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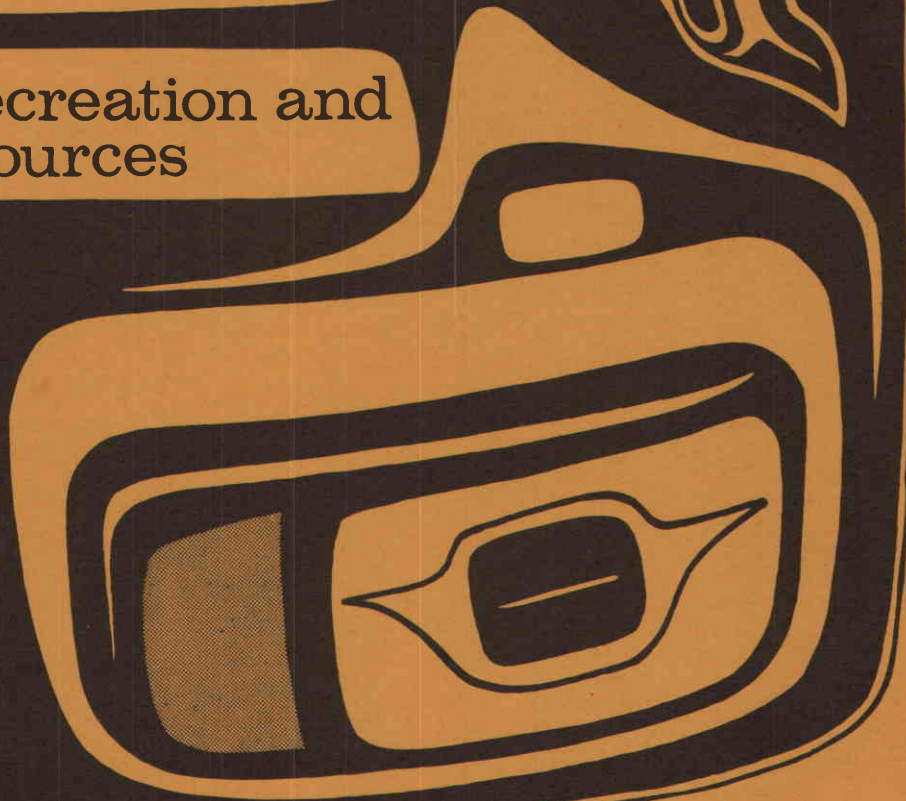
THE FOREST ECOSYSTEM OF SOUTHEAST ALASKA

10. Outdoor Recreation and Scenic Resources

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AND

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ABSTRACT

Southeast Alaska offers a variety of recreational and esthetic or scenic resources not found elsewhere in the United States. Use of these resources for commodity production and recreational purposes is increasing, which often results in conflicts. This report summarizes what is known about the recreational and esthetic resources of the region, the present and anticipated recreation uses, and the important issues concerning recreation and esthetics.

KEYWORDS: Recreation use, recreation, resources (forest), amenity values (forest), ecosystems, Alaska (southeast).

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ENGLISH AND METRIC EQUIVALENTS

1 acre = 0.4047 hectare
1 foot = 30.48 centimeters
1 inch = 2.54 centimeters
1 mile = 1.61 kilometers
1 mile per hour = 1.61 kilometers per hour
1 pound = 0.37324 kilogram
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PREFACE

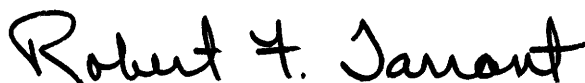
This is the tenth and final paper in a series of publications summarizing knowledge about the forest resources of southeast Alaska.

Our intent in presenting the information in these publications is to provide managers and users of southeast Alaska's forest resources with the most complete information available for estimating the consequences of various management alternatives.

In this series of papers, we have summarized published and unpublished reports and data as well as the observations of resource scientists and managers developed over years of experience in southeast Alaska. These compilations will be valuable in planning future research on forest management in southeast Alaska. The extensive lists of references will serve as a bibliography on forest resources and their utilization for this part of the United States.

Previous publications in this series include:

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|-----------------------|--|
| 1. The Setting | 6. Forest Diseases |
| 2. Forest Insects | 7. Forest Ecology and Timber Management |
| 3. Fish Habitats | 8. Water |
| 4. Wildlife Habitats | 9. Timber Inventory, Harvesting, Marketing, and Trends |
| 5. Soil Mass Movement | |



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INTRODUCTION

. . . This is not easy country you are about to wander through. It is huge . . . There are giant waves, avalanches, thundering glaciers, savage streams, violent winds, monumental rains, and earthquakes. It is land still emerging from the Little Ice Age. New-born land, where there actually are small, dainty things to look at, but where the mood is essentially sombre, bold, austere, brooding. It is harsh land, where errors in judgment are rarely forgiven. But as always, harsh land can yield great rewards

--Dave Bohn (1967)

Outdoor recreation, scenic resources, and esthetic values in southeast Alaska are a fascinating blend of resources and moods. Southeast Alaska has been described as imparting "a feeling of vastness, wilderness and solitude that is reinforced by its very low population density" (fig. 1). It has been pointed out that "many



Figure 1.--Southeast Alaska has been described as relatively undeveloped, sparsely populated, water oriented, scenic, rugged, and isolated. It imparts a feeling of vastness, wilderness, and freedom. (Note the ship in center of picture, which gives a sense of the large scale of the scenery.)

perceive southeast Alaska as a reservoir of untrammelled country increasing in importance to people for their physical, mental, and spiritual well being" (USDA Forest Service 1977a). These qualities give southeast Alaska the potential to play a large and an increasingly important role in providing public outdoor recreation and scenic resource values.

SCOPE OF REPORT

This final paper in the Pacific Northwest Forest and Range Experiment Station's series on the forest ecosystem of southeast Alaska covers outdoor recreation and scenic resource values in Alaska's panhandle (fig. 2). The panhandle is located east of the 141st meridian, which runs through the Malaspina Glacier and north to the Arctic Sea. It forms a boundary between Alaska and the Yukon Territory in Canada.

PURPOSE OF REPORT

We have tried to draw together information from recent planning studies. The two major earlier assessments of the outdoor recreation situation in Alaska, the report by the Alaska Resources Committee (Cameron et al. 1938) and the report by the Conservation Foundation to the Outdoor Recreation Resources Review Commission (1962), are updated, with a narrower geographic focus on southeast Alaska. Another statewide assessment was made by Anderson in 1946. Since 1962, several other major efforts have been made to appraise this region's outdoor recreation and scenic resources, including the land use plan for the Tongass National Forest,¹ the more recent "Southeast Alaska Area Guide" (USDA Forest Service 1977a), the Joint Federal-State Land Use Planning Commission report (Resource Planning Team 1975), and the State Comprehensive Outdoor Recreation Plan (State of Alaska Department of Natural Resources 1970a, 1970b, 1970c, 1970d, 1976). The results of all these efforts as well as results from other inventories prepared by the Division of Parks in the Alaska Department of Natural Resources have been used extensively in preparing this document.

This paper will provide an overview of the current outdoor recreation and scenic resource situation and the trends in recreational opportunities and their use. Wherever existing knowledge makes it possible, management guidelines will be presented, but these will be limited and quite general. Basic descriptive information about recreational use in southeast Alaska is scarce and generally low in accuracy, and there has been too little research on outdoor recreation to support specific management guidelines. Furthermore, the setting,

¹Tongass National Forest Land Use Plan, 1976. Unpublished report on file at USDA Forest Service, Alaska Region, Juneau.

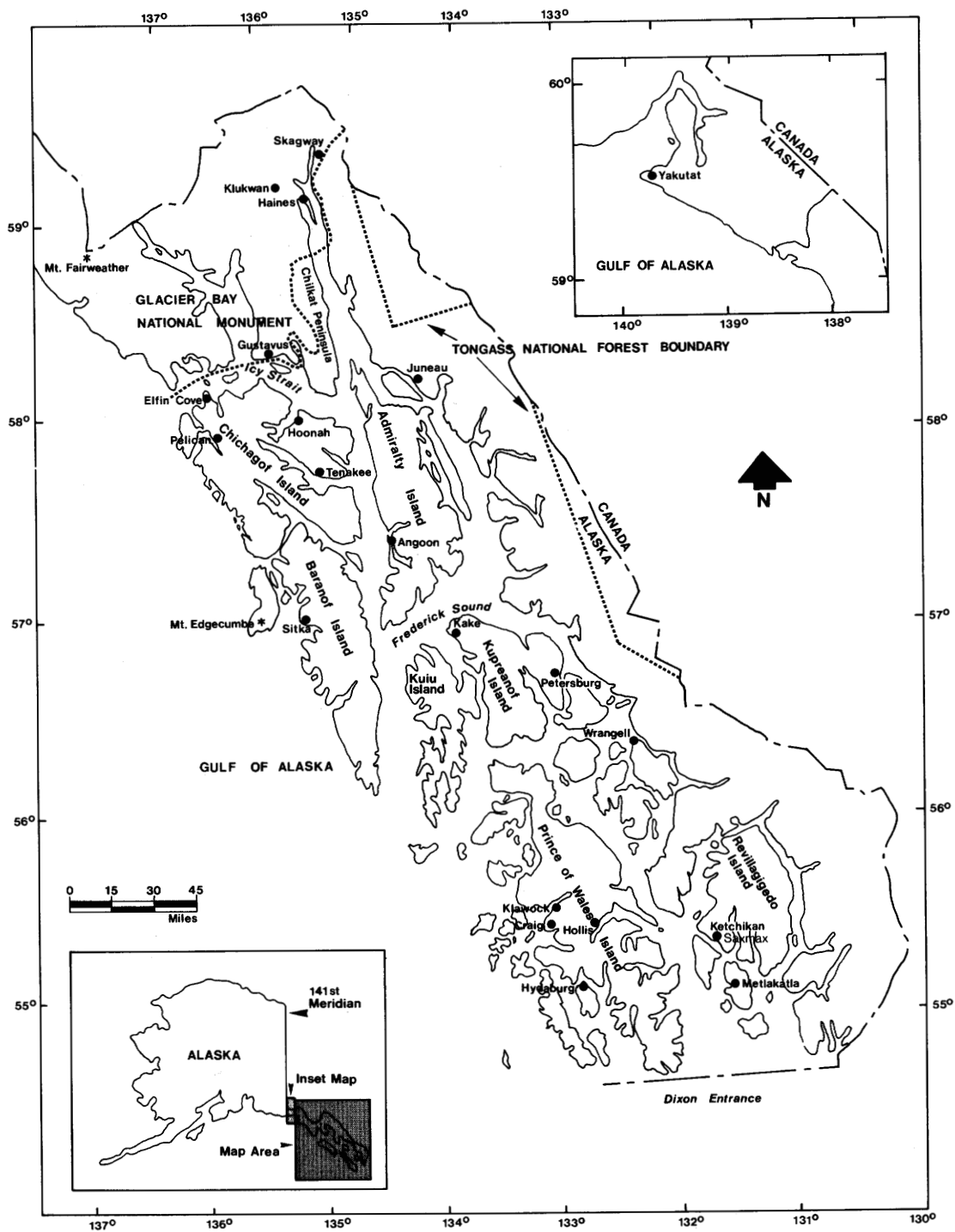


Figure 2.--Southeast Alaska.

use, and users in Alaska all differ so markedly from the areas where most outdoor recreation research has been done that applying the results of this research to southeast Alaska is risky. Research needs will be discussed briefly. Major sources of further information will be cited.

In preparing this document, we used a wide variety of sources. We found that, although there is abundant literature describing the unique recreation and scenic resources of southeast Alaska, little reliable information is available about the use of those resources. Consequently, the data presented in this report on tourism and on patterns, trends, and projections of recreation use must be used with caution for reasons we will describe later. Comments from the many reviewers of this paper (who represented a variety of professions and interests familiar with southeast Alaska) were invaluable as they often identified new sources of information or pointed out inconsistencies in the available data. Often, data from different sources are contradictory, and we have had no choice but to present conflicting figures and point out the discrepancies. These problems underscore the need for better information about recreation use in southeast Alaska. This information is valuable, however, as an initial or rough approximation of the increasing importance of this area.

SIGNIFICANCE

Southeast Alaska has long been considered exceptionally well suited for many types of recreation--particularly dispersed recreation activities such as boating, hunting, fishing, and camping under conditions of isolation, primitiveness, and scenic beauty, and also sightseeing in an unusual marine setting of forested mountains, alpine peaks, and glaciers (fig. 3). John Muir (1915, p. 15-16) naturalist and conservationist who visited southeast Alaska in the late 1800's, expressed this feeling:

To the lover of pure wilderness Alaska is one of the most wonderful countries in the world. No excursion that I know of may be made into any other American wilderness where so marvelous an abundance of noble, newborn scenery is so charmingly brought to view.... Never before this had I been so embosomed in scenery so hopelessly beyond description.

Dispersed recreation consists of outdoor recreation opportunities characterized particularly by wide dispersion of participants and relatively limited development as contrasted to concentrated use (fig. 4).² Dispersed recreation is a major type of outdoor

²See Lloyd, Duane R., and Virilis Fischer. Dispersed versus concentrated recreation as forest policy, 1972. Paper (speech 16) presented to the Seventh World Forestry Congress, Buenos Aires, Argentina.



Figure 3.--Southeast Alaska has long been considered exceptionally well suited for many types of dispersed recreation.

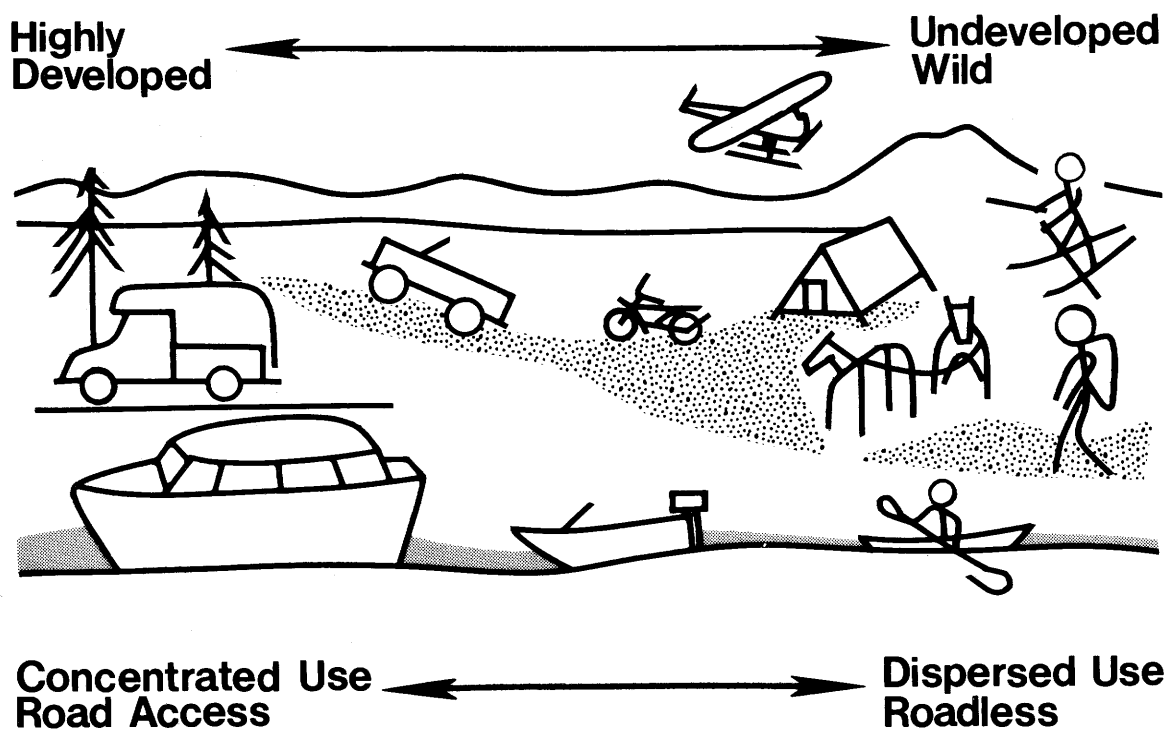


Figure 4.--The outdoor recreation opportunity spectrum.

recreation--it accounts for nearly two-thirds (64 percent) of all recreation visitor-days for the whole National Forest System of the United States--and it is growing rapidly. The program for the National Forests under the Forest and Rangeland Renewable Resources Planning Act proposes an increased relative emphasis on dispersed recreation (USDA Forest Service 1977b). Southeast Alaska is well suited to dispersed recreation as shown by the fact that about 75 percent of all National Forest recreation use in Alaska is in the dispersed categories (USDA Forest Service 1977a). Because of its relatively undeveloped character and recreational and scenic resources, southeast Alaska clearly has the potential to contribute substantially to a national program emphasizing dispersed recreation, especially some portions of the opportunity spectrum not well represented or, in some cases, nonexistent elsewhere. Certainly, however, developed forms of outdoor recreation will be important here as in other parts of the country.

