ALASKA'S FISH AND WILDLIFE

CIRCULAR 17

FISH AND WILDLIFE SERVICE

UNITED STATES DEPARTMENT OF THE INTERIOR

ALASKA'S FISH AND WILDLIFE

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CIRCULAR 17

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ALASKA'S FISH AND WILDLIFE

Alaska, rugged and primitive, is a land of surprises for the newcomer—soldier, sportsman, tourist, or homesteader.

Giant strawberries, 50-pound cabbages, delphiniums 9 feet tall, grow in parts of the country we bought from the Russians, whose chief interest was the exploitation of the country's rich fur resources. Along with numerous fishes, big-game animals, and game birds, these fur resources are important in Alaska's economy today.

Alaska is not the frigid land of popular concept, though it does have extremely cold weather. Average annual snowfall in West Virginia is more than that of the Arctic lowlands, and greatest summer heat in central Alaska is about on a par with that of New York City.

The weatherwise have learned to expect almost anything in the way of temperatures in Alaska, nearly three-fourths of which is in the North Temperate Zone. Recordings of 100° F. at Fort Yukon on the Arctic Circle and 99° F. at Klukwan in Southeastern Alaska top the highest recorded temperature of 95° F. at Miami, Fla. Of course, in some places the bottom drops out of the thermometer. At Tanana on the Yukon, 70 degrees below zero have been recorded, and Fairbanks, chief town of central Alaska, has felt the bite of 66 degrees below zero.

The temperature fluctuations give the mosquitoes no trouble. These pests thrive in many places, particularly in swampy river bottoms like those along the Yukon, one of the longest waterways in North America. But even though it has mosquitoes so fierce you need a double headnet, Alaska does not have snakes of any kind.

Surprisingly, the glaciers are in the south, southwest, and southeast. They can form in these regions because of heavy precipitation and high mountains—a combination that even causes glaciers in equatorial Africa. Alaska's greatest ice mass is the Malaspina glacier on the

southern flank of Mount St. Elias. At least 250 other glaciers have been located and named.

When we bought Alaska, it was commonly thought that we had made a poor buy. But the return on the investment of $7,200,000 has been about 2,430 percent. What is more, the purchase of Alaska gave the United States a stronghold to dominate the North Pacific—a necessity foreseen by William Henry Seward, Lincoln's Secretary of State. who negotiated the purchase in 1867.

A major seaport of Alaska is named for Seward. Gateway to the interior, Seward is the southern terminus of the Alaska railroad, and the outfitting center for big-game hunters headed for Kenai Peninsula.

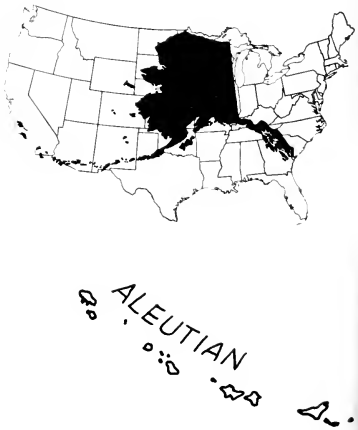
There are trophies to be taken on the peninsula, but big game here as well as elsewhere in Alaska is by no means as plentiful as people have been led to believe.

Though gold mining is often thought to be Alaska's ranking industry, it is overshadowed by the commercial fisheries—to which canning of salmon contributes 80 to 90 percent of the output. Trapping and agriculture make significant contributions to the economy, and transportation and the growing tourist trade add to the income of this land whose 586,400 square miles are a fifth as large as the 48 States. Its expanse can be appreciated by comparing a map of Alaska with a map of the 48 States, drawn to the same scale. North and south, parts of Alaska would stretch from Canada to Mexico, and east and west from Georgia to California.

This vast and sprawling land has an intricate coast line totaling 33,000 miles. There are more than 3,000 islands, 1,100 of them in the Alexander Archipelago through which the Inland Passage winds its way. Boats that thread the Passage put in at three of Alaska's largest cities, Ketchikan, Juneau (the present capital), and Sitka (the old Russian capital).

The population of Alaska is sparse—about 129,000 in 1950. Average distribution is 1 person to every 5 square miles, as compared with 50 to the square mile for the 48 States, 29 for Texas, and 748 for Rhode Island. This population is made up of outlanders of many nationalities, and Aleuts (pronounced alley-oots), Eskimos, and Indians.

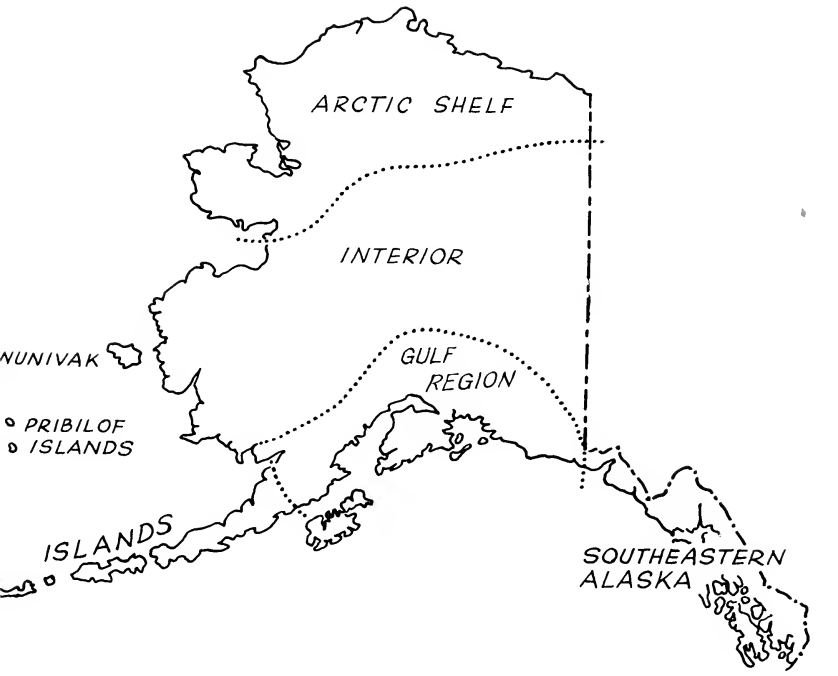
Alaska's residents are governed by the Territorial Legislature, created in 1912. Its fish and wild-



life resources are managed by the Alaska Game Commission and the United States Fish and Wildlife Service. The Territorial Department of Fisheries conducts scientific investigations of the fisheries resources and works closely with the Fish and Wildlife Service.

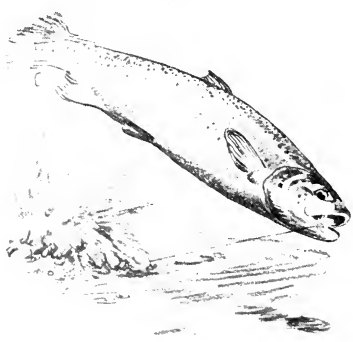
With its striking contrasts in physical features, climate, vegetation, and animal life, Alaska is most easily described one part at a time. Brief descriptions of its five rather natural divisions, and of Nunivak Island and the Pribilof Islands follow.

ALASKA BY REGIONS



SOUTHEASTERN ALASKA

Southeastern Alaska is the strip, sometimes called the Panhandle, from Portland Canal up the coast to Yakutat. Its mainland is a narrow belt of high, ice-capped mountains, and along its coast are many forested islands and countless bays and inlets. The climate is mild and wet. Most of the precipitation is during the winter. Annual rainfall averages 99 inches, but varies from 150 inches at Ketchikan to 60 inches at Haines. Temperatures are not extreme: the January average is 30° F., the July, 57° F. The forest is largely western hemlock and Sitka spruce.



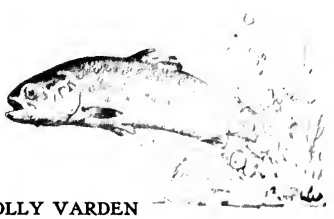
RAINBOW

Big-game animals of Southeastern Alaska include the Sitka deer, the mountain goat, brown and black bears, and a few moose in the valleys of the large mainland rivers. Among fur animals are the beaver, the muskrat, the wolf, the land otter, the mink, the marten, the weasel, and the wolverine. In the waters of the Inland Passage are sea lions, whales, Dall's porpoise and the Pacific Harbor porpoise, and one of the hair seals—the Pacific harbor seal. Halibut, cutthroat trout, rainbow trout, and pink, king, and silver salmon are some of the fishes in this region, while in the varied bird population are grouse, ptarmigan, Steller's jay, the Alaska chickadee, the pine grosbeak, the osprey, both the golden and the bald eagle, and in winter the rare trumpeter swan, which nests in British Columbia and Alberta to the east.

THE GULF REGION

The Alaska Range cuts across the Territory in a huge arc, and the land below this arc is known as the Gulf Region. Drained by the Copper and Susitna Rivers, it includes the base of the Alaska Peninsula, the Kenai Peninsula, and Kodiak Island. It is the most important game region in the Territory. Average January temperatures range from about 26° F. at Kodiak, Kodiak Island, to about −22° F. at Copper Center on the Copper River, on the mainland. It has been much colder in both places—absolute minimum for January is 74 degrees below zero at Copper Center and 9 degrees below zero at Kodiak. Most of the precipitation is in the late fall and early summer, and the average is about 35 inches. Here the northern limits of Sitka spruce and hemlock are reached, and the black and white spruces and the birches of the Interior make an appearance. The western end of the Alaska Peninsula is treeless.

Moose, caribou, Dall sheep, mountain goats, and black, brown, and grizzly bears are the principal big-game animals of the region. There are some transplanted elk on Afognak Island and deer along the coast. Among the smaller animals are ground squirrels, marmots, porcupines, the Arctic shrew, lemmings, and the varying hare. Upland game birds include grouse and willow ptarmigan, and there are migratory waterfowl such as green-winged teal, Canada geese and white-fronted geese, and harlequin, pintail, and mallard ducks. Song birds include the slate-colored junco, the blackpolled warbler, and the robin. In coastal waters are the Pacific harbor seal, the northern sea lion, and many whales, including the small Beluga or white whale which frequents Bristol Bay and Cook Inlet. Streams contain trout, salmon, and grayling.



DOLLY VARDEN

THE INTERIOR

Between the Alaska and Brooks Ranges and extending from Canada to Bering Sea are the huge central valleys of the Yukon and Kuskokwim Rivers. Known as the Interior, this is a region of cold dark winters, and of summers with continuous daylight. January temperatures vary from 7° F. at Bethel to −29° F. at Bettles, with an average of −10° F. Precipitation is relatively light, averaging about 13 inches annually, and occurring principally during the summer. The forests are of black and white spruce, and the timber line is at 2,500 to 3,000 feet. The tundras bordering Bering Sea are treeless.

The Yukon-Kuskokwim Delta is perhaps the largest waterfowl-nesting area on the continent. Black brant, lesser Canada geese and cackling geese, mallards, green-winged teal, baldpates, and pintails are but a few of the webfeet which use this area for summer quarters. Here also is found the emperor goose, a beautifully colored goose of medium size. Upland game birds are ruffed and spruce grouse, and the willow, white-tailed, and rock ptarmigan. At the peak of their cycle, these birds occur in amazing abundance. The varied thrush, the Bohemian waxwing, the wandering tattler, and the surfbird, which nests in the Mount McKinley region, are summer visitors. Here, too, is found the water ouzel, or dipper, whose search for aquatic insects is conducted under water as it walks along stream beds.

TRUMPETER SWAN

Big-game populations of the area include the Stone caribou, Dall sheep, black and grizzly bears, and moose. About 90 miles southeast of Fairbanks is a herd of bison, started from a nucleus transplanted from the National Bison Range in Montana. Among the smaller animals are muskrat, beaver, lynx, and marten. Inland waters contain trout, salmon, grayling, northern pike, whitefish, and the sheefish. In Bering Sea are various whales—humpback, sei, Pacific killer, beaked, gray, right, white, and Stejneger's—and dolphins.

THE ARCTIC SHELF

Actual arctic conditions exist in about one-sixth of Alaska, north of Seward Peninsula and the Brooks Range. The low-rolling hills and plateaus of the Arctic Shelf are drained by north-flowing rivers and streams. The climate is cold and arid with only 6 to 8 inches of annual precipitation in late summer and early fall. Winters are long, dark, and bitter cold; summers, though short and cool, have virtually continuous sunshine from May to August. There is a luxurious growth of mosses, bright flowers, lichens, and grasses, even though the soil cover thaws only a foot in depth. Timber is thin or nonexistent, and willows, some only a few inches high, are the predominant tree growth in the Arctic drainage.

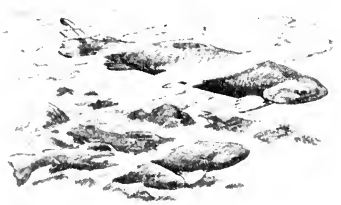
Caribou, ptarmigan, and an occasional grizzly live on the tundra along the willow-bordered streams. Polar bears and arctic foxes range the coast, and the ringed seal may be found in the inlets. Whales in the waters of the Arctic Ocean include the bowhead, the blue or sulphur bottom, and the finback. A once-in-a-while visitor to these waters is the narwhal whose left upper jaw is armed with a twisted tusk—the reason for its nickname of "sea unicorn." The walrus also churns up the chilly waters. The streams contain salmon, trout, grayling, pike, and sheefish. Some of the birds of this region are the snowy owl, the king eider and Steller's eider, the Alaska yellow wagtail, the gyrfalcon, the Alaska longspur, and the Arctic tern, which makes one of the longest migrations known. It summers as far north as land occurs and winters as far south as Antarctica.

PTARMIGAN SNOWY OWL

ALEUTIAN ISLANDS

The Aleutians are treeless, fog-bound, volcanic mountain tops rising from the sea. They extend in a chain westward from the tip of the Alaska Peninsula for about 1,100 miles in a long arc that places the outermost island, Attu, within 600 miles of the Asiatic Kurile Islands. Rain falls here in all seasons, with an annual precipitation of about 60 inches. The climate is wet, cool, and windy, and the islands, whose north-shore beaches have great stands of beach rye, are ice-free and open to year-round navigation.

Most striking feature of the Aleutians is the number and variety of sea birds. Representative are the ducks, among which may be found the Pacific harlequin, the king eider, Steller's eider, the old squaw, and the American scoter. Of the gulls, the commonest is the glaucous-winged which feeds on the prickly sea urchin. There are jaegers, and puffins, murres, guillemots, and murrelets in countless numbers. Along the rocky shores are nearly 20 kinds of shore birds, commonest of which are the Aleutian sandpiper and the black oystercatcher. There are 17 varieties of land birds, with the raven the most conspicuous and the Alaskan longspur the commonest. A winter resident is the emperor goose, which natives call *tsiesarka*, a Russian word meaning guinea hen. Asiatic visitors are Swinhoe's wagtail and the black-backed wagtail.



Mammals of the Aleutians are few, and are found on the eastern islands. Blue foxes, transplanted to certain islands under lease by the Government to Aleut communities, are the only large land mammal on the outer islands, like Attu. On Unimak Island, there are caribou, brown bears, wolverines, and the Alaska Peninsula hare, which turns pure white in winter. There are lemmings on some of the islands, and the saddle-back shrew lives on Unalaska. The Norway rat and the house mouse, unfortunately, have become established in all the

larger settlements, and the Aleutian ground squirrel, a colony-living animal, was introduced from the mainland to Unalaska, Umnak, and Kavalga.

Sea mammals abound in the waters around the Aleutians. The remnant of a once-abundant herd of sea otters, whose pelts the Russians prized, is now slowly rebuilding under Fish and Wildlife Service protection. The seals are represented by the northwest harbor seal (the commonest), and the rare bearded seal. Various species of whales frequent Bering Sea, including the killer whale, which travels in packs and preys on fur-seal pups. Dolphins are present also, and there are cod, Atka mackerel, halibut, capelin, and the sand lance.

In addition to Dolly Varden trout, some salmon are found in the Aleutians, though generally not in great abundance. There are also bullheads, or sculpins, and the three-spined stickleback.

