne's new assignments are national rather than territorial in scope. He has been made chief of the Division of Information, U.S. Fish and Wildlife Service, but the Northland is in his blood, and that is where his heart is.

AUSTIN E. LATHROP

Alaska's homemade millionaire, Cap Austin Eugene Lathrop of Fairbanks, is a gilt-edged example of the opportunities that await a settler in the Northland. He is not known as Austin E. or as "Captain." Plain or fancy, to friend or foe, he is just Cap Lathrop, with no quotation marks to imply that he has usurped a title not rightfully his

Cap is worthy of his sobriquet and within his rights in using it, as he owned half interest in a boat and commanded it when he sailed from Seattle to Alaska. Shifting from sea to land, he achieved outstanding success in the development of a number of enterprises. As a financier, Cap Lathrop at eighty is the kingpin. He controls two banks and five theaters and has a large share of the profitable coal mines at Healy, several apartment buildings, a radio station, and a newspaper. His holdings in three cities, Fairbanks, Anchorage, and Cordova, are estimated to be worth several million dollars.

For many years, Cap has been vice president of the Board of Regents of the University of Alaska. He qualifies as a "civic leader" though there is no tangible evidence that he has promoted any of his vast enterprises without considering potential returns for himself; but that is a trait common to successful men. Some of his buildings have been on a more elaborate scale than the locality seemed to warrant, but in this he has shown vision and good judgment. As his efficient and incomparable secretary, Miriam Dickey, expresses it, the Cap's planning and execution of new enterprises "is eloquent testimony to his faith in Alaska's future." While he has yet to qualify as a philanthropist in a big way, a lot of Alaskans are happier because Cap steered his ship to the Territory forty-five years ago. His employees adore him; his business rivals envy him.

Cap Lathrop lives and dresses modestly. His residence is a small apartment in the building that houses his newspaper, the *Fairbanks News-Miner*. A widower, he eats his meals at a near-by restaurant (which he does not own). By no means, however, is the Cap a miser or a Scrooge. Those who work for him in three cities are all remembered at Christmas with presents that make the Yuletide more cheerful. When one of his employees marries, Lathrop's gift is among the most valued and valuable.

Born in Lapeer, Michigan, this enterprising pioneer reached Seattle in 1889, and helped rebuild the young city, then in ashes after a fire. In 1896 he bought an interest in a two-masted schooner, making his first trip to the land of gold. But gold in the hills never tempted him. Like Tex Rickard, also a passenger on the boat, the forthcoming magnate of millions saw nothing to attract him in mining. He let others dig for gold while he conceived simpler ways to acquire it.

Some call Cap Lathrop a monopolist. About the only things he

monopolized were common sense, energy, and a business acumen for sound investments.

Cap likes the company of young folks; the yarns of the ancient sourdoughs weary him. He is not opposed to an occasional tippie, and if he sees a well-meaning miner temporarily embarrassed, he will peel off a five dollar bill from a fat roll and caution the man to take it easy. But Lathrop expects to get the five back—and he does; he is a stickler for honesty in all financial transactions.

IKE P. TAYLOR

From the state of Missouri went Ike P. Taylor in 1916 to do some road building in Alaska. At that time he joined the Alaska Engineering Commission at Nenana as resident and office engineer, a position he held through 1920. When the Alaska Road Commission was established by the Federal government, Taylor served consecutively as superintendent, assistant chief engineer, and chief engineer. The latter position, the most influential in Alaska's road-building program, he has filled since 1921. Though a Federal employee, he is regarded as a typical sourdough.

Ike Taylor was graduated from William Jewell College in Liberty, Missouri, with a B.S. degree. He avers that he has no political aspirations, that he would rather boss a concrete mixer or lay a hundred miles of asphalt. But so far he hasn't had the latter opportunity, for Alaskans are fortunate if they can pay for crushed rock or gravel. But the Taylor road-building crews, along with those of the Public Roads Administration and the Territorial engineers, have done quite a job in the past years.

As ages go in Alaska, Ike Taylor is virtually an infant—only forty-six. If he lives as long as Cap Lathrop, he may yet build a concrete highway in the Great Land.

DR. CHARLES E. BUNNELL

The University of Alaska has an aggressive leader in Dr. Charles E. Bunnell who has been its president since 1922. Dr. Bunnell was born in Dimock, Pennsylvania, in 1878, and was graduated from Bucknell University in 1900. This university awarded him the degree of LL.D. in 1925.



Austin E. Lathrop



Dr. Charles E. Bunnell

Dr. Bunnell moved to Alaska the year of his graduation to become a teacher in the Indian schools under the U.S. Bureau of Education. He was principal of the public school at Valdez for four years, and having studied law, was admitted to the bar in 1908 and practiced in Valdez.

In 1915, Dr. Bunnell became judge of the United States District Court, Fourth Judicial Division, through appointment by President Wilson. He served seven years, then in 1922 became the first president of the Alaska Agricultural College and School of Mines, now the University of Alaska.

In his capacity as head of a land-grant college, Dr. Bunnell has been interested in the development of Alaska's agricultural potentialities, and under his guidance, the agricultural extension service has been expanded and has stimulated the interest of youth as well as proved beneficial to those engaged in farming. He believes firmly that Alaska can produce most of its food supplies and that the Territory cannot attain a strong balanced economy until increased agricultural production is attained.

Dr. Bunnell is a life member of the Pioneers of Alaska, a member of the Arctic Brotherhood, a Mason, and an Elk. He was married in 1901 to Mary Ann Kline of Winfield, Pennsylvania. A daughter, Jean, served as a Wave during the war.

KENNETH E. O'HARRA

Success stories in Alaska no longer are limited to gold strikes or the netting of the "silver horde." A Horatio Alger of urban inclinations is Kenneth E. O'Harra, formerly corporal in the armed forces at Fort Richardson, near Anchorage. Young O'Harra went to Alaska from his home in Columbus, Ohio, in 1936 with a knapsack and \$30. Today he is one of the most important figures in the Territory's rapidly expanding transportation field, operating thirty modern buses on the interior highways and on the Alaska Highway as far as Whitehorse, Yukon Territory. He owns two apartment buildings, a garage, and an attractive roadhouse at Gulkana on the Richardson Highway, known as Santa Claus Lodge.

As to background, Kenneth O'Harra had a year at Ohio State University. He ventured into the Northland without any particular knowledge of transportation operations, but he speedily acquired it when he saw the existing opportunity. He worked for a canning company for a year, then bought a truck and won a contract to haul the city's refuse in Fairbanks. Now he is hauling Alaskans by the hundreds. He acquired two buses in Fairbanks and started a profitable business from the town to Ladd Field. In 1941, he shipped one of his buses to Anchorage, starting a run from that city to Fort Richardson. It was from Anchorage that his bus lines grew to their present proportions. Agencies of the service are situated in Palmer, Fairbanks, Valdez, on the coast, Gulkana in south central Alaska, and in Whitehorse.

In 1944, Kenneth O'Harra drove a large Beck 33-passenger Mainliner bus over the full length of the Alaska Highway and into Fairbanks, and he has been a booster for the military road ever since that trip. His operation on the highway from Fairbanks to Whitehorse is a year-round service, and his buses cover important towns and resorts in many parts of the Territory, with a regular schedule between Anchorage and Fairbanks and from both these cities to Valdez. In summer, Circle Hot Springs, a booming resort in north-

eastern Alaska, near the Canadian border, is one of the principal centers of his service. The town of Circle, a few miles from the springs, is on the Yukon River and is one of the main landing places for the river boats that carry passengers Alaska bound from the northern railroad terminus of the White Pass and Yukon Route at Whitehorse.

Like his older prototype, Cap Lathrop, Kenneth O'Harra believes that Alaska is destined for great and quick growth. Therefore, he continues to expand his operations, plowing his earnings back into such expansion instead of sending them outside. The war did not stop young O'Harra; he ran two jobs at once and ran them well.

E. L. (BOB) BARTLETT

Edward L. Bartlett is Alaska's delegate to the Congress of the United States, an elective position he won in 1944 by a big majority. Named Edward L. by his proud parents when he was born in Seattle in 1904, few in Alaska call him anything but Bob. His highest ambition is to see the Territory become a state during his tenure of office. He considers that Alaska is ready for statehood, that it is an essential step for economic and political adjustment, and he is one of the staunchest workers for it.

While many Alaskans make their "stake," then journey southward to build homes in Washington State or in California, Bob Bartlett has stuck to Alaska. Although not a member of the bar, he has a good legal mind as well as sound business sense. Unquestionably he could prosper in any community he selected. His home is in Fairbanks where his parents lived after their marriage in Dawson, Yukon Territory. They were pioneers in every sense of the word. His mother, hearing fascinating tales of the Klondike gold rush, went to Skagway and over the Chilkoot Pass. She met her future husband in Dawson, where he and his brothers were packing supplies for miners.

Though it has been reported that young Bartlett took the name Bob because of hero worship for the famous explorer of that name, this is a misconception. A sister started calling him Bob merely because she liked the name better than Ed; now he's Bob in the halls of Congress as well as in Juneau, Fairbanks, or Little Squaw Creek.



Edward L. Bartlett

Kenneth E. O'Harra
(Courtesy U.S. Army Signal Corps.)

Bob Bartlett was graduated from high school in Fairbanks, attended the University of Alaska, then worked as a reporter on the daily *Fairbanks News-Miner*. In 1932, Anthony J. (Tony) Dimond went to Congress from Alaska and Bartlett went along as his secretary. He learned the essentials of a representative's duties, but after little more than a year, he and his family returned to Alaska.

In Juneau, Mr. Bartlett served as chairman of the Alaskan Unemployment Compensation Commission, and in 1939 he was appointed by President Roosevelt as secretary of Alaska.

When Anthony Dimond retired from Congress to become a Federal judge, quite a few Alaskans wanted his Washington job, but Bob Bartlett was easily the people's choice. At the Capitol he is a member of important House committees, and after V-E Day he toured Europe with members of the military affairs committee.