Southeast Alaska is unique, or at least very different, from the rest of the United States in a number of ways that are important in terms of outdoor recreation. The area is large, and the resident population is very small. In 1974, about 50,000 people lived in an area of 42,000 square miles (almost 27 million acres). The area is about 525 miles long by 120 miles wide. Southeast Alaska is a small part of Alaska--only 7 percent of the total area. With 15 percent of Alaska's total population, it is relatively densely populated by Alaskan standards. But Alaska is so huge and lightly populated that a comparison of southeast Alaska's population density with a "lower 48" State produces a very different picture. The total area of southeast Alaska (including interisland waterways) is about the size of the State of Washington; the land area is about half the size of Washington. The population of southeast Alaska is, however, only 1-1/2 percent that of Washington. Over 20 percent of the people living in southeast Alaska are Natives, mainly Haida and Tlingit Indians, who live both in small, largely native villages and in the towns.

Unique natural and cultural features including icefields, vast expanses of primitive lands, inland waterways, glaciers, diverse fish and wildlife, plus past and present cultures set southeast Alaska apart from the rest of the country (fig. 5).

The distance from Alaska to the lower 48 States means that the distinction between tourists and local recreationists is clear; residents and tourists are two distinct groups. In contrast, in most places in the rest of the United States, there is a continuum of recreationists' residence areas ranging all the way from local to distant areas resulting in a gradual transition from local to regional to national tourist groups without sharp distinctions between them.

Because travel is oriented to water rather than to land, the transportation system is unique. Aircraft, boats, and ships are the

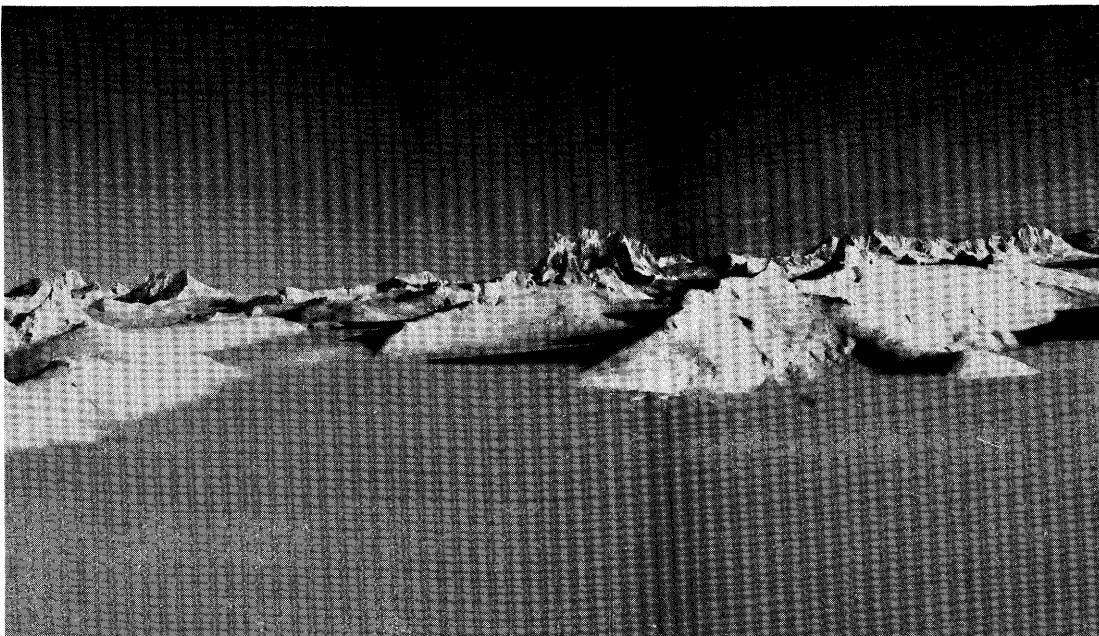


Figure 5.--Unique natural and cultural features including icefields, vast expanses of primitive land, inland waterways, glaciers, diverse wildlife, and past and present cultures, set southeast Alaska apart from the rest of the country. The Juneau icefield pictured here is becoming an increasingly important recreation attraction, as well as the setting for glaciological research.

main means of travel between southeast Alaska and the rest of Alaska and the lower 48 States, as well as between communities in southeast Alaska. Private boat ownership per capita is high. The highway system is minor and largely disconnected.

As a result of the air and marine transport system, much tourism involves little or no direct contact with resources and impact on them. Many visitors view the magnificent scenery, especially from the ferries and cruise ships, in a sense, almost as though they were in an "isolation booth." (Incidents of pollution of the harbors and waterways have occurred, however). Other visitors travel into the wild country and meet its challenges.

The direct impact on the land by local recreationists is also largely concentrated on the limited, more accessible locations around towns with their small, local road networks, and near good anchorages and major floatplane landing sites.

Although many residents find the primitive character of the area an important attraction, along with its superb scenery, fish and wildlife, and other recreation resources, many recreationists find conditions difficult; for example, the long winter season, heavy rainfall, dense vegetation, steep terrain, limited access except by

boat, and a large population of potentially dangerous brown bear in many areas. But, just as use has mushroomed on whitewater rivers once considered too dangerous to float, the skills needed to cope with the difficulties of the Alaskan environment can be expected to grow.

Finally, the proportion of land administered by public agencies is exceptionally high (except in comparison with the rest of Alaska). The two major land managing agencies in southeast Alaska--the U.S. Forest Service and the National Park Service--administer the largest units in their agencies, the Tongass National Forest and Glacier Bay National Monument. The Tongass National Forest includes almost 16 million acres, about 60 percent of the total area of southeast Alaska. All of the communities of southeast Alaska except in the Haines-Skagway area are within the Tongass National Forest, where very little private or State land is located. The National Park Service is responsible for 2,900,000 acres, about 11 percent of the total. Other Federal and State management agencies account for most of the remainder. Problems of public access, posted private land, and so on are rare in southeast Alaska. About 500,000 acres will change jurisdiction under terms of the Alaska Native Claims Settlement Act and up to 400,000 acres under the Statehood Act, but Federal land will still account for most of the total acreage.

The economic significance of outdoor recreation and tourism in southeast Alaska clearly is substantial but it is poorly measured and cannot be specified in detail. Most of the little work that has been done to assess its significance has focused on the entire State (State of Alaska Office of the Governor 1975, Kiely and Hilpert 1961, Field Research Corporation 1976). Several of the unusual features of the southeast Alaska recreation setting have conflicting economic implications. The self-contained nature of the cruise ships and ferries probably reduces economic impacts in southeast Alaska cities. In contrast, economic impacts from other visitors may be increased because stays are usually longer than the average in the lower 48 States--most people who travel so far stay longer. The dependence on charter planes or boats, and often guides, results in large expenditures. Furthermore, some unknown proportion of the immigration to Alaska and permanent settlement there is motivated by the lure of outstanding outdoor recreation opportunities.

The "last frontier," and the resulting "second chance, and fresh start for resource planning" are often mentioned in discussions of Alaska. The area is sometimes thought of as a blank State, with the future course yet to be filled in. But for southeast Alaska, these ideas have only partial validity. Resource commitments, primarily of timber, are already substantial. In addition, there are about 10,000 mining claims. Rather than a postponement or escape from difficult resource management decisions and coordination problems, southeast Alaska presents land managers with immediate and difficult challenges to identify, manage, and protect recreation opportunities and scenic resources. Certainly options remain, and few specific

details are set beyond change, but resource planning must work within complex restraints.

Two major, broad planning issues loom especially large (several others will be discussed later). First, what portion of the outdoor recreation opportunity spectrum should be emphasized in this region? What combinations of different opportunities fit the resource base and the needs of Alaskans and visiting tourists? What is a desirable mix of opportunities? A general emphasis on dispersed recreation seems strongly indicated; but more concentrated, developed areas are also needed; and the dispersed opportunities need to be defined more specifically. Second, how can commodity production be coordinated with recreation opportunities? What is the optimum balance of commodity production and protection? How can production enhance or detract least from recreation values (including fish and wildlife) and landscape esthetics?

Protection of the generally superb scenery viewed from the inland waterways is particularly important. Visitors who tour by boat may have no direct impact on the forests and lands, but the converse is not true--the forests and evidence of timber harvesting or other resource utilization in them directly affect scenic values. Resource managers face the difficult task of reconciling these two, often conflicting, values of the forest (fig. 6).

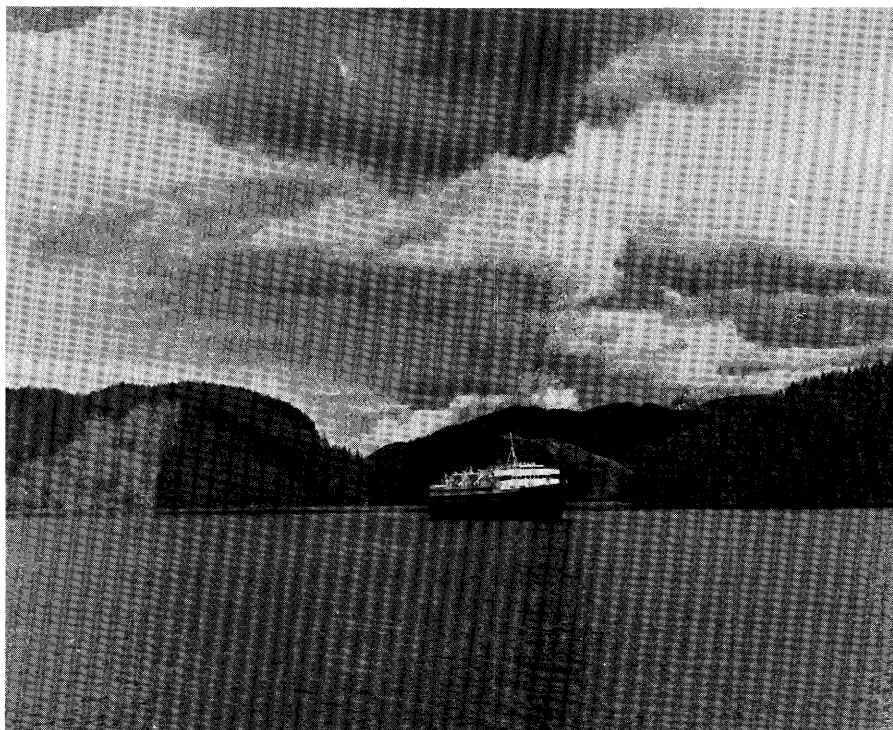


Figure 6.--The protection of superb scenery viewed from the inland waterways is particularly important. Many people are concerned about the location of clearcuts along the scenic inside passage.

THE SETTING

This section briefly describes the various resources related to the recreation potential in southeast Alaska. These resources include physical and biological features, as well as historical and cultural attractions. Present and proposed recreation developments and systems for moving residents and visitors throughout the area are discussed. Trends in resource development and implications for future recreation opportunity and demand are described.

The information in this section came from a variety of sources, much of it not published. Many Federal and State agencies have compiled a substantial amount of descriptive information regarding the recreation related resources of southeast Alaska. Some of these data are contained in a variety of land use planning documents, environmental analysis reports, and environmental impact statements. In addition to these more formal reports, information on recreation resources and opportunities is available in popular form through organizations such as the State and local chambers of commerce, the State tourism division, and other agencies which provide information services for visitors on lands they administer for recreation purposes. Although it is not the purpose of this report to identify all existing material, representative literature has been cited. The reader is also referred to a recent bibliography covering material related to recreation in all of Alaska (Muth and Fitchet 1976).

A major source for this paper has been the other reports in the series on "The Forest Ecosystem of Southeast Alaska" (Harris et al. 1974; Harris and Farr 1974; Hutchison and LaBau 1975; Meehan 1974a, 1974b; Schmiede et al. 1974). The recreation resource is unique in that it is represented by the combination of all other physical and biological resources and how they have been managed by man for his use and enjoyment. The complex interrelationships among these resources have important implications for recreation opportunities and use. This document draws heavily on the earlier resource reports, and we have extracted portions of earlier reports of this Alaska series, with slight revisions for our use here. Readers are encouraged to refer to the reports cited for more detailed descriptions of particular resources.

Henry Gannett (1904), former Chief Geographer of the Geological Survey and member of the Harriman Alaska Expedition early in this century, expressed an opinion of the Alaska scenery, particularly in the southeast, with which many people would agree:

There is one other asset of the Territory not yet enumerated, imponderable, and difficult to appraise, yet one of the chief assets of Alaska, if not the greatest. This is the scenery. There are glaciers, mountains, fiords elsewhere, but nowhere else on earth is there such abundance and magnificence of

mountain, fiord, and glacier scenery. For thousands of miles the coast is a continuous panorama. For the one Yosemite of California, Alaska has hundreds. The mountains and glaciers of the Cascade Range are duplicated and a thousandfold exceeded in Alaska. The Alaska coast is to become the show place of the entire earth, and pilgrims, not only from the United States, but from far beyond the seas, will throng in endless procession to see it. Its grandeur is more valuable than the gold or the fish or the timber, for it will never be exhausted. This value measured by direct returns in money returned from tourists will be enormous, measured in health and pleasure it will be incalculable.

THE MARINE ENVIRONMENT

Perhaps the most striking and unique feature of southeast Alaska is its marine setting. The area has a close affinity with the ocean; and most of man's activities, whether commercial or recreational in nature, depend on the ocean and at the same time are constrained by it. The most westerly portion of the coastline--stretching some 525 miles from northwest to southeast--faces the open seas on the Gulf of Alaska. The "wave beaten coast" label found on many maps is descriptive of the area, noted for its winter storms and rough seas (fig. 7).



Figure 7.--The "wave beaten coast" label found on many maps describes the shoreline of the most westerly part of southeast Alaska.

Few recreational boaters spend much time in this area.

Further inland, the saltwater setting remains, but the protection provided by the hundreds of islands and broken coastline results in a more sheltered environment (fig. 8). The 1,000-mile-long "inside



Figure 8.--Further inland, the saltwater setting remains, but the hundreds of islands and broken coastline result in a more sheltered and enclosed environment.

passage," one of the best-known waterways in North America, runs through this area and provides residents and visitors alike a relatively sheltered travel zone for viewing the many outstanding natural features of the area (Garrett 1965). For the adventurous with a desire for exploring vast expanses of wild, unpopulated country, any turn off this well-known route will lead past numerous islands, up fiords whose size and awesome beauty rival those in the Scandinavian countries, to sheltered bays, coves, and over 2,000 salmon-producing streams. Major waters with boating opportunities located away from the Alaska Marine Highway routes are shown in figure 9.