PRIBILOF ISLANDS

About 200 miles north of the Aleutians lie the mist-shrouded Pribilofs on whose boulder-strewn beaches and rocky ledges the fur seals breed. The Pribilof group, volcanic in origin, contains five islands, of which St. Paul and St. George are the largest. The others are Otter Island, Walrus Island, and Sea Lion Rock—the last two hardly more than reefs above the wash of the sea. The temperature range on these islands is slight: in summer the thermometer seldom registers more than 50° F. and in winter the range is usually between 20° F. and 25° F. Precipitation is heavy, and mostly in the form of a drizzle or light snow. In summer chilly fogs are almost constant; at other seasons of the year the winds are violent; and in winter the Arctic pack ice sometimes closes in along the shore.

The Pribilofs are treeless; the ground is covered by shrubs, creeping willows, and dwarfed heath-like plants. The larger islands have an abundance of flowering plants of subarctic species which bloom from early June to late August. Fields of saxifrages, arctic poppies, and lupines grow with almost tropical luxuriance because of the moist summer.

Land mammal life is limited. There is a Pribilof shrew known only on St. Paul and a black-footed brown lemming peculiar to St. George. Both larger islands have the blue fox, whose main food is the least auklet, and the house mouse was accidentally introduced. There is evidence that the giant mammoth once lived on the islands, possibly when they were connected with the mainland.

Like the Aleutians, the Pribilofs have quantities of birds. About 100 species have been noted, and 20 species breed there. Among the shore birds are the Pribilof sandpiper which winters in Southeastern Alaska, and the black turnstone which winters in Lower California. Sea birds include the king and Pacific eiders and black-legged and red-legged kittiwakes. Migrants include the red phalarope, the Pacific golden plover, the wandering tattler, and the horned puffin. Year-round bird residents are the Aleutian rosy finch, the Pribilof snow bunting, the Alaska wren, and the western harlequin duck.

Most important of the sea mammals on the Pribilofs is the Alaska fur seal which summers on the two larger islands, and uses them as breeding grounds. Once nearly extinct, the seals receive special care from the Fish and Wildlife Service, and are now an important source of revenue for the United States.

Other sea mammals found in the vicinity of the Pribilofs are the ribbon seal, the Pribilof harbor seal, and Steller's or the northern sea lion. At one time, these islands were also the home of the sea otter. Killer whales are generally present, and the bowhead can sometimes be seen in the vicinity of St. Paul. Fish taken in Pribilof waters are halibut, Alaska cod, flounders, and sculpin.

NUNIVAK ISLAND

Nunivak Island, 50 miles long, is the second largest island in Bering Sea. Now a national wildlife refuge, this is the home of an introduced herd of musk oxen, and of the introduced blue fox and reindeer. During migration time, the waters around Nunivak Island are thick with scoters and eiders of several species. The grasshopper warbler and the mountain accentor have been found as accidental visitors from Siberia.

FISHES

COMMERCIAL FISH

Each year Alaska's commercial fisheries yield products of greater value than any other natural resource. Fishing contributes over one-half of the Territorial tax revenue and provides employment for about 30,000 persons, almost a fourth of the population.

The salmon industry is the foundation of Alaska's economic structure. Five species of salmon—king or chinook, silver or coho, red or sockeye, pink or humpback, and chum or dog—are taken by trolling at sea and by fish traps, beach seines, purse seines, and gill nets in inside waters. Fishing is principally confined to the spawning runs, when the mature fish gather in well-defined migration routes on their way from the ocean to the rivers and streams. All species of Pacific salmon are anadromous, that is, they return from the ocean to the freshwater streams of their birth to spawn. Unlike Atlantic salmon, Pacific salmon die after a single spawning.

Next in importance are halibut, herring, clams, crabs, sablefish, and shrimp. Trout, rockfish, lingcod, oysters, smelts, and others are taken in limited quantities.

To protect these fish, the Fish and Wildlife Service patrols most of the 33,000 miles of Alaska's coastline during the fishing season. With proper management, the fisheries can be maintained indefinitely at a high level of production but conservation measures must match the constantly increasing commercial operations. So much gear has been added to the fishing fleet since World War II that salmon runs in most areas have shown distinct signs of depletion.

Salmon are rich in proteins, fats, and vitamins, and are especially good for canning. Although large quantities are sold on the fresh-fish markets and considerable amounts are frozen, pickled, and smoked, the bulk of the catch is canned.

Kinds of salmon—King or chinook salmon occur in Alaska from Dixon Entrance to the Yukon River. They reach maturity at widely differing ages, varying from 3 to 7 years. Full-grown kings average about 23 pounds, although an occasional one may weigh as much as 100 pounds. Kings usually migrate into the larger rivers, such as those on the mainland, and are the first species to enter the commercial fisheries in each of the several districts. The runs in Southeastern Alaska are generally

SALMON (from top): King; Coho; Chum; Humpback; Sockeye.

in May while those further north and west come in June.

Silver or coho salmon are almost universally distributed from Dixon Entrance to Kotzebue Sound, north of Nome. The coho may reach 36 inches and weigh as much as 30 pounds, but averages 24 inches and 9 pounds. Maturity is reached at about 3 years in Alaska waters. Adults ascend nearly all coastal streams and rivers to spawn. The runs are late in the season, from July to December. King and silver salmon commonly strike a lure and can be trolled for. This method of salmon fishing is practiced only in Southeastern Alaska.

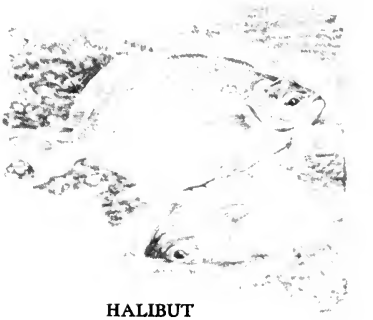
Red or sockeye salmon range from Southeastern waters to the Kuskokwim River, and go up those rivers with accessible lakes in their watersheds. Bristol Bay is the greatest producing area of this species in the world. Reds range from 15 to 20 inches and average 6 pounds. The most common age is 5 years, but there are sizeable proportions of 4-year-olds and 6-year-olds. Runs usually begin late in June and continue through July, although the Karluk and Chignik Rivers have two runs, one in June, the other in August.

Pink or humpback salmon range from Southeastern Alaska to Bristol Bay. Southeastern Alaska is the center of abundance, and produces an average annual pack of 2,000,000 cases. Pinks mature uniformly at 2 years, and each stream with an annual run supports two separate populations. Pink salmon may vary widely but average about 18 inches and 4 pounds. Runs are from July to September. Pinks prefer the lower reaches of smaller streams near the coast and apparently ascend only as far as necessary to avoid congestion. Under favorable conditions, pinks reproduce in tremendous abundance.

Chum or dog salmon, although not the most abundant, are the most widely distributed of the salmon, entering almost every stream from Southeastern Alaska to the Mackenzie River of the Arctic. Their range in age and size is likewise

great, running from 3 to 6 years, and 5 to 45 pounds, with an average weight in the commercial catch of 8 pounds. Runs begin in midsummer and continue into the fall, with the earliest fish usually going the farthest upstream. Abundance in any given locality may vary greatly from year to year, and less is known about this species than the others, perhaps because it is the least valuable commercially.

Halibut—The halibut is the largest of the flatfish, weighing as much as 600 pounds but averaging less than 50. As fishes go, it is exceedingly long-lived: a 7-foot fish may be 50 years old. Most halibut marketed in the United States comes from Alaska. The catch in Pacific waters is regulated by quota under international treaty with Canada, and the permitted catch is taken each year from May to July. Competition from synthetic vitamins has recently reduced the market value of the halibut's vitamin-bearing liver.



HALIBUT

SHELLFISH

Shrimp—Cold-packed and frozen shrimp meat comes mainly from the Wrangell-Petersburg area of Southeastern Alaska. In addition, small packs of canned shrimp have been put up from time to time in lower Cook Inlet.

Clams—Razor clams from the Copper River flats, Cook Inlet, and Shelikof Strait make up most of the clam production. A few cockles are dug in Prince William Sound for canning and for crab bait, and some butter clams are taken from the gravel beaches of the Gulf of Alaska and the Southeastern Region. All clams are harvested by hand shovels and are subject to commercial fishing regulations to prevent depletion of the supply. Canned razor clams are a superior product. In recent years only a few butter clams have been canned in Southeastern Alaska.

Oysters—The production of oysters in Alaska has been from a single commercial bed in the Ketchikan area. Spat must be transplanted from other regions because the water is too cold for successful reproduction.

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SPORT FISH

Nature has done as well by Alaska's freshwater fisheries as by its marine, and the angler has many excellent fishing grounds to choose from.

The fresh-water fisherman can try his luck in two kinds of streams. Coastal streams are short and fairly swift, flowing through deep, narrow, densely wooded valleys, with banks often covered by heavy brush. Their many clear pools and riffles interspersed with numerous waterfalls make a fishing trip beautiful and exciting.

Inland clear-water streams are usually longer. Rising from snow-fed mountain lakes, their upper reaches traverse high plateaus sparsely covered with dwarf willows and alders. The lower reaches are reasonably free of dense undergrowth. The large rivers have their sources in glaciers and are silt-laden, but most of their tributaries are clear and carry big populations of game fish, except in waters near cities.

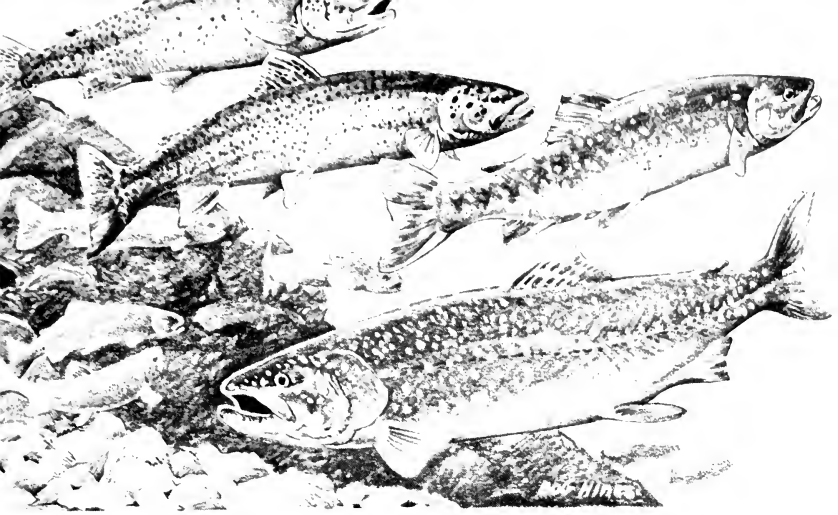
Alaska's fresh-water game fishes are the rainbow, steelhead, cutthroat, lake, and Dolly Varden trout as well as the grayling, great northern pike, and inconnu or sheefish. Various colored sculpins, marine and fresh water, are found practically everywhere. In 1931, eastern brook trout were transplanted successfully into barren lakes near Ketchikan, Juneau, and Skagway.

Salmon—From the sportsman's point of view, marine fishes worthy of consideration are the king or chinook and the silver or coho salmon. These may be caught by trolling, spinning, or casting, and both species are widely distributed. They range north into the Arctic Ocean, but appear in greatest numbers in waters adjacent to the Pacific Ocean.

King salmon run larger and can be distinguished from silver salmon by their actions when hooked. A king generally takes the hook below the surface and sounds at once, taking out as much as 200 feet of line, with most of the fighting below the surface. King salmon have become an exceptionally popular sport fish, particularly in Southeastern Alaska where this species is the basis for annual salmon derbies. These are usually held in July under the auspices of the Territorial Sportsmen's Association.

The silver will strike even when the bait or lure is in sight of the boat. When hooked, it makes a fast run of 30 feet or more, breaks water, and leaps several feet into the air. It continues these tactics on the surface until played out, and for that reason is regarded by sportsmen as a superior game fish.

One of the best areas for silver salmon is Southeastern Alaska. Here, behind island barriers, long stretches of protected water allow fishing without hazard. Chatham Strait, the channel dividing Chichagof and Baranof Islands from Admiralty Island, is the finest of these. Stephens Passage, Lynn



TROUT: Cutthroat Rainbow Dolly Varden Lake

and Behm Canals, Frederick Sound, Clarence, Sumner, and Icy Straits, and waters off the west coasts of Prince of Wales and Baranof Islands also have big runs of these fish.

Pink and chum salmon have no importance as sport fishes although all have been taken incidentally with sport tackle. In certain lakes, the sockeye and the coho sometimes develop landlocked varieties that resemble trout in size and fighting ability.

Trout—At one time steelhead and rainbow trout were considered distinct species, but study has shown that the two are salt- and fresh-water forms of a single species. They resemble the Atlantic salmon in habits and appearance.

Rainbows, as the name implies, are brilliantly colored along the side and are heavily spotted. They are found in coastal rivers from Dixon Entrance northward, and in suitable waters of the Interior south of the Yukon drainage. They are stocked in some landlocked lakes, particularly in Southeastern Alaska. Their average size is smaller than that of the anadromous steelhead, but individuals of 27 to 30 inches are common in a few areas.

Steelhead trout are silvery gray, and lack the brilliant coloration of the rainbow. In fresh water, coloration may become more pronounced. This sparsely spotted fish, recently come into its own in the sporting world, may be found in most of the large coastal streams and in many of the smaller ones. Average weight of the steelhead in Alaska is 8 to 10 pounds, but larger ones are often taken.

These two trout offer the best of

sport fishing. Both will accept all types of lures—flies, spinners, or bait.

The Dolly Varden trout is the most abundant trout in Alaska. It is a native of virtually all the coastal streams and lakes from Alexander Archipelago bordering British Columbia to the islands of the Aleutian Chain and Bering Strait. Golden fin, bull trout, and mountain Dolly are local names for this fish which may vary widely in appearance owing to local conditions.

This species is distinguished by its light or pink spots—other trout have dark spots—and by its larger mouth. It ranges in length up to 30 inches, although there are stories of measurements of 4 feet or more. The Dolly is usually anadromous, spawning in fresh water and spending most of its life in the ocean; an arctic variety, the so-called arctic char, stays in fresh-water lakes, except when ascending tributary streams in the fall for spawning.

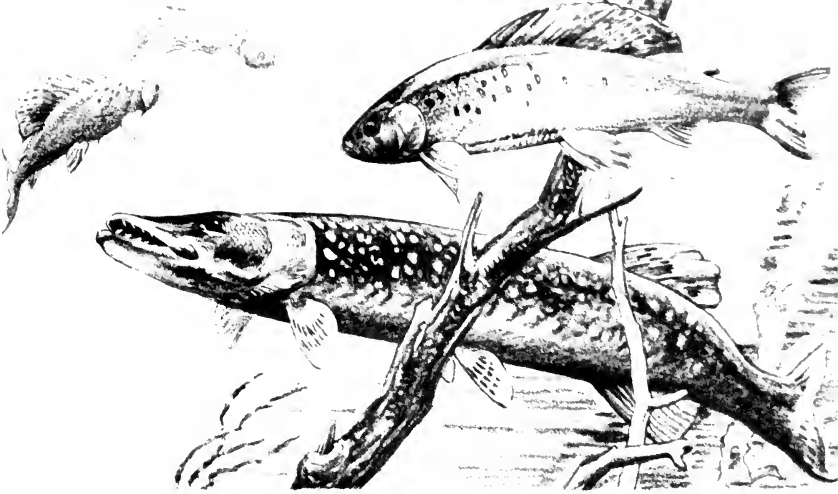
The Dolly has suffered considerable abuse through the years. Many sport fishermen won't try for it because of its supposed lack of fight. Commercial fishermen and salmon packers have long demanded its destruction on the ground that it is harmful to salmon runs because it feeds on salmon eggs and young. Substantial sums in wages and bounties have been spent by salmon packers and the Territory of Alaska for eradication in westward areas, particularly in Bristol Bay.

Actually the Dolly has every bit as much fight as the eastern brook trout or the lake trout, and few people would be able to distinguish the cooked flesh from that of any of the preferred game species. Although it is condemned for destroying salmon eggs, studies indicate that it usually eats drifting eggs that would be lost anyway. This trout will strike almost any lure, and is at its best for food when taken at sea or on its way upstream.