Despite his committee duties, Bob Bartlett finds time to be a genial host to visiting sourdoughs who descend on Washington at frequent intervals. He is comparatively young for an Alaskan solon and is healthy and energetic. He has a good sense of humor, but more im-

portant, a high regard for his fellow men, no matter what their station in life.

EMERY F. TOBIN

Emery F. Tobin, editor and publisher, seems attuned to the mood and tempo of Alaska, having possibly even more than average energy. "Holding a mirror up to life on the last frontier" has proved mutually beneficial to Tobin and to the Territory. His *Alaska Sportsman*, a monthly magazine published in Ketchikan for the last decade, has a literary flair peculiarly representative of life in Alaska. From a small beginning, it has grown into a half million dollar business with the largest payroll of any local enterprise, except that of the Ketchikan Spruce Mills.

The *Sportsman* is the only Alaskan publication widely circulated outside the Territory. Its editorial field is much broader than that of the usual hunting and fishing magazine. It reports ventures in homesteading, agriculture, mining, forestry, fur farming, and other enterprises; also, it delves into the history and romance of early settlement and the search for gold. While Mr. Tobin steers a literary course free of politics, his lead page editorial is usually a clear-cut analysis of some specific need or some outstanding opportunity in Alaska.

Originally a Bostonian, Emery Tobin started his career as a reporter in Quincy, Massachusetts. Later, he followed his father to Alaska where he had gone in quest of gold. After years of prospecting in the Wiseman country and leaving a mountain and several creeks named for him or members of his family, Mr. Tobin senior settled in Ketchikan.

One of the most significant things that can be said of the younger Tobin is that he has no office in Seattle and had not been outside Alaska for thirteen years until the summer of 1945, when he and his wife flew to Portland, Oregon, to visit her relatives. He serves as a self-appointed guide to visitors in the Panhandle's "first city." Because of his fondness for outdoor life, Mr. Tobin takes delight in showing the Ketchikan district to newcomers and in organizing many nonprofit boat trips during the season. His happy demeanor, sociability, enthusiasm, and knowledge of the country make him an

ideal host. The trips—thirty to forty in a year—take a good deal of a busy publisher's time, but he enjoys them as an altruistic hobby.

Emery Tobin, fifty years old, robust, rather short and stocky, is noted in Alaska as an organization genius who whistles as he works and has a marked capacity for concentrated effort. A veteran of World War I, he is prominent in American Legion activities and in the chamber of commerce. He is also a leader in the Rotary Club, a member of the local yacht club, and of a polar exploration society. Although not particularly active in the latter organization, he is eminently suited to be, for apparently he is immune to cold. In winter he is frequently seen on Ketchikan's streets hatless and without a topcoat.

Mr. Tobin's magazine, however, is his real life work; it is also Mrs. Tobin's, since she acts as managing editor. Many employees in both editorial and business staffs are women. The *Alaska Sportsman* is edited and printed in Alaska. Written mostly by Alaskans, it is a true reflection of the Territory's progress and native lure.

NOEL WIEN

Typifying the spirit of the Northland's fight to overcome handicaps in air transportation, Noel Wien of Fairbanks and Nome has done much to make Alaska air-minded. In point of service, he is the oldest living pilot of those who pioneered the Alaska air routes in the days of the bushers and remained to develop a modern industry.

Noel Wien was born at Lake Nebagamon, Wisconsin, in 1899. Later, he was located in Minnesota where he learned to fly for the Curtis Northwest Airplane Company. In 1924 Mr. Wien went to Anchorage, Alaska, where he carried the first joy hoppers of the city in a Hisso Standard plane. In July he flew to Fairbanks, spending the summer flying in and out of the Golden Heart city. Returning to the States in the fall, he purchased for the Fairbanks Airplane Company the only cabin plane available in America—a Fokker, manufactured in Amsterdam.

Wien Alaska Airways was established by the flier in 1927 with an operation base at Nome. This was the first and only airplane service in Nome until 1929. Then the pioneer flier sold out to

Alaskan Airways, now the Alaska division of Pan American. In 1936, he bought controlling stock of Northern Air Transport, changing the name to Wien Alaska Airlines, which still is operating in many parts of the Territory.

Each time Noel Wien made a trip to the States he returned with one of his brothers, until he had brought three of them to Alaska. His oldest brother, Ralph, was killed in a plane at Kotzebue in 1930. Fritz and Sigurd are now operating Wien Alaska Airlines. In the second year of the war, he initiated a parts and service organization at Fairbanks and was joined by Joe Crosson, another famous pioneer Alaskan flier.

After twenty-one years of flying in Alaska, during which he went on many rescue missions and figured in sensational flights typical of the dare-devil bushers, Noel Wien retired from his airline company to devote full time to a new field in aviation. In his earlier years, he had flown old Jenny and Standard planes, with unreliable water-cooled engines, no radio, and often without a compass; such maps as he had were inaccurate. With this poor type of equipment, Noel Wien was the first to make a landing in dozens of Alaskan towns. He loaded his plane with whoever or whatever was to be transported, flew to his destination, and picked a landing on a sand bar, mountain dome, or any available spot. He suffered

Noel Wien, in the foreground, after landing on a rough river bar in 1924.



many hardships at first because of lack of knowledge of the country and was often forced to spend a bitter night in the open when the winds were stronger than the flying speed of the plane.

Noel Wien was the first Alaskan pilot to fly north of the Arctic Circle (October, 1924), and the first in the world to fly a round trip from North America to Asia and back to Alaska (March, 1929).

LEW M. WILLIAMS

"I write politics, but I don't play 'em," Lew Williams once told a good friend in Wrangell, Alaska. He added that he never had and never would seek a public office. Shortly after that "I do not choose to run," speech, Mr. William became mayor of Wrangell. The voters circulated a petition asking him to take the job. Now he is secretary of Alaska, an appointee of the late President Roosevelt. So whether he willed it or otherwise, Lew Williams got into politics. He is the chief executive of Alaska when Governor Gruening is away. Last winter, Williams was at the helm for two months or more while the governor was in Washington.

Lew Williams is a newspaperman, owning the *Wrangell Sentinel*, a weekly which is managed by Mrs. Williams. The secretary's only editorial contribution to his paper is a first-page column, "The Periscope," aptly named in that it presents a point of view not to be found in any other medium. It is more a news column than one of comment and is considered the most authoritative in the Territory. Once a week, of an eve-



Lew M. Williams

ning, Mr. Williams takes time out as an official and writes as if he were back in his editor's chair in Wrangell. He pulls no punches, factually.

As a journalist, Lew Williams was coaxed to Alaska in 1935 by the late Bob Bender of the *Juneau Empire*. The future secretary, at that time, was a political writer on the *Tacoma Ledger*. Mr. Bender was attracted by his work and persuaded him to join the staff of the capital city's paper. Four years later, Mr. Williams wired to his wife: "I have just bought the *Wrangell Sentinel*. Be up to get you on the next boat." And that message made Mrs. Williams an editor. The paper, first published November 20, 1902, is the oldest continuous weekly in Alaska. It has never missed a publication date.

Lew Williams was a sailor in World War I; his son, Lew, Jr., served in World War II as a paratrooper with the Army's 11th Airborne Forces.

Wrangell, with a population of about 1,500, is 846 miles north of Seattle. It is at the mouth of the Stikine River, the approach to the famous Liard country of British Columbia and to the Telegraph Creek district, both important from the standpoint of mining and as the goal of sportsmen. Wrangell originally was a Russian military post, acquired later by the Hudson's Bay Company, prior to the purchase of Alaska by the United States. Next to Sitka, Wrangell is the oldest town in southeast Alaska. Lew Williams thinks it has a good future, especially as the site of renewed activity in the lumbering and fishing industries.

GRIZZLY SAM

It is perhaps not "cricket" to run Grizzly Sam's episodic tidbit along with the biographies of Alaska's interesting characters, but after all, Sam is Alaska and Alaska is our story. The tale emanates from Earl Ohmer whose veracity is exceeded only by the quality of his 27.6 per cent vitamin C shrimp.

Said Mr. Ohmer, "Your request for a romance in the rough as pertaining to sourdoughs and natives calls to mind a case up on the Yukon a few years back. Grizzly Sam, as we called him, had lost his teeth. He wasn't in a place to get measured for a Sears Roebuck set.

Those he sent for elsewhere fell out the first time he yelled. So, Sam boiled down a gum boot, killed a grizzly, extracted the bear's teeth while it was still kicking, and planted said teeth in the gum boot mixture while it was hot. Then he crammed the whole mess into his mouth, held tight till it cooled, and the results were—a darn good set of teeth.

“It seems Sam's native lady love had left him on account of his not having any ‘chawers.’ Before he got the new molars working, some long-gearred, tripod-hung dude had galloped off with the lady. Armed with his new grizzly teeth, Sam proceeded to reclaim what he figured was rightfully his. The long-gearred dude was found the next day back of a shack in the brush, flatter than a sourdough pancake and showing signs of a tussle with a grizzly.

“The coroner's jury sized him up and opined that the interloper had been chewed by a bear, getting just what was coming to him. The jury's only regret was that they couldn't find the grizzly and present a civilian *croix du guerre* to the beast for a job well done.

“Sam got his beautiful Indian maid back okay, and that settled that love affair. But the last time I saw the lady, her ears were somewhat frayed and she had a more or less depraved look, sometimes indicative of a recession to primitive ways. I refrained from questioning Sam's rights in the case or what he may have considered a grizzly sourdough's just revenge for his sweetheart's digression with the dude from outside.”

Sourdough Security

IN A WING facing Sitka, so they can gaze at the sea and the ships, Alaska houses the aged fishermen and skippers who seek the shelter of the Pioneers' Home. On the opposite side of the building, facing east, are the rooms of the old miners. They can look at the hills where there is the gold they did not find.

The Pioneers' Home at Sitka, long under the management of the late Eiler Hansen, is a landmark of Alaska's care of its aged men, many of whom made and lost fortunes in prospecting and panning for "colors." Some two hundred permanent residents live in the home. They fare well at the expense of the Territorial government; they come and go as they please, enjoying comfort and independence in their old age, living among memories, telling tales—some true, some imaginary—of past conquests. More big fish are caught, more moose and bears vanquished, and more gold mined on the lawn and in the lounge of the Pioneers' Home than in all the rest of Alaska. Many of the old men, if their health permitted, would like one more chance, for optimism is a never-dying asset of the true prospector.