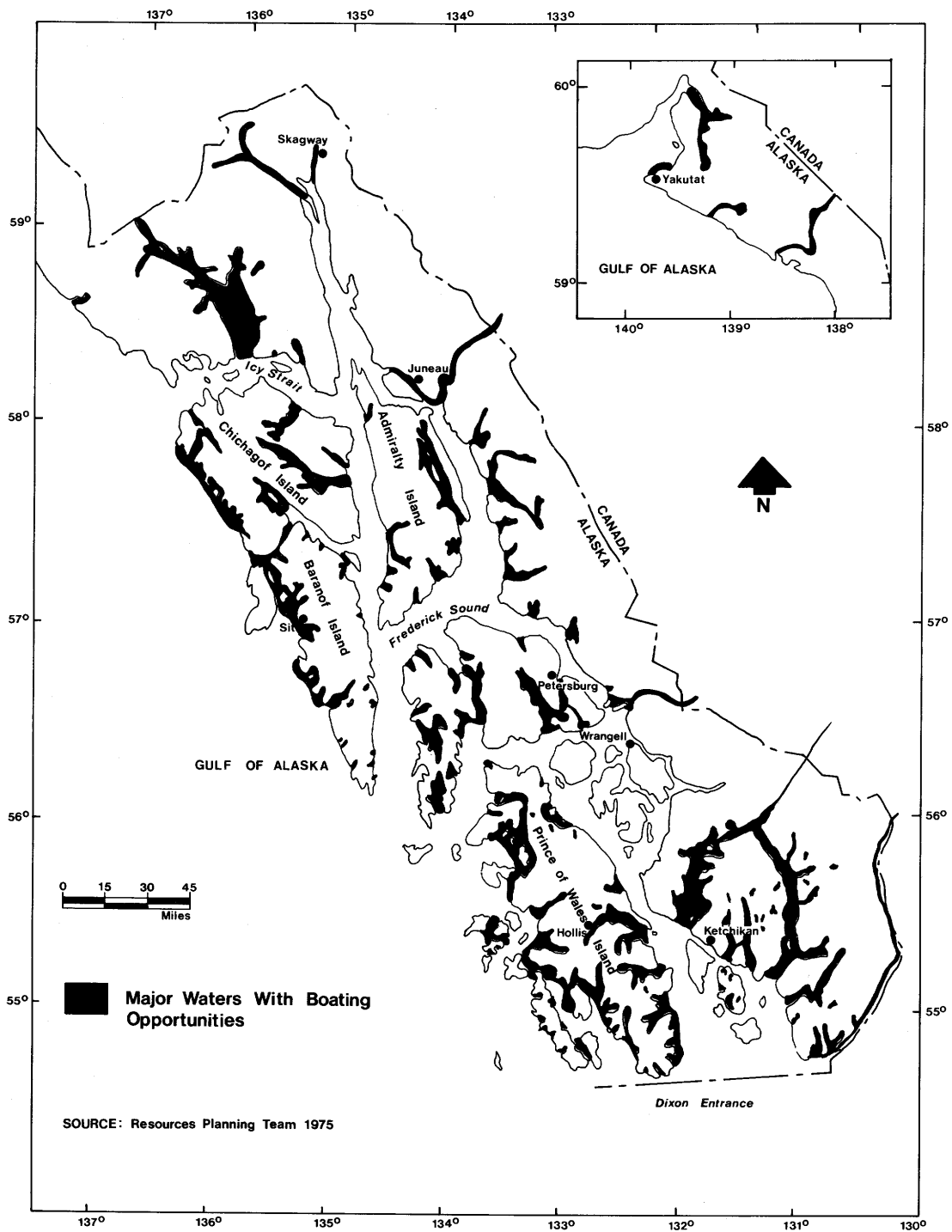


Figure 9.--Major waters with opportunity for boating in southeast Alaska. (Source: Resource Planning Team 1975.)

The appeal of the marine environment was well described by Cameron et al. (1938, p. 130) 40 years ago:

The beauty of the mountains is accentuated and made accessible by the tongues of the sea, which have invaded the gorges, drowned the valleys, and produced an intricate system of tidal waterways. Some of these are broad expanses of water dotted with islands. Others resemble great river gorges extending far inland with great depth, restricted by beetling cliffs. Hundreds of miles of navigable channels exist.

The most striking of these waterways are the gorges or fiords, of which Glacier Bay and Portland and Lynn Canals are the most notable. They extend inland for 60, 100, and 175 miles, respectively. Some sections are remarkably straight, others sinuous. For many miles they are bounded by sheer walls, rising in places to peaks 8,000 and 9,000 feet above the sea. The shores are broken in places by embayments fed by tidewater glaciers.... This type of scenery, which is one of the outstanding tourist attractions in Scandinavia, is extensively duplicated in Alaska.

For those who might mistake the apparent serenity of the area for a freshwater setting, a look at the tides is warning enough for the potential boater and beachcomber. Mean diurnal tidal fluctuations in southeast Alaska vary from 8 feet on the west coast of the archipelago to 14 feet in the inland passage; the range between extreme high tides and low tides is considerably greater, nearly 25 feet at Juneau and Skagway (Selkregg 1976). Many activities in this region are regulated by the tides.

Hundreds of islands forming the Alexander Archipelago are scattered between the outer coastal areas and the mainland to the east. Summits generally rise from 2,500 to 3,500 feet. Many islands are unnamed. They vary in size from less than an acre to more than 1,000 square miles; 65 islands exceed 4 square miles, 15 are over 100 square miles, and 6 are greater than 1,000 square miles. These six large islands (fig. 2) are: Prince of Wales (2,770 square miles); Chichagof (2,062 square miles); Admiralty (1,709 square miles); Baranof (1,636 square miles); Revillagigedo (1,134 square miles); and Kupreanof (1,084 square miles) (Harris et al. 1974). Most of the islands are unpopulated and remain undisturbed by man, and they offer ample opportunities for exploration and recreation in natural conditions.

The numerous islands, islets, and rocks are separated by a complex system of marine features such as sounds, straits, canals, narrows, and channels. The combined length of the tidal shoreline resulting from the many islands, as well as the mainland, is impressive compared with that of the lower 48 States (fig. 10).



Figure 10.--The hundreds of islands are separated by sounds, canals, narrows, and channels.

Alaska proper has just over half the "general coastline" of the United States--6,640 miles (U.S. Army Corps of Engineers 1971). The tidal shoreline, including all shoreline to the head of tidewater, is much longer--estimated at over 47,000 miles in all of Alaska--with about 29,000 miles of intricate coastline in southeast Alaska. For the most part, the coastline is rocky and steep; but there are many accessible stretches, including beaches located in the hundreds of sheltered inlets, bays, arms, coves, harbors, and anchorages. These areas are important recreation attractions and may require special management decisions to insure their protection. The larger tidal inlets and estuarine areas are important feeding and resting areas for waterfowl in the spring and fall, especially the Stikine River estuary.

CLIMATE³

Much of the character of southeast Alaska comes from its climate; the icefields and glaciers, dense vegetation, huge trees, large salmon runs, and abundant wildlife result from a combination of weather factors. Southeast Alaska's climate is maritime--cool and moist. The temperature range is narrow, and moisture is abundant. The overall effects are cool summers, moderate winters, heavy precipitation well distributed throughout the year, heavy snowfall at higher elevations resulting in large numbers of glaciers and several icefields, and a high incidence of fog and cloudiness. All these climatic features have important effects on resource uses and management, including recreation.

Temperatures usually range from 60°F to 70°F during the summer and rarely drop below -10°F during the winter. The climate has been described as only slightly harsher than Seattle, Washington, or Vancouver, B.C. (Resource Planning Team 1975); but some residents disagree, citing fewer growing degree days (Harris 1974) and longer winter darkness in southeast Alaska.

Although it is south of the "land of the midnight sun," southeast Alaska is far enough north to experience a wide range of daily hours of light during the year (Selkregg 1976). This reduces daily temperature fluctuations (Watson et al. 1971) and provides more daylight hours for outdoor activities during the summer. Daylight throughout the latitudes of southeast Alaska ranges from about 18-1/2 hours in June to as little as 7 hours in December. Twilight during the summer materially lengthens the day to more than 20 hours.

The other major temperature effect is the moderating influence of the open waters of the inland passages. These waters are warmed by the circulation of the Alaska current, and their temperatures range from about 55°F in the summer to about 42°F in the winter. The coast is generally free of ice.

Precipitation generally accumulates to between 60 and 200 inches as steady, light to moderate rain or snow during about 200 to 250 days in the year. Extreme values for annual precipitation means are 26 inches at Skagway and 200 inches at Little Port Walter (Selkregg 1976). Maximum monthly rainfall ranges from 10 inches at Skagway to almost 60 inches at Little Port Walter. Cloudy skies occur on 275 days; 43 days are clear, and the remainder are partly cloudy. The likelihood of lasting snow during the winter increases from south to north.

³For a more detailed description of southeast Alaska's climate, see Harris et al. (1974) and Selkregg (1976).

The prominent low pressure systems, called Aleutian Lows, make southeast Alaska a stormy area, both winter and summer. A normal storm track along the Aleutian Island chain, the Alaska Peninsula, and all the coastal area of the Gulf of Alaska exposes these areas to most of the storms crossing the North Pacific (Searby 1968). The resultant nearly constant east-west zonal circulation dominates throughout autumn and winter and intermittently at other times of the year (Marcus 1964). The Coast Mountains backing southeastern Alaska effectively interrupt the surface atmospheric circulation (Fitton 1930) and usually cut off arctic air masses. But, at times, Canadian or arctic high pressure systems spill over the Coast Mountains, bringing strong northerly winds which gust through the long marine valleys. "Taku" winds, blowing across the Juneau icefield, have been reported at more than 200 miles per hour. This windiness has taken a toll of merchant and fishing vessels and has done considerable structural damage to buildings, electric transmission line towers, and so on. It poses an ever present threat to recreational boaters and fliers along the outer coast and in the inland waters as well. "Weather is the factor inhibiting this region as a perfect vacation spot. Visitors must recognize that they may experience many rainy, cool, and cloudy days, and that they may not wish to participate actively in outdoor recreation activities unless they have special equipment and accommodations. The relatively heavy use of 'live aboard' vessels in southeastern Alaska is evidence of the effect of the climate upon recreation patterns" (State of Alaska Department of Natural Resources 1970b). A more recent survey indicates Alaska's weather is a negative factor in the mind of many past and potential visitors (Field Research Corporation 1976).

MOUNTAINS⁴

The mountains of southeast Alaska afford varied and spectacular scenery. Their rugged slopes challenge hikers and climbers. Many of the larger mountain ranges rise directly from the sea. The topography includes parts of the two high-mountain systems. The eastern range along the boundary with Canada consists mainly of the mountains associated with the Coast Range--the extension of the Cascades in Washington and Coast Mountains in British Columbia. Elevations of peaks along the boundary range are from 6,000 to 10,000 feet, with most of the main peaks between 7,000 and 9,000 feet.

Mount Fairweather rises to 15,300 feet; Mount St. Elias, the highest point (18,008 feet) in the southeast Alaska system, is the fourth highest peak in North America (Atwood 1940). Areas of subdued relief are uncommon in southeast Alaska except for the comparatively low islands that make up the southern part of the Alexander Archipelago.

⁴Much of the material in this section was taken from Harris et al. (1974).

GLACIERS AND ICEFIELDS

Among the most spectacular natural features of southeast Alaska are the numerous glaciers, many of which extend into saltwater before melting. Extensive glaciation was and is a major factor in the formation of the rugged mountains of the region. Icefields are nearly continuous along the coast range of the mainland and from these flow many active glaciers. The largest glacier, the Malaspina, located at the northernmost portion of the southeast region and covering more than 1,000 square miles, flows to the sea from the mountains of Canada.

One of the most spectacular and often visited areas in southeast Alaska is Glacier Bay National Monument, 75 miles northwest of Juneau, which has more than 20 active glaciers, some flowing into saltwater (Streveler and Paige 1971). Muir Glacier, the most famous, measures nearly 2 miles across and rises about 265 feet above the waterline. Observers are often able to see nature in action as massive walls of ice up to 200 feet high fall into the water, thereby forming oceanborne icebergs, a process known as "calving" (fig. 11).

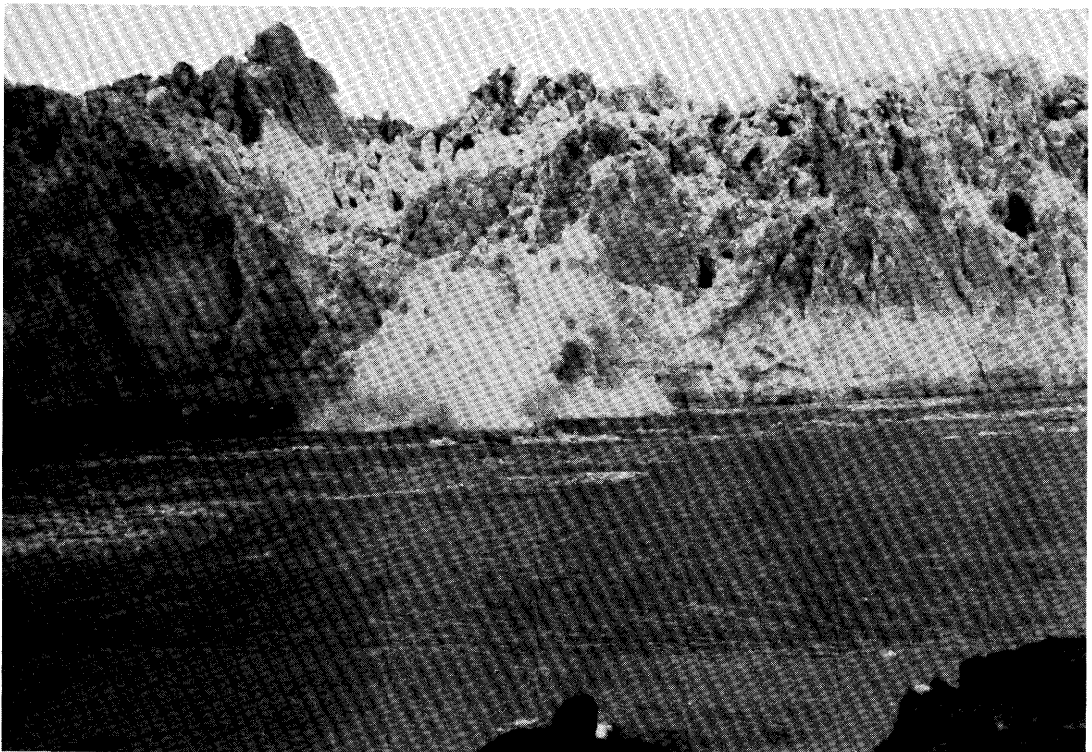


Figure 11.--Observers are often able to see nature in action as massive walls of ice (about 200 feet high in this photo) fall into the water and form icebergs.

Residents and visitors to Juneau can easily visit the Mendenhall Glacier flowing from the Juneau icefield above the city (fig. 12). The area is within a few miles of the city and is accessible by paved road. An interpretive center and a nature trail along the flanks of the glacier are featured. The Mendenhall is a year-round attraction for local residents and tourists alike.

LeConte Glacier near Petersburg is the southernmost glacier entering saltwater in Alaska. It is visited by many persons using charter boats and airplanes. Glaciers are also visible from the Alaska Marine Highway near Haines, Skagway, and Wrangell.



Figure 12.--Residents of and visitors to Juneau can easily visit the Mendenhall Glacier which flows from the icefield above the city of Juneau. The arrow indicates the road leading to the Mendenhall Glacier visitor center and viewpoint.

FRESH WATER RESOURCES—LAKES AND STREAMS

For people seeking recreational experiences on or near freshwater, southeast Alaska offers abundant opportunities in the form of hundreds of lakes and thousands of streams, most of which flow into saltwater. Much of the water in the lakes, streams, ponds, marshes, and estuaries of southeast Alaska still remains unaltered by man's activities (Schmiede et al. 1974).

Major rivers in southeast Alaska originate in the mountains of Canada (Harris et al. 1974). The principal rivers are the Alsek, Chilkat, Chickamin, Taku, Whiting, Stikine, and Unuk. Other important mainland rivers include the Salmon, Klehine, Bradfield, Speel, and Taiya Rivers. Some of the islands have important streams, such as Thorne River on Prince of Wales Island. Many of the rivers are large enough for canoes and kayaks, and a few carry larger power boats. In an inventory of streams in the Alaska region, some 2,634 streams were identified in southeast Alaska totaling nearly 6,000 miles.⁵ These data indicate the streams are relatively short; they typically fall sharply, often with beautiful waterfalls, and many are glacier fed (fig. 13). Although few of these smaller streams offer opportunities for boating, the streams are an important esthetic resource and many offer excellent fishing.

In addition to the ocean and the streams, many lakes are found in this region, on both the mainland and the islands (fig. 14). Nearly 600 natural lakes, totaling more than 120,000 acres, have been identified. They vary in size from a few acres to several thousand acres and in type from coastal marsh to high alpine cirque lakes (Resource Planning Team 1975). Some of the larger, more accessible lakes afford opportunities for powerboating and sailing. Others remain inaccessible except by floatplane.

More than 100 hot springs are found throughout southeast Alaska. Several are well known and facilities have been built to accommodate use by a growing number of recreationists.