One of the finest game and food fishes in Alaskan waters is the coastal cutthroat trout. This trout has a salmonoid shape with silver sides, white belly, blue, green, or brownish spots, and a profuse covering of black spots, even over the tail region. The cutthroat is one of the two black-spotted trouts in Alaska (the other is the rainbow; neither the Dolly Varden nor the lake trout has black spots on the back). Two red lines on the jaw give the cutthroat its name, although on fish just in from the sea these marks are often greenish or yellow, or occasionally missing. Cutthroat will run as much as 25 inches in size. They are found in many of the coastal streams from the southern end of Southeastern Alaska to the western end of Prince William Sound.

The cutthroat generally spawns from February to May, though it may be as early as December. After a summer at sea, adults reenter the streams in the fall, and it is then that the greatest numbers are taken by sport fishermen.

Though not as large as other trout, the coastal cutthroat puts up a spectacular fight when taken on light tackle. A variety of lures, such as flies, spinners, and salmon



GRAYLING

NORTHERN PIKE

eggs, are effective. The cutthroat may be taken at sea where it travels in schools. And when a school has been located, the angler can catch them as fast as he can put out a lure and pull in the fish. The favorite salt-water lure for this purpose is the "pop gear" type of combination flashers and spinners, trolled behind a boat.

Lake or Mackinaw trout is one of the lesser-known game fishes in Alaska. It belongs to the group known as char, which includes the Dolly Varden and brook trout. The lake trout is the largest of the chars, and is distinguished by teeth on the tongue. Its body tapers to slenderness toward the forked tail, and it has brown sides, a brownish back, and white ventral fins edged with orange. White spots are profuse on sides, back, and tail. Because few Alaskan specimens have been recorded, the size they reach is unknown, but 30-pounders are not unusual.

This trout is found in the Brooks Range, and is most abundant in western Alaska. Although favored habitat is in the deeper lakes, it also likes their outlets where it feeds on migrating salmon fry or fingerlings. It feeds on mice and lemmings, too, if they accidentally fall into the water. Because Mackinaws are principally carnivorous, fresh bait or simulated fish are the best lures. Spoons are probably most productive when fished at the outlets of lakes, although plugs are used with good results. "Pop gear" flashers and spoons are effective in deep trolling. The size of the Mackinaw, a fall spawner, makes it a rather formidable fish to have on

the end of a light line, although it does not compare with any of the other trout in fighting qualities.

Fishermen in Alaska like to broil trout or salmon by lashing the fish to a split log and standing the log before a fire until the fish is done.

Grayling—Found in every major river drainage north of the Gulf of Alaska, and throughout the Alaska Peninsula, this beautiful troutlike fish has an insatiable appetite for flies. Predominantly a surface feeder, it takes anything, even gaudy red-white-and-blue creations, and comes clear out of the water to try for flies on a graceful downward plunge. When hooked, it starts its fight with a quick run downstream, follows with a cross-current rush, and winds up with a short series of acrobatics, then tries again to take the fly to the bottom.

This game sport fish has an apt scientific name—*Thymallus signifer*. Thymallus refers to the sweet odor of thyme that is noticeable in freshly caught grayling. Signifer, or standard bearer, describes the enormous dorsal fin which readily distinguishes it from trout.

Grayling measure up to 23 inches and weigh as much as 4½ pounds. Their coloration is unsurpassed, seeming at first to be purple, then changing to bluish-gray and silver—all beautifully iridescent. Markings are pure white underparts, V-shaped black spots between head and middle dorsal fin, and reddish stripes and several rows of rosy circles along the sides.

Northern pike—This fish, one of the largest and most plentiful of Alaska's fresh-water fishes, is one of the least popular—not even rated as a game fish under Alaska law. But with proper tackle, anglers will find that pike fishing is good in most of the backwaters, sloughs, and bottomland lakes of the Yukon and Kuskokwim valleys, and north to the Arctic coast. During July these fish spawn in weedy shallows, and a plug or streamer fly will produce instant action. Though bony, the flesh is firm and edible.

Sheefish—One of the least known of Alaska's sport fish is the unique sheefish, or inconnu. Inconnu, meaning "unknown," is quite appropriate, for this fish is found nowhere else under the American flag, and in Alaska is largely confined to northern rivers.

The sheefish has been loosely described as a cross between a whitefish and a salmon, though in action and appearance it might well be called an arctic tarpon. The average weight of shees is about 20 pounds, but occasionally one will tip the scales at 85 pounds. This great fish is a clear silvery white on the sides and underparts and a dusky olive on the back. Fins are pale and colorless; scales are dime-size.

Sheefish make such excellent eating that there is a market for them in Nome and other northern communities. It is during the spawning season, in summer, when they migrate from brackish or salt water into certain freshwater streams, that the sport fisherman can best try his tackle on these big, still-unexploited fish. A large, bright spoon cast into a deep pool on one of the northern streams would probably be productive, though it often takes skill and persistence to get a sheefish to strike.

MAMMALS

Alaska's wildlife resources are of vital importance to its economy and the welfare of its residents. What happened to wildlife in the western States as unplanned settlement destroyed habitat must not happen in Alaska—one of the most important wildlife regions of the world.

To preserve the varied and unique mammal population in Alaska, wise use of these resources must be the keynote of its conservation program.

Early Alaskan mammals—Natural erosion and mining operations have uncovered widespread evidence of pre-Ice-Age mammals in Alaska. The skeletal material includes bones of moose, elk, musk ox, caribou, wolf, bear, and squirrels that have living representatives in today's wildlife.

Extinct species include mastodon, mammoth, horse, camel, giant bison, puma, and saber-toothed tiger. These fossil remains indicate a former climate much milder than that of today, which permitted the growth of redwood, elm, grape, and other plants not now found in Alaska. As with animal life, there are connecting links between the vegetation of the pre-Ice Age and modern times as demonstrated by the willows, birches, and cottonwoods.

Bears—Alaska's big and varied bear population includes the Alaska brown bear, largest meat-eater on land, whose top weight is as much as 1,600 pounds. This bear and its cousin, the grizzly, still roam vast areas of Alaska, up the mainland coastal mountains to subarctic regions, and among the mountain ranges of the interior. They are numerous on Admiralty, Baranof, and Chichagof Islands, the Kodiak-Afognak group, and the Alaska Peninsula.

There is a noticeable resemblance between brown and grizzly bears.

BROWN BEAR

GRIZZLY BEAR

Scientifically they have been separated into 9 groups, made up of about 30 species and subspecies. In this assortment there is a wide range both in color and in size.

The Toklat grizzly of the Alaska Range, for instance, is cream-colored, while the Shiras brown bear of Admiralty Island is almost coal-black. The grizzly of Norton Sound is comparatively small, but the Kodiak brown bear is a whopper.

Each of these bears is of prime interest to the big-game hunter. When wounded, the brown or the grizzly will put up a fierce fight. Mothers with cubs have been known to attack people.

Black bears are among the most important of the big-game animals, and range over about three-fifths of Alaska. They are absent from the islands of Frederick Sound, those of the Alaska Peninsula, and the treeless tundra along Bering Sea and the Arctic Ocean.

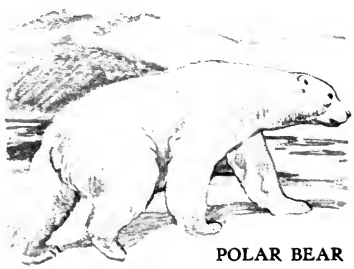
The weight of an adult black bear is from 200 to 300 pounds, though some have reached 500 pounds. In Alaska, this bear is usually black, but cinnamon and blue phases are found—oddest and rarest is the bluish-colored glacier bear. Its range is limited and lies between Lynn Canal and Cape St. Elias.

The young of black bears are born in January, while the mother is still in hibernation. There are from one to four cubs, which stay with the mother for 2 years, as the female breeds only every other year.

Black bears eat grass, berries, fish, rodents, insects, moose calves, and occasionally other small animals. They are great scavengers, and along the coast their flesh is seldom palatable because they eat dead fish and carrion. In the interior and when they are not eating flesh, bear meat is good.

As a rule, black bears are not hunted for trophies, though glacier bears are prized by some sportsmen because of their unusual color.

The polar bear is one of Alaska's larger bears. Males weigh from 700 to 1,600 pounds. Strong and graceful swimmers, these huge white animals live mostly along the southern border of the ice pack in Arctic waters. They move south in winter to follow the food supply as the ice shifts, then head back north to the frozen packs in summer. A



POLAR BEAR

Black Blue (Glacier)

Cinnamon

BLACK BEAR COLOR PHASES

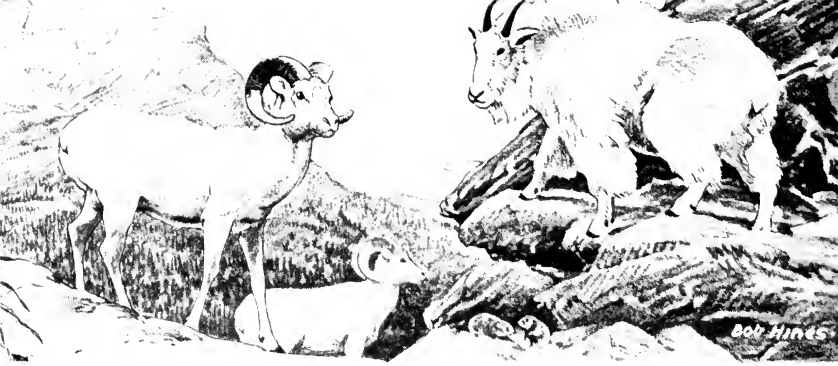
sudden advance of ice sometimes brings them as far south as Bering Strait.

Females, which weigh around 700 pounds, have young every 2 years. The hairless cubs are born in late December or early January, and do not open their eyes for 6 weeks. All polar bears except pregnant females—the only polar bears to hibernate—are constantly on the search for food. This consists of fish, seals, walrus, kelp, sea ducks (like eiders and scoters), and other birds.

A polar-bear hunt is always a dangerous undertaking. Polar-bear meat is a welcome food for hunters or anyone stranded in Arctic regions. To avoid trichinosis, it should be well-cooked. The liver should never be eaten: It contains so much vitamin A that it causes a sickness—hypervitaminosis—similar to the shock caused by an overdose of protein. The fat is used by the Eskimos, who also make garments of the pelt and ornaments of the teeth and claws. The pelt is quite a prize, and about 100 of them, worth 6 to 8 dollars a foot, as measured from nose to tip of tail, are exported yearly.

Mountain sheep—The Dall mountain sheep is the only wild white sheep in existence. The white coat and the long curled horns of the ram make it one of the handsomest specimens of Alaskan wildlife, and one of the most prized trophies on the North American continent.

The gun or camera hunter must work hard to get within range of



DALL SHEEP MOUNTAIN GOAT

these sheep. They are found only in rugged terrain—high in the mountain ranges from Kenai Peninsula to within a few miles of the Arctic coast. A little less than half of the estimated population is found in the remote Brooks Range north of the Arctic Circle. This species declined greatly in numbers between 1940 and 1945 but, with the help of complete protection in some areas, it has been increasing recently. A new three-quarter-curl (of the horns) regulation limits the hunting kill to older rams.

Young Dall sheep are born in May or June. A single lamb is the rule; twins are rare. Lambs develop strength rapidly, and in less than a month are able to follow their parents high up in the crags.

These sheep feed almost entirely on alpine grasses, supplementing their diet with minerals from licks. Their enemies are few. Aside from man, the wolf and the coyote are probably the most important predators. Even these are not as harmful as severe winters. Eagles may kill newly born lambs on rare occasions, but their importance as predators has been exaggerated.

Rams that reach maturity weigh from 175 to 200 pounds, and ewes weigh less than 150. Both sexes have comparatively short life spans: females seldom live beyond 12 years, while males are "ancient" at 14 years. It is these ancient rams that furnish prize trophy heads.

Mountain goat—The mountain goat lives among the cliffs and crags of the mighty coast range between Portland Canal and the Kenai Peninsula, inland along the Chugach and Talkeetna Mountains, and into the Copper River Valley. They are not found on the islands of southeastern Alaska, with the exception of Baranof Island, where they have been successfully stocked.

Both sexes of these hardy, long-haired and sure-footed white animals have short, black horns. A grown billy weighs from 200 to 300 pounds, a nanny somewhat less. Grasses, ferns, lichens make up the

summer diet. In winter, when the deep snows of the coastal mountains cover most of their food, the goats are forced to lower elevations or onto windswept slopes where they browse on alder twigs or whatever vegetation they can find. They will travel down to the salt-water beaches for salt when licks are not available.

Undoubtedly, many goats get killed by snowslides or by falling from rocky trails. There is little evidence of predation by wolves, bears, wolverines, or other natural enemies. Goats are usually hunted in a few accessible areas. The heads and hides make interesting trophies, and the meat of the kids is good. Several refuges and closed areas have been established where terrain or inaccessibility are not sufficient protection against overhunting.

Moose—The Kenai moose is the largest of its kind on earth. Bulls reach a weight of 1,400 pounds or better, with the cows somewhat smaller, generally the rule in nature. With an antler spread of 6 feet or more, bulls are a fine hunt trophy. Moose furnish the winter's meat supply for hundreds of Alaskans.

In late summer, bulls congregate in the higher country and polish their antlers in preparation for the mating season. From mid-September to late October, they vie for supremacy in struggles that sometimes end in death for the weaker. The victor claims from one to several cows.

May or June of the following year sees the birth of the long-legged, reddish-brown calves, one

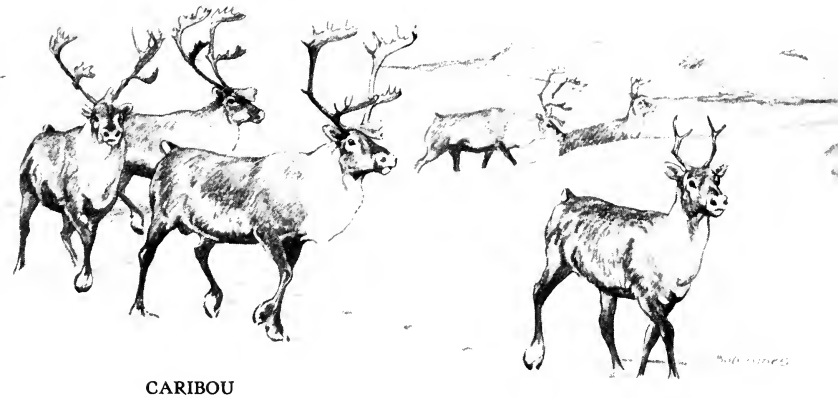
MOOSE

or two in number. As a rule only 50 to 60 percent of the cows produce calves.

Antlers of the older bulls are usually shed in December; the younger bulls retain theirs a little longer. Antler growth starts again in April and is completed in late August. Between the sixth and tenth year antlers attain maximum spread, then diminish in size as old age approaches.

Scrub growth of willow, birch, and aspen provides the winter range essential to large moose herds. In a day, 1 moose will eat 40 to 50 pounds of this browse. Unchecked, a moose herd can increase beyond the capacity of the winter forage plants to support it. This results in deterioration of the range and subsequent starvation in the herd during severe winters. Moose populations fluctuate over long periods in response to changes in habitat.

Natural enemies of the moose are wolf and bear which prey especially on the calves. Accidental death is caused by breaking through thin ice, falls on glare ice, being caught in snares or other entanglements, drowning of calves in river cross-



CARIBOU

ings, and battling during breeding season.

Management of the moose includes yearly inventories, studies of range capacities, and regulation of hunting seasons so as to maintain the herds. Predator control, where practiced, results in greater production for hunting. Refuges are established to meet the moose's need for large areas as free as possible from human interference. Some of these are inviolate sanctuaries, others have limited hunting. The Kenai National Moose Range was set up in 1941 primarily for the moose.

Caribou—Despite a great decrease in the past few years, the wandering caribou is still the most abundant big-game animal in Alaska, where it ranges widely over the high plateaus and mountain slopes. All of Alaska's caribou are barren-ground caribou. Woodland caribou are not found here but are farther south in the forested portions of Canada. Barren-ground caribou are regarded as two subspecies—the Grant caribou of the Alaska Peninsula and the Stone caribou of the eastern half of the interior and the Arctic Shelf.