The average age of the inmates is seventy-three, with a few past ninety; some are robust; some are in wheel chairs; others are bed-ridden. When a man enters the Pioneers' Home, he assigns his possessions to the Territory and, if financially able, pays \$2 a day for board and keep. But very few meet these requirements; the majority are out-and-out wards. All receive the same treatment: good meals and plenty of pipe tobacco—no cigars or cigarettes—first-class medical, dental, and optical care.

In the spring many varieties of wild flowers bloom in the grounds surrounding the home. They were brought to Sitka from all parts of the Territory so that the old men could see the flowers



The Pioneer's Home at Sitka where two hundred old-timers are cared for at the Territory's expense. (Photo Shop Studio.)

they encountered in the wilderness years ago. Christmas is a big day at the Pioneer's Home. A fund is raised by popular subscription throughout Alaska and gifts surround the huge tree set up in the lobby.

The home is always crowded, and there is a waiting list. The prewar legislature appropriated \$175,000 for an addition, but building restrictions prevented construction, so a part of the accepted guests have been cared for in a temporary home at Goddard Hot Springs, 15 miles from Sitka. The Territory pays transportation expenses of the pioneers admitted, the 1945 biennial appropriation for this item alone being \$7,500. The total appropriation for the two years was \$306,690. There are no "nays" in the legislature when provision for the Pioneer's Home is the order of the day.

For other old-age assistance, the legislators voted \$700,000; for relief of destitution, \$300,000; for care of dependent children, \$75,000; allowances to indigent mothers or relatives for care of minor children, \$100,000; for child health and services to crippled children in an orthopedic hospital, \$25,000.

Alaska's major health and social problem, however, is the preva-

lence of tuberculosis. Nearly nine-tenths of the known 4,000 cases are among the natives, with the majority of them in southeastern Alaska. Federal health authorities of the Alaska Native Service have failed to cope with the disease which is due principally to poor housing. The high rate of tuberculosis deaths—approximately 400 per 100,000 persons—prompted the 1945 legislature to expand activities of the Territorial health board and to authorize, at Governor Gruening's suggestion, the appointment of a full-time commissioner of health with an augmented staff. However, the appropriation for hospitalization cases—only \$30,000 a year—was far below the amount needed. Dr. C. Earl Albrecht, newly appointed commissioner of health, acting in conjunction with the newly organized board, asked for a special fund of \$522,755 to carry out an adequate hospitalization program. The Federal government's share of this fund would be \$258,667.

Largely on account of a resolution passed by the Territorial Board of Health a special session of the legislature was called in March, 1946, for the purpose of appropriating funds for purchase of Army surplus buildings as sanitariums. Dr. Albrecht had pointed out that for the estimated 4,000 tubercular cases only 289 beds were available; 150 of these were supplied toward the close of the war when the Army turned over to the Alaska Native Service its hospital at Skagway, open to both whites and natives. Before that time there were only 137 beds in the Territory for tubercular patients, 82 being in government hospitals and 55 in private hospitals.

The Skagway sanitarium sprawls in a wooded valley between lofty mountain peaks. A river that sometimes overflows its banks, races alongside. About a mile to the north rises the precipitous White Pass divide. A tuberculosis sanitarium, under ordinary circumstances, would be built at an elevation much higher than that on which the Army hospital was located, but lacking funds to choose a site, Alaska was glad to get the Army hospital.

The Sisters of St. Anne contracted to do the nursing, while through the courtesy of the U.S. Public Health Service, Dr. Rudolph M. Haas, a trained tuberculosis clinician, was assigned as hospital superintendent. He and his staff of associates have cared for about 100 patients. When the hospital was opened to civilians, Dr. Albrecht said: "The Skagway sanitarium is a first step in the

right direction. So great is our problem, however, that the Territory alone cannot assume the financial burden necessary for eradication of tuberculosis. We need more help from the Federal government. We need more doctors, nurses, and hospital attendants. Finally, we need more sanitariums, enough to care for all the unattended cases, and toward that end we are working."

Other hospitals, suitable to conversion as sanitariums, may become available from the Army and Navy at Seward (Fort Raymond) where there are 150 beds; Anchorage, Unit II hospital with 500 beds; Sitka, an Army hospital of approximately 100 beds, and a Navy hospital of 80 beds. Excursion Inlet has a government building which could be adapted for 100 beds.

For the first time, it seems that Alaska through the new Territorial health setup is on its way to lowering the incidence of tuberculosis among the Indians. Tuberculosis among the whites is not much greater than it is in the United States, where in a concentrated drive against the disease for three decades the mortality has been definitely reduced.

The Territorial Board of Health is composed of one member from each of the four judicial divisions. It has been extremely active under the guidance of Dr. Albrecht who during the war was in medical charge at the headquarters of the Army's Alaska Department at Fort Richardson. The department of health operates in co-operation with the U.S. Public Health Service and the U.S. Children's Bureau.

A unique and effectual innovation inaugurated by the reorganized health department was a marine health unit vessel called the *Hygiene*, its purpose being to carry to Alaskans in southeastern Alaska the basic service of the department in communicable disease control, maternal and child welfare, tuberculosis and venereal disease control, sanitary inspection and health education. This marine health unit sailed from Juneau, April 4, 1945, bound for Killisnoo, an Indian village on Admiralty Island. The last trip of the season ended on November 10. Sixteen communities were visited by the vessel with its medical crew the first season. Dr. Ann P. Kent, the physician in charge, reported that sanitation is primitive in most native villages and cannery settlements and that housing is not adequate. There is a need for child day-care centers during the working season in all settlements where there is a cannery.

Many infants were found to be receiving inadequate feeding and the nutritional and developmental status of the children, on the whole, left a great deal to be desired. The presence of dental caries was practically universal.

Prior to the war, some of the canneries built well-ventilated cabins with modern improvements, such as lights, hot and cold running water, and adequate sewage facilities. The natives who occupied the houses in the work season liked them so well that it was difficult to get them to move out when the canneries closed, showing at least that they do not occupy hovels by choice.

The next important move of the rejuvenated health department was the promotion of a voluntary aid association to sponsor the care of crippled children, augmenting the funds appropriated by the legislators. Such an association has been formed at Anchorage, and other cities are expected to follow suit.

In Alaska, the care of crippled children is administered through an official agency, as in the States, with the aid of Federal funds. The division of maternal and child health and crippled services of the Territorial Department of Health is responsible for the supervision of the program, including the maintenance of contract beds in the Children's Orthopedic Hospital in Seattle and in the Swedish Hospital for older children. The health department contracts for the services of four orthopedic surgeons on the staffs of these hospitals and pays the transportation and hospital expenses of Alaskan children. Expenses for one child, if treatment is continued for a year, approximate \$2,000. Thus, the legislative appropriation was not sufficient to carry on all the work.

Health authorities estimate that 60 per cent of the crippled condition of Alaskan children is due to tuberculosis and it is planned to seek voluntary aid through private organizations to fight that disease. Fraternal and civic groups, missions, and to some extent the Salvation Army, which is extremely active in Alaska, are all co-operative.

Aside from the high incidence of tuberculosis among the natives, the general health of Alaskans is good. Long life is the rule. Death from diseases of the heart, cancer, cerebral hemorrhage, and nephritis (despite the Territory's propensity for liquor) is less frequent per capita than in the States. In a pioneer country, people generally have more outdoor exercise and do not

live under as great tension as in large metropolitan centers. Pneumonia, measles, influenza, and whooping cough are at times prevalent among the aborigines, but these diseases are being brought more and more under control.

Regarding civic and fraternal organizations, some of which assist in the health program, it can be said that all the organizations found in the States—Elks, Moose, Odd Fellows, Lions, Rotarians, Masons, and Knights of Columbus are strongly entrenched. The most active of these are the Lions and the Rotary clubs. In addition, there are the Pioneers of Alaska, with igloos as chapters, the Arctic Brotherhood, and the Alaska Native Brotherhood, the latter more political than social. American Legion and Veterans of Foreign Wars are also prominent in Alaskan activities. To all these groups can be added the women's auxiliaries. Some organizations have their own buildings with attractive recreation and reading rooms. Public libraries are none too plentiful nor too good in Alaska, especially for a people that admittedly are prodigious readers. A bill passed by the House to aid libraries was killed in the Senate.

Alaskan cities and towns are amply supplied with churches of practically all denominations, and they are well attended. The ungodly land of the late eighties and nineties still is lusty and loud, but places of worship in the larger centers outnumber picture houses three to one, and draw more patronage on Sunday than the movies and bars combined, which certainly cannot be said of many communities in the States. Juneau's leading newspaper carries two and a half columns of church announcements each Saturday; so do the *Anchorage Times* and the *Ketchikan Chronicle*. Sects such as the Church of Christ, Pentacostal, Mormons, Moravians, and Mennonites are active, the latter being represented particularly on the Kenai Peninsula in the Homer area. They are recognized as excellent farmers. Seventh Day Adventists also are quite numerous in Alaska, and Christian Scientists are firmly established.

Among the various civic activities is the interest Alaskan women display in flowers. All the larger towns have garden clubs and annual shows. Juneau's flower show is a big event, with exhibitions of beautiful roses and chrysanthemums. Anchorage, perhaps, is ahead of the capital in flower culture, for one of its enthusiasts raises orchids and exotic gloxinias. She is Mrs. Fred Shodde, presi-

dent of the city garden club, whose success with tropical plants so near the Arctic Circle won her a place in *Who's Who in America*. Skagway, once seething with itinerant miners, gamblers, and gunmen, now is equally well known for its beautiful delphiniums. Flowers in Alaska, both native and cultivated, are profuse and many-hued. Even in the Aleutians there are a score of rare varieties, many of them, peculiarly, without fragrance.