Twenty-six manmade impoundments for hydroelectric power have also been developed in southeast Alaska, and applications for more are pending. Most are small--their combined size is only a little over 3,600 acres. Although fishing and boating are reported on some, the significance of these areas from a recreation perspective is not known. It is unlikely that they will receive the amount and kind of use that similar projects in the lower 48 States would receive because of the abundance of natural lakes and saltwater opportunities in southeast Alaska.

⁵Source: U.S. Forest Service files, 1971, summary data on lakes and streams, Alaska Region, Juneau.



Figure 13.--Most of the over 2,000 streams are fairly short and fall sharply.



Figure 14.--In addition to the ocean and streams, nearly 600 lakes are found in this region, on both the mainland and the islands.

VEGETATION⁶

A notable feature of southeast Alaska is the lush plant life. Except for steep cliffs, few areas are devoid of vegetation. Here, even rock, which would be bare in a drier climate, is soon colonized by mosses, lichens, small plants, shrubs, or trees. This vegetation offers tremendous potential for esthetic, recreational, and educational purposes.

The forest of southeast Alaska is a segment of the temperate rain forest extending along the Pacific coast from northern California to Cook Inlet in Alaska. Viewed from a boat, the rugged mountains along the inside passage usually appear to be carpeted with unbroken conifer forests from the water to timberline. From the air, however, the forest zone is seen as a mosaic of forest stands of various densities, crown sizes, and subtly varying colors, interspersed with numerous muskeg openings.

Forests cover about 11 million acres of southeast Alaska (USDA Forest Service 1977a). Most of the forest is old growth (more than 150 years old), undisturbed by man. Stands which have remained undisturbed for centuries have a ragged texture because they include trees of various ages, sizes, and conditions, with many dead tops and snags. Stands disturbed during the last century or two by windthrow, fire, landslides, or logging have a more uniform appearance because they contain trees of relatively uniform age and size, with fewer snags and less damage. Moss covers everything and often drapes from the trees.

The distribution of trees varies by location (Hutchison 1967). The islands to the south and west are more heavily covered with large, more continuous forests. There are also large stands on the mainland and in the north, but these are restricted to stringers and patches near salt water and valley bottoms.

Tree species composition also varies by location. The most important trees on commercial forest lands are western hemlock, Sitka spruce, western redcedar, Alaska-cedar, mountain hemlock, and other softwoods, black cottonwood, red alder, and other hardwoods. Species composition of trees on land classified as noncommercial forest land consists largely of hemlocks, cedars, and shore pine.

Interspersed with forest stands are natural openings, often hidden from view on the water but prominent from the air. These are muskegs or bog plant communities. Muskegs are usually on flat or gently sloping topography, but they develop on steeper slopes as well.

⁶Much of the material in this section was taken from Harris et al. (1974) and Harris and Farr (1974).

They provide suitable habitat for many plants with edible berries and give welcome scenic viewpoints for the foot traveler, as well as valuable scenic diversity for the airborne or waterborne traveler. Muskegs are also important as habitat for wildlife, especially deer and bear.

Between the muskegs and dense forest are more open forest stands presently classed as noncommercial or scrub stands. The open canopy allows sufficient light to reach the forest floor to support dense understory vegetation of blueberry, huckleberry, rusty menziesia, other tall shrubs, and numerous small vascular plants. These stands are important wildlife habitat and potential sites for berrypicking.

Tidal flats are found at the heads of numerous bays and inlets. They are usually associated with stream estuaries and are occupied by grasses, sedges, rushes, and numerous other plants. In addition to their scenic beauty, they provide habitat for wildlife, especially bear and waterfowl, as well as clams and other shellfish.

Above timberline which varies from 1,000 to 3,000 feet (Harris 1974), the alpine zone is dominated by heaths, grasses, and other low plants. Beautiful wildflowers abound in season. Plants such as deer cabbage cover wide areas and provide excellent summer forage for deer. Occasional trees occur, often with stunted or shrublike form because of adverse growing conditions. Timberline generally varies in elevation from 3,000 feet in the south to 2,500 feet in the north but may be depressed because of differences in climate, topography, and other factors which influence accumulation, retention, and avalanching of snow. The alpine area provides many fine recreation and scenic opportunities, but access is often difficult because of dense timber and brush (including thorn-studded devils club) from the shoreline to timberline. Brown bear often frequent the alpine zone during summer and fall.

For the interested forest visitor, several excellent sources of detailed information are available for the identification and distribution of trees and other plants native to southeast Alaska. For trees and shrubs, "Alaska Trees and Shrubs" (Viereck and Little 1972) is the best reference. This is a revised and expanded edition of "Pocket-Guide to Alaska Trees" (Taylor and Little 1950), which is still useful. A comprehensive text on the flora of the area by Hultén (1968) includes keys to all vascular plants known to occur in the area.

Botanical interests in southeast Alaska include plant succession after glacial retreat and recently exposed remains of trees buried by past glacial deposition (Resource Planning Team 1975).

Because most forest stands of commercial quality are located near tidewater and along stream and river valleys (all of which are main travel corridors) confined to relatively low elevations (generally

below 2,000 feet (Harris 1974)), they are valuable not only for their timber resource but also for recreation, esthetics, and protection of other resources. This single fact has led to an important conflict in values which, although not unique to southeast Alaska, seems particularly pronounced there.

Use of no other resource in southeast Alaska has such important implications for recreation and esthetic values as the harvesting of timber. Later we will discuss this conflict in more detail. Here, to put the amount of harvest in perspective, we briefly describe the extent of man's use of the timber resource. Table 1 summarizes the

Table 1--*Classification of Tongass National Forest Lands*^{1/}

Classification	Number of acres (approximate)	Approximate percent of National Forest land
Total land in southeast Alaska	26,900,000	--
Total National Forest lands ²	16,000,000	100
Forested area:		
Commercial forest land	5,800,000	36
Productive forest land deferred or reserved from harvest	300,000	2
Noncommercial forest land ²	4,500,000	28
Nonforested	5,400,000	34
National Forest roadless area (undeveloped) as of 1972 ³	14,030,000	87
Wilderness study area	1,900,000	12
Cutover since 1972 ²	65,000	0.4

¹Lands outside the Tongass National Forest are excluded because of lack of information. However, virtually all forested lands of southeast Alaska (about 11 million acres) are within the Tongass National Forest.

²National Forest timber inventory data. This estimate is based on an estimate of the volume of timber per acre. No actual acreage measurements have been done.

³Based on results from the USDA Forest Service roadless area review study (RARE) completed in 1972, Washington, D.C.

distribution of commercial and noncommercial forest lands in this region and the amount of land undisturbed at present. Figure 15 shows the growth in timber harvest since 1917. These data indicate the proportion of total land area available for commercial timber harvest (36 percent). About one-third of the National Forest land is of commercial value, and 2 percent of that has been reserved or withdrawn as research natural areas and wilderness study areas. About 3 percent of the commercial forest land (143,000 acres) has been logged since 1965. (This is only an estimate since actual acreages have never been determined.) But even this amount of timber cutting has important impacts on the scenic resource of southeast

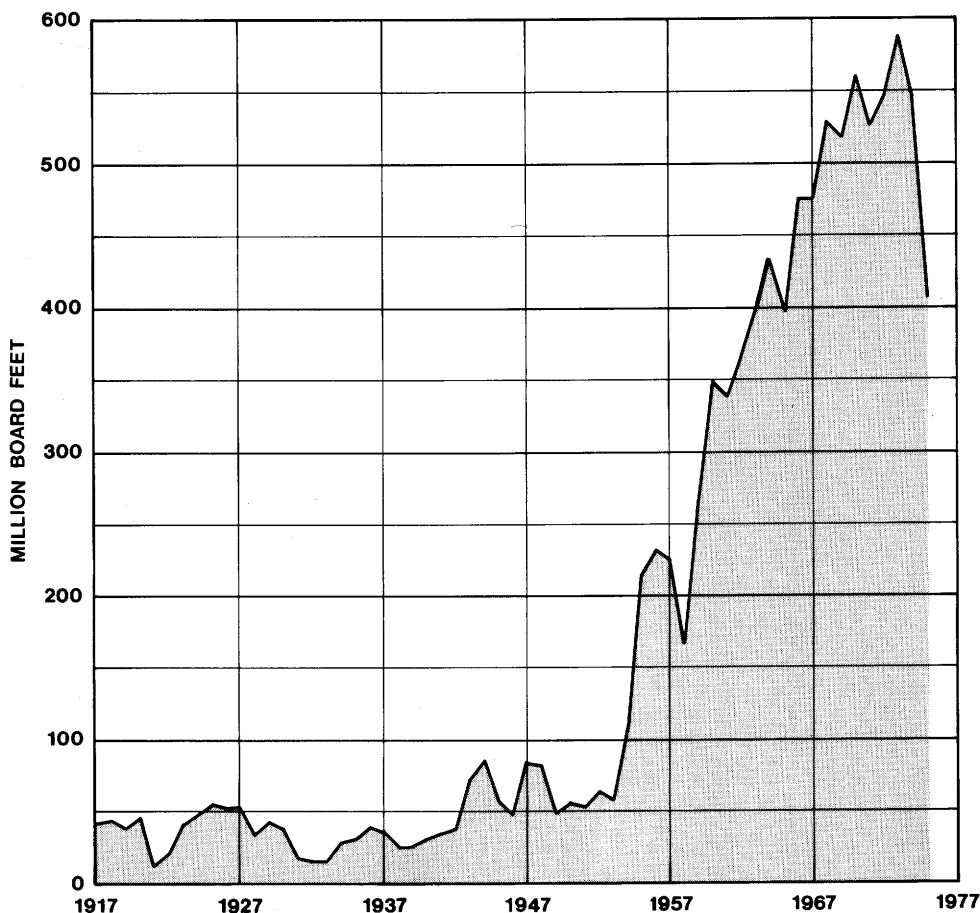


Figure 15.--Volume of timber commercially cut on National Forests of southeast Alaska by year.

Alaska and on those forms of outdoor recreation dependent on natural conditions. These impacts are intensified because most logged-over areas are on the waterways or within view of them and form an important part of the scenic foreground. These impacts are certain to increase as the timber becomes increasingly important in U.S. and world markets.

As a result of timber harvest activities, opportunities for road-oriented recreation and easy access to upland areas are increased. In some areas (Admiralty Island, for example), these opportunities are being identified for potential users.

FISHERIES⁷

Southeast Alaska has rich recreational fisheries--including saltwater, freshwater, and anadromous species (State of Alaska Department of Fish and Game 1972) and an abundance of shellfish including the famous Alaska king crab--as well as major commercial fisheries.

⁷ Much of the material for this section was taken from Resource Planning Team (1975).

A variety of species are available on the open sea, in protected marine waterways, on major rivers, along small streams, or in the many lakes (fig. 16). Southeast Alaska is one of the few regions

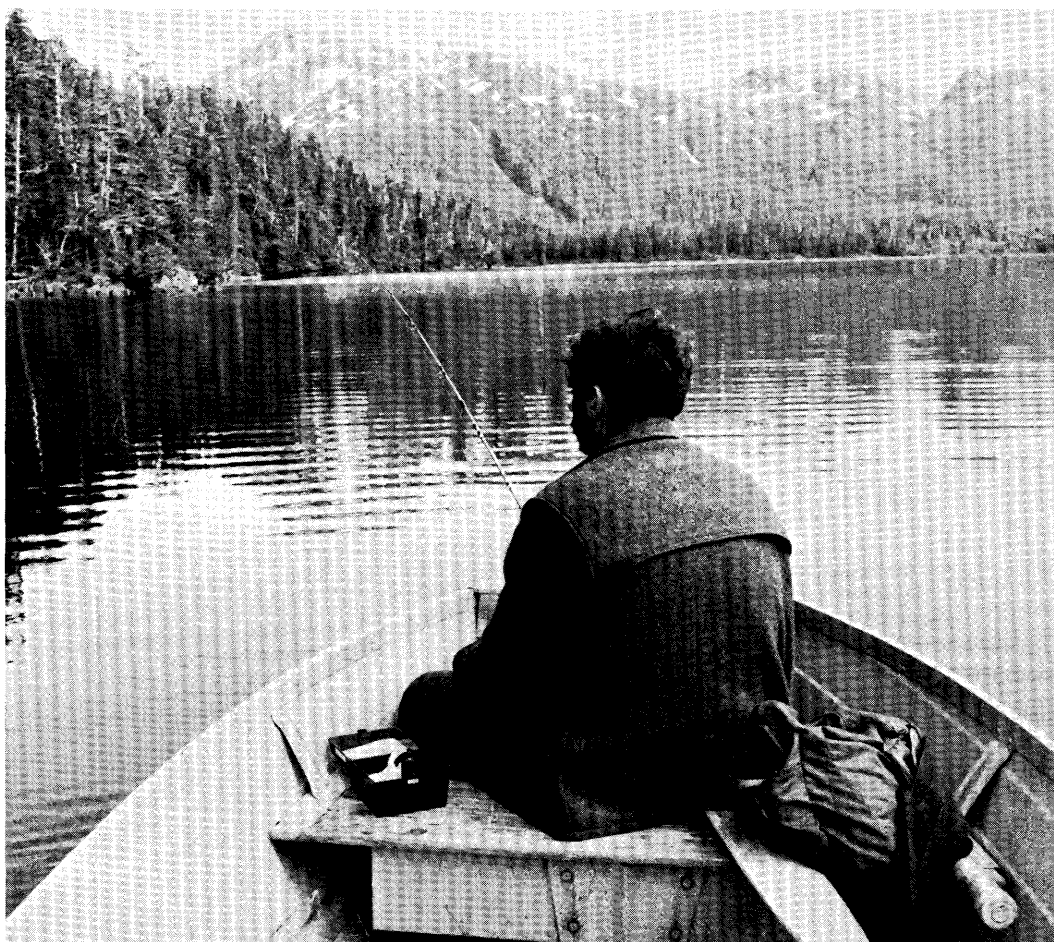


Figure 16.--A variety of species of fish are available in the deep sea, in protected marine waterways, on major rivers, along stream, or in the many lakes.

in the country where an intensive stocking program is not yet necessary to support a recreational fishery, although this might depend on light use because some accessible areas near larger towns have suffered severe declines in fish populations as a result of heavy fishing.

Anadromous fish--those spending part of their life in freshwater and part in saltwater--are present throughout the area. Pink (humpback or humpy), coho (silver), and chum (dog) salmon spawn in the shorter coastal streams. Sockeye (red) salmon are found in river systems

containing lakes. Chinook (king) salmon⁸ are located in the longer river systems of the mainland, some of which extend into Canadian territory. Another spawning area for Chinook is in the aptly named King Salmon River on Admiralty Island. Steelhead and resident rainbow trout are present in many places, and cutthroat trout and Dolly Varden (char) are found throughout the entire area. Eastern brook trout have been planted and have established themselves in several lake systems.

Besides fish entering freshwater, herring, halibut, rockfish, and sablefish live in adjacent saltwaters; and an abundance of shellfish are available for commercial and sport harvest. Various species of crabs, shrimp, clams, and scallops are present throughout the area.

The main species of fish caught in southeast Alaska are rainbow-steelhead, cutthroat trout, Dolly Varden, halibut, and the five species of salmon. Saltwater fishing in southeast Alaska has been some of the best in the State and certainly ranks high in comparison with other areas of the country. Recent declines in fish populations have resulted in closures and reduced bag limits, however. Numbers of pink salmon are down greatly from previous abundance. Salmon derbies are held, or have been held, in many communities including Juneau, Ketchikan, Sitka, Haines, Petersburg, Craig, Wrangell, and Kake. All harbors in the area have large sport boat fishing fleets. Freshwater fishing for either anadromous or resident species is also rated good by most residents and visitors. Dolly Varden, including some large fish, are caught in good numbers, and steelhead fishing in some areas is a major attraction for the serious angler.

Besides sport fishing, the salmon in southeast Alaska are available in larger quantities under subsistence permits, and many southeast Alaska residents fill their freezers with salmon during spawning runs each year. Outings for this purpose are often a satisfying recreational activity for the entire family.

Although many visitors to southeast Alaska would find fishing opportunities superlative in most areas, the Alaska Department of Fish and Game staff located in Juneau has identified some prime locations. Their inventory lists numerous drainages that they felt have outstanding sport fish values, and they recommended to the Forest Service that many of these should be kept in a natural condition to preserve these qualities.