In days gone by, when there were millions of caribou, their migrations would hold up paddle-wheel steamers for hours while the animals crossed the Yukon River. Some herds travel hundreds of miles to new ranges, and all herds are constantly on the move in search of the slow-growing lichens or "reindeer moss", their principal winter food supply. One large herd moved from the Fortymile region of eastern Alaska to the vicinity of Kotzebue on the Arctic coast, a trek of about 600 miles.

Both sexes of caribou have antlers. The large males shed their massive branched horns in November and December, and the females and some of the younger bulls shed their smaller one in May or June.

Caribou are polygamous, and in October the bulls collect harems of 2 to 15 cows. In May or June, each cow has a single russet calf. Caribou weigh from 100 to 500 pounds.

They crossbreed readily with reindeer, and some caribou herds are well-mixed with reindeer.

Throughout their range, these antlered nomads are hunted for trophies and meat; extensive hunting, forest fires and tundra fires, and predation by wolves, have reduced their numbers so sharply that the phrase "millions of caribou" no longer applies. Greater protection is the only means of preventing even small migrations from becoming spectacles of the past.

Deer—So far as is known, Alaska has only one true deer, the Sitka black-tailed deer. Its natural range is on the islands of Southeastern Alaska, with a few on the narrow mainland strip. Its range has been extended by transplants north to the islands of Prince William Sound and to Yakutat and west to Kodiak. There are reports that another species of deer, the mule deer, may be spreading into eastern Alaska from Yukon Territory.

In May or June the spotted fawns of the Sitka black-tailed deer are born—sometimes three but generally one or two. The young are hidden by the mother, perhaps in a thicket of big-leafed devil's-clubs. If found, the fawns should not be picked up as "orphans."

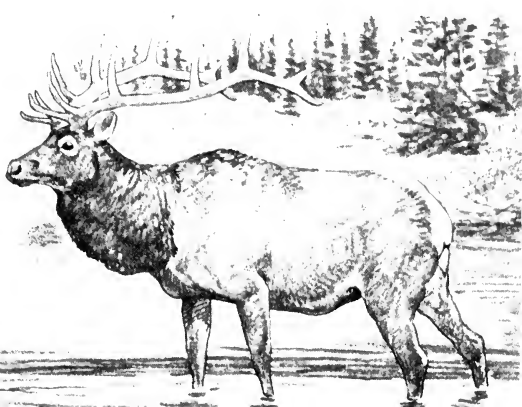
Characteristic of these deer is their "vertical migration." As the snow melts from higher elevations, many of the deer, particularly bucks and yearlings, climb as high as 2,500 feet. There they stay until late fall when the deep snows force them to lower feeding grounds. By midwinter, if the snow is very deep, all deer may be driven to the beaches where they will eat kelp and other marine vegetation. Ordinarily, their food consists of huckleberry bushes, ground dogwood, fine meadow grass, skunk cabbage, and cedar.

In late summer or early fall, hunting the black-tail means a climb of 2,000 feet or more, when they are sometimes at higher altitudes than the goats. Later in the fall many bucks are taken within a few hundred feet of tidewater. Hunter reports indicate that more deer are taken each year than any other big game in Alaska.

Wapiti or American elk—In 1928, a group of eight wapiti or American elk, were captured in

SITKA BLACK-TAILED DEER

ELK

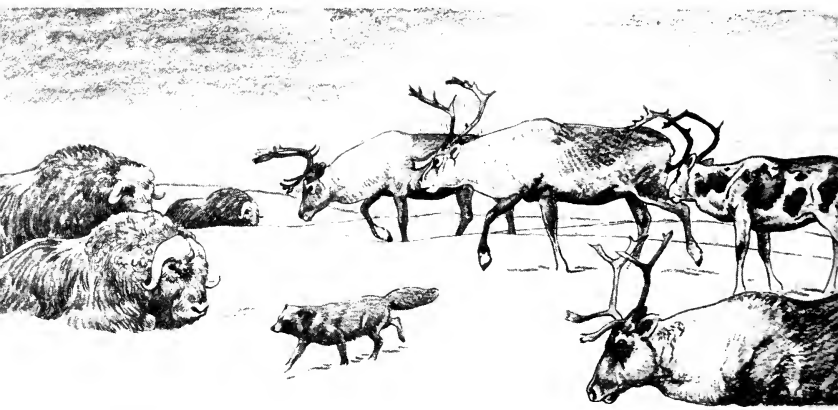


the Olympia Mountains in Washington State and eventually liberated on Afognak Island. These large, deerlike animals have increased slowly to a herd of about 350. The winter range is somewhat restricted, which limits the potential size of the herd.

This herd is a source of planting stock for other areas, and gives Alaska's fauna a welcome addition that may one day supply trophies for big-game hunters.

the auspices of the Federal Government. Fifty years later, the animal that gave William F. Cody the nickname of "Buffalo Bill" is thriving on a limited range.

In 1928, 6 male and 17 female buffaloes were transplanted from the National Bison Range in Montana to Big Delta, some 90 miles southeast of Fairbanks. These representatives of an animal unknown in Alaska for centuries have increased to a herd of 350.



MUSK OX BLUE FOX REINDEER

Bison—It has been estimated that at their peak there were about 60 million bison, popularly called buffalo, on the North American continent. By the turn of the last century there was one small wild band in Yellowstone Park and a few animals in Canada. When it looked as if this humpbacked animal would soon be extinct, conservationists took action. In 1902 a buffalo-restoration project was started in Yellowstone Park under

Although this is a satisfactory increase, these buffaloes have not extended their range, and have reached the limit their present range will support. In 1950 a new herd was started in the upper Copper River Valley by transplanting 17 bison from Big Delta.

These animals are big game in every sense of the word. Bulls weigh from 1,600 pounds to a ton. Cows are considerably smaller. Neither has good eyesight, and they

depend on hearing to detect danger.

Calves are born in April or May, and are cared for by both parents. Twins and albinos are rare, though three albinos were born on the Big Delta Range. None of these white buffaloes is alive today.

Musk ox—Whalers and traders exterminated the musk ox in Alaska nearly a century ago. But today a small herd maintains itself on Nunivak Island, a national wildlife refuge in Bering Sea. This herd, numbering 76 in 1951, was established with a nucleus of 34 brought in from Greenland in 1930.

One-time associate of the woolly mammoth, the musk ox is built and upholstered for a glacial climate: a deep, dense, wool undercoat is overlaid by very long, coarse, flowing hairs that almost touch the ground. This brownish-black coat protects against snow, rain, and cold.

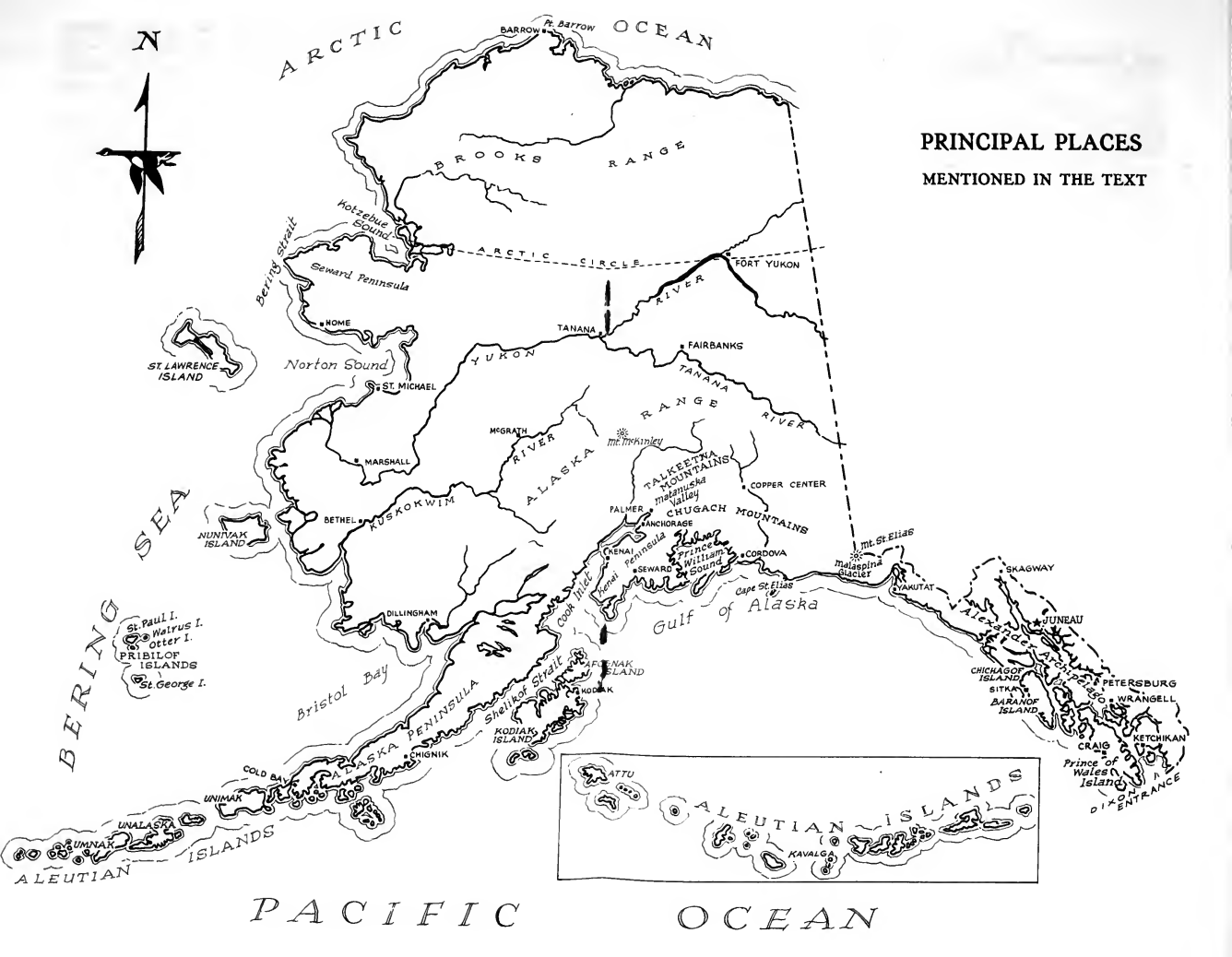
The sexes look alike, with broad flat hollow horns that are permanent. The musk ox uses horns, hooves, and nose to get at its food beneath the crusted snow. It browses on dwarf willows, mosses, lichens, and other Alpine plants. When fighting, the animal gives off a very noticeable odor from a small, musk-filled gland below each eye, hence its name.

To defend themselves, musk oxen form a circle, with the calves inside. Effective against wild predators, this ancient battle formation made the animals easy targets for rifle hunters, who could pick them off with ease from a safe distance. Still adhering to this form of defense, musk oxen need complete protection in the land where their ancestors roamed.

Reindeer—Although tremendously important as a food source for the Eskimos, reindeer are not classed as wildlife because they are semidomesticated. These relatives of the caribou are not native to Alaska, but were brought in from Siberia: 1,280 were imported between 1891 and 1902. For some years food and other conditions were favorable, and by 1936 the reindeer increased to 600,000, but there are only about 20,000 now. This drastic decline is attributed to depletion of winter ranges, increase of depredation by wolves, poor herding and management practices, excessive butchering, and loss from mixing with migratory caribou herds.

Reindeer in Alaska are under the jurisdiction of the Alaska Native Service, and purchase of live reindeer for export must be approved in writing by that agency. By law, only natives may own them. This animal might again become important in the economy of northwestern Alaska if its numbers could be increased.

Herds are distributed over the tundra from St. Michael on the south shore of Norton Sound to Barrow on the Arctic Ocean. There are herds on the Pribilofs, and on Nunivak, St. Lawrence, Kodiak, Atka, and Umnak.



PRINCIPAL PLACES

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FUR ANIMALS

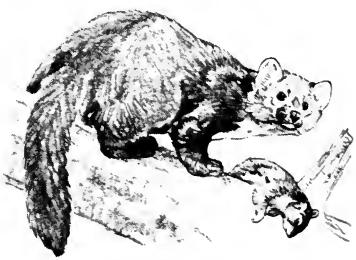
Since the dawn of history, Alaskans have lived by trapping. Twenty-odd varieties of land fur animals are the basis for most of the income of hundreds of Indians, Eskimos, Aleuts, and other trappers.

The bulk of the furs brought into various trading posts each year is bought up by professional fur buyers, who travel regular routes over Alaska in the interest of the big eastern fur houses. Neither the tourist nor any other newcomer to Alaska should expect to buy pelts at bargain prices. Usually, pelts left after the buyers have made their choice will be "irregulars."

Alaskan fur revenues make the business third among industries based on natural resources—only fishing and mining exceed it. During the 83 years of Russian occupancy (1784–1867), furs worth $45,000,000 were shipped to the mother country. Since its purchase by the United States, Alaska has exported furs valued at more than $145,000,000, exclusive of the Pribilof fur-seal pelts with a raw value of about $90,000,000.

Probably 15,000 natives depend on the fur industry and share in the average annual return of about $2,500,000 from the sale of pelts. Large quantities of furs are used also for garments and bedding.

Mink—The value of the annual harvest of mink pelts exceeds that of any other fur animal. The mink is widely distributed south of the Brooks Range, in areas having plenty of fish and shellfish. It is found both in wooded and tundra areas, and is semiaquatic, living along the margins of streams and lakes. It is especially numerous in southeastern Alaska, but thins out inland where the weather is colder and the food scarcer.



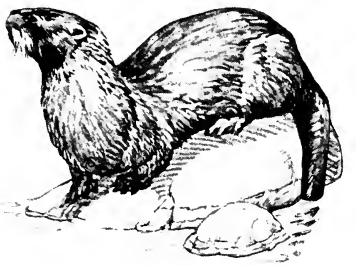
MARTEN

MINK

Wild mink vary in color from light brown to deep blackish brown. The best prices are paid for the larger and darker pelts. Away from the coast the fur is of high quality, color, and durability, but on the coastal islands it is more variable. Mink trapping is a vital part of the economy of inland

Alaska, and whole communities are dependent for their livelihood on the sale of mink pelts. Fur farming has been successful in areas where fish are abundant. Alaska consistently exports about 40,000 mink pelts annually.

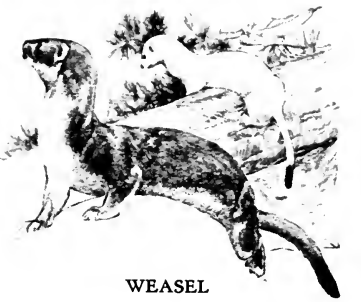
Marten—The marten is found in forested areas from Southeastern Alaska north to the limit of coniferous trees. One of the most beautiful and graceful of the forest animals, it weighs from 5 to 6 pounds, and measures nearly 2 feet in body length. Beneath outer fur ranging from rich brown to light red or gray, depending on environment, is a soft and thick underfur.



OTTER

Martens make their homes in hollow logs, in holes, and among rocks. One to eight young are born in March or April in an annual litter. After a period of nurturing and schooling, they are forced to take up their separate lives at the approach of winter. From then on, they are among the most solitary of animals, except for a brief mating season in July and August.

These strictly nocturnal and elusive animals are great travelers, and have been known to cover 25 miles in a single night. Their food consists of squirrels, mice, hares, small birds, birds' eggs, and berries in season. They are easily trapped, as they have no fear of traps and are very inquisitive. They can be attracted readily by a few feathers, a bright object, or an enticing scent. Fur farming has not been commercially successful, although martens have been reared in pens at the Department of Agriculture Experimental Fur Farm at Petersburg.



WEASEL

Land otter—Semiaquatic and rather solitary, the land otter is plentiful in Southeastern Alaska and on the Alaska Peninsula, and less common northward to the Brooks Range.

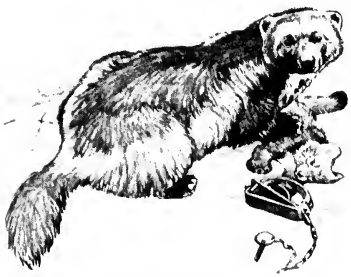
Its coat is a rich, dark brown, and makes one of the most durable and valuable of furs. Southeastern pelts are noted for their size, color, and quality, with No. 1 skins bringing from 10 to 50 dollars. In addition to having an economically valuable coat, the otter is an entertaining animal. Its favorite sport is sliding down a stream bank into the water—belly-whoppers like small boys on toboggans. If caught

when young, otters make affectionate and gentle pets.