Aside from their interest in flowers, drama, civic, and social clubs, Alaskan women are prominent in official circles and business. Two are members of the legislature and others are found in important Federal and Territorial jobs. Women and children help on the farms fully as much or more than in the States.

Among the younger element there are 4-H clubs, Boy Scouts, Girl Scouts, aviation clubs, and high school fraternities and sororities. Development of teen-age social and athletic organizations is something relatively recent and is on a big scale. The "Teen-Towners" is the name selected by a Ketchikan group of about two hundred youngsters aged fourteen to nineteen. They have their own elaborate clubhouse, dance orchestra, and regular programs for entertainment and culture. The dedication of the center was a big local affair, with the governor and many other Territory notables present. Aside from 4-H work not many of the activities of Alaskan teen-agers are utilitarian, owing largely to the lack of vocational interests in their school work. Probably a trade school, featuring business courses, electrical work, and other vocational training would prove profitable to private sponsors.

Government and Taxes

GOVERNMENT and taxation in Alaska are a hotch-potch and patchwork of antiquated systems, some of which were inherited from days when the Territory was the rawest kind of colony. While the structure has been braced here and there to avert collapse and to meet the march of progress, the net result from an executive, legislative, or administrative standpoint is far from satisfactory.

The Organic Act, passed in 1912, by which Alaska became a Territory and by which the legislature was created, sets forth the "can-do's and cannot-do's" for the legislature, with the restrictions far more numerous than the prerogatives. One of the most out-moded barriers to progress is that which prevents incorporated municipalities from assuming any bonded indebtedness beyond 10 per cent of their taxable value. Another irksome restriction to Alaskans is that they are not permitted to elect their own governor. They can send small voting delegations to the national conventions but cannot vote for the president who names their executive head. Bills to broaden the lending powers of the municipalities and to permit the Territory to elect its governor were introduced by Delegate Bartlett at the first session of the 79th Congress.

The taxing powers of the legislature, aside from those over property, are fairly broad and could be used to much better advantage than they are. The legislature also has power to create Territorial departments, commissions, and examining boards; it has availed itself of this privilege extensively without always providing sufficient funds for the various branches to function effectively. In this attempt to expand home rule, much duplication of Territorial and Federal efforts has resulted. Still the trend, as in the expansion of health, welfare, educational, agricultural, and

labor activities is in the right direction and indicates a determined swing toward self-government. The judicial branch functions more smoothly than other branches of the government because the pattern of the courts is much the same as in the States and is just as modern.

The question of statehood for Alaska, which has been presented to Congress in more than one bill, has received insufficient consideration in Washington, probably because there has been no decisive expression from the people through a referendum. The Territorial legislature, meeting early in 1945, petitioned Congress in behalf of statehood, but in wartime this memorial attracted little attention. It may, however, have been partly responsible for the visit to Alaska the following summer of the congressional committee on territories, of which E. L. Bartlett is a member. Much data pertaining to taxation and governmental functioning were collected by this committee, but up to August, 1946, no public report had been made, nor was one expected prior to the referendum on statehood set for October at the general elections.

The advocates of statehood believe that this referendum will receive a majority vote at the polls. But even the strongest champions do not predict that the vote will be so large as to impress Congress that there is an overwhelming sentiment in favor of immediate statehood.

Recently there has been a change of attitude toward statehood. For instance, in 1944 Bartlett received a decisive majority in his election as delegate to Congress, and statehood for Alaska was his main plank. Had a referendum been included on the ballot at the time he ran for election, undoubtedly statehood would have carried by a majority almost as great as his own. But since that time the question of immediate statehood has been debated pro and con by many Alaskans. While the Territory needs statehood and probably is just as much prepared for it now as it will be two years hence, there has been a change from a surge of enthusiastic support to a more or less "show me" attitude on the part of many loyal and influential Alaskans. One of the Territory's pioneers in fisheries in southeastern Alaska expresses it thus:

"I won't vote for the statehood bill until they can show a balance sheet giving our resources and a reasonable tax on them, also the amount it costs to run Alaska as a state. If the returns will take

Both Secretary of State Julius A. Krug (*below*) and his predecessor in the Cabinet Harold L. Ickes (*right*) have urged that Alaska be admitted into the Union as a state. Mr. Ickes' recommendation, coming the same day that Japan surrendered, was a surprise to the people of the Territory who considered him an arch foe. Secretary Krug toured Alaska in August, 1946. On his return he announced that he would ask the 80th Congress to grant statehood to Alaska and Hawaii. (Photo right courtesy Halsman, N. Y.; below Acme Newspictures, Inc.)



care of it without cracking our backs, I'm for it. Otherwise I'm against it."

The view of millionaire A. E. Lathrop is pertinent. He is opposed to statehood at this time, believing that the most important thing for Alaska now is to attract people with capital to develop the Territory's untouched resources. He says that with sufficient growth and development, statehood will come easily and naturally.

Sparse population is frequently cited as one of the drawbacks to statehood by its opponents. Proponents counter with the fact that many territories had fewer people when they were admitted to the Union than Alaska has today. Of this argument Mr. Lathrop says: "It should be recalled that the mechanics of setting up a system of schools, courts, and state governmental machinery would be simpler in a state like Arizona than it would be in a territory one-fifth the size of the entire United States. Also, it must be considered that at the time certain territories became states there were little if any Federal income taxes, and an additional tax burden to defray state expenses did not mean so much to the property holder as it would today."

E. L. Bartlett, on the other hand, maintains that Alaska has enough people for state government and that consideration must be given to a prospective increase in population. He says: "We in Alaska have been living under a form of territorial government more limited in respect to its home rule provision than any other territory, and a look at the record gives conclusive proof that the liberalizing amendments that have been added to the Organic Act since its adoption in 1912 have been few indeed. Almost every attempt to liberalize that document fundamentally has met with failure and I believe now that it will be just as easy to get statehood as to win a full form of Territorial government. Obviously, statehood would be more desirable."

It is a fact, however, that a so-called balance sheet acquainting voters with details of the cost as well as the benefits of statehood has not been adequately presented. An association for research and explanation, privately financed, was organized early in 1946, rather late to accomplish its purpose.

The cost of statehood is the rub. The consensus of its advocates is that it would require a little more than double the amount

in Territorial revenue than is now obtained—approximately \$6,000,000 a year. That sum could easily be raised without hardship to Alaskans since the Territory is now the lightest taxed political division of the United States. Alaska levies no personal or corporate income tax. It has a fairly stiff tax on liquor (\$1.60 cents a gallon), and the last legislature placed a tax of one cent a gallon on all kinds of motor fuel. On the other hand, motor vehicle taxes are about one-half the charge in many states. Public utilities pay one-half of one per cent on gross income. Banks are not taxed. Operational taxes or fees on professional men and women and on services, plus the moderate school tax of \$5 per person, just about completes the list, with the exception of taxes on salmon and gold, the main support of the Territory. The total tax income of the Territory is approximately \$2,500,000 annually.

The Federal government spends approximately \$13,000,000 a year in Alaska while its receipts are about \$3,000,000. This does not include returns varying from \$1,000,000 to \$1,500,000 a year from the sale of the Pribilof Island fur-seal pelts. The Pribilofs, however, are not included among lands or assets that would accrue to the Territory under the present statehood bill.

From these general figures, showing a rather wide gap between governmental expenses and revenue, it is obvious why some Alaskans hesitate to assume the financial responsibility of courts, law enforcement, roads, administrative salaries, and other expenses now borne by the Federal government. While offhand the burden of statehood seems great, the resources of Alaska are also great, and with the state in control of the vast public domain, the possibilities for revenue would be so increased that with intelligent legislation there seems little doubt that Alaska could finance self-government without hardship to its people. The inspiration gained from recognition as an integral part of the Union would in itself probably point the way to progress and willingness on the part of the people to shoulder responsibilities that they now feel are the responsibilities of the Federal government.

There is no Territorial debt, but the treasury balance is held to a minimum of about \$1,000,000 at the close of each biennium. In the 1941 and 1945 legislative sessions, sensible tax programs for additional revenue were introduced in the House, but were either killed or buried by the Senate. The explanation of the Senate's

recalcitrant attitude is a moot question. By some it is attributed to successful lobbying on the part of the salmon canning industry, at which the chief tax measures for proposed increase were aimed, while others attribute it to continued opposition to programs urged by the governor, a Federal appointee.

The principal objection of Alaskans to the present Federal management of their affairs is the Interior Department's domination over land. Nearly 99 per cent of the Territory's 586,400 square miles is government-owned, and the arbitrary rulings of the Secretary of the Interior regarding land disposal through grants, leases, patenting or sale, are a deterrent to settlement or acquisition of land, according to the Alaskan point of view. Statehood, of course, would release all land except that held as national parks or monuments, native reservations, and areas set aside for military purposes. It would also give Alaska control of its valuable fishery rights. If the terms for statehood as presented in Alaska's bill now before Congress are observed in their entirety there is little doubt that statehood will prove profitable to Alaska.

At present, the Federal government of Alaska has a governor and a Territorial secretary who are appointed by the President, with the consent of the United States Senate, for a term of four years each. Executive power is vested in the governor as the ranking representative of the Department of the Interior. He may veto any bill passed by the Territorial legislature within three days after it is presented to him. If not so vetoed while the legislature is in session, it becomes a law. The legislature may override a veto by a two-thirds vote. The secretary of Alaska is designated as acting governor with full powers during the absence of the governor or in case of a vacancy in that office.

The Organic Act, in the original and through amendments, gives the Territorial legislature the right to enact certain laws, and within this scope, congressional approval is already had. If the legislature desires laws which do not come within its right to legislate, they are embraced in memorials, petitions and resolutions, which are forwarded to the Alaskan congressional delegate in Washington.

The judicial power of the Territory is vested in the district court of the United States for the District of Alaska and in probate and justice's courts. The district court is divided into four

divisions, each presided over by a judge appointed by the President, with consent of the Senate, for a term of four years. It has the same general original jurisdiction as the United States district courts, and in addition, general jurisdiction in civil, equity, and admiralty cases. The probate and justice's courts are situated in convenient precincts designated in each division by the United States judges. They are presided over by commissioners who are appointed by the district judges and act as United States commissioners and coroners and are ex-officio justices of the peace, recorders, and probate judges. The commissioners are primarily committing magistrates, as in the States, and have the authority to hold preliminary hearings and either dismiss a case against a defendant or hold him for action of the grand jury.