⁸ All five species of salmon have two common names in Alaska.

WILDLIFE⁹

Wildlife is one of the first things that come to mind when people think of Alaska. This is not surprising since most films and magazine articles feature Alaskan wildlife. The State supports an extraordinary collection of birds and mammals, and southeast Alaska is no exception. The many species of wildlife afford opportunities for recreationists to bag trophies with a gun or camera. Southeast Alaska is home for a wide variety of both rare and common animals and birds ranging in size from small shrews to immense brown bears on land, to gigantic whales living in coastal and inland saltwaters. But distribution of the various species is often uneven, which results in disappointment for many sightseers expecting bears, whales, and moose at every turn. Some of the important features of this resource are described below.

Birds

More than 200 species of birds, ranging from the common to the unique, are found in southeast Alaska. Waterfowl are plentiful in many areas, including Stikine flats, Yakutat forelands, Duncan Canal, Rocky Pass, and numerous other flats at the heads of bays. A variety of species of ducks and several species of geese migrate through the area. Trumpeter swans are known to winter in a few lake and stream systems. Several species of grouse are found in some locations in southeast Alaska (Meehan 1974b). Alaska boasts the largest concentration of bald eagles in the 50 States; indeed, it has more eagles than all other States combined, and most of these are found in southeast Alaska (Robards and Taylor n.d.). A 1967 survey estimated the breeding population of bald eagles in southeast Alaska as exceeding 8,000. Although bald eagles are found throughout the area, one of the largest concentrations occurs around the shoreline of Admiralty Island with an average of two nests per mile (fig. 17). Other spectacular locations include the Chilkat River near Haines, the Stikine River during smelt runs, and the rivers of Berners Bay. Although southeast Alaska residents may find eagles commonplace, visitors to the area are in for a treat as eagles usually can be seen perched in trees, sitting on rocks along beaches, or soaring on the winds (Robards and Taylor n.d.) (fig. 18). Their nesting habitats--along saltwater shorelines and mainland rivers--correspond to man's major travel zones, which increases the probability of sightings.

Mammals

Numerous mammal species are found in the mainland, island, and saltwater environs of southeast Alaska. Their distribution varies

⁹Important sources for this section include the Tongass Land Use Plan, an unpublished report on file at USDA Forest Service, Alaska Region, Juneau, Alaska, Resource Planning Team (1975), and Meehan (1974b).

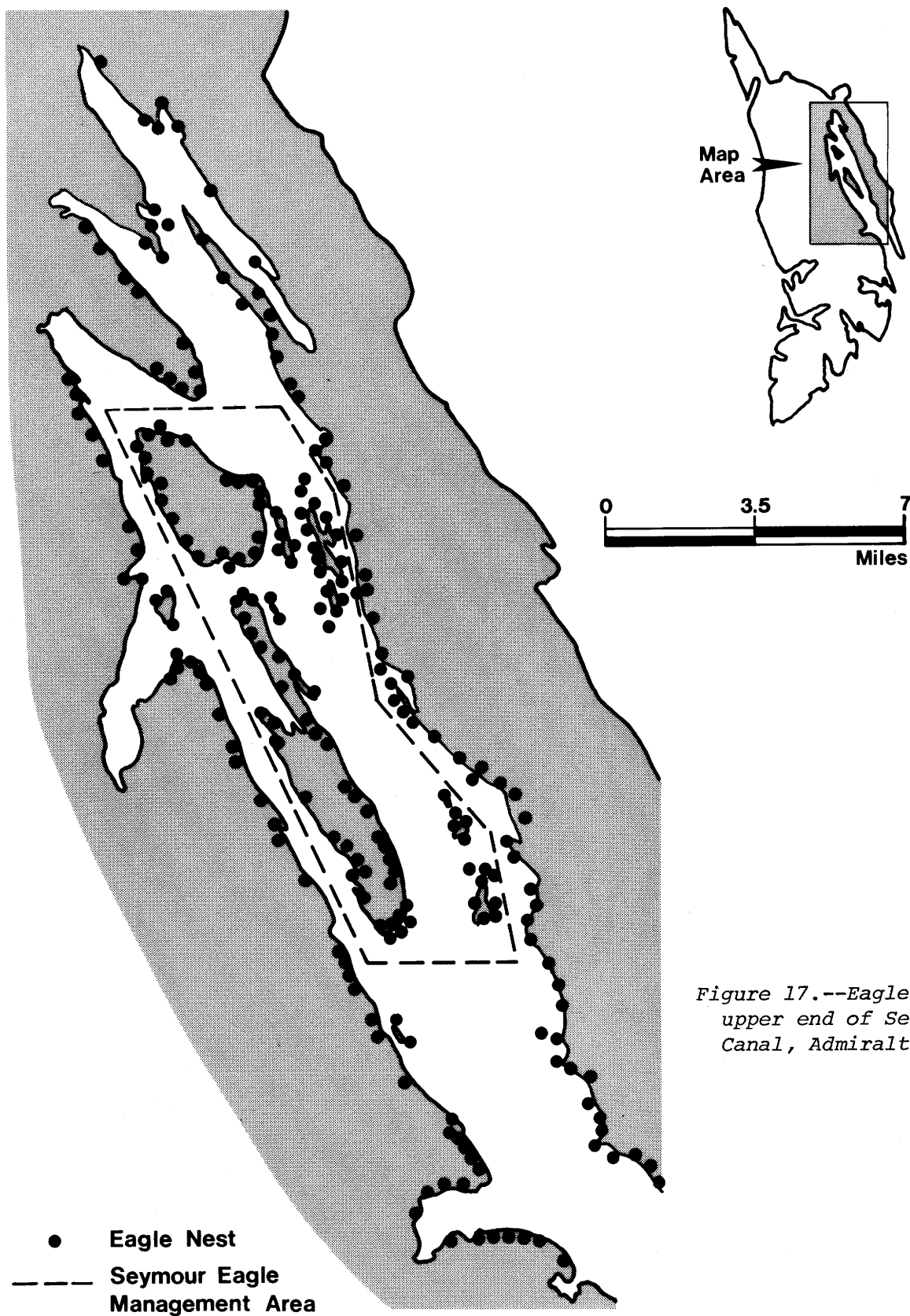


Figure 17.--Eagle nests in upper end of Seymour Canal, Admiralty Island.



Figure 18.--Alaska has more eagles than all other States combined and most of these are found in southeast Alaska.

from mainland to the islands. Black bear are common to abundant throughout the region, except on the Admiralty, Baranof, Chichagof Islands group (the "A.B.C." group) where they are absent. Glacier bears (the blue color phase of the black bear) are found in the Russell Fiord and Disenchantment Bay areas near Yakutat.

Brown bear (fig. 19) are present throughout southeast Alaska except on the islands south of the A.B.C. group. Highest densities are on the A.B.C. islands. These bears are huge, impressive animals--often reaching 9 feet or more in length.

Wolves are present in the Yakutat area and elsewhere, common on the mainland, present on the southernmost islands, but absent on the A.B.C. islands. The Sitka black-tailed deer is a principal prey species.

Wolverine are rare on the mainland, Kuiu, and Kupreanof Islands and have not been reported on A.B.C. and Prince of Wales Islands.

Sitka black-tailed deer (fig. 20) live throughout the region and are the most common big game animal. Highest densities are on the A.B.C. islands. Deer in the Yakutat Bay area stem from a 1934 transplant.



Figure 19.--Brown bear are present throughout most of southeast Alaska. They often reach 9 feet or more in length and weigh as much as 1,400 pounds.



Figure 20.--Sitka black-tail deer are the most common big game animal found throughout southeast Alaska.

Moose are found mainly in the larger river drainages of the mainland (fig. 21). Distinct populations exist at Haines, Berners



Figure 21.--Moose are confined to larger river drainages of the mainland. Several cabins and airstrips have been built by the U.S. Forest Service for hunter use.

Bay (introduced), Taku River, Thomas Bay, Stikine River, and on the Yakutat forelands. A population estimate for the Yakutat area is about 4,000 to 5,000 moose. Several cabins and airstrips have been built by the Forest Service in the Yakutat area mainly for use by hunters.

Mountain goat live primarily on the mainland and on Baranof Island (where they were introduced). The mainland coast supports a large goat population, with many reaching trophy size.

Marine mammals inhabit most southeast Alaska waters (fig. 22). Sea otter are found along the outer coasts of the islands and the mainland area near Yakutat. Elephant seal, harbor seal, Steller's sea lion, and various whales ply most southeastern Alaska waters.

Other mammals present in certain locales are lynx, coyote, red fox, land otter, mink, marten, short-tailed weasel, fisher, beaver, muskrat, snowshoe hare, red squirrels, flying squirrels, mice, shrews, and porcupines.



Figure 22.--Marine mammals swim most of southeast Alaska's saltwaters.

Opportunities for wildlife viewing are good whether one is driving, boating, flying, or hiking. Although many Alaskan residents are often treated to wildlife in their own backyards, visitors and residents alike can see the wide array of species in their natural state. A brown bear observatory has been built at Pack Creek on Admiralty Island where it is possible to safely watch these huge animals in their natural, undisturbed environment.

HISTORICAL-ARCHEOLOGICAL-CULTURAL RESOURCES¹⁰

Since man first set foot on Alaska during the Ice Age,¹¹ he has left an impressive record of his many activities. Both Indian and European settlers' history and culture are preserved in many places in southeast Alaska (Dixon and Johnson 1973). Only a small part of this resource is available for public viewing in museums or onsite.

¹⁰Important sources for this section include Resource Planning Team (1975), Harris et al. (1974), and the proposed draft of the recreation section for the Alaska State Recreation Plan (on file at the State of Alaska Department of Natural Resources, Division of Parks, Juneau, Alaska).

¹¹Estimates of when this migration occurred vary from about 10,000 to 100,000 years ago.

Examples of Native art, including the famous totems (fig. 23), are found in many locations, as well as some of the Indian split cedar long houses built years ago. The Tlingit and Haida people were considered to have one of the most highly developed cultures in North America. Remnants of tools used for fishing and hunting, as well as canoes, are found in museums, especially the State museum in Juneau. Some totem poles have been moved by the U.S. Forest Service and Indian groups to protect them from vandalism and weathering (Ciesielski 1975). The Native Sealaska Corporation reports that hundreds of historical and cemetery sites have been inventoried in southeast Alaska. These sites with their many precious artifacts are a threatened resource until their preservation is assured, as required by the antiquities act (U.S. Congress 1906).

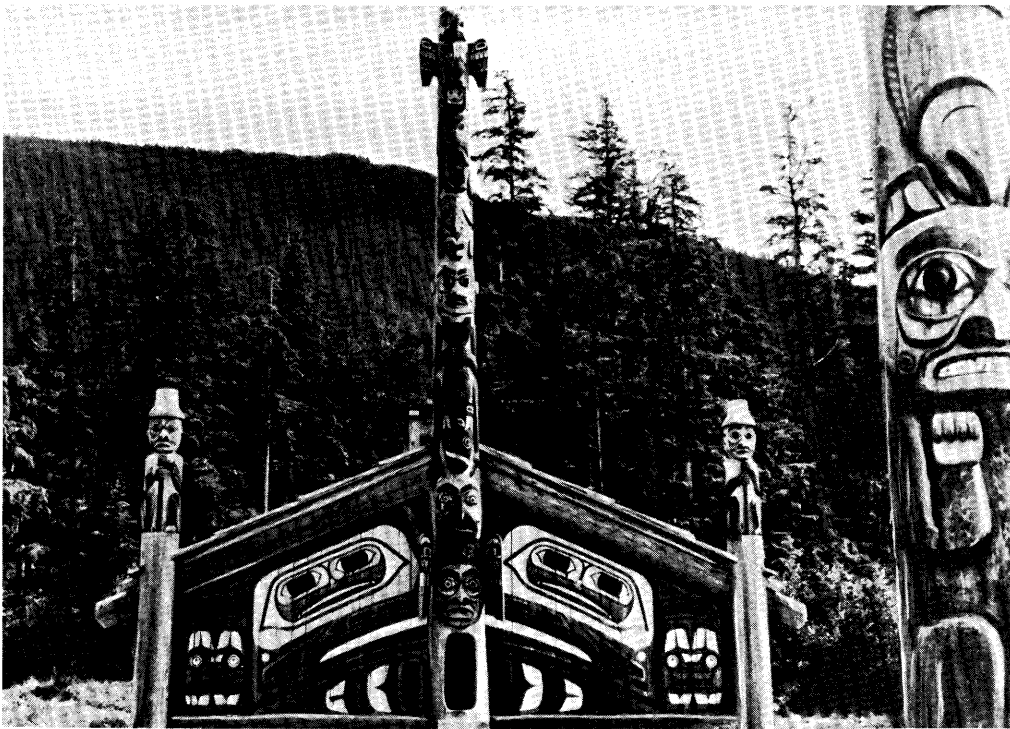


Figure 23.--Examples of Native art, including totems and split cedar long houses, are found in many places, including Totem Bight Historic Site, a State Park in Ketchikan.

European man's record in southeast Alaska began with Russian exploration in the 1700's (State of Alaska Department of Commerce and Economic Development n.d.). Following this initial contact, waves of natural resource exploitation brought Russian settlers and eventually American settlers in search of sea otter and fur seal pelts, whales, fish, gold, and timber. All these settlers have left their own identifiable mark in many forms. Potential attractions include old trails, ghost towns, mines, canneries, whaling stations, fox farms, and old logging camps. Many of these abandoned sites are complete with equipment left behind as people moved on in

search of other riches because the local supply was depleted or markets collapsed.

The cultural and historical richness of southeast Alaska is affirmed by the high concentration of sites that have received national recognition. Nearly 40 percent of all Alaskan entries on the National Register of Historic Places are found in the southeast region (fig. 24).



Figure 24.--The cultural and historical richness of southeast Alaska is affirmed by the high concentration of sites that have achieved national significance. This site, as well as many others, is a reminder of this region's dynamic past.

Representation of the Tlingit-Haida culture is found at Chief Shakes Island at Wrangell and Totem Bight at Ketchikan, as well as in the smaller Native villages. The Russian occupation is commemorated at places including the Baranov Castle Hill Site in Sitka, the New Russia Archaeological Site near Yakutat, St. Nicholas' Russian Orthodox Church at Juneau, and the Russian Mission Orphanage and St. Michael's Cathedral in Sitka. Days of the Klondike Gold Rush are relived in the original structures in the Skagway Historic District, and in the White Pass and Chilkoot Trails (all now part of the Klondike Gold Rush National Historical Park), Dalton Trail, and Pleasant Camp. Other cultural or historical sites include the Alaska Native Brotherhood Halls found in several communities, the American Flag Raising Site and Sheldon Jackson Museum--both at Sitka, Father Duncan's Cottage at Metlakatla, the old Alaska-Juneau Mine at Juneau, Fort William H. Seward at Fort Chilkoot, and the White Pass and Yukon

Railroad. In addition to these and other entries on the National Register, there are hundreds of cultural sites, historic places, and special events such as the Chilkoot Dancers and melodramas which enhance the present for residents and visitors alike by reminding them of this region's dynamic past. Efforts are currently underway to identify and preserve other heritage resources (State of Alaska Department of Natural Resources 1975).

In addition to man's past in southeast Alaska, his present lifestyles and activities offer an exciting and diverse opportunity for visitors to observe modern cultures at work and play. Many visitors have a chance to experience this local color while visiting towns or passing through the area by pleasure boat, ferry, or tour ship. Modern economic activities such as canneries (fig. 25),



Figure 25.--Canneries, fishing boats, and mills such as this one at Ketchikan are potential recreational attractions.

fishing boats, paper and lumber mills, and logging operations can be potential recreation resources for viewing by southeast Alaskan visitors, especially if well described and interpreted.

POPULATION AND TRANSPORTATION

Potential recreationists for southeast Alaska include several distinct groups, local residents composed of whites and Native Indians, other Alaskans, and visitors from "outside," mostly from the "lower 48."