Weasels—Weasels range over all of Alaska except the islands west of Umnak in the Aleutian chain. During the summer the fur of this slender animal is light brown, but in winter it becomes white, except for the tip of the tail which stays black as jet. Although essentially a ground-dwelling animal, the weasel is a fair climber, and is often seen in the lower branches of trees. Small birds and mammals are the normal foods of this inquisitive, bold, and bloodthirsty little animal which in its smaller Alaskan form is the world's littlest carnivore.

Wolverine—A gluttonous killer and the largest member of the weasel family, the wolverine is said to attack anything but bears and men. This solitary animal looks like a small bear and measures from 3 to 4 feet in length.

Wolverines are cabin invaders and despoilers, and are notorious trap-line robbers. The fur, of little commercial value, is generally used by Eskimos to trim the hoods of their parkas because it is frostproof. The wolverine inhabits mountainous timbered areas, including the Alaska Peninsula. Its population remains constant because trapping is difficult.



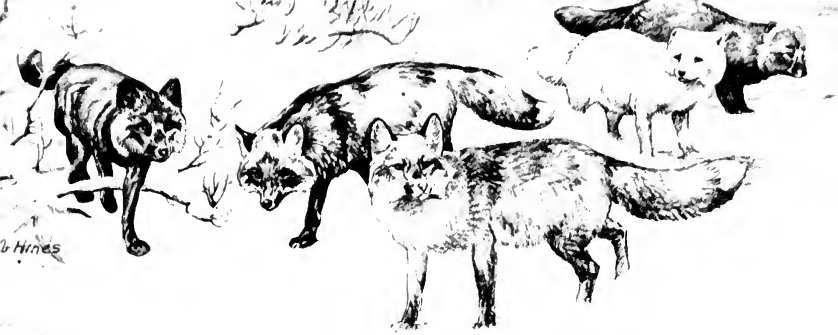
WOLVERINE

Muskrat—The muskrat is found from Southeastern Alaska north to Kotzebue Sound. Its foods are sedges, horsetails, pondweeds, mussels, and even small fishes. Its predators are legion, coming from land, air, and water, with the mink its arch enemy. Biggest cause of muskrat loss in Alaska is deep icing of shallow ponds, which kills tens of thousands in a single hard winter. Fall and early winter trapping is used to gather pelts that would otherwise be wasted by winter freeze-outs. The take of muskrat pelts has been quite uniform, about 144,000 skins each year, and represents an income of about $216,000.

BEAVER MUSKRAT

Beaver—The beaver is found over most of the Interior from Brooks Range south to the base of the Alaska Peninsula. A few occur in the Southeastern mainland, and on some of the larger islands, especially Prince of Wales.

Monogamy is the rule for



Red

White

Black Cross Blue

FOXES

beavers. Litters of from 2 to 5 are produced in June, and the young animals are cared for by the parents until the second year. The beaver is a vegetarian, and eats bark, aquatic plants, berry canes, buds, and leaves. A beaver colony has to have an ample supply of aspens, cottonwoods, or willows for food, and a site where water does not freeze to the bottom.

Alaska's beaver pelts come principally from the Anchorage-Susitna-Matanuska region, the Fairbanks trade area, and also the Minto Lakes section. The annual take of beaver has increased generally over the last few years and now averages about 20,000 skins valued at $300,000.

Foxes—There are two distinct species and five color variations of Alaska's foxes. Beautiful red foxes inhabit the entire mainland, and Unimak, Umnak, and several other islands in the Aleutian chain. The foxes are darker in the more heavily timbered areas, and lighter in open, coastal localities. Arctic foxes range from the Aleutian Islands north along the coast line to the Arctic. The white phase occupies a narrow coastal strip from the Kuskokwim River north to Point Barrow, and eastward along the Arctic shore line. In winter they are silky and snowy white with a black-tipped tail. In summer they become slate-colored. The blue-coated fox is found mostly in the Aleutians and the Pribilofs. Lemmings, mice, hares, grouse, ptarmigan, and waterfowl are favorite foods. Beach fleas are eaten when other food is scarce. Lynx, wolves, and bears are the principal predators.

Wolves occur everywhere from the islands of Southeastern Alaska to the Arctic coast, and as far west on the Alaska Peninsula as Unimak Island. Wolves prey on the valu-

WOLF

COYOTE

able big-game animals, except bears, and have contributed to the great decline of the reindeer herds. Predation on caribou is severe, and a heavy toll is exacted as the wolves follow migrating herds throughout the year.

Wolves usually run in family groups of from three to eight, though larger groups are sometimes reported. In color they are all shades and combinations from black to white, with darker wolves more common in Southeastern Alaska, and lighter ones in the Arctic.

Though they are seldom seen, the presence of wolves can be detected from their large dog-like tracks along beaches and river bars. Because wolves are predators, there is a bounty on them, and the Fish and Wildlife Service through its Branch of Predator and Rodent Control carries out control measures.

Coyote—The coyote (its name is from an Aztec word *coyotl*) or brush wolf was not present in Alaska until about the turn of the century. It entered Alaska through the Yukon Territory of Canada. There are a few on the mainland of Southeastern Alaska, and they have spread all through the Interior. They are most abundant in the Matanuska and Copper River Valleys and on Kenai Peninsula. Coyotes destroy mountain sheep,

LYNX

ground-nesting game birds, and occasionally domestic fowls and farm animals. There is a bounty on this predator, and the Fish and Wildlife Service has a coyote-control program.

Lynx—The shy lynx is the only wild member of the cat family in Alaska. It looks like an out-size tabby cat, and its exceptionally soft fur is light gray, streaked with brown. The lynx is found rather generally throughout the timbered valleys of interior Alaska, and is fairly numerous along the Copper River and on Kenai Peninsula. Although its staff of life is the snowshoe hare, the lynx preys heavily on grouse and ptarmigan, songbirds, and rodents. Abundance varies with the cycles of snowshoe hares.

Other fur animals—Marmots, ground squirrels, tree squirrels, Arctic hares, and snowshoe hares are relatively unimportant so far as the dollar value of their pelts is concerned. About $500 worth find their way to the markets each year. But these small species are an important source of food for other animals and are used locally for human food and clothing.

LEMMINGS

The catch of predaceous fur animals rises and falls with the cyclic abundance of small rodents on which they prey. Signs of field mice and lemmings, tree squirrels, and snowshoe hares in spring and summer have proved a reliable basis for forecasting the catch of lynx, marten, and fox.

Like grouse and ptarmigan, many of the rodent species go through more or less regular population cycles which at times bring them near the vanishing point. Low periods are often preceded by striking migrations, of which the lemming marches have attracted the most attention.

These unaccountable marches follow periods in which lemming populations reach a peak. The little animals start westward, followed by predators of all sorts. Those that survive predation continue their march out onto the ice floes and even swim from one floe to another until at last they drown.

SEA MAMMALS

In the waters about Alaska live a surprising number and variety of sea mammals. Some, like the fur seal, are of great economic value; others, like the playful porpoise, are merely interesting. And there are many whales—most massive mammals of all time.

Sea otter—Most often talked about is the sea otter, whose fur is unmatched in fineness, density, durability, and beauty. The sea otter's coat was responsible for its near extermination. Its gentle and trusting nature made it easy prey for the Russian fur hunters, or

promyshlenniki, who slaughtered sea otters by the thousands.

It has been estimated that 150,000 sea-otter pelts were carried back to the mother country by the Russians in a 2-year period. Slaughter of the sea otter did not stop even after Alaska was ours. Adventurers of

various nationalities continued taking them. Finally, in 1911, all killing was prohibited. This gave a chance for the remnant of the once-abundant sea-otter herd to reestablish itself in the Aleutian Islands area.

Sea otters lead a community existence. They live in a unit known as a pod, and stay very much in one locality. Most of their life is spent on the ocean's surface where they feed, rest, play, and rear young. The young are born ashore, and births occur at any time throughout the year. Sea-otter pups are taken care of solely by their mother. Males take no interest in the young, but frolic together in the kelp beds, which all sea otters frequent because the thickly growing fronds afford protection from killer whales, their only enemy at sea.

Sea otters weigh from 70 to 90 pounds, are about 4 feet long, and have a thick tail a foot long. Their fur is a rich dark brown or black, lustered with gold or silver. Their white-whiskered faces appear toothless and make them look like quizzical old men—the reason for their nickname "old man of the sea." But sea otters do have teeth, and in common with man have toothaches. Cavities are frequent. Part of this trouble may be the result of breaking open hard shells with their teeth. The sea urchin is the principal item of diet, with mussels next. Rock oysters, scallops, sculpins, chitons, snails, limpets, flounders, and crabs are all eaten in their entirety. After eating, sea otters delicately lick their paws, either to savor the last morsel of food or because of habitual cleanliness.

Sea otters may not be taken under any circumstances.

Alaska fur seal—From its oceanic wintering grounds, the world's largest and most valuable fur-seal herd returns to the Pribilof Islands every summer. Once nearly exterminated by fur hunters, this herd is now approaching its peak under the management of the Fish and Wildlife Service, whose success with the seals is an outstanding example of conservation in action.

In 1941, Japan abrogated the fur-seal convention of 1911. In 1942, we made a provisional agreement with Canada for the protection of these seals, the only fur-coated seal in Alaska waters. Under this agreement, 20 percent of the sealskins, taken primarily from the 3-year-old bachelors, goes to Canada, and 80 percent to the United States. During the past 10 years, the United States has netted some $1,500,000 a year on its share of the 65,000 pelts taken annually.

This seal which puts so much money into Uncle Sam's pocket has its own particular range, and doesn't to any great extent associate with other species of seals. It comes ashore only in summer to breed and rear its young. It spends the rest of the year at sea. Returning from this watery winter resort, adult males reach the Pribilofs about the first of May; adult females and older bachelors arrive principally in June and July; 2-year-olds get there in July. One reason for this staggered arrival is that the adult males winter nearest

the Pribilofs while the females go the farthest south.

Soon after the arrival of the cows on the islands, the jet-black, blue-eyed seal pups are born. Each mother seal knows instinctively which pup is her own, and will have nothing to do with an orphan, which will die.

Once the future of the herd has been assured and the seal pups have learned to swim and forage for themselves, the seals of the Pribilof Islands leave for their winter stay at sea.

The Alaska fur seal is an eared seal, medium-sized, with thick and silky fur. Upper parts are black, shoulders and neck gray, underparts reddish brown. When swimming, he carries his head high out of the water. His upper lip has a yellowish white and gray mustache of long stiff bristles. Males average about 6 feet in length, and weigh from 300 to 500 pounds, though some may tip the scales at 700. Females are a good deal smaller and have gray fur over the back. When on land the fur seal is the most active of the seals.

Aleuts, Eskimos, and Indians are permitted to take fur seals by pelagic sealing (killing at sea). *No one else may hunt them.*

Other seals—Other species of seals in Alaska's waters are the Pacific harbor seal, the ringed seal, the ribbon seal, and the Pacific bearded seal. The first of these, the Pacific harbor seal, is the most abundant, and is the only hair seal found in southern Alaskan waters. This seal is sometimes called the leopard seal because of spots on its yellowish gray coat. The ringed seal has small yellowish rings or patches on its coat, and is like the harbor seal in build and size. It is the common seal of the Arctic. The dark-brown ribbon seal has yellowish streaks around its neck, forelegs, and rump. It lives along the shores of Bering Sea, and little is known of its habits. The bearded seal gets its name from a tuft of white bristles down each side of its muzzle. Not very numerous, it lives in Arctic waters.

Seals have long been the staff of life for the Eskimos of the far North.

Sea lions—Sea lions are common along the Aleutian chain, on the Barren Islands, in Prince William Sound, and on some of the Southeastern islands. Sea lions prefer quiet inlets and bays, particularly during the winter season, where they are sheltered from the rough seas. Males are usually twice as large as females, and often measure more than 10 feet and weigh as much as a ton. Their hides have no commercial use, and even the natives no longer hunt them.

Walrus—Called valross or whale horse by old Norse sailors, this ungainly mammal summers in the Arctic Ocean and winters in Bering Sea. The law now prohibits the killing of walruses in Alaska, except by natives for food and clothing or by others for emergency food. *Killing for ivory alone, even by natives, is not allowed, and ivory can be exported only as finished articles of handicraft.* With these restrictions, the Pacific walrus, whose tusks sometimes measure 39 inches,

should be plentiful for years to come.

Whales—Many of the world's whales, which once roamed all oceans by the millions, are still fairly common in Alaska's waters. There are two kinds of whales, the toothed whales and the "whalebone" or baleen whales, which are toothless.

The blue whale, a toothless species, is the largest mammal that has ever lived. It frequents the polar ice pack of both hemispheres in summertime. These marine mammoths grow to almost unbelievable sizes, the females reaching greater lengths than the males. Three females taken in the Antarctic measured 100 feet. Another blue whale measured 89 feet, and weighed nearly 120 tons. How much such a behemoth can eat is a matter of speculation as just an ordinary-sized whale can eat a ton of sardines for its morning meal.

Another toothless species, the bowhead or arctic whale is a stable item for Sea Eskimos from St. Lawrence to Point Barrow. (Every part of the whale is used, even the jawbone which acts as a gravemarker). The bowhead is recovering from decimation by whalers, and there are appreciable numbers in the North Bering Sea and the adjacent Arctic Ocean.

Largest of the toothed whales is the sperm whale. Uniformly gray, or dark bluish gray, it is one of the most widely distributed of all the whales. Old males summer in Bering Sea, while cows and calves stay in tropical waters.

Killer whales, a toothed species, travel in packs and prey on all warm-blooded sea animals, which are terrorized by them. Hair seals, for instance, will leave open water and swim frantically toward the beach at the approach of a pack of killers.

These four species are only a few of the whales that visit Alaskan waters. Whales are usually more than 30 feet long—exceptions are the pygmy sperm whale, the Beluga, the dolphins, and the porpoises.

You can learn to tell the kind of whale by its spout: a slanting forward spout means that a sperm has surfaced; a short, broad, straight spout denotes a humpback; a high, slender one is the sign of a finback.

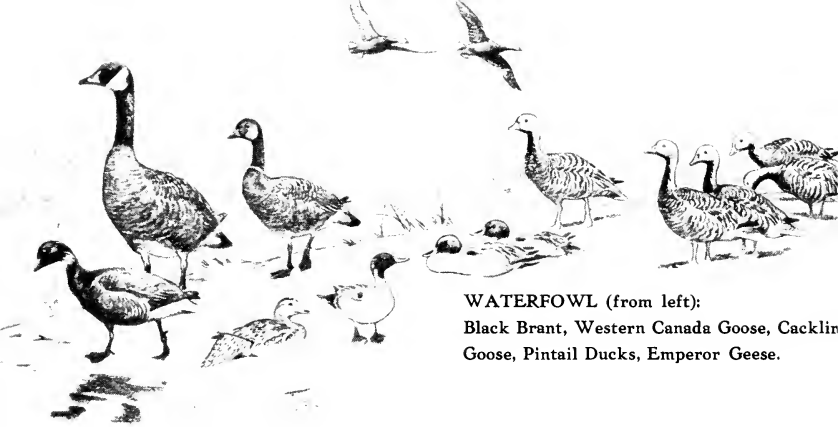
Incidentally, a whale doesn't spout water. Upon surfacing from a deep dive, it exhales violently, and the warm moisture-laden breath condenses. This condensation can be seen for several miles, and can be heard a mile away on calm days. Spouts in Alaska waters will hold together as a cloud for several minutes in cold air.

World War II temporarily increased the chances of whales surviving, since little whaling was done. So for the time being there is still a chance to see a whale spout.

BIRDS

MIGRATORY WATERFOWL

Alaska plays an important part in maintaining the continental supply of migratory waterfowl. Vast



WATERFOWL (from left):
Black Brant, Western Canada Goose, Cacklin
Goose, Pintail Ducks, Emperor Geese.

expanses of tundra, muskeg, and river bottom are dotted with countless potholes, lakelets, and sloughs that provide nesting sites for a great variety of birds. Ducks, geese, swans, and other shore and water birds are all familiar summer residents. From the Arctic coast to the tip of the Aleutian chain and extreme Southeastern Alaska, each species is able to find nesting habitat to its liking. Although many of these nesting areas do not individually support large concentrations of waterfowl, they combine to produce a huge annual crop of birds.