Each of the four judicial divisions has a United States marshal, also appointed by the President, who is the executive officer for each division. His term is four years. A United States district attorney and assistants are also attached to each division. The marshal and the district attorney are the prosecuting officers for the Federal government and the Territory in criminal cases and for the Federal government in civil cases. Clerks of the district court are appointed by the district judges. They are filing and recording officers and receive monies paid on account of fines, fees, and forfeitures. In Alaska, moreover, the clerks collect certain Federal license taxes imposed by Congress on business, industry, and occupations, this duty being a special one not required of clerks in the district courts in the States.

In brief, while the judiciary in Alaska functions under both Federal and Territorial statutes, having equal authority under both, there is no system of Territorial courts. In incorporated towns, municipal courts are established but these have jurisdiction only over cases arising from violation of city ordinances.

Alaska's representation in the Congress of the United States consists of one delegate elected by the people for a term of two years. He has a voice on the floor of the House and in committee, but no vote. He is, however, a member of many important committees and bears much responsibility as the sole congressional representative of so large a territory.

The Territory's legislature consists of sixteen senators and twenty-four representatives, elected by the people; the represen-

tatives for a term of two years and the senators for four years. Alaskans, who have attained the age of twenty-one and meet requirements similar to those in the States can vote after one year's residence in the Territory. General elections are held every two years on the first Tuesday after the first Monday in October. The legislature meets in regular session for sixty days every odd-numbered year, convening at Juneau on the fourth Monday in January. The governor is empowered to call special sessions, not to exceed thirty days in duration, in cases of emergency. Representation in the Senate is not based on population and until recently there has been no differentiation in the House. An adjustment for the last session provided eight members for the first division, four for the second, seven for the third, and five for the fourth. These divisions are solely by geographical location, the third having a much greater population than the second.

The bill providing for civil government in Alaska was passed by Congress in 1884 when it was signed by President Arthur and became a law. The Territory of Alaska, as such, was created in 1912 by the passage of the Organic Act. The recent addition of more senators and representatives to the legislature (from eight to sixteen for the Senate and from sixteen to twenty-four for the House) was, perhaps, the most important move to liberalize that document. It is generally conceded that in lieu of statehood a complete overhaul of the Organic Act is necessary to permit the Territory to keep pace with industrial development and land settlement. Those who favor statehood make a point of the fact that such adjustment would be complicated and more difficult to obtain than statehood itself.

In the biennial legislative sessions of 1941 and 1945, some considered it apparent that the Senate bowed to the will of the gold and salmon interests in matters of taxation. The salmon canning industry is reputedly 80 per cent controlled by so-called outside capital, and gold mining by about 70 per cent. Such figures are debatable, however, for it is a moot question as to what constitutes an outsider and an insider. People come and go, many letting their capital work in the Territory while they reside six months or more away from it.

Since the number of senators was increased from eight to sixteen, the vote in the Senate for increased taxes from the salmon

interests has been close. In the 1945 session, the House, many of whose members were newly elected, tried to gain more revenue from the salmon industry. It called for an increasingly graduated tax on fish traps as well as a higher tax per case. The progressive trap tax measure died by an eight to eight vote in the Senate. The increased tax per case failed because no agreement could be reached between the two houses as to the amount.

The Senate bill, acceptable to the canning interests because it reputedly emanated from them, called for an additional 8 cents a case (48 one-pound cans) on red salmon and 4 cents on pinks. The House conferees raised these figures materially by adding a zero—that is, 80 cents and 40 cents. That was meant to pave the way for a compromise and the House committee finally came down to 12 cents on reds and 8 cents on pinks, but the Senate group stalled to the end, and the measure died.

In addition to demurring on the salmon tax at a time when post-war activities gave Alaska opportunity to use needed revenue, especially in aid of its returned veterans, the Senate buried thirty-nine progressive and mostly noncontroversial House bills without even considering them. These included a moderate property tax bill; one to provide licensing of and taxes on amusement devices such as pinball and slot machines; a bill requiring real estate brokers to obtain licenses and pay fees; a measure to amend the insurance laws to give better fire coverage—a much needed reform, since fires are frequent and serious; several bills designed to benefit veterans; a bill amending the unemployment compensation act to raise weekly benefits and reduce the waiting period; a bill providing for maximum hours and minimum wages for labor; a bill to assist public libraries; a bill to provide more effective collection of delinquent taxes, fees, excises, and other revenue due the Territory; an essential measure calling for revised publication of Alaska's current laws.

In the special session of the lawmakers in March, 1946, some of these legislative shortcomings were remedied. A generous veterans aid bill was passed providing for a 1 per cent retail sales tax to raise funds for farm, home, and business loans up to \$10,000. A \$3,250,000 quota was set for loans and soldiers' bonuses, the sales tax to cease automatically when the quota was met. A law for a progressive tax on fish traps was enacted, and \$250,000 was appro-

priated to further the fight on tuberculosis. Unemployment compensation was increased, both as to amount and duration of payments.

Commenting on the work of the Seventeenth Legislature, Governor Gruening gave high praise to some of its accomplishments, particularly to those of the House. He rejoiced over the passage of bills affecting public welfare, the establishment of a Territorial department of agriculture, the expansion of the department of health with appointment of a full-time commissioner, the outlawing of race discrimination, and the provision for a referendum on statehood at the general election.

"From the standpoint of achievement, the Seventeenth Assembly ranks high in Alaska's legislative history," the governor said. If one followed his analysis no further, he would think Gruening was ingenuously happy about the whole affair. But there was a qualifying clause, and in it the governor with customary bluntness pulled no punches. He added: "This achievement is substantially marred by two factors. First, much good legislation died without being given consideration. Second, the legislature failed to provide adequate revenues for the coming biennium. . . . The appropriation act of 1945 called for revenues of \$5,631,882. An increase of \$1,295,960 was made and no adequate steps were taken to provide the difference. There was no lack of opportunity for this legislature to pass sound revenue measures. An excellent income tax bill, expertly drafted, was unceremoniously killed in the Senate. Other good revenue measures coming over from the House were similarly buried. . . . The House passed a property tax bill with amendments which made it extremely moderate and sent it to the Senate where it was destined to die without consideration.

"At this point," continued the governor, "we near what might be called the climax in the legislative drama, which had been clearly foreshadowed, both by the course of events in the Sixteenth Legislature and by clear indications in this one."

Gruening then denounced what he termed the "princely donation" tendered by the salmon pack interests. In the war years, the better grades of salmon had been bringing from \$11.44 to \$15.44 a case and the cheaper grades \$7.90—double the price of prewar days—with the government taking nearly all the output. That

meant that the canneries did not have to spend money for advertising and sales expense. Since the tax revenue to the Territory is on a per case basis rather than on the value of the pack, the Territory would not benefit from the increase in value of the sales, and the so-called gift tax of 8 and 4 cents a pack was offered. But even this additional sum was lost through disagreement of the legislators.

In his message to the legislators, prior to their session, the Governor gave what he considered proof of the menace of monopoly by absentee capital in the salmon fisheries. He told them: "Some time ago I asked the Fish and Wildlife Service to give me an analysis, or breakdown, of the ownership of fish traps. . . . I was startled by the figures it furnished me. Out of 434 fish traps in the Territory, 396 or 91 per cent are owned by non-residents. Out of 434 traps, 245 or well over half are owned by eight large nonresident canning companies. One nonresident company alone owns 60 fish traps. The second largest company, likewise nonresident, owns 58. Thus two absentee-owned companies own well over one-fourth of Alaska's fish traps."

Gruening then outlined his suggestion for the establishment of a graduated tax scale, which would increase with each trap owned. With that arrangement, the company owning 60 traps would find the last 20 traps a liability rather than an asset. Thus, according to the executive's plan, the alleged monopoly would eventually be broken.

"I believe it proper," the governor said, "that more Alaskans own fish traps. I would like to see that ownership scattered so as to make fish traps available to Alaskan fishing communities, to fishing villages, to groups of fishermen, to fishermen's co-operatives, and to Alaskan individuals."

Possibly Alaskans themselves are to blame for not having taken advantage of opportunity before outsiders got control of the canneries. As a matter of fact, salmon packers say that many of their canneries were purchased from former Alaskan owners who preferred cash in hand to continued operation of the plants. Also, there still remain in southeastern Alaska several large operators who must class as Alaskans though their executive offices are in Seattle. A spokesman for the corporate salmon industry points out that these

operators are members of the organization and that in his opinion they constitute more than 20 per cent of the trade. The Fish and Wildlife Service, he declares, merely supplied to Governor Gruening the names of fish trap owners, the executive himself determining whether they were outside capitalists or Alaskans.

The salmon industry further contends that Governor Gruening's proposed fish trap licenses bill constituted an effort on his part to obtain political control over all fish trap sites. The industry maintains that, at the 1945 session of the legislature or at any previous session, it did not take the position that it should be immune from further tax increases; but the industry believes that it ought not to be asked to pay a disproportionate share of the Territorial revenue. It contends that it has been carrying for many years past a proportionately greater tax load than any other industry or group in Alaska.

Nevertheless it is generally conceded that a move for wider distribution of fishing rights and facilities would benefit the Alaskan economy. Also, there is little question that the tax paid to the Territory by the salmon packing interests is much lower than it should be. The total fisheries tax revenue to Alaska in 1944 was a little more than \$800,000 on a \$50,000,000 business. This tax is made up of a one per cent net income tax, plus a varying tax on each tax per case and license fees on traps or seines. It includes also the tax on shipments of fresh or frozen fish, both salmon and other species. The salmon industry, in addition to this Territorial tax, pays a tax of 4 cents a case to the Federal government.