The small resident population in southeast Alaska (50,000 people) is fairly widely distributed in small cities, towns, and villages, resulting in some dispersal of the use of recreation resources by residents. The location of major communities is shown in figure 2, and the population for major towns, villages, and logging camps is shown in table 2. All the settlements and almost all the outlying

Table 2--Resident population of selected southeast Alaska communities¹

Town	Native	Nonnative	Total
Angoon (74)	400	25	425
Annette Island (74)	4	396	400
Corner Bay (73)	0	57	57
Craig (74)	181	276	457
Elfin Cove (75)	0	55	55
Excursion Inlet (75)	0	300	300
Flat Creek (75)	4	57	61
Gustavus (75)	0	70	70
Haines-Port Chilkoot (74)	350	1,253	1,603
Hanus Bay	0	75	75
Hoonah (75)	720	80	800
Hydaburg (75)	370	30	400
Hyder			
Juneau (74)	2,600	14,400	17,000
Kake (75)	550	25	575
Kasaan (76)	25	8	33
Ketchikan-Saxman (74)	1,506	8,535	10,041
Klawock (76)	227	18	245
Klukwan (74)	106	4	110
LaBouchere Bay (76)	5	100	105
Metlakatla (76)	1,000	100	1,100
Meyers Chuck (76)	0	48	48
Neets Bay (76)	0	75	75
North Whale Pass (75)	10	265	275
North Shoal Cove and Coon (76)	1	100	101
Ole Creek (75)			
Pelican (75)	56	127	183
Petersburg (76)	500	1,500	2,000
Point Baker-Protection (76)	3	122	125
Port Alexander (75)	5	40	45
Port Alice (76)	0	50	50
Roosevelt Harbor (75)	0	74	74
Rowan Bay (75)	0	150	150
Sitka-Mount Edgecombe (75)	2,250	5,250	7,500
Skagway (74)	30	670	700
St. Johns Harbor (75)	0	164	164
Tenakee Springs (75)	7	94	101
Thorne Bay (76)	0	500	500
Wadleigh Bay (75)	0	40	40
Wrangell (74)	600	2,400	3,000
Yakutat (74)	325	125	450

¹Recent population estimates compiled by the Alaska Public Health Service. Numbers in parentheses indicate year for which statistics are current.

Population figures given are maximums for summer logging, canning, and fishing seasons; winter population may decline to near zero in some locations.

residences are located next to saltwater, facilitating boating and access to all the marine types of recreation. Most towns, Juneau (fig. 26) and Ketchikan in particular, are crowded between mountains



Figure 26.--Several southeast Alaska towns such as Juneau are crowded between mountains and water on narrow strips of land.

and water on narrow strips of land. A large part of the abundant shoreline is within 50 miles of the main towns.

Juneau, the State capital, is the largest city with 17,000 inhabitants in 1974. Ketchikan is next with more than 10,000, followed by Sitka with over 7,000; Wrangell has 3,000; Petersburg, about 2,000; Haines, 1,600; and Metlakatla, Hoonah, and Skagway from 700 to 1,100. Smaller settlements--often Native villages, logging camps, or cannery locations--generally have fewer than 500 people each.

The 215 million Americans who live outside Alaska are the main group of potential tourists, although foreign tourists also visit this part of Alaska. Even the closest source of tourists is a long way off, however. Seattle is about 700 miles from Ketchikan, the closest Alaskan city, and major population concentrations in California, the Midwest, and the East are much farther away.

Recreational access by Alaskans and outside tourists is difficult and is strongly influenced by the available transportation

system. Outside highway access is limited. The main direct road link is from Haines to the Alaskan Highway at Haines Junction. A new road--from Skagway to Carcross--is under construction; its opening is planned for 1978. Hyder, in the southeast corner of southeast Alaska, also has a road into British Columbia that connects to the main North American highway network. State ferries travel the Alaska Marine Highway. Cars are carried on the ferries, but capacity is limited--about 50,000 vehicles were carried in the 12 months ending June 1975.¹² A few cars also are carried on railroad cars from Skagway to Whitehorse in Yukon Territory, which is on the highway.

Southeast Alaska is not well suited for continuous road systems. Local road networks are limited, and some small towns have no roads at all (fig. 27). For example, there are about 150 miles of road

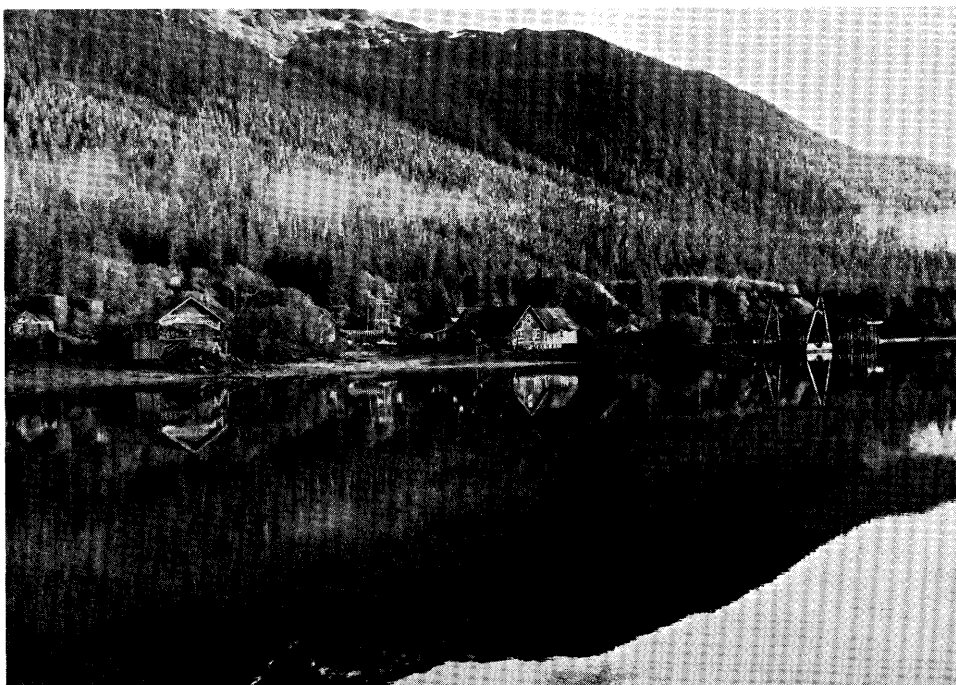


Figure 27.--Some small towns and villages in southeast Alaska have no roads to them but depend on either air or water for transportation.

outside Juneau, one of the more heavily roaded communities, but a driver can only get about 40 miles away from the city before the roads end.¹³ Many towns' road systems are even more limited. In a

¹²Source: State of Alaska Department of Public Works files.

¹³See Homan Associates. Alaska coastal community profiles. 1975. Draft report prepared for Alaska Department of Environmental Conservation, Division of Water Programs, Environmental Analysis Section, Juneau. 954 p.

number of places, however, local road systems are growing greatly, mainly as a result of logging access roads. Prince of Wales Island, the largest of the islands, has an extensive road network--about 800 miles--which opened to the public in 1974.¹⁴ The State ferry system connects with these roads at Hollis, but the service is limited to only a few cars per trip and a reservation is usually required. As of 1975, about 1,000 miles of roads had been constructed on the Tongass National Forest primarily for timber harvest, and about 350 miles of new construction per year are anticipated. Some of this road mileage offers potential access to recreation opportunities of a type commonly found in the lower 48 States--such as berry-picking, fishing, hunting, and camping.

Local motor vehicle ownership does not appear to have suffered in most places, even if roads are scarce (table 3). For example,

Table 3--Number of motor vehicle registrations by community in southeast Alaska, 1975¹

Community	Cars	Pickups	Motorcycles	Snowmobiles ²	Total
Juneau	4,912	1,693	348	76	7,029
Ketchikan	3,590	1,429	374	2	5,395
Sitka	1,491	682	126	30	2,329
Petersburg	580	431	76	45	1,132
Haines	496	422	80	56	1,054
Skagway	225	221	63	8	517
Wrangell	320	210	24	0	554
Total	11,614	5,088	1,091	217	18,010

¹Alaska Department of Motor Vehicles.

²Many snowmobiles are not registered. The Juneau Trail Plan estimated 450 snowmobiles in Juneau, over 80 percent unregistered.

Juneau had over 7,000 registered vehicles in 1975; Ketchikan, nearly 5,400; Sitka, more than 2,300; and so on. As one result, traffic congestion occurs at rush hours in some towns. As road systems grow, local residents are in a position to make use of them.

With the extensive natural waterways in southeast Alaska, boats and ships play a major transportation role in a way that is unmatched elsewhere in the United States. Six State-owned ferries serve 12 southeast Alaska ports as part of the Alaska Marine Highway (fig. 28).

¹⁴See the U.S. Forest Service brochure, "Touring in the Prince of Wales Island Road System." Available from the U.S. Forest Service, Alaska Region, Juneau.

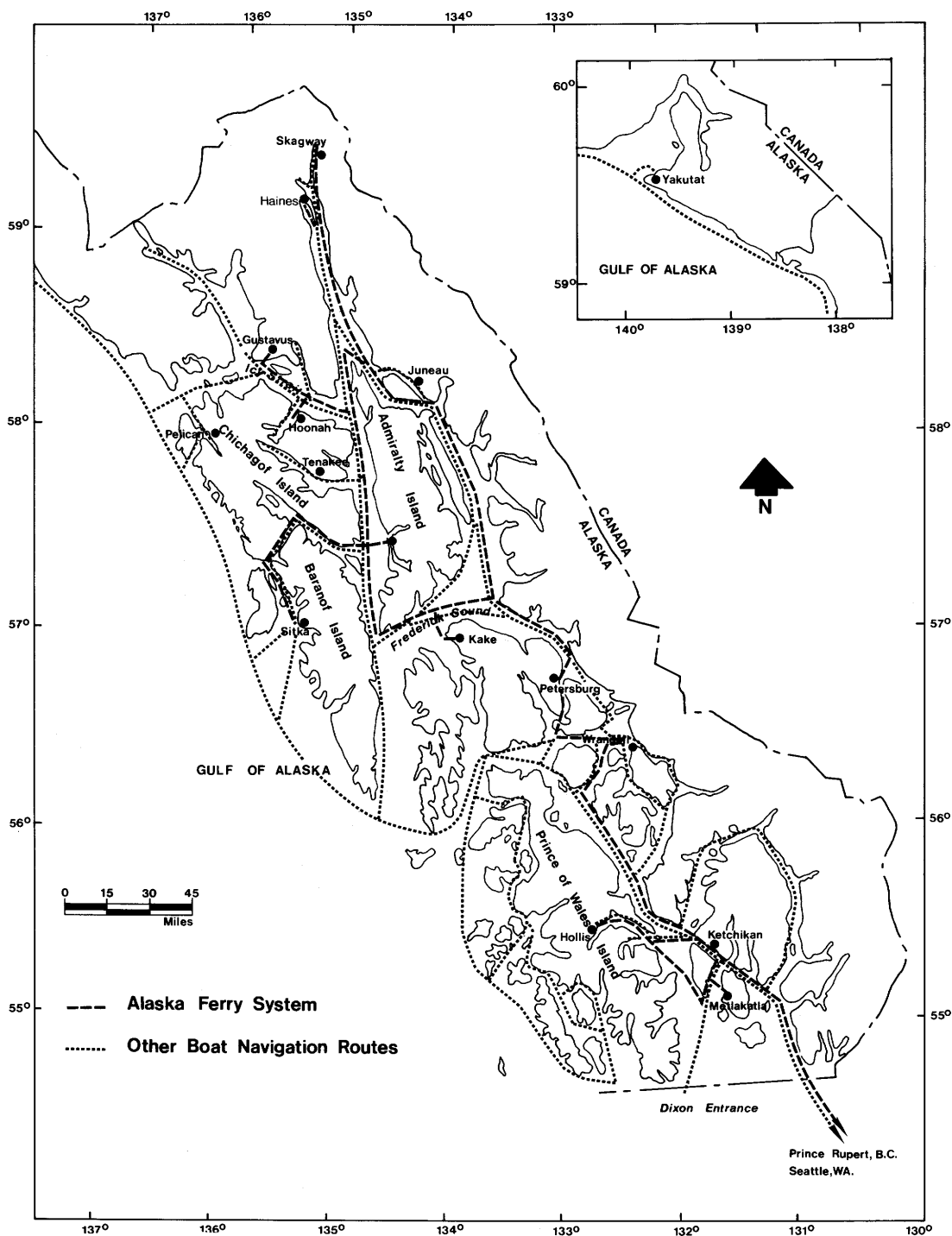


Figure 28.--Location of ferry and cruise ship routes.

Their combined capacity is over 3,000 passengers and 600 vehicles. Running time from Seattle to Skagway, about 1,000 miles, is about 60 hours with short stops in Ketchikan, Wrangell, Petersburg, Juneau, and Haines. One-way fares (1977) between Seattle and Skagway are \$93 per passenger and \$319 per vehicle (under 19 feet). A two-berth stateroom costs \$64. Future plans call for a new stop at Angoon, and requests for service have come from other communities. One ship has been lengthened to accommodate more passengers and vehicles. With the increasing number of stops, opportunities for canoe, hiking, and possibly even driving trips between ports are increased.

Many tour ships sail to southeast Alaska from the lower 48 States and Canada during the summer (fig. 29). Nine companies operate in the area and over 100 tour voyages with more than 400 calls to six ports were made in 1975. Of these, 57 cruised spectacular Tracy Arm and 88 went to Glacier Bay. In 1976, 140 cruises were scheduled, up

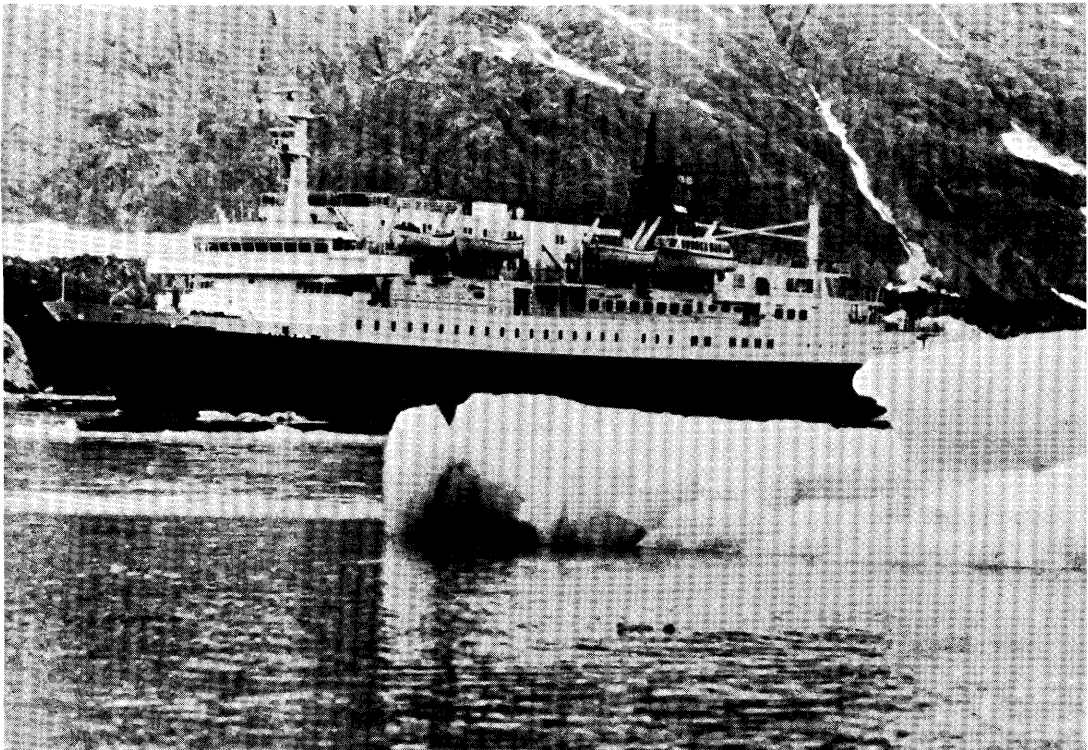


Figure 29.--In addition to the State ferries, many tour ships sail to southeast Alaska.

from only 43 in 1973. These ships stop at major ports of call which allows passengers time for sightseeing and souvenir hunting. Most trips take about 8 days with 5 in southeast Alaskan waters.