The most outstanding single nesting area is the coastal tundra between the Yukon and Kuskokwim Rivers. Here, in addition to other species of ducks and geese, is found an unusually large number of nesting black brant and cackling geese. Further inland, along the great river bottoms, pintails, baldpates, mallards, green-winged teal, white-fronted and lesser Canada geese, and many others, nest and raise their broods on the brush-and-grass-covered banks of each body of water. The tree-nesting American goldeneye is also abundant, and nests in the large, dead cottonwoods lining the rivers. Further north, along the Seward Peninsula and Arctic slope, the coastal tundra and pothole areas provide nesting habitat for lesser snow geese and for four species of eider ducks, as well as for other widely distributed species of waterfowl.

In central and northern Alaska, the first waterfowl arrive in April or May and often start nesting before the ice has left the rivers. The next 3 months are a busy and clamorous period as the young birds mature. Some fall victim to marauding sea gulls, jaegers, and various other predators, including gigantic pike. By August and September the birds are again on their way south, their numbers multiplied by the new generation.

Bird-banding records have shown that Alaska-raised birds find their way to most of the 48 States and into Mexico. One great flight path from the north leads through the Cold Bay area at the tip of the

Alaska Peninsula, where hundreds of thousands of pintails, black brant, cackling geese, and others concentrate before making the long hop to the Pacific Coast States. These birds, together with lesser Canada geese and other species from elsewhere in Alaska, are the waterfowl that provide most of the sport for Pacific-coast hunters. At the same time, many of the ducks and geese from the northern part of Alaska migrate east to Maryland and as far south as Louisiana.

Alaska is not entirely deserted during the winter. Thousands of scoters, eiders, scaup, and other sea ducks winter in sheltered bays from the Aleutians through Prince William Sound to the Panhandle. Many mallards and a few other pond ducks and geese remain in Southeastern Alaska during winter. Alaska's "own" goose, the emperor, rarely strays beyond the country's borders. This medium-sized, bluish, sea-going goose winters up and down the Aleutian chain and Alaska Peninsula and nests in the Yukon-Kuskokwim region and along the north coast of Seward Peninsula.

The largest species of waterfowl in North America, the trumpeter swan, once on the verge of extinction and still alarmingly rare, has been found wintering in southeastern Alaska, and recently two were reported on Cook Inlet. The smaller whistling swan has always been found thinly scattered over the northern nesting regions.

SHORE AND WATER BIRDS

The multitude of shore and water birds that swarm into Alaska for the summer are more spectacular and characteristic of Alaska's northern breeding grounds than the waterfowl. The largest of these is the lesser sandhill crane. Others are the abundant Wilson's snipe, yellowlegs, willets, dowitchers, phalaropes, sandpipers, loons, and grebes. Some of these cover great distances to reach their Alaskan nesting grounds. The Pacific godwit winters as far south as Australia, the golden plover in New Zealand, and the bristle-thighed curlew in Tahiti.

SEA BIRDS

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

UPLAND GAME BIRDS

Alaska's native game birds offer excellent shooting. So far, bird shooting has been incidental to other types of hunting, but to the explorer, prospector, or trapper, grouse and ptarmigan are important food. They are fine-flavored, especially in early fall when berries and various seeds are the main diet. Ptarmigan may be seen in flocks of several hundreds. Grouse are seen in family-sized groups. Ptarmigan hunting with a small-bore shotgun is much like quail hunting,

GROUSE (from top):
Blue, Sooty, Franklin's, Ruffed, and Sharp-tailed Grouse; Rock and Willow Ptarmigan. Below: White-tailed Ptarmigan.

and calls for fast and accurate shooting.

Ptarmigan—Largest of the ptarmigan and most widely distributed of Alaska's game birds is the willow ptarmigan, found from the arctic tundra to Southeastern Alaska. In winter, these birds are almost pure white, with the exception of the black tail feathers. Rock ptarmigan, usually smaller than the willow, are found at higher elevations. They may be distinguished from the willow by a black line from the bill to the eye. White-tailed ptarmigan, smallest of the group, are found around Mount McKinley, Cook Inlet, and Glacier Bay. They inhabit the high peaks and are rarely seen at low elevations. These birds are entirely white in winter, without the black tail feathers of the rock and willow ptarmigan.

Grouse—The blue grouse, sometimes called sooty grouse, dusky grouse, or hooter, is Alaska's largest upland game bird, weighing as much as 3½ pounds. It is distributed throughout Southeastern Alaska from Glacier Bay to British Columbia, and may be identified by its large size and dark grayish color. Franklin's grouse, smaller and darker than the blue grouse, is in Southeastern Alaska from Prince of Wales Island southward. The spruce grouse ranges widely from Kenai Peninsula north to the Yukon River drainages and east to the border. The ruffed grouse is in the Yukon and Kuskokwim drainages in the Interior, and in the Taku and Stikine drainages in Southeastern Alaska. The sharp-tailed

grouse is found throughout central Alaska from the north fork of the Kuskokwim to the eastern border.

BIRDS OF PREY

Eagles, hawks, and owls—Largest and most conspicuous of Alaska's birds of prey is the bald eagle, common along the rugged coast line. The golden eagle inhabits the inland mountains. Frequenters of the northern tundra are the short-eared owl, the snowy owl, the peregrine falcon, the gyrfalcon, and the rough-legged hawk. The mountains, foothills, and forested regions are the homes of the great gray owl, the horned owl, Richardson's owl, the pygmy owl, and the screech owl. In much of the same range live the sparrow hawk, the pigeon hawk, Swainson's hawk, and the osprey.

SONG BIRDS

Although Alaska has few song birds in winter, summer brings great numbers from both the eastern and western United States. Willow, alder, and bog birch provide habitat at the northern limits of the breeding range for many kinds. Most common of the song birds is the robin. Other common birds are thrushes, warblers, sparrows, swallows, wrens, kinglets, crossbills, chickadees, flycatchers, finches, juncos, redpolls, waxwings, woodpeckers, hummingbirds, snow buntings, longspurs, pine grosbeaks, blackbirds, pipits, and siskins. The sprightly water ouzel, or dipper, is a common sight along the mountain streams. Among the larger distinctive birds are the magpie, the Alaska jay, and the darker-blue Steller's jay, the northern shrike, and the kingfisher. The northern raven and the northwest crow are common scavengers about the villages.

Several kinds of birds migrate to Alaska from Asia by way of the Aleutian Islands and Bering Strait. In April or May, the first passerine, or bird of perching habits, to return to interior Alaska from the south is the beautiful brown and white snow bunting. The friendly longspur arrives soon after, and then comes a winged host of swallows, robins, shy hermit and varied thrushes, tiny kinglets, varicolored warblers, many kinds of sparrows, flycatchers, dippers, and loud-mouthed kingfishers.

Energized by continuous daylight, the short breeding season in the Arctic region is marked by constant watching and incessant scolding in defense of nest and young. In southeastern Alaska, warm ocean currents sweep against the coast and moderate the climate, making vegetation almost subtropical and creating ideal homes for certain song birds. When summer ends, the adult birds and their young begin their southward migration, leaving behind the year-round residents—jays, ravens, woodpeckers, pine grosbeaks, chickadees, siskins, waxwings, and redpolls.

MANAGEMENT OF ALASKA'S WILDLIFE

Fish and wildlife have always been and will continue to be very important in Alaska. These resources, offering employment and enjoyment to thousands, must be protected and managed carefully.

The Alaska Game Law was enacted by Congress in 1925, for managing Alaska's wildlife resources. Under this law, as amended, the Secretary of the Interior appoints an Alaska game commission of five members. Four of the members—one from each judicial district—must be representative residents of Alaska, not employed by the Federal Government. The fifth member is the Regional Director in Alaska of the Fish and Wildlife Service, and is Executive Officer of the Commission.

Upon consultation with or recommendation from the Commission, the Secretary of the Interior may issue regulations governing the taking, possessing, and transporting of game animals, fur animals, game birds, and game fishes in Alaska. The Commission meets annually to propose hunting seasons, bag limits, game and fur districts, and wildlife sanctuaries, to plan regulatory work to be carried out under the Executive Officer, and to recommend action on such matters as restocking game lands, introducing new species, controlling predators, and research. General administration and enforcement of the Alaska Game Law is largely the responsibility of the Fish and Wildlife Service.

This administrative arrangement has been satisfactory, and the untiring efforts of the Alaska Game Commission have helped bring about a wholesome respect for the game laws and widespread cooperation in law enforcement from the residents.

Fifteen national wildlife refuges in Alaska provide special protection for sea otter, bear, moose, sea birds, and waterfowl. Some of the more famous include the Aleutian Islands National Wildlife Refuge, the Kodiak National Wildlife Refuge, and the Kenai National Wildlife Refuge. Refuges for ducks and geese are being established at Cold Bay and on the Yukon Delta, supply sources for the Pacific flyway.

Besides the national wildlife refuges, a number of local areas are closed to hunting or trapping. These closures provide a flexible means of management where hunting or trapping pressure has become too heavy or where a species requires special protection. Alaska game regulations for the current

year should be consulted for open hunting and trapping areas and seasons.

As hunting and fishing increased, limitations of seasons and bags were necessarily applied to maintain an adequate supply of wildlife. It has been necessary in recent years to limit the take of game in certain areas by means of controlled hunts, and the export of game animals and birds is now regulated by permit.

Carefully considered trapping regulations control the methods, seasons, and numbers of fur animals that may be taken. In the case of beaver, for instance, a control system is in effect. It is used to detect pelts taken out of season. A seal is placed on the pelt which shows that it has been legally taken and may be legally transported within or exported from Alaska.

LICENSE REQUIREMENTS

Federal conservation regulations have required nonresident hunting, trapping, and fur dealer's licenses since the enactment of the Alaska Game Law in 1925. In 1936 it became necessary to require resident hunting licenses. Resident, nonresident, and alien sport-fishing licenses were added in 1942. Fees for licenses (1953) are as follows:

Resident:	
Trapping, hunting, and fishing	$3
Hunting and fishing	2
Resident fishing	1
Nonresident:	
General hunting	50
Small game	10
Sport fishing	2.50
Alien:	
Special (hunting, trapping, and possession of firearms)	100.
Sport fishing	2.50

A migratory waterfowl hunting stamp ($2) is required of persons 16 years of age or over for hunting ducks, geese, and brant; and a local stamp ($1) for sport fishing is required. Nonresidents and aliens must be accompanied by a licensed, registered guide when hunting big game or going afield to photograph brown or grizzly bears.

Guides are high-class outdoorsmen of proved ability to arrange hunting parties, conduct hunters in the field, select the best trophies, and prepare and care for them under field conditions.

Current copies of the Alaska Game Law and Regulations and a list of registered guides can be obtained by writing to the Fish and Wildlife Service, Juneau, Alaska. Copies may also be obtained by calling at the Service office in any of the following towns:

Anchorage	King Salmon
Cold Bay	Kodiak
Cordova	Marshall
Craig	McGrath
Dillingham	Palmer
Fairbanks	Petersburg
Juneau	Seward
Kenai	Sitka
Ketchikan	Wrangell

LISTS OF ALASKA'S FISH AND WILDLIFE

Here are fairly representative lists of Alaska's fishes, mammals, and birds, plus a list of shrubs and trees important to wildlife.

SOME OF ALASKA'S BETTER KNOWN FISHES

The fishes listed here are the ones the average angler might find on the end of his line. We have not tried to list all the known fishes of Alaska.

Atka mackerel (*Pleurogrammus monopterygius*)
Blackfish: Alaska blackfish (*Dallia pectoralis*)
Blenny (family Blenniidae, many species)
Burbot (*Lota maculosa*)
Capelin (*Mallotus catervarius*)
Cod:
  Lingcod (*Ophiodon elongatus*)
  Pacific cod (*Gadus macrocephalus*)
Eulachon or candlefish (*Thaleichthys pacificus*)
Flounder (family Pleuronectidae, many species)
Grayfish or dogfish (*Squalus suckleyi*)
Grayling: Alaska grayling (*Thymalus signifer*)
Greenling (*Hexagrammos*, 4 species)
Halibut (*Hippoglossus stenolepis*)
Herring (*Clupea pallasi*)
"Hooligan." *See* Eulachon
Inconnu, cheefish, or sheefish (*Stenodus mackenzii*)
Lamprey (*Entosphenus tridentatus*)
Pike: Northern pike (*Esox lucius*)
Pipefish (*Syngnathus griseolineatus*)
Pollack: Alaska pollack (*Theragra chalcogramma*)
Ratfish (*Hyrolagus colliei*)
Rockfish (*Sebastodes*, about 20 species)
Sablefish or black cod (*Anoplopoma fimbria*)
Salmon:
  Chum or dog salmon (*Oncorhynchus keta*)
  King or chinook salmon (*Oncorhynchus tshawytscha*)
  Pink or humpback salmon (*Oncorhynchus gorbuscha*)
  Red or sockeye salmon (*Oncorhynchus nerka*)
  Silver or coho salmon (*Oncorhynchus kisutch*)
Sculpin (family Cottidae, many species)
Sharks (many species)
Skate (*Raja*, various species)
Smelt (*Hypomesus pretiosus* and others)
Stickleback (family Gasterosteidae, many species)
Sturgeon: White sturgeon (*Acipenser transmontanus*)
Toadfish (*Porichthys notatus*)
Tomcod (*Microgadus proximus*)
Trout:
  Cutthroat trout (*Salmo clarkii*)
  Dolly Varden trout (*Salvelinus malma*)
  Eastern brook trout (*Salvelinus fontinalis*)
  Lake or Mackinaw trout (*Salvelinus* [=*Cristivomer*] *namaycush*)
  Rainbow or steelhead trout (*Salmo gairdneri*)
Whitefish (family Soregonidae, many species)
Wolffish (*Anarrhichthys ocellatus*)

THE MORE COMMON SHELLFISH

Clams:
- Butter clam (*Saxidomus giganteus*)
- Cockle (*Cardium corbis*)
- Littleneck clam (*Paphia staminea*)
- Razor clam (*Siliqua patula*)

Crabs:
- Dungeness crab (*Cancer magister*)
- King crab (*Paralithodes camtschatica*)
- Tanner crab (*Chionoecetes opilio*)

Oysters: Pacific oyster (*Crassotrea gigas*)

Scallops:
- Bay scallop (*Pecten hindsii*)
- Giant scallop (*Pecten cuarinus*)
- Rock scallop or rock oyster (*Hinnites giganteus*)

Shrimps:
- Coon stripe shrimp (*Pandalus hypsinotus*)
- Humpy shrimp (*Pandalus goniurus*)
- Pink shrimp (*Pandalus borealis*)
- Sidestripe shrimp (*Pandalopsis dispar*)
- Spot shrimp (*Pandalus platyceros*)

MAMMALS OF ALASKA, LAND AND MARINE

This is a reasonably comprehensive, though not complete, list of land and marine mammals of Alaska.

Bat: Alaska little brown bat (*Myotis lucifugus*)

Bears:
- Black bear (*Euarctos* species), includes Glacier bear, or so-called blue bear (*Euarctos emmonsii*)
- Brown bear (*Ursus* species), includes Kodiak bear (*Ursus middendorffi*)
- Grizzly bear (*Ursus* species), includes Toklat grizzly bear (*Ursus toklat*)
- Polar bear (*Thalarctos maritimus*)

Beaver (*Castor canadensis*)

Bison: American bison, or buffalo (*Bison bison*) introduced in 1928

Caribou (*Rangifer arcticus*)

Cony. *See* Pika.

Coyote: Northern coyote (*Canus latrans*), a newcomer to Alaska at the turn of the century, following Yukon Gold Rush.