The fault in the tax setup on fisheries is that returns to the Territory do not keep pace with increased valuations of the fisheries. One of the chief objections to recommendation of statehood by the congressional committees that toured Alaska in 1945 was the opinion of some congressmen that Alaskans have not shown a willingness to finance themselves on a scale equal to their opportunities. How far such laxity represents the intent of the majority and how far it is caused by a Senate bloc antagonistic to the Territory's chief executive remains to be determined. However, the impressive vote in the House, favoring increased revenue measures, is considered a favorable omen, and in all probability Alaska's 1947 legislature will see some new faces in the Senate.

Until a more congruous internal status is obtained with possibly statehood or a broad revision of the Organic Act serving to help bring it about, Alaska's development is more or less up to private industry and personal ingenuity. From Ketchikan to Barrow, opportunities are numerous and activity is increasing.

The Discovery and History of Alaska

BY WILLIAM H. HAAS

THE STORY of early Alaska belongs to Asia rather than to North America. Naturally so, for when the Russians reached the Pacific in 1650 after the long trek across the Siberian wilds in search of the *sobol*, the islands with their sea otter lured them still farther. The Aleutians afforded the necessary stepping stones to the new continent. The sable had been the chief reason for forcing their way across Siberian rivers and tundras, but also the wild march across the continent gave the more turbulent spirits an outlet for their restlessness. The time was not yet ripe for the repressed at home to make their will felt in more violent measure.

The beginnings of this trek eastward came in 1578 when a Cossack chieftain hoped thereby to gain pardon for himself and for his thousand robber-knights. He knew that punishment was near for a life of plunder and murder. Perhaps he and his men could buy their pardon by a large gift of sable skins to their emperor. Perhaps also through conquest they could gain a reward and thus hold places of honor. On the Ob River the Cossack found a defenseless Tartar sovereignty, a fragment of the great kingdom of Genghis Khan. His attacks were successful and with the capital city in his hands, he was now in a position safely to return and present his gifts to the emperor. A pardon was cheerfully granted, and aid for further conquests was given.

This was the beginning of a most remarkable period of Russia's eastward expansion. With the sable as the lure, leaders similar to

the Cossack chieftain had by 1640 reached the Amur River, where they came into deadly conflict with Chinese tribes. In another ten years these ruthless conquerors had left a trail of blood and rapine across the whole continent. There is a record of their exploring Kamchatka in 1713. However, strangely enough, after they had reached the Pacific, another century was to pass before they sighted the mainland beyond.

In comparison to the rapid progress of these explorers, the westward expansion of the French and English in North America seems slow, for in the same period they had little more than reached the Mississippi. In this conquering march, there had been no conciliation of natives along the way. Brigandage and murder marked the entire course as it did later over the Aleutian Islands. After the scourge, these unfortunate islands were left depopulated; the few remaining Aleuts found themselves enslaved, their means of livelihood gone.

At the time the Russians reached the Pacific, little was known of northeastern Asia or northwestern North America. Maps of the period, about 1650, show eastern Asia separated from some islands by a fairly wide strait. It was not till nearly a century later that these supposed islands were proved to be not islands but an extensive land area.

To Vitus Bering, a Dane in the employ of Russia, and to his aide, Alexeis Chirikof, is given the credit of discovering "Alaksu," the "Great Land" of the Aleuts in 1741. Bering was an intrepid explorer with a nautical knowledge not possessed by the Russians. Chirikof accompanied him, commanding another vessel; he and Bering became separated, the Russian sighting an island before the Dane discovered the mainland. Although Bering did not set foot on the land, he deserves all the credit commonly given him. He seemed to be journey-weary and apparently realized that he would never see home again. After terrific hardships and suffering from diseases, especially scurvy, from which most of his men died, Bering became shipwrecked on an island off the Asiatic coast. After spending the winter there, housed in caves and often without food, he and his men built a boat from the hold of which he was carried on deck to view the mainland before he succumbed.

The endurance and indifference to hardships of these Russian explorers is almost beyond belief. Even death itself held no terrors



Sitka, the former capital under Russian rule, is on the western shore of Baranof Island, one of the group forming the inner channel route to Alaska. This view is from the rear of the old Orthodox Russian Church. (Rolphe Dauphin photo.)

for many of them. Without experience in shipbuilding, they built their own ships on the Pacific coast with wood taken from the coastal forests. Iron not being available, they tied the logs together with thongs and calked them with moss. Many of the boats were lost in a stormy, foggy sea among treacherous islands. Reports indicate that rarely more than half of the vessels returned safely to their Asiatic base.

The crews suffered also from the attacks of the natives. Even on the hitherto unmolested islands the aborigines fought desperately

to keep out the intruders. The gun, however, was a much more effective weapon than the bone-tipped spear of the Aleuts.

To the modern mind the readiness to meet the greatest of suffering and even death for the sake of a cargo of furs, sold in St. Petersburg after the long trek across Siberia, seems scarcely credible. In the New World the indifference of Spanish and French priests to danger and suffering was undoubtedly due to the cause they espoused and their hope in the hereafter; in the Russian mind there was none of this.

Claims to Alaska were based on Bering's voyages, and under Czar Alexander I, exploration and the extension of Russian territory received earnest attention. In the first decade of the nineteenth century one of his officers was sent on a cruise around the world. Men explored the coasts and began to go inland. It was not, however, until 1850 that traders ascended the Yukon as far as the Tanana River.

A few years later the Hudson's Bay Company came from the Canadian side and descended the same great river to the mouth of the Tanana and thus completed the exploration of the Yukon. This major stream was now known from end to end, but the explorers had not an inkling of the riches that would be found there later. Captain Cook, the already great English navigator, had explored the coast as far north as the Arctic Ocean in 1778, but ice prevented his exploring the north coast. Three years after his journey, one of his lieutenants, George Vancouver, returned to map in part much detail of this same coast. His maps and observations proved so accurate that they became the standard for a full century.

In the course of their exploration of the New World, the sea-roving Spaniards found their way into these waters, which later gave them an opportunity to become a half-hearted claimant to some of the area. Louis XIV of France, in his effort to develop a dominant empire, also had representatives in these waters.

A few adventurous Americans, actively trading along the coast farther south, likewise explored some of the waters in the general region which includes what is now British Columbia. It was not, however, until the discovery of the Columbia River by Captain Gray in 1798 that the American people became interested in the Pacific northwest. After this it did not take the Yankee traders long to see golden opportunities in this area. They organized a most

profitable triangular commerce similar to that of the Atlantic. They loaded their vessels with New England goods which they exchanged for Alaskan furs. These were in turn carried to China and Japan, where spices and other oriental products were obtained.

The limited success of Russia was due to the brilliant leadership of Alexander Baranof. He went to the Aleutian Islands in 1791 and, with the formation of the Russian American Company in 1799, was elected its head. He found Alaska at its worst. When he reached the Aleutians, the sea otter, the most prized fur animal of the Russian trade, was practically extinct. Already a permanent settlement had been established in 1783 on Kodiak Island, and some coastal areas of the American mainland were being combed for the sea otter. As these animals were killed without regard for the future, there soon were no more to be found.

Reports of the imminent extinction of the sea otter and of the brutal treatment accorded the natives caused official Russia to take a hand. It gave the Russian American Company under Baranof full control of trade and government for twenty years. Baranof did little to change existing abuses, but he did reorganize trade. In this, his touch acted like magic. In 1802, Baranof moved his capital from Kodiak to Novo Arkhangelsk, now Sitka, and in the brief period of prosperity that followed, Russian ships traded with distant lands, even as far away as Hawaii, Mexico, and Japan.

Baranof even started a "factory" at Ross, California. Had it not been for the powerful Hudson's Bay Company's expansion, Russia no doubt would have gone much farther eastward. In 1812 he entered into an agreement for larger supplies of furs with the fur company controlled by John Jacob Astor. Trading was becoming more important than the gathering of furs. Baranof was displaced by the Russian Navy in 1818 and died on his way home. To him must be given the credit of establishing Russia in America and getting the country ready for official Russian control.

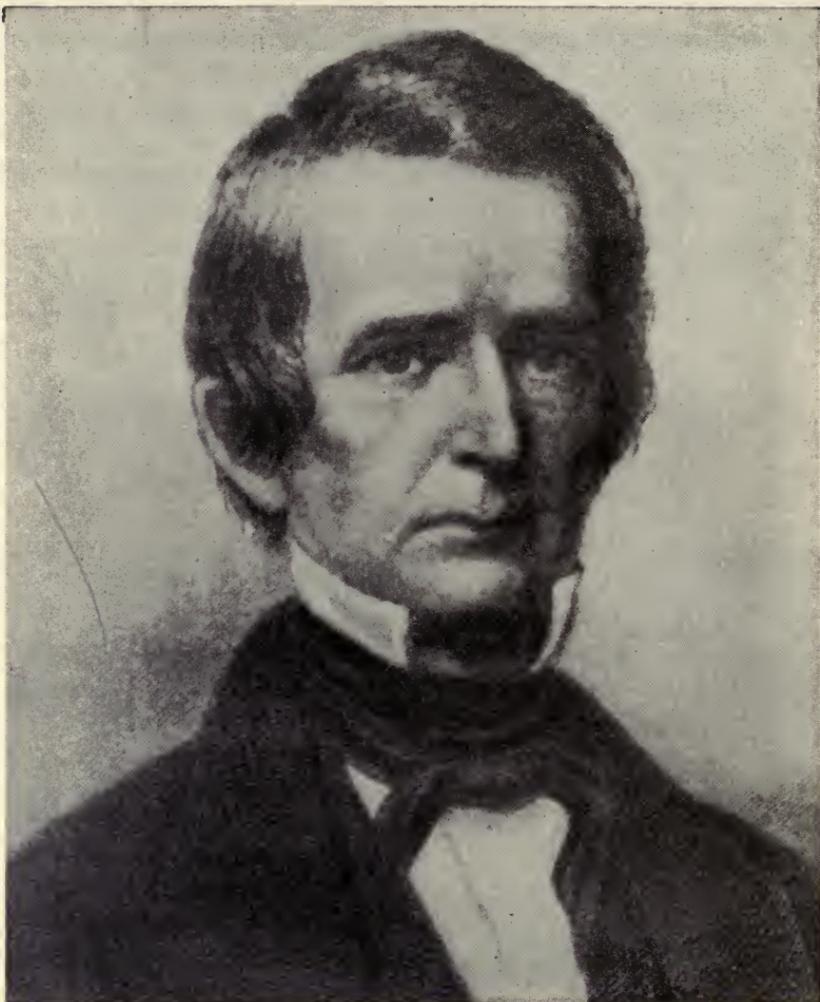
With Baranof's removal, the whole policy in Russian America took on a new form. All foreigners were banished in 1821 and an attempt was made to close the off-shore waters as far as 51° north. The Russian American Company had expanded eastward until it came into conflict with the Hudson's Bay Company, and hunting grounds were no longer claimed on priority of discovery or even of occupation. All depended solely on the support of the

home government and the strength of the Navy. Excluded nations protested vigorously, and as an appeasement, the United States was granted trading privileges to the territory north of $54^{\circ} 40'$ in 1824. The following year Russia granted the same privileges to Great Britain.