In 1975, on-board trip costs averaged from \$90 to \$137 per day, excluding any land-based sightseeing trips or purchase of souvenirs.¹⁵

The ferry system and tour ships offer passengers a unique opportunity for viewing superlative scenery--including 21-mile-long Wrangell Narrows where the watercourse changes 46 times in a riverlike channel that narrows to a bare 100 yards wide--abundant wildlife in the water, on land, and in the air, and lush vegetation (Hakala n.d.).

Private, smaller boats are common in southeast Alaska; they fill much of the transportation gap left by the scarcity of roads (fig. 30).



Figure 30.--Private boats are common in southeast Alaska and fill much of the transportation gap left by the scarcity of roads.

The Coast Guard estimates that there are more than 14,000 registered boats in southeast Alaska--almost as many boats as cars. This number does not include the numerous canoes, skiffs, kayaks, and other smaller

¹⁵See Eric McDowell. Tourism in Alaska's coastal zone: an economic study. 1975. Draft report prepared by Homan-McDowell Associates for Alaska Department of Environmental Conservation, Division of Water Programs, Environmental Analysis Section. 1975 p.

boats. Over two-thirds of these registered boats are private pleasure boats (not commercial fishing or charter boats). These boats play much the same role in recreational travel as cars do elsewhere, and many of the larger boats are also used for on-board living accommodations in place of the campers or trailers used in roaded recreation areas elsewhere. Some larger private motor and sailboats from the lower 48 States cruise to Alaska, mostly through the inside passage. Distance and dangerous navigational conditions have held this number down, but private cruising is thought to be growing.

Charter boats complete the water transportation picture, both fishing boats (the Alaska Division of Tourism lists 17 companies in southeast Alaska offering charter fishing), and "water taxis" providing only transportation (State of Alaska Department of Commerce and Economic Development 1976).

Air travel is the other major means of transportation in southeast Alaska. Figure 31 identifies scheduled airline routes.¹⁶ There are five levels or types of air transportation. Scheduled major airlines connect the main towns with the lower 48 States and the rest of Alaska. Local scheduled airlines connect the larger and smaller towns within southeast Alaska. Next come charter flights (16 charter flight firms are listed for southeast Alaska) which go when and where passengers want to go (within reason!). Floatplanes are popular. They play an important role in southeast Alaska air travel (fig. 32). Most bays and lakes offer potential landing sites, which makes most of the area accessible by floatplane. Finally, many Alaskans are licensed pilots and a number own their own planes. Although figures are not available for southeast Alaska specifically, Federal Aviation Administration records indicate that nearly 10 times as many Alaskans as other U.S. citizens are licensed pilots (on a per capita basis).

RECREATION PROGRAMS, AREAS, AND DEVELOPMENTS

Several Federal and State agencies have programs related to recreation in southeast Alaska. But recreation developments, facilities, and special areas are not common--in fact, part of the appeal of southeast Alaska to many people is the sparse development. Some developments, however, play a key role in providing a range of opportunities for recreation and a basis for recreational use of much of the undeveloped, wild country. Table 4 shows the jurisdiction of lands with recreational objectives in southeast Alaska and the classification of these areas. Recreation developments described below are listed in table 5. The location of major developments is shown in figure 33.

¹⁶Resource Planning Team (1975) identifies the location of all airports and floatplane bases in southeast Alaska.

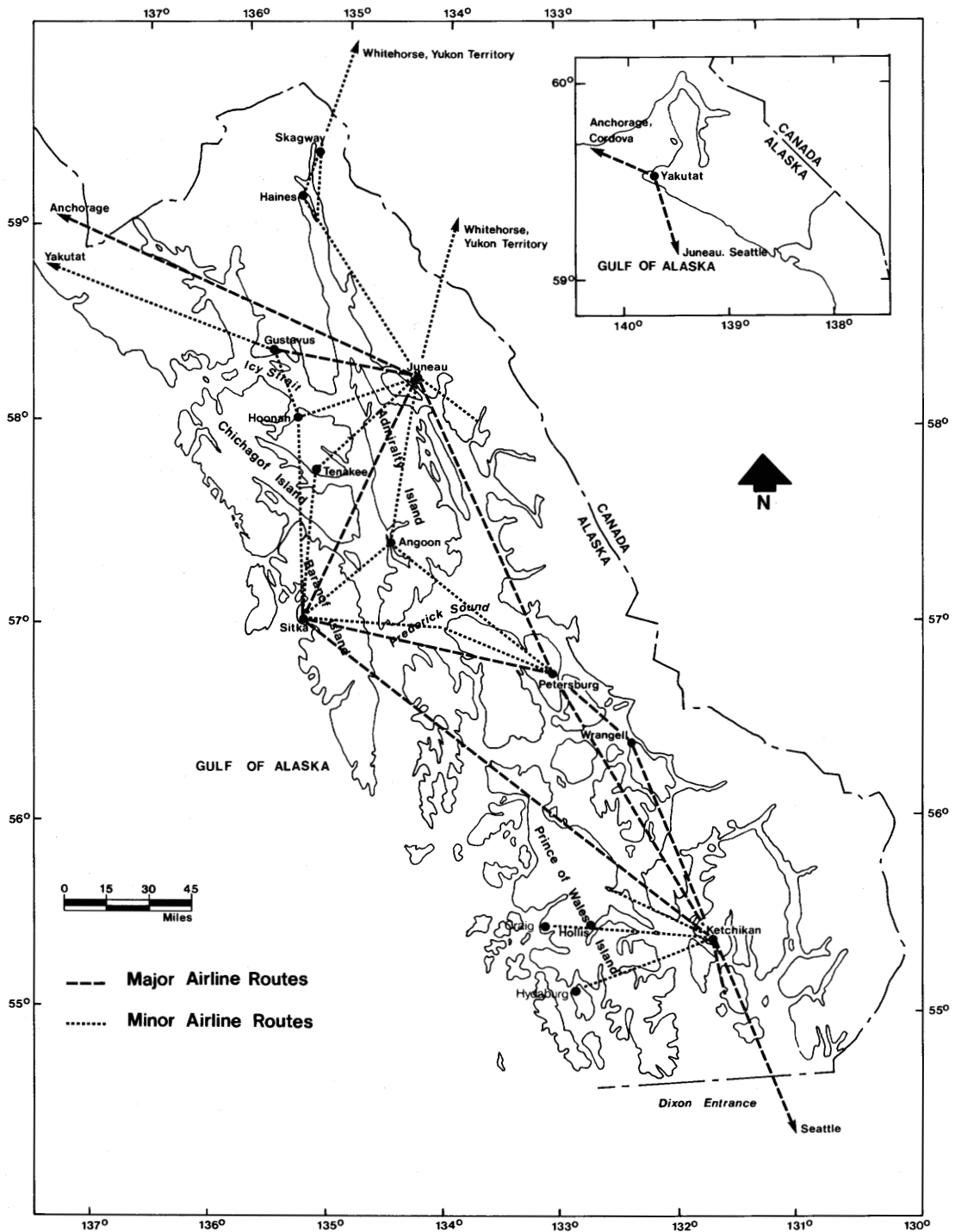


Figure 31.--Location of landing facilities and scheduled airline routes in southeast Alaska.



Figure 32.--Floatplanes are popular. They play an important role in southeast Alaska air travel.

Table 4--Southeast Alaska areas with management objectives that include recreation

Type of classification	Administration					
	Federal ¹	State ²	Local	Quasi-public	Private	Total ³
Basic classification:						
	<u>Acres</u>					
Land	16,678,814	406	506	21	264	16,680,011
Wetland	1,554,672	--	2	--	--	1,554,674
Freshwater	787,564	6	114	1	--	787,685
Total ³	19,021,050	412	622	22	264	19,022,370
Bureau of Outdoor Recreation classification:³						
Class I (high density recreation areas)	23	16	141	7	--	187
Class II (general outdoor recreation areas)	5,701	334	48	10	250	6,343
Class III (natural environment areas)	16,305,389	--	395	1	12	16,305,797
Class IV (unique natural areas)	2,542,990	--	--	--	--	2,542,990
Class V (primitive areas)	166,600	--	4	2	--	166,606
Class VI (historic and cultural sites)	193	62	--	--	--	255

Source: State of Alaska Department of Natural Resources (1970b).

¹Bureau of Land Management areas are not included.

²The 6,045-acre Chilkat State Park, established after this compilation, is not included.

³Because inventory forms were not always filled out in detail, totals for the two sets of classifications do not always agree.

Table 5--Inventory of recreation areas and facilities, southeast Alaska, June 1973¹

Facility	Private		Local		State		Federal		Total	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity
Play, sport areas	0	0	39	3,095	2	40	1	15	42	3,150
Ice skating areas	0	0	3	175	0	0	0	0	3	175
Picnic units	12	48	71	400	47	188	163	821	293	1,457
Camp units	30	120	40	180	73	304	321	1,592	464	2,196
Trails (miles)	2	37	4	150	42	800	² 14	144	⁴ 62	1,131
Downhill ski areas	1	25	0	0	0	0	³ 3	450	4	475
Sledding areas and ski jumps	0	0	1	25	0	0	0	0	1	25
Swimming beaches and pools	1	50	3	390	3	250	3	150	10	840
Boat launching and mooring spaces	20	80	4	1,600	3	236	5	50	32	1,966
Nature centers	0	0	1	20	0	0	0	0	1	20
Other	0	0	5	268	6	228	61	1,519	72	2,015
Total capacity		360		6,303		2,046		4,741		13,450

¹From preliminary draft of Alaska Outdoor Recreation Plan Summary.

²Other sources list 377 miles of National Forest trail (U.S. Forest Service files).

³The ski areas are locally operated or privately operated facilities on Federal land under special use permits. Eaglecrest at Juneau has opened since this tabulation and the Douglas Snow Bowl has closed.

⁴Other sources list 370 (State plan revision) to 430 miles (State trail plan) of trail.

Private and Commercial Developments

There are 13 lodges scattered across the Alaskan Panhandle (State of Alaska Department of Commerce and Economic Development 1976). They vary from highly developed resorts, and lodges, some with swimming pools, to rustic cabins. Almost all the lodges feature fishing and sightseeing, and many also provide hunting. Some lodges are located on public land, under special use permits.

Small, downhill ski areas serve local residents in Ketchikan and Petersburg. Eaglecrest, a larger area with chairlifts, has just opened in Juneau.

Charter boat and air services were discussed in the section on the "Setting" under "Population and Transportation."

Local Government Areas

Local government recreation programs have emphasized day use activities, traditional city parks, ballfields, and indoor facilities.¹⁷ A moderate number of local outdoor recreation areas are

¹⁷"Recreation on National Forest Lands in Alaska." Preliminary report submitted to the Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Portland, Oregon, by the Agricultural Experiment Station, University of Alaska, Fairbanks. Available from Recreation Research, 4507 University Way N.E., Seattle, Washington 98105.

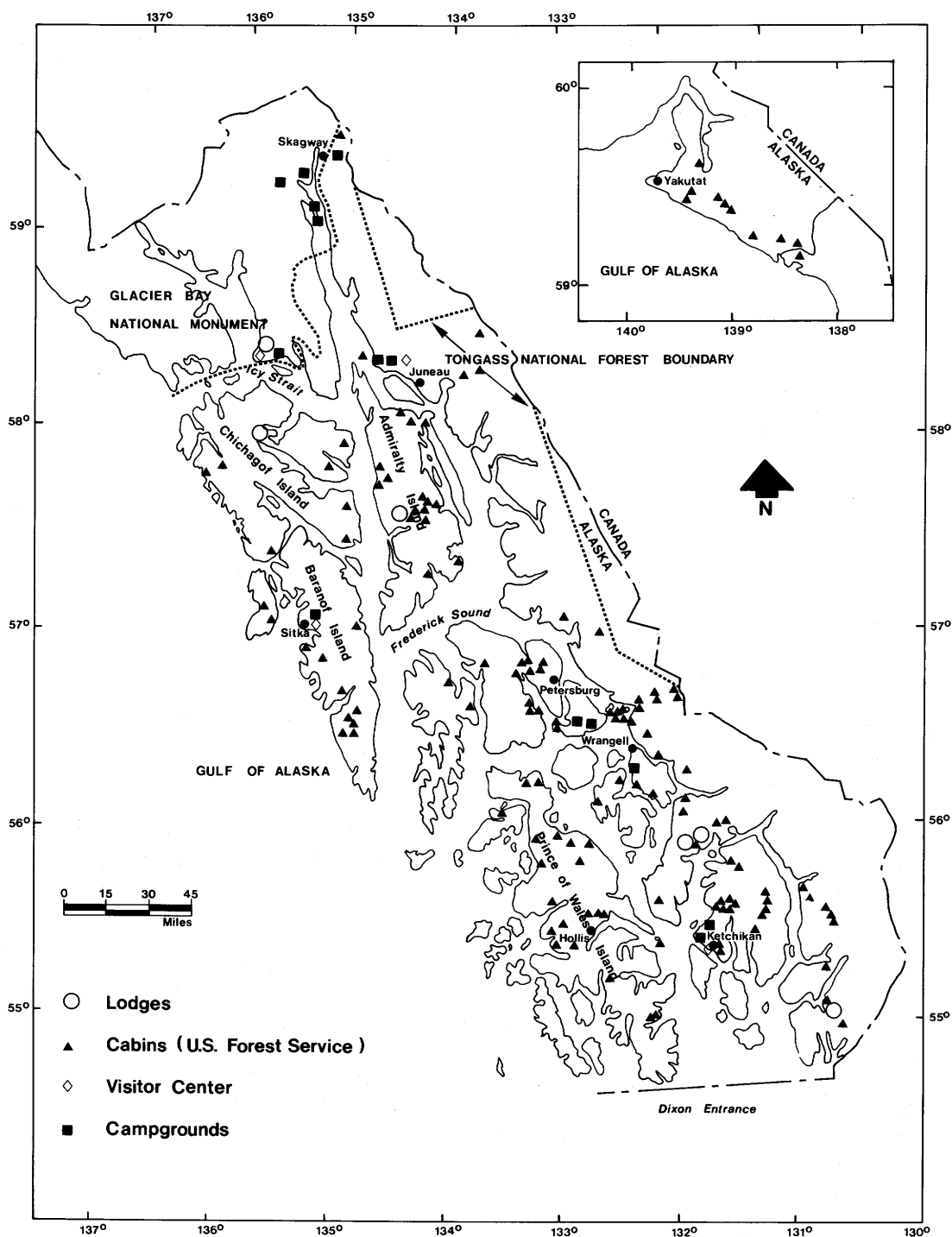


Figure 33.--Location of major recreation developments in southeast Alaska.

developed, particularly play areas, picnic areas, swimming areas, and most of the boat mooring and launching areas. Several areas, including Juneau, have local trail systems. The developments tend to be concentrated in and around the larger communities. Most of the smaller villages have little recreational development.

State Areas

The State Park system's objectives include providing parks and recreation areas of regional and statewide significance and promoting preservation of historical areas and objects of significance to Alaskan citizens. State development is rather limited in southeast Alaska because most of the land is under Federal ownership. Ownership could shift as the State selects land for community expansion and recreation. There are over 40 miles of State trail, most in the Skagway-Chilkoot Pass and Juneau areas (State of Alaska Department of Natural Resources n.d.). Historic sites are located at Old Sitka and Baranov Castle Hill at Sitka, and Totem Bight at Ketchikan. Fort William H. Seward, at Haines, is on the National Register of Historic Sites but is privately owned. Seven road waysides, generally developed for camping and picnicking are located near Haines, Sitka, Wrangell, and Ketchikan. Several cabins used at times by the Department of Fish and Game for research in the Stikine area are used by the public at other times.

Federal Areas

National Park Service

The National Park Service is charged with providing recreation of national significance and, at the same time, preserving significant natural and historical areas in their natural condition. National Park units in southeast Alaska include huge, spectacular Glacier Bay National Monument--almost 3 million acres of fiords, glaciers, and fascinating areas only recently emerged from under glaciers--57-acre Sitka National Historical Park, featuring earlier Russian and Tlingit Indian settlements, and the Klondike Gold Rush National Historic Park in the Skagway area. Facilities at Glacier Bay include interpretive facilities (U.S. Department of the Interior, National Park Service 1976), a concessionaire-operated lodge, a campground, a marine gas and oil dock, about 11 miles of trail, and charter boat and flight service. Park Service naturalists go aboard all cruise ships at Glacier Bay and explain the natural features of the area to visitors while the ships are in Glacier Bay. No roads connect Glacier Bay to outside points, except to nearby Gustavus. Much of the monument (2.2 million acres) has been proposed as a wilderness. The Klondike Gold Rush National Historical Park, established in 1976 by P.L. 94-323, consists of units in Skagway, the White Pass Trail, the Chilkoot Trail, and in Seattle, Washington.