Deer: Sitka black-tailed deer (*Odocoileus hemionus*)

Dolphin: Right-whale dolphin (*Lissodelphis borealis*)

Elk: American elk, or wapiti (*Cervus canadensis*) introduced in 1928

Foxes:
- Arctic, white, or blue fox (*Alopex lagopus*)
- Red, cross, or silver fox (*Vulpes fulva*)

Goat: Alaska mountain goat (*Oreamnos kennedyi*)

Hares:
- Alaska hare (*Lepus othus*)
- Varying hare (*Lepus americanus*)

Lemmings:
- Brown lemming (*Lemmus trimucronatus*)
- Collared lemming (*Dicrostonyx groenlandicus*)

Lynx: Canada lynx (*Lynx canadensis*)

Marmot: Hoary marmot (*Marmota caligata*)

Marten (*Martes americana*)

Mice:
- House mouse (*Mus musculus*)
- Jumping mouse (*Zapus hudsonius*)
- Lemming mouse (*Synaptomys borealis*)
- Meadow mouse: several species belonging to genus *Microtus*
- Red-backed mouse: two species, (*Clethrionomys rutilus* and *Clethrionomys gapperi*)

Mice—Continued
White-footed mouse (*Peromyscus maniculatus*)
Mink: Alaska mink (*Mustela vison*)
Moose: Alaska moose (*Alces alces*)
Muskox (*Oribos moschatus*) extermi nated, then reestablished in 1930
Muskrat (*Ondatra zibethicus*)
Otters:
River otter (*Lutra canadensis*)
Sea otter (*Enhydra lutris*)
Pika: Collared pika (*Ochotona collaris*)
Porcupine: Alaska porcupine (*Erithizon dorsatum*)
Porpoises:
Dall's porpoise (*Phocoenoides dalli*)
Pacific harbor porpoise (*Phocoena phocoena*)
Rats:
House rat (*Rattus rattus*)
Norway rat (*Rattus norvegicus*)
Bushy-tailed wood rat (*Neotoma cinerea*)
Sea lion: Northern sea lion (*Eumetopias jubata*)
Seals:
Alaska fur seal (*Callorhinus ursinus*)
Pacific bearded seal (*Erignathus barbatus*)
Pacific harbor seal (*Phoca richardii*)
Ribbon seal (*Phoca fasciata*)
Ringed seal (*Phoca hispida*)
Shrews:
Common shrews: several species belonging to genus *Sorex*.
Pigmy shrew (*Microsorex hoyi*)
Water shrew (*Sorex palustris*)
Sheep: Alaska sheep (*Ovis dalli*)
Squirrels:
Alaska red squirrel (*Tamiasciurus hudsonicus*)
Flying squirrel (*Glaucomys sabrinus*)
Ground squirrel (*Citellus parryii*)
Walrus: Pacific walrus (*Odobenus divergens*)
Wapiti. *See* Elk
Weasels:
Ermine (*Mustela erminea*)
Least weasel (*Mustela rixosa*)
Whales:
Blue or sulphur bottom whale (*Sibbaldus musculus*)
Bottlenose whale (*Berardius bairdii*)
Bowhead whale (*Balaena mysticetus*)
Finback whale (*Balaenoptera physalus*)
Gray whale (*Rhachianectes glaucus*)
Humpback whale (*Megaptera nodosa*)
Little piked whale (*Balaenoptera acutorostrata*)
Narwhal (*Monodon monocros*), rare or accidental.
Pacific killer whale (*Orcinus rectipinna*)
Sei whale (*Balaenoptera borealis*)
Sperm whale (*Physeter catodon*)
Stejneger's beaked whale (*Mesoplodon stejnegeri*)
White whale or beluga (*Delphinapterus leucas*)
Wolf (*Canus lupus*)
Woodchuck (*Marmota monax*)
Wolverine (*Gulo luscus*)

BIRDS OF ALASKA, MIGRATORY AND RESIDENT

This list of birds includes all species recorded in Alaska. Subspecies and geographic races are included under the species name: for example, the 8 subspecies of song sparrow in Alaska are all embraced in the one entry—song sparrow.

Accentor: Mountain accentor (*Prunella montanella*)—two records

Albatrosses, Fulmars, Petrels, and Shearwaters:

Albatrosses:

Black-footed albatross (*Diomedea nigripes*)

Laysan albatross (*Diomedea immutabilis*)

Short-tailed albatross (*Diomedea albatrus*)

Fulmar:

Pacific fulmar (*Fulmarus glacialis*)

Petrels:

Cook's petrel (*Pterodroma cookii*)

Fork-tailed petrel (*Oceanodroma furcata*)

Leach's petrel (*Oceanodroma leucorhoa*)

Scaled petrel (*Pterodroma inexpectata*)

Shearwaters:

Pink-footed shearwater (*Puffinus creatopus*)

Slender-billed shearwater (*Puffinus tenuirostris*)

Sooty shearwater (*Puffinus griseus*)

Auklets, Guillemots, Murrelets, Murres, and Puffins:

Auklets:

Cassin's auklet (*Ptychoramphus aleuticus*)

Crested auklet (*Aethia cristatella*)

Dovekie (*Plautus alle*)—one record

Least auklet (*Aethia pusilla*)

Parakeet auklet (*Cyclorrhynchus psittacula*)

Rhinoceros auklet (*Cerorhinca monocerata*)

Whiskered auklet (*Aethia pygmaea*)

Guillemots:

Black guillemot (*Cepphus grylle*)

Pigeon guillemot (*Cepphus columba*)

Murrelets:

Ancient murrelet (*Synthliboramphus antiquus*)

Kittlitz's murrelet (*Brachyramphus brevirostris*)

Marbled murrelet (*Brachyramphus marmoratus*)

Murres:

Common murre (*Uria aalge*)

Thick-billed murre (*Uria lomvia*)

Puffins:

Horned puffin (*Fratercula corniculata*)

Tufted puffin (*Lunda cirrhata*)

Blackbirds:

Brewer's blackbird (*Euphagus cyanocephalus*)

Crow blackbird (*Quiscalus quiscula*)

Meadowlark (*Sturnella neglecta*)

Red-wing (*Agelaius phoeniceus*)

Rusty blackbird (*Euphagus carolinus*)

Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)

Bittern. *See* Herons.

Bluebird. *See* Thrushes.

Bluethroat. *See* Thrushes.

Buntings, Crossbills, Finches, Grosbeaks, Longspurs, and Sparrows:

Buntings:

Snow bunting (*Plectrophenax nivalis*)

McKay's bunting (*Plectrophenax hyperboreus*)

Rustic bunting (*Emberiza rustica*)—one record

Crossbills:

Red crossbill (*Loxia curvirostra*)

White-winged crossbill (*Loxia leucoptera*)

Finches:

Brambling (*Fringilla montifringilla*)—one record

Bullfinch (*Pyrrhula pyrrhula*)

Hoary redpoll (*Acanthis hornemanni*)

Hawfinch (*Coccothraustes coccothraustes*)—one record

Common redpoll (*Acanthis flammea*)

Pine siskin (*Spinus pinus*)

Gray-crowned rosy finch (*Leucosticte tephrocotis*)

Grosbeaks:

Evening grosbeak (*Hesperiphona vespertina*)

Buntings—Continued
Pine grosbeak (*Pinicola enucleator*)
Longspurs:
Lapland longspur (*Calcarius lapponicus*)
Smith's longspur (*Calcarius pictus*)
Sparrows:
Chipping sparrow (*Spizella passerina*)
Fox sparrow (*Passerella iliaca*)
Golden-crowned sparrow (*Zonotrichia atricapilla*)
Lincoln's sparrow (*Melospiza lincolni*)
Oregon junco (*Junco oreganus*)
Savannah sparrow (*Passerculus sandwichensis*)
Slate-colored junco (*Junco hyemalis*)
Song sparrow (*Melospiza melodia*)
Tree sparrow (*Spizella arborea*)
White-crowned sparrow (*Zonotrichia leucophrys*)
Chickadees:
Black-capped chickadee (*Parus atricapillus*)
Boreal chickadee (*Parus hudsonicus*)
Chestnut-backed chickadee (*Parus rufescens*)
Gray-headed chickadee (*Parus cinctus*)
Coot: American coot (*Fulica americana*)
Cormorants:
Brandt's cormorant (*Phalacrocorax penicillatus*)
Double-crested cormorant (*Phalacrocorax auritus*)
Pelagic cormorant (*Phalacrocorax pelagicus*)
Red-faced cormorant (*Phalacrocorax urile*)
Crane: Sandhill crane (*Grus canadensis*)
Creeper: Brown creeper (*Certhia familiaris*)
Crossbills. *See* Buntings, etc.
Crows and Jays:
Clark's nutcracker (*Nucifraga columbiana*)
Gray jay (*Perisoreus canadensis*)
Magpie (*Pica pica*)
Northern raven (*Corvus corax*)
Northwestern crow (*Corvus caurinus*)
Steller's jay (*Cyanocitta stelleri*)
Cuckoo: Oriental cuckoo (*Cuculus saturatus*)—two records
Curlews, Sandpipers, Snipe, etc.:
Curlews:
Bristle-thighed curlew (*Numenius tahitiensis*)
Eskimo curlew (*Numenius borealis*)
Long-billed curlew (*Numenius americanus*)
Whimbrel (*Numenius phaeopus*)
Sandpipers:
Baird's sandpiper (*Erolia bairdii*)
Buff-breasted sandpiper (*Tryngites subruficollis*)
Curlew sandpiper (*Erolia ferruginea*)
Dowitcher (*Limodromus griseus*)
Dunlin (*Erolia alpina*)
Eurasian knot (*Calidris canutus*)
Great knot (*Calidris tenuirostris*)—one record
Greater yellowlegs (*Totanus melanoleucus*)
Hudsonian godwit (*Limosa haemastica*)
Knot (*Calidris canutus*)
Least sandpiper (*Erolia minutilla*)
Lesser yellowlegs (*Totanus flavipes*)
Long-toed stint (*Erolia subminuta*)—one record
Bar-tailed godwit (*Limosa lapponica*)
Marbled godwit (*Limosa fedoa*)
Pectoral sandpiper (*Erolia melanotos*)
Polynesian tattler (*Hetcroscelus brevipes*)
Rock sandpiper (*Erolia ptilocnemis*)
Ruff (*Philomachus pugnax*)—two records
Rufous-necked sandpiper (*Erolia ruficollis*)
Sanderling (*Crocethia alba*)
Semipalmated sandpiper (*Ereunetes pusillus*)
Sharp-tailed sandpiper (*Erolia acuminata*)
Solitary sandpiper (*Tringa solitaria*)
Spoon-bill sandpiper (*Eurynorhynchus pygmeus*)—two records
Spotted sandpiper (*Actitis macularia*)
Stilt sandpiper (*Micropalama himantopus*)
Upland plover (Bartramian sandpiper) (*Bartramia longicauda*)
Wandering tattler (*Heteroscleus incanus*)
Western sandpiper (*Ereunetes mauri*)
White-rumped sandpiper (*Erolia fusicollis*)

Curlews, Sandpipers, Snipe, etc.—Con.
Willet (*Catoptrophorus semipalmatus*)
Snipes:
Jack snipe (*Lymnocryptes minimus*)
Wilson's common snipe (*Capella gallinago*)
Wood sandpiper (*Tringa glarcola*)
Dipper: Northern dipper (*Cinclus mexicanus*)
Dotterel. *See* Plovers, etc.
Dove: Mourning dove (*Zenaidura macroura*)
Dovekie. *See* Auklets, etc.
Dowitcher: *See* Sandpipers, under curlews, etc.
Dunlin. *See* Sandpipers, under Curlews, etc.
Ducks, Geese, and Swans:
Ducks:
Aleutian teal (*Anas crecca*)
Baikal teal (*Anas formosum*)
Baldpate (American widgeon) (*Mareca americana*)
Barrow's goldeneye (*Bucephala islandica*)
Bufflehead (*Bucephala albeola*)
Canvasback (*Aythya valisineria*)
Common eider (*Somateria mollissia*)
Common goldeneye (*Bucephala clangula*)
Common merganser (*Mergus merganser*)
Common scoter (*Oidemia nigral*)
European widgeon (*Marcca penelope*)
Falcated teal (*Anas falcata*)—one record
Gadwall (*Anas strepera*)
Harlequin duck (*Histrionicus histrionicus*)
Hooded merganser (*Lophodytes cucullatus*)
King eider (*Somateria spectabilis*)
Mallard (*Anas platyrhyncos*)
Old-squaw (*Clangula hycmalis*)
Pintail (*Anas acuta*)
Pochard (*Aythya ferina*)—one record
Red-breasted merganser (*Mergus serrator*)
Redhead (*Aythya americana*)
Ring-necked duck (*Aythya collaris*)
Ruddy duck (*Oxyura jamaicensis*)
Greater scaup (*Aythya marila*)
Lesser scaup (*Aythya affinis*)
Shoveler (*Spatula clypeata*)
Spectacled eider (*Arctonetta fischeri*)
Steller's eider (*Polysticta stelleri*)
Surf scoter (*Melanitta perspicillata*)
Tufted duck (*Aythya fuligula*)—one record
White-winged scoter (*Melanitta deglandi*)
Geese:
Bean goose (*Anser fabalis*)—one record
Brant (*Branta bernicla*)
Black brant (*Branta nigricans*)
Canada goose (*Branta canadensis*)
Emperor goose (*Philacte canagica*)
Ross's goose (*Chen rossii*)
Snow goose (*Chen hyperborea*)
White-fronted goose (*Anser albifrons*)
Trumpeter swan (*Olor buccinator*)
Whistling swan (*Olor columbianus*)
Whooper swan (*Olor cygnus*)—one record
Eagles, Hawks, etc.:
Eagles:
Bald eagle (*Haliaeetus leucocephalus*)
Golden eagle (*Aquila chrysaetos*)
Steller's sea eagle (*Haliaeetus pelagicus*)—two records
White-tailed sea eagle (*Haliaeetus albicilla*)—two records
Falcons:
Gyrfalcon (*Falco rusticolus*)
Peregrine falcon (*Falco peregrinus*)
Pigeon hawk (*Falco columbarius*)
Sparrow hawk (*Falco sparverius*)
Hawks:
Goshawk (*Accipiter gentilis*)
Harlan's hawk (*Buteo harlani*)
Marsh hawk (*Circus cyaneus*)
Red-tailed hawk (*Buteo jamaicensis*)
Rough-legged hawk (*Buteo lagopus*)
Sharp-shinned hawk (*Accipiter striatus*)
Swainson's hawk (*Buteo swainsoni*)
Osprey:
Osprey (*Pandion haliaetus*)
Finches. *See* Buntings, etc.
Flickers and Woodpeckers:
Flickers:
Red-shafted flicker (*Colaptes cafer*)
Yellow-shafted flicker (*Colaptes auratus*)
Woodpeckers:
Black-backed woodpecker (*Picoides arcticus*)
Downy woodpecker (*Dendrocopos pubescens*)
Hairy woodpecker (*Dendrocopos villosus*)