By this and other agreements, Russia's right to the coast north of $54^{\circ} 40'$ was recognized, but Russia also gave up her claims to territory to the south. Thereafter it was understood that $54^{\circ} 40'$ was the southern boundary, and it is today the southern boundary of Alaska.

Marines and seamen from the Naval Air Station at Sitka inspect an old Russian fortress that protected the Sitka Channel when Alaska was Russian territory. (U.S. Navy photo.)





Secretary of State William Henry Seward, the stormy-petrel cabinet member of the Lincoln and Johnson administrations. "Seward's folly," in purchasing Alaska for \$7,200,000, bore the brunt of congressional criticism and smart-aleck eloquence. Seward bought Alaska for about two cents an acre.

With hopes of southward expansion gone, Russia was now ready to sell her interests in northern California. Fort Ross, with a basic population of 400, was offered to Spain, then with a shadowy claim to the Northwest. Spain was not interested, nor was Mexico, to whom the offer was next made. Even the Hudson's Bay Company, the Russian American Company's rival, had the opportunity of buying but declined. Finally John A. Sutter of gold fame bought the fort and its rights for \$30,000, and Russia withdrew to her Alaskan territory in 1842.

The aggressive tactics of American and English traders were more than Russia bargained for, and in 1835 she abrogated all their trading privileges, claiming abuses. England, not too friendly with Russia in Europe, determined to hold what the Hudson's Bay Company had won for her. She built Fort Stanwix just south of the accepted border and started to build another fort farther north on the Stikine. She had to abandon this project when Russia sent in a land force to prevent it. England withdrew but protested the show of force, and in a spirit of conciliation Russia granted the Hudson's Bay Company a ten-year lease on the Panhandle section, accepting land otter skins in payment. The lease was renewed several times.

There was a period when Russia had hoped to encircle the globe in the north, and had it not been for the Hudson's Bay Company, this might have come to pass. All the activities of the Russian American Company were exploitative, with no thought of the morrow. The little progress made may be judged by the growth of Sitka, the capital. This city at the time of the cession had about 1,000 Russians and Creoles, with only 50 Russian women. A garrison of 200 soldiers occupied the fort, or Baranof castle, built in 1836. In the tower of this building were whale-oil lamps with reflectors which made the lights visible for many miles out at sea. This was the only lighthouse along the entire coast. There were a few sawmills, a foundry, tanneries, and a few flour mills. All manufactures were for local needs with a small export to California. There were a few cows, goats, sheep, and pigs, and limited crops of potatoes, turnips and other quick-growing vegetables. The short but rapid growing season made these products possible.

Russia became dissatisfied with the activities of the Russian American Company and refused to renew the charter when it came due in 1863. The company continued to operate under suf-



Miners debarking from the steamer *Portland* at Seattle. The ship arrived from St. Michael, Alaska, on July 17, 1897, a month and two days after the *Excelsior* had landed at San Francisco. The *Portland* brought back sixty-eight Klondike miners and their cargo—a million and three-quarters in gold—more than a ton of “dust” and nuggets. They had been in the land of treasure less than a year.

ference as there was no one to dispute its sway, but its activities waned. Fur-bearing animals in available areas were getting scarce, and the grade of furs taken had deteriorated.

In view of all this, official Russia decided Alaska increasingly was becoming a liability. She also felt her need of consolidating her position in Asia before a concerted attack from her European enemies. It was then determined in December, 1866, to get rid of Alaska on the best terms possible, even as a gift if necessary. Russia at that time could not possibly have foreseen the riches that this northland would bring forth.

From the records of the day, it is evident that the United States had no specific designs on Alaska. True, some of the archexpansionists had expressed the desirability of making the whole of the North American continent American territory, but there had been no undercover feelers or arrangements. The purchase was a leap in the dark. The friendship of Russia with the northern states, in part as a slap at Britain's aid to the South during the Civil War, was still fresh in American minds and was to be rewarded if possible. In a song then written by Dr. Oliver Wendell Holmes, the phrase, "Who was our friend when the world was our foe," shows the temper of feeling for Russia.

The American conflict between the North and South had barely ended when Russia made her wishes known. Baron Edward de Stoeckl came to Washington with the specific commission to sell. The sum of \$5,000,000 was offered, but De Stoeckl, in a bargaining mood, asked more.

On March 29, 1867, De Stoeckl went to Seward's home to say that he had been authorized to sell for \$7,200,000 the \$200,000 being for the cleaning up of all obligations of the now practically bankrupt Russian American Company. This was acceptable to Seward, and work on the treaty was started at once so that it might be presented to the Senate before it closed its special session. By four o'clock the following morning, all the provisions had been drawn up and were signed by both parties. Alaska was now American property before Congress had had an opportunity to vote the purchase money, which was interpreted by some as an illegal act.

Congress, feeling itself slighted and with its bitter hatred of President Johnson, due to reconstruction measures, now had an opportunity to vent its feelings. But after a bitter battle, the Senate

by a moderate majority accepted the treaty as drawn up. Senator Sumner, the leader in the Senate and the chairman of the Committee on Foreign Relations, turned the tide. With him, it seems, it was largely a question of not wishing to embarrass Mr. Seward by a government rejection. Thaddeus Stevens in the House held a similar position. He also was one of President Johnson's bitterest enemies, but for various reasons, not for love of Alaska, fought to have the appropriations bill passed. This did not come until six months after Alaska had become American territory. Perhaps, it was the secrecy of action by Secretary Seward that gave America her first "colony."

Because of the severity of criticism in newspaper editorials and magazine articles, the Committee on Foreign Relations felt constrained to publish its reasons for supporting the measure. They were (1) the laudable desire of the people of the Pacific Coast to share in the prolific fisheries; (2) the friendship of Russia for the United States; (3) the refusal of Russia to renew the charter of the Russian American Company; (4) the necessity of preventing the transfer to an unfriendly power; (5) the creation of a new industrial area on the Pacific coast; (6) the necessity of maintaining the supremacy of our empire on land and sea; and (7) the advantage of an unlimited American commerce with the powers of Japan and China.

With the transfer of the Russian holdings and claims to the United States, Congress did not know how to designate the area. To call Alaska a colony seemed un-American and the name of Territory gradually came into use, although in no sense was it similar to a territory within the United States.

The bitterness that had been engendered as an aftermath to the purchase now seemed to be turned against Alaska itself. At least the corruption and lawlessness which were permitted to follow are a dark blot on America's handling of the Territory. Kipling's line "and there's never a law of God or man runs north of 53" seems to be justifiably applicable to Alaska during this period. Scarcely had the American flag unfurled in the breeze when hungry bidders were beseeching and bribing the Russian American Company officials for a chance to get at the commodities stored in their warehouses. Together with stored furs were brass cannon, church bells, wine, rum, clothing, tea, and many other types of goods.



The *Excelsior* starting back for the Klondike after she brought the first load of gold to San Francisco in June, 1897. "The boat," said *Leslie's Weekly*, "was crowded to the hull with gold-seekers and their outfits." On the dock were families and friends of the departing prospectors and thousands of disappointed adventurers who could not gain passage to Skagway, where the long cold trek to the Yukon began.

There was a great influx of adventurers, all hoping to share in the profits to be made, and Sitka became a typical western frontier town with its Indian section, or ranch, and its saloons, dance halls, and gambling dens with their usual quotas of hoodlums and confidence men. The town, like the rest of Alaska, had no basic law and a large part of the population had no regard for any authority.

Without experience in providing machinery for a law-abiding community which seemed too far away to have a place under the American constitution, Congress placed Alaska under Army control. General Davis with approximately five hundred men ejected the Russian soldiers from their barracks and a number of civilians from their homes, to make room for his troops. Protestations were presented but without avail. At the time of the cession the people had been promised admittance "to the enjoyment of the rights, advantages, and immunities of citizens of the United States." This promise was not kept. After a few months' experience with American rule, it is not surprising that not more than a dozen Russians remained in Sitka.

With the purchase of Alaska, the United States had acquired over 376,000,000 acres of land, a vast empire in itself, at less than 2 cents an acre, the cheapest by far of any of the American acquisitions. Now in possession of this vast area, officialdom did not know what to do with it. This indecision dragged into months, and in the meantime the ill feelings engendered by highhanded Army rule brought forth its inevitable consequences. Sitka was the only Army post at first, with Wrangell, Tongass, Kenai, and Kodiak to follow. The latter, however, were abandoned later and the one at Sitka strengthened. The Army, disclaiming authority over civil affairs, did little or nothing to settle problems in establishing an orderly development.

Sitka is an island town and the Army personnel, without any definite tasks, felt as if they were under a term of banishment. Their interest was not in Alaska but in getting away. The natives and the soldiery clashed frequently in drunken brawls and over the native women. Drink was cheap and deadly. A soldier had taught the natives how to make "hootchenoo" from molasses, the deadliest of all their drinks. Some places advertised enough "hootch" for a penny to get drunk, or a dead drunk for two pennies with clean straw to sleep it off.