An interpretive center in Skagway is planned. Several historic buildings are also being restored for display. The combined size for all the units of the new Klondike Gold Rush Park is about 14,000 acres. At Sitka National Historical Monument, an interpretive center and 5 miles of trail enable visitors to see 14 Tlingit totems, four house posts, and the Sitka battleground, including the site of the Tlingit fort.

Fish and Wildlife Service

The U.S. Fish and Wildlife Service has three relatively small National Wildlife Refuges (total area less than 3,000 acres), all on islands in the Pacific west of the main, large islands of the Alexander Archipelago: Forrester Island, Hazy Islands, and St. Lazaria. These refuges are closed to hunting and fishing. All three refuges are also units of the National Wilderness Preservation System.

Forest Service

The U.S. Forest Service manages the largest number of acres in southeast Alaska. Most of the capacity in campgrounds and picnic areas of southeast Alaska is on the Tongass National Forest. Thus far most of the emphasis in recreation developments has been to retain the natural quality of the areas involved. This is reflected in the primitive level of development of facilities provided; of the 230 sites listed in the Forest Service Recreation Information Management (RIM) System data, 82 percent (188) are level 2 developments,¹⁸ and most of the remainder are level 3 (table 6). Ten campgrounds and 26 picnic grounds are shown on the Tongass National Forest map (available for \$0.50 from local Forest Service offices in Alaska). These facilities are all located in road-accessible areas near the major communities.

In direct contrast, Forest Service public recreation cabins--unique to the National Forest System--are away from roads. There are 151 of these cabins. As many as 40 cabins are within 20 minutes flying time of some towns. Many were built and are maintained by the Alaska Territorial Sportsmen or local groups with Forest Service guidance. The cabins, available by reservation for general public use for a small overnight fee, are located on lakes, rivers, and ocean shore and near hot springs. They are almost always isolated from other cabins. A few are double cabins designed for two parties. They have bunks, a stove, and usually a boat. Access is usually by floatplane, boat, or both; some cabins in the Yakutat are reached

¹⁸ Definitions of campground development levels are given in table 6.

Table 6--*Development levels of Forest Service facilities in southeast Alaska*

Development level	Number of sites	Percent
1. Primitive, minimum site modification. No motorized access provided or permitted. Spacing informal and extended (wide spacing) to minimize contacts with others.	1	0
2. Secondary primitive, little site modification. Motorized access provided or permitted. Spacing informal and extended to minimize contacts with others.	188	82
3. Intermediate, site modification moderate. Primary access may be over high standard, well-traveled roads. About 3 family units per acre.	39	17
4. Secondary modern, site heavily modified. Primary access over paved road. About 3 to 5 family units per acre.	2	1
5. Modern, high degree of site modification. Access usually by high-speed highways. 5 or more family units per acre.	0	0
Total	230	100

Source: Recreation Information Management (RIM) System. USDA Forest Service, Alaska Region, Juneau, Alaska. More complete definitions are given in the RIM handbook.

by wheeled aircraft. There are an additional 76 private recreation cabins on sites leased from the Forest Service and 30 hunter cabins available to the public.

Trails on the National Forest are fairly limited and are located mainly around communities (fig. 34). Figures reported for trail mileage vary greatly, probably because of different definitions related to condition, whether or not the trail is maintained, etc.; but the Forest Service reports 377 miles of trails. Few trails have been built for a number of years; but in 1976, Youth Conservation Corps members constructed three new trails in the Three Lakes area near Petersburg.

There are three ski areas on special use permits located on National Forest lands. Uncertain snow conditions and limited demand by small resident populations limit development in most other locations.

There is a portable visitor center at Ward Lake near Ketchikan and a permanent center at the Mendenhall Glacier near Juneau. Forest Service naturalists ride the State ferries in the summer (fig. 35) and help passengers understand and enjoy the panhandle environment



Figure 34.--Trails on the National Forest are limited.
Few trails have been built in recent years.

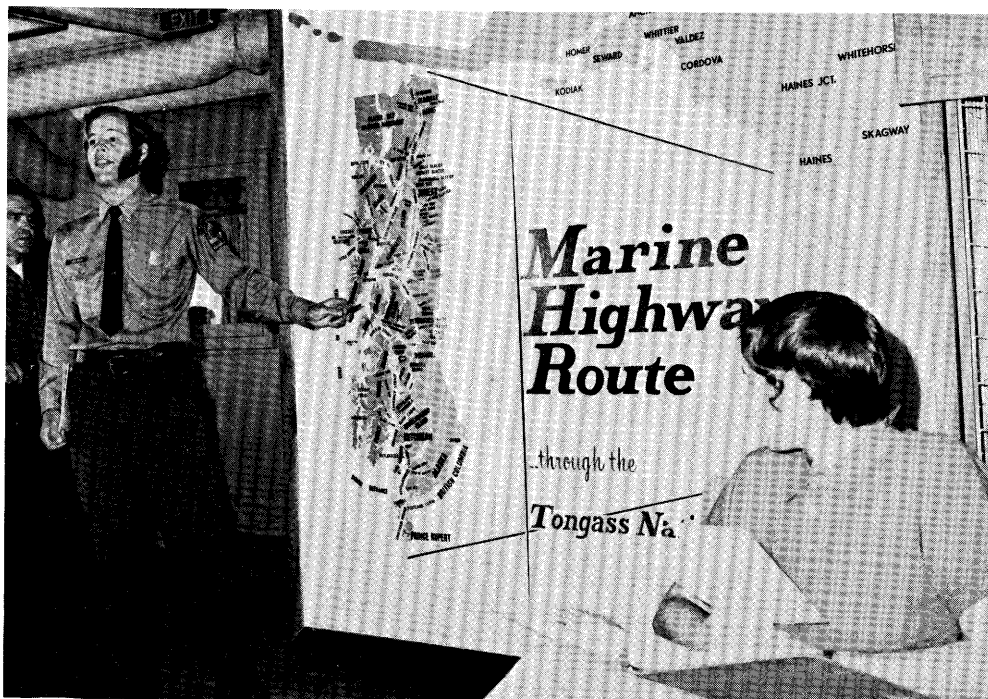


Figure 35.--U.S. Forest Service naturalists ride the State ferries during the summer and help passengers understand the panhandle environment.

(Hakala (n.d.)). This program operates under a cooperative agreement between the Forest Service and the Alaska Division of Marine Transportation. There are also 13 minor interpretive sites. Three trails are set up for self-guided tours.

The National Forest has several types of special areas of esthetic and recreational significance (USDA Forest Service 1977a). There are two large, superb scenic areas--Tracy Arm-Ford's Terror (283,000 acres) and Walker Cove-Rudyard Bay (94,000 acres). Both are located on the mainland, Tracy Arm south of Juneau and Walker Cove northeast of Ketchikan. Both areas are also within Wilderness Study Areas.

Geological attractions are found at the new Eddystone Rock Area (1 acre) near Ketchikan; archeological and cultural features at New Kasaan Totem Park (11 acres) near Ketchikan; the Fish Creek Recreation Area (8,710 acres) near Juneau; the Seymour Eagle Management Area (fig. 17), with a high concentration of eagle nests and typical range of eagle food sources, adjacent to Admiralty Island (10,778 acres) (Robards and Taylor n.d.); the Mendenhall Glacier Recreation Area at Juneau (5,900 acres); Admiralty Lakes Recreation Area on Admiralty Island (110,000 acres); and Ward Lake Recreation Area (4,800 acres) on Revillagigedo Island near Ketchikan.

Research Natural Areas include Limestone Inlet and Cape Fanshaw (9,102 and 600 acres) on the mainland, Old Tom Creek (4,234 acres) on Prince of Wales, Pack Creek (5,779 acres) on Admiralty Island (it features a bear observatory), and Dog Island (802 acres) south of Ketchikan. Additional Research Natural Areas are planned. They are established primarily for scientific purposes and have only limited recreation potential.

Six Wilderness Study Areas covering 1.9 million acres and representing about 13 percent of the nearly 15 million acres of roadless and undeveloped lands (fig. 36) are under study on the Tongass National Forest--Tracy Arm, Granite Fiords, King Salmon Capes, Petersburg Creek, Russell Fiord, and Khaz Bay. Tracy Arm includes the Tracy Arm-Ford's Terror Scenic Area but also much more; it covers over 780,000 awe-inspiring acres on the mainland south of Juneau (fig. 37). Granite Fiords also includes a scenic area--Walker Cove-Rudyard Bay--and a large surrounding area, totaling 590,000 acres, extending from saltwater to icefields on the Canadian border northeast of Ketchikan. Russell Fiord near Yakutat includes 227,000 acres of magnificent deep water fiords. King Salmon Capes, 119,000 acres on a group of islands west of Prince of Wales Island, represents the Pacific coast islands. Petersburg Creek (24,000 acres) is an outstanding example of typical timber and muskeg and high country in combination with the estuarine-stream-lake complex of spawning and rearing habitat for salmon, steelhead, cutthroat trout, and Dolly Varden. Khaz Bay (40,000 acres) on Chichagof Island includes scenic mountains and islands along open coast and protected waters.



Figure 37.--Tracy Arm Wilderness Study Area covers over 780,000 awe-inspiring acres south of Juneau.

SUMMARY OF SCENIC AND RECREATION RESOURCES IN SOUTHEAST ALASKA

What southeast Alaska has to offer in the way of scenic and recreational attractions is summed up in the advertising literature. McDowell (see footnote 15) estimates nearly 75 percent of advertising space is spent on promoting natural features; most of the remainder is spent on historical and cultural attractions. The primitive and rugged quality of southeast Alaska contrasts sharply with other vacation spots.

Summarizing this richness is difficult because of the immensity of the area, unavailability of information, and the scattered and variable nature of existing recreation developments. The Joint Federal State Land Use Planning Commission recently attempted this task (Stenmark and Schoder 1974). Although the Commission recognized the inadequacy of much of the data they compiled, and cautioned users about it, it does represent one of the few efforts to assess recreation potential in this area. Interested readers will find details on the procedures used and the results of the survey in the Stenmark and Shoder's publication.

RECREATIONAL USE

There is tremendous potential for diverse forms of recreation in southeast Alaska, but the remote location and small resident population makes it difficult to tell how much use actually takes place. The limited data existing are generally poor, are often outdated, or are based on questionable sources; indeed, limited data on recreational use was cited as a major problem in the 1962 Outdoor Recreation Resources Review Commission (ORRRC) report. Little progress has been made since. Few formal studies have been conducted; data-gathering for administrative purposes has been minimal and unreliable; and the methods used have varied among agencies. The data base from which projected use figures are derived is outdated, and no reliable data are available from which to build a new data base (State of Alaska Office of the Governor 1975). The Governor's office also stressed that "the lack of accurate information on tourism impact and characteristics within the State is a concern. . . although some Division of Tourism information is built on actual field work. . . much more is estimated." Definitional problems regarding tourism (see footnote 15) and different reporting periods (fiscal vs. calendar years) further confuse the issue. U.S. Forest Service estimates of visitor use of dispersed and developed areas are obtained through their RIM System; but because of the diverse and often unobservable use over such large areas, most of these figures are only rough, often unreliable, estimates at best. And, although relatively good information is available about some uses (Forest Service cabins, for example), literally nothing exists about others. Use data for the National Park Service areas, especially Glacier Bay, are among the better recreation use figures.

Two additional major difficulties in using the available data on recreation use and users confront persons interested in understanding use patterns: (1) in many cases, data on southeast Alaska are difficult to separate from the rest of Alaska; (2) resident use and tourist recreation use are quite often reported together, making it difficult therefore to ascertain the relative impacts of these two distinct user groups.

Despite all these difficulties, some broad, general outlines of the nature and extent of recreation use in southeast Alaska can be drawn in this section, although the results must be used with caution.

TOURIST INFLOWS¹⁹

Data showing the number of visitors entering all of Alaska by

¹⁹ McDowell's "Tourism in Alaska's Coastal Zone: An Economic Study" (see footnote 15) is the most recent reference on this topic.

various modes of transportation for several years since 1964 are shown in table 7. With the exception of marine travel (ferries and

Table 7--Estimated number of tourists entering Alaska, by mode of transportation¹

Year	Travel mode				Total
	Cruise ship ²	Ferry	Airline	Highway	
1964	11,000	11,650	13,250	23,300	59,200
1967	13,200	18,950	20,600	33,950	86,700
1970	27,000	20,000	38,000	44,000	129,000
1973	36,400	28,800	84,100	66,000	215,300
1974	46,200 (38,856)	30,200 (46,076)	94,200	66,000	236,600
----- Percent -----					
Average annual increase, 1964-73	13	11	22	15	15
Increase from 1973 to 1974	27	5	10	0	10

¹Figures before 1968 are from Cresap et al. (1968). The 1973-74 figures are estimates by the Alaska Division of Tourism. Numbers in parentheses are estimates quoted in Eric McDowell, Tourism in Alaska's Coastal Zone: An Economic Study (1975). Draft report prepared by Homan-McDowell Associates for Alaska Department of Environmental Conservation, Division of Water Programs, Environmental Analysis Section. 175 p.

²Figures for cruise ships visiting Glacier Bay National Monument as reported by the National Park Service are 18,481 people in 1973; 41,531 in 1974; 42,479 in 1975; and an estimated 54,000 for 1976.

cruise ships), almost all of which is in the southeast, it is difficult to ascertain the proportion of visitors to southeast Alaska. More than 40-55 percent of all visitors to Alaska are estimated to spend at least part of their time in the southeast portion of the State (Hinkson 1964, State of Alaska Department of Natural Resources 1971). Other statistics indicate that about 90 percent of these visitors are from the continental United States and almost all the remainder from Canada, Japan, and Europe.

At present, it is impossible to determine the number of people entering southeast Alaska from the lower 48 States or Canada by private plane or boat. But observers feel that, although the numbers are small compared with total visitors, they are increasing.

Of interest to public recreation area managers and private recreation facility operators is the high degree of seasonality in

tourist inflows (table 8). This is a common phenomenon in other areas of the country but seems particularly pronounced in Alaska. Summers are short; and winter sports are largely undeveloped, although they are growing.

Table 8--*Travel to Alaska (entire State), by month, 1973*

Month	Number of passengers (including tourists)				Total	Percent of total ¹
	Cruise ship	Ferry	Airline	Highway		
January	--	6,731	24,074	2,280	33,085	5
February	--	6,640	16,640	2,273	25,553	4
March	--	8,441	20,886	2,800	32,127	5
April	195	9,192	21,870	4,956	36,213	6
May	1,930	14,239	26,772	6,542	49,483	8
June	7,114	26,953	42,012	13,657	89,736	14
July	11,160	40,247	44,842	24,105	120,354	18
August	9,924	38,281	43,974	21,237	113,416	17
September	5,779	18,615	26,360	11,287	62,041	9
October	454	9,209	21,886	3,700	35,249	5
November	--	5,803	18,952	2,663	27,418	4
December	--	7,250	22,850	2,132	32,232	5
Total	36,556	191,601	331,118	97,632	656,917	100

¹ 66 percent of visitors arrived during the summer season, May through September.

In 1973, an attempt was made by individual passenger carriers and the Alaska Division of Tourism to determine the purpose for visiting Alaska (Dindinger 1973). The findings are shown in table 9. These data illustrate the tremendous importance of recreation and scenic resources for visitors to Alaska--75 percent of all travelers indicated the purpose of their trip included pleasure. Of these, 67 percent traveled solely for pleasure. An even higher proportion (90 percent) of southeast Alaska visitors traveling by either ferry or cruise ship gave this reason.

Travelers to southeast Alaska by ferries and cruise ships have opportunities to leave their ships in most ports of call, which allows them to visit local attractions. These stops are also important to local economies. Cruise ship passengers typically spend only a few hours ashore and often tour the area as part of organized groups. The number of people spending time ashore from these ships is not available. Ferry passengers on the other hand

Table 9--Reasons given by travelers for visiting Alaska,
by mode of entry in 1972¹

Mode and reason	Number	Percent
Airline:		