Flickers and Woodpeckers—Continued
Pileated woodpecker (*Dryocopus pileatus*)
Wryneck (*Jynx torquilla*)—one record
Yellow-bellied sapsucker (*Sphyrapicus varius*)
Flycatchers:
Hammond's flycatcher (*Empidonax hammondii*)
Kingbird (*Tyrannus tyrannus*)
Olive-sided flycatcher (*Nuttallornis borealis*)
Say's phoebe (*Sayornis saya*)
Traill's flycatcher (*Empidonax trailli*)
Western wood pewee (*Contopus richardsoni*)
Yellow-green flycatcher (*Empidonax difficilis*)
Fulmar. *See* Albatrosses, etc.
Godwit. *See* Sandpipers, under Curlews, etc.
Geese. *See* Ducks, etc.
Grebes:
Horned grebe (*Colymbus auritus*)
Pied-billed grebe (*Podilymbus podiceps*)
Red-necked grebe (*Colymbus grisegena*)
Western grebe (*Aechmophorus occidentalis*)
Grosbeaks. *See* Buntings, etc.
Grouse and Ptarmigan:
Grouse:
Blue grouse (*Dendragapus obscurus*)
Franklin's grouse (*Canachites franklinii*)
Ruffed grouse (*Bonasa umbellus*)
Sharp-tailed grouse (*Pedioecetes phasianellus*)
Spruce grouse (*Canachites canadensis*)
Ptarmigan:
Rock ptarmigan (*Lagopus mutus*)
White-tailed ptarmigan (*Lagopus leucurus*)
Willow ptarmigan (*Lagopus lagopus*)
Guillemots. *See* Auklets, etc.
Gulls, Kittiwakes, and Terns:
Gulls:
Black-headed gull (*Larus ridibundus*)—one record
Bonaparte's gull (*Larus philadelphia*)
California gull (*Larus californicus*)
Glaucous gull (*Larus hyperboreus*)
Glaucous-winged gull (*Larus glaucescens*)
Herring gull (*Larus argentatus*)
Iceland gull (*Larus leucopterus*)—two records
Ivory gull (*Pagophila eburnea*)
Mew gull (*Larus canus*)
Ring-billed gull (*Larus delawarensis*)
Ross's gull (*Rhodostethia rosea*)
Sabine's gull (*Xema sabini*)
Slaty-backed gull (*Larus schistisagus*)
Western gull (*Larus occidentalis*)
Kittiwakes:
Black-legged kittiwake (*Rissa tradactyla*)
Red-legged kittiwake (*Rissa brevirostris*)
Terns:
Aleutian tern (*Sterna aleutica*)
Arctic tern (*Sterna paradisaea*)
Black tern (*Chlidonias niger*)
Caspian tern (*Hydroprogne caspia*)—one record
Gyrfalcons. *See* Eagles, etc.
Hawks. *See* Eagles, etc.
Herons:
American bittern (*Botaurus lentiginosus*)
Great blue heron (*Ardea herodias*)
Hummingbirds:
Ruby-throated hummingbird (*Archilochus colubris*)
Rufous hummingbird (*Selasphorus rufus*)
Jaegers:
Long-tailed jaeger (*Stercorarius longicaudus*)
Parasitic jaeger (*Stercorarius parasiticus*)
Pomarine jaeger (*Stercorarius pomarinus*)
Jays. *See* Crows, etc.
Junco. *See* Sparrows, under Buntings, etc.
Killdeer. *See* Plovers, etc.
Kingbird. *See* Flycatchers, etc.
Kingfisher: Belted kingfisher (*Megaceryle alcyon*)
Kinglets and Old World Warblers:
Kinglets:
Golden-crowned kinglet (*Regulus satrapa*)
Ruby-crowned kinglet (*Regulus calendula*)

Kinglets and Old World Warblers—Con.
Old World Warblers:
Grasshopper warbler (*Locustella ochotensis*)—one record
Arctic willow warbler (*Acanthopneuste borealis*)
Kittiwakes. *See* Gulls, etc.
Knot. *See* Sandpipers, under Curlews, etc.
Lapwing. *See* Plovers, etc.
Lark: Horned lark (*Otocoris alpestris*)
Longspurs. *See* Buntings, etc.
Loons:
Arctic loon (*Gavia arctica*)
Common loon (*Gavia immer*)
Red-throated loon (*Gavia stellata*)
Yellow-billed loon (*Gavia adamsii*)
Magpie. *See* Crows, etc.
Martin. *See* Swallows.
Meadowlark. *See* Blackbirds.
Murre. *See* Auklets, etc.
Murrelets. *See* Auklets, etc.
Nighthawk: Common nighthawk (*Chordeiles minor*)
Nightingale. *See* Thrushes.
Nuteracker. *See* Crows, etc.
Nuthatch: Red-breasted nuthatch (*Sitta canadensis*)
Osprey. *See* Eagles, etc.
Ovenbird. *See* Wood warblers.
Owls:
Great gray owl (*Strix nebulosa*)
Hawk owl (*Surnia ulula*)
Horned owl (*Bubo virginianus*)
Long-eared owl (*Asio otus*)
Pygmy owl (*Glaucidium gnoma*)
Saw-whet owl (*Aegolius acadicus*)
Screech owl (*Otus asio*)
Short-eared owl (*Asio flammeus*)
Snowy owl (*Nyctea scandiaca*)
Tengmalm's owl (*Aegolius funereus*)
Oyster-catcher: Black oyster-catcher (*Haematopus bachmani*)
Petrels. *See* Albatrosses, etc.
Pewee. *See* Flycatchers, etc.
Phalaropes:
Northern phalarope (*Lobipes lobatus*)
Red phalarope (*Phalaropus fulcarius*)
Phoebe. *See* Flycatchers, etc.
Pipits and Wagtails:
Pipits:
Water pipit (*Anthus spinoletta*)
Petchora pipit (*Anthus gustavi*)—one record
Red-throated pipit (*Anthus cervinus*)—two records
Wagtails:
White wagtail (*Motacilla alba*)
Yellow wagtail (*Motacilla flava*)
Plovers, Surfbirds, and Turnstones:
Plover:
Black-bellied plover (*Squatarola squatarola*)
Dotterel (*Eudromias morinellus*)
American golden plover (*Pluvialis dominica*)
Killdeer (*Charadrius vociferus*)
Lapwing (*Vanellus vanellus*)
Little-ringed plover (*Charadrius dubius*)—one record
Mongolian plover (*Charadrius mongolus*)
Ringed plover (*Charadrius hiaticula*)
Upland plover [Not a true plover.] *See* Sandpipers under Curlews, etc.
Surfbird:
Surfbird (*Aphriza virgata*)
Turnstones:
Black turnstone (*Arenaria melanocephala*)
Ruddy turnstone (*Arenaria interpres*)
Ptarmigan. *See* Grouse, etc.
Puffin. *See* Auklets, etc.
Raven. *See* Crows, etc.
Redpoll. *See* Finches, under Buntings, etc.
Redstart. *See* Wood Warblers.
Robin. *See* Thrushes.
Ruff. *See* Sandpipers, under Curlews, etc.
Sanderling. *See* Sandpipers, under Curlews, etc.
Sandpipers. *See* Curlews, etc.
Sapsucker. *See* Flicker, etc.
Shearwaters. *See* Albatrosses, etc.
Shrike: Great gray shrike (*Lanius excubitor*)
Snipe. *See* Curlews, etc.
Solitaire. *See* Thrushes.
Sparrows. *See* Buntings, etc.
Stint. *See* Sandpipers, under Curlews, etc.
Surfbird. *See* Plovers, etc.
Swallows:
Bank swallow (*Riparia riparia*)
Barn swallow (*Hirundo rustica*)
Cliff swallow (*Petrochelidon pyrrhonota*)

Swallows—Continued
- Purple martin (*Progne subis*)—one record
- Tree swallow (*Iridoprocne bicolor*)
- Violet-green swallow (*Tachycineta thalassina*)

Swans. *See* Ducks, etc.

Swifts:
- Black swift (*Nephoecetes niger*)
- Vaux's swift (*Chaetura vauxi*)
- White-rumped swift (*Apus pacificus*)—one record

Tanagers:
- Scarlet tanager (*Piranga olivacea*)—one record
- Western tanager (*Piranga ludoviciana*)—two records

Tattler. *See* Sandpipers, under Curlews, etc.

Terns. *See* Gulls, etc.

Thrushes:
- Bluethroat (*Luscinia succica*)
- Gray-cheeked thrush (*Hylocichla minima*)
- Siberian ruby-throat (*Luscinia calliope*)
- Hermit thrush (*Hylocichla guttata*)
- Mountain bluebird (*Sialia currucoides*)
- Robin (*Turdus migratorious*)
- Swainson's thrush (*Hylocichla ustulata*)
- Townsend's solitaire (*Myadestes townsendi*)
- Varied thrush (*Ixoreus naevius*)
- Wheatear (*Oenanthe oenanthe*)

Turnstones. *See* Plovers, etc.

Vireo: Warbling (*Vireo gilvus*)

Wagtails. *See* Pipits.

Waterthrush. *See* Wood warblers.

Wood warblers:
- American redstart (*Setophaga ruticilla*)—two records
- Blackpolled warbler (*Dendroica striata*)
- MacGillivray's warbler (*Oporornis tolmiei*)
- Magnolia warbler (*Dendroica lutea*)
- Myrtle warbler (*Dendroica coronata*)
- Orange-crowned warbler (*Vermivora celata*)
- Ovenbird (*Seiurus aurocapillus*)—two records
- Pileolated warbler (*Wilsonia pusilla*)
- Small-billed waterthrush (*Seiurus noveboracensis*)
- Townsend's warbler (*Dendroica townsendi*)
- Yellow warbler (*Dendroica petechia*)
- Yellow-throat (*Geothlypis trichas*)

Waxwings:
- Cedar waxwing (*Bombycilla cedrorum*)
- Greater waxwing (*Bombycilla garrulus*)

Wheatear. *See* Thrushes.

Whimbrel. *See* Curlews.

Willet. *See* Sandpipers, under Curlews, etc.

Woodpeckers. *See* Flickers, etc.

Wren: Winter wren (*Troglodytes troglodytes*)

Wryneck. *See* Woodpeckers, under Flickers.

Yellowlegs. *See* Sandpipers, under Curlews, etc.

TREES AND SHRUBS IMPORTANT TO WILDLIFE

Alaska's 30 species of trees, along with many of its shrubs, are important to wildlife. Visitors will find relatively few unfamiliar trees. All except three scrubby willows and two paper birches occur also in some other part of the United States. Nineteen of them grow wild in parts of California, and seven are widely distributed in the "north woods" across Canada and south into the northeastern United States. The following list is from the United States Forest Service's Pocket Guide to Alaska Trees, Agriculture Handbook No. 5, United States Department of Agriculture.

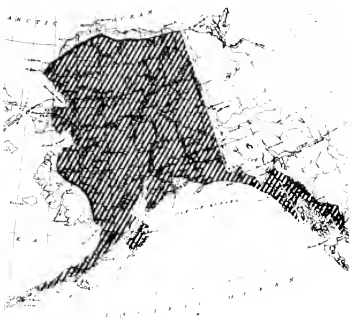
TREES

Red alder (*Alnus rubra*)
Sitka alder (*Alnus sinuata*)
Thinleaf alder (*Alnus tenuifolia*)
Oregon crab apple (*Malus diversifolia*)
Quaking aspen (*Populus tremuloides*)
Paper birch (*Petula papyrifera*)
Alaska paper birch (*Betula papyrifera* var. *humilis*)
Kenai birch (*Betula papyrifera* var. *kenaica*)
Western paper birch (*Betula papyrifera* var. *commutata*)
Alaska yellow cedar (*Chamaecyparis nootkatensis*)
Western red cedar (*Thuja plicata*)
Black cottonwood (*Populus trichocarpa*)
Alpine fir (*Abies lasiocarpa*)
Pacific silver fir (*Abies amabilis*)
Mountain hemlock (*Tsuga mertensiana*)
Western hemlock (*Tsuga heterophylia*)
Douglas maple (*Acer glabrum* var. *douglasii*)
European mountain-ash (*Sorbus aucuparia*)
Sitka mountain-ash (*Sorbus sitchensis*)
Lodgepole pine (*Pinus contorta*)
Balsam poplar (*Populus tacamahaca*)
Pacific serviceberry (*Amelanchier florida*)
Black spruce (*Picea mariana*)
Sitka spruce (*Picea sitchensis*)
White spruce (*Picea glauca*)
Tamarack (*Larix laricina*)
Bebb willow (*Salix bebbiana*)
Feltleaf willow (*Salix alaxensis*)
Littletree willow (*Salix arbusculoides*)
Pacific willow (*Salix lasiandra*)
Scouler willow (*Salix scouleriana*)
Sitka willow (*Salix sitchensis*)
Yakutat willow (*Salix amplifolia*)
Pacific yew (*Taxus brevifolia*)

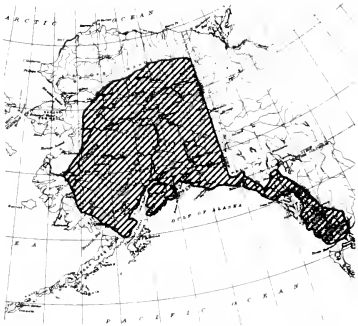
PRINCIPAL SHRUBS

American green alder (*Alnus crispa*)
Dwarf arctic birch (*Betula nana*)
Resin birch (*Betula glandulosa*)
Redosier dogwood (*Cornus stolonifera*)
Black hawthorn (*Crataegus douglasii*)
Common juniper (*Juniperus communis*)
Creeping juniper (*Juniperus horizontalis*)
Greene mountain-ash (*Sorbus scopulina*)
Siberian mountain-ash (*Sorbus sambucifolia*)
Saskatoon serviceberry (*Amelanchier alnifolia*)
Sandbar willow (*Salix interior*)
Serviceberry willow (*Salix pseudomonticola*)

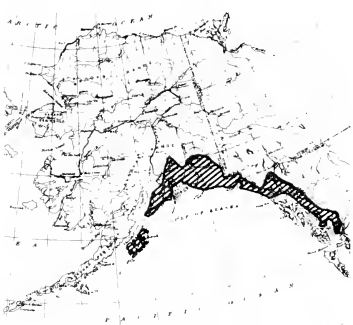
RANGE MAPS



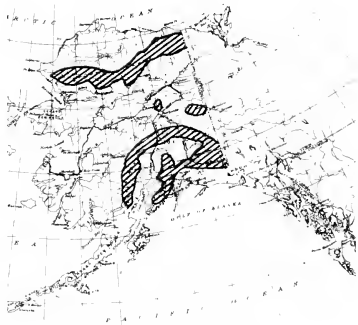
BROWN AND GRIZZLY BEARS



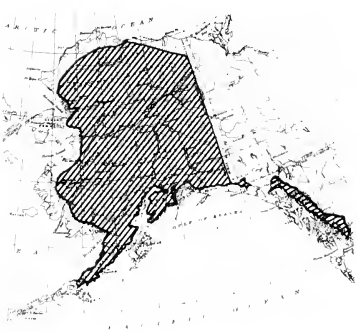
BLACK BEARS



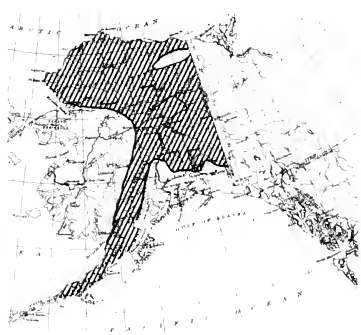
MOUNTAIN GOAT



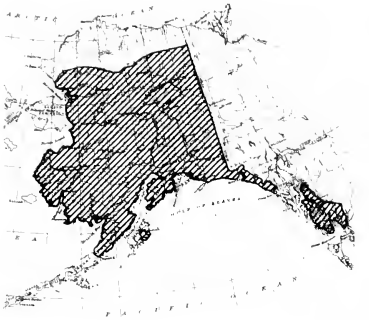
MOUNTAIN SHEEP



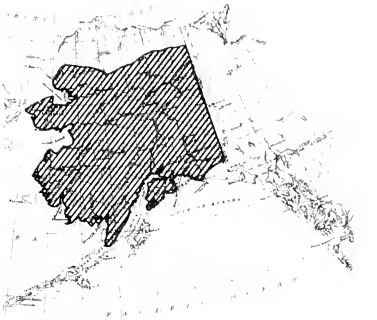
MOOSE



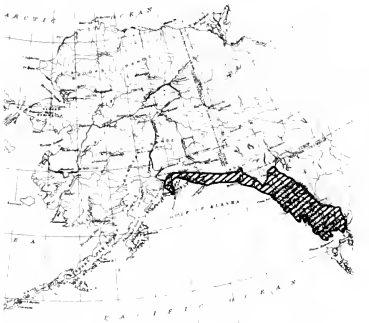
CARIBOU



BEAVER

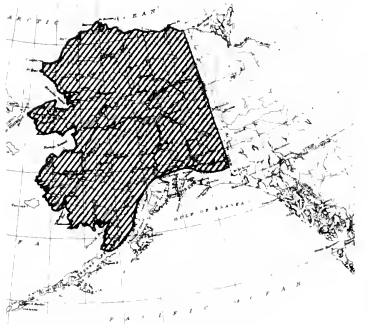


MUSKRAT

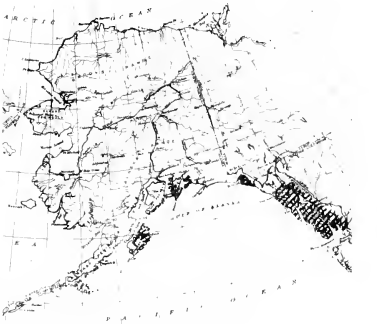


CUTTHROAT TROUT

RAINBOW TROUT



GRAYLING



SITKA BLACK-TAILED DEER

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