The area of Alaska was so great and the sparse population so primitive that civil government was deemed unworkable. This attitude was supported at all times by General Davis. He also opposed the sending of Indian agents into the country on the ground that it might precipitate a revolution. It has been conceded that General Davis was most unfit for his job. At most, Army rule did

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VOL I

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Facsimile of the front page of the *Klondike News*, published at Dawson City at the height of the gold rush in 1898. This was the first issue. The paper sold at \$5 a copy.

not extend beyond the Army post, and no effort was made to control the vast interior.

It is worthy of note that for more than a decade there was no land survey and that no legal title to property was possible, except by special act of Congress. As there was no legal title, property could not be transferred or mortgaged. Men whose entire possessions might be in Alaska could not bequeath their property. Debts could not be collected, and there were no means of settling disputes except by force. Even murder was committed over property claims and there was no legal redress within the region. At no time in the annals of Alaska were there so many Indian outbreaks, so much theft, drunkenness, and moral depravity, as up to the withdrawal of the troops.

As no census was taken at the time of the cession, there is no way of knowing the number or racial composition of the people with any degree of certainty. Estimates place the number of whites at approximately 500, of whom 150 may have been Americans. The Creoles numbered some 1,500, and the natives, Indian, Eskimo, and Aleut, perhaps 26,000. Of the quality of these groups, little that is flattering can be recounted.

By and large, only the bolder and more adventurous were likely to cut home ties for the hardships to be encountered in the Territory. But there were some who found Alaska safer than home and could there ply their questionable trade with less interference. There were even serious suggestions that Alaska be made a penal colony.

During Army rule from 1867 to 1877, matters went from bad to worse. By 1875 the uprisings of the natives became so numerous that some officers recommended civil government as the only solution. If not civil government, surely then a local constabulary of natives free from the Army but under courts, to try cases and thus secure dispensation of justice.

With the removal of the Army, the customs collector, with no power except to collect the customs, became the law. The residents of Sitka became fearful and petitioned for protection against a predicted uprising. Failing to get the ear of Washington, they asked the British at Victoria for help. After the British steamer *Osprey* had been sent into Alaskan waters, Congress directed the steamer *Alaska* to relieve the British. From this time on, 1879, the

Navy continued in control until 1884, when conditions improved.

Since Congress had still not enacted any basic law there was no legal way in which the people could make their property or their lives secure. It is an interesting commentary on the congressional attitude that between 1869 and 1880 approximately twenty-five bills aiming to give Alaskans enforceable laws were presented to Congress, but not one was passed. The customs officer had been established, but without a court to arrest and try persons who openly flouted his authority and made a laughingstock of him.

The first attempt at an organic law for Alaska came through "An Act Providing a Civil Government in Alaska," signed by President Harrison in May, 1884. For the first time, Alaska became a Territory in rank, but not on a par with those within the United States. It made provision for a governor, a judge, a district attorney, a marshal, and four commissioners. It was to be organized into one land district with the laws of Oregon legal so far as they could be made applicable. The mining laws of the United States were to be extended there, but it was expressly provided that the general land laws were not to be applicable. Although the act was a step in the right direction, it was a makeshift. With a few notable exceptions, the men appointed were not of the highest grade and as one writer said, "Alaska became a political preserve for the payment of small debts." The distances involved and the limited character of the legal machinery made enforcement nearly impossible. It became difficult to convict a person by a local jury, and if convicted, punishment frequently could not be meted out.

This law covered practically all legislation until the gold rush in the late 90's. With the gold rush came a new attitude toward Alaska, but fully another decade had to pass before a helping hand was extended. It is noteworthy that Alaska had to go 39 years before it had an official representative in Washington, and 45 years before it was granted any legislative power. Unquestionably this political neglect is in large part responsible for the slowness which has characterized Alaska's development. The influx of miners during the gold rush and the large retinue of leeches that followed made the situation much worse, adding infinitely to the problem of establishing a sound government. American policy did not catch up with needs until near the beginning of World War I. Even as late as 1919, Governor Riggs urged the necessity of better police pro-

tection outside the larger towns. Until recently there were fewer than 100 officers to carry out regulations.

As early as 1861, gold had been discovered on the Stikine at Cassiar, with a minor rush there in 1874. Some of the miners from Cassiar later went north and succeeded in finding gold along the Gastineau Channel in 1881. These properties were brought together and became the famous Treadwell group at Juneau, one of the outstanding mining properties of the world. With their development came the real beginning of Alaska's rich gold history. The Treadwell mines, four in number, operated on low-grade ore and abruptly came to an end in 1915 when they were flooded by a break from the ocean with the ore by no means exhausted.

During the working of the Treadwell mines, more than 250,000 tons of ore were mined, milled, and processed each year, making a profit for the owners of over \$20,000,000. It was probably the first of the great mining properties that made large profits by the economic handling of huge quantities of low-grade ore. Mining

Not all the fortune hunters of gold-rush days pushed their way along the cheerless and frozen Chilkoot Pass. Some went from San Francisco and Seattle by the outward sea journey to St. Michael, and then were towed or plied their own boats up the Yukon River to the scenes of the rich strikes along the tributaries.



stopped there, but its influence was widely felt. Among its 300 or more workmen were those who got their first training in lode mining and in the principles of gold deposition. Many of these, as soon as they had earned enough to grubstake, succumbed to the lure of "gold in them thar hills." Some of the workmen became rich in their own way. The mines had pockets of very rich ore and many a workman "high graded" ore and "blanketed" it out of the mine to sell as his own. Much of this went to the saloons and gambling dens, but some also helped to finance another trip into the hills.

The Treadwell mines were the forerunners of what was to come. In 1886 the first very rich strike was discovered on Forty Mile Creek, and by the end of another decade there were approximately 2,000 miners in the Upper Yukon who had already taken out considerably over \$1,000,000 worth of gold yearly. In one case alone it is stated that three prospectors in 1896, using their frying pans, succeeded in panning out \$700,000 worth of gold from Bonanza Creek. While this location was in Yukon Territory, Canada, it has always been associated with Alaska, as the entrance to the gold fields was through Alaska.

The trek toward Alaska was already under way in the middle nineties and needed only a sensational story to make it a stampede. This came after some rich finds in the winter of 1896-1897 and the arrival of the steamer *Portland* in Seattle with a load of gold. A Seattle paper's story of the arrival of a ton of gold, \$800,000, set off the spark. As the news spread, it grew more fabulous and men from many lands headed for the land of gold.

The cumulative effect of the wild stories and still wilder advertising by West Coast papers and transportation companies led to one of the great gold rushes of all time. Had it not been for the diversion of the Spanish-American War, the situation might have become serious. As it was, scores of men ill prepared and ill equipped found their way into an area of about 800 square miles on Klondike Creek about 50 miles east of the Alaska-Canada border. From there the stampede continued down the Yukon Valley ending at Nome.

At the time there were no well-laid-out routes to the interior, a great mountain chain barring the way. But this did not bar the sourdough nor the cheechako, from attempting the hazardous and often

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A bid for travel to the gold fields of Canada and Alaska, made by the Chicago & North-Western Railway in 1898. That year saw the peak of the mad trek to the Yukon. H. R. McCullough held his job as passenger agent for forty-two years. He retired less than three years ago. Colonel McCullough—as he was known—says it was no trick at all to sell tickets to Alaska in '98.

fatal trip. The gold seekers followed different routes, their course not infrequently decided by a flip of a coin. Some thought the trip up the Yukon the best. But a gravel bar at the mouth prevented coastal vessels from entering Yukon waters, the steamers on the river were slow, and it took a long time to go the 1,600 miles against the current. Others took the Stikine route from Wrangell and overland to Telegraph Creek. Still others ascended the Copper River from Valdez and then over the dreary wastes of snow and ice.

Two other routes came soon to dominate all others. These were shorter and less dangerous. The one starting at Dyea at the head of Lynn Canal led over Chilkoot Pass, but Dyea was handicapped by a very high tide and a wide mud flat, making unloading difficult. The other near by had Skagway as a starting point and outfitting post. The trail led over White Pass at an altitude of 2,888 feet and was about 45 miles long. This pass, although a little longer than the Chilkoot, soon took the major part of the traffic.

The hardships and sufferings endured by the mad hordes have been told by many. Reports indicate that in the late autumn of 1897 the White Pass route already looked more like a battlefield than a peaceful trail leading to riches. It was estimated that 3,700 horses had fallen dead along the way by the end of 1897. Even after having crossed the range, many persons found themselves poorly equipped, not having had funds to make vital purchases. There were also many who never reached their goal, for the trail offered many opportunities to slide down the icy slopes. Some succeeded in getting back to Skagway.

The town of Skagway was inadequately prepared to house the oncoming mobs. There were stores, warehouses, saloons, and gambling and dance dens, with the inevitable conditions attendant on such places in frontier towns. Many a prospector returning with gold lost all he had, but he was fortunate if nothing more than his gold was taken.

The railroad over the pass, completed in 1899, gave Skagway the permanent lead in that part of Alaska. Skagway's population record is interesting. At the time of the gold rush, the population was estimated to be between 20,000 and 30,000. As the people did not remain long this figure means little. Two years later in 1900 the population had dropped to 3,117; by 1910 it was only 872; and by 1930 it was 492. The census of 1940 showed an increase, recording 633

people. In World War II, the population again reached 2,500, but now is only about 800.

The progress made in Alaska in spite of political handicaps has not been altogether due to gold. Furs loom large, especially the pelts of the fur seal. Although the government reaps the profit from this enterprise, it still is worth something to Alaska as an advertising medium. The important fishing and canning industries promise a still brighter future.

The present economic development of "Seward's Folly," in spite of the political handicaps, has proved the wisdom of Alaska's purchase many times over. Were Seward's former critics present today, no dissenting voice could be raised. To recount all the points in its favor at present would need a volume all its own. In spite of the enormous sums taken out of the country through exploitation, there is a dearth of available capital to develop its resources and make it a growing community of homes. But with greatly improved transportation by sea and air and with the new highway through Canada, Alaska may soon be looked on as an integral part of the United States.

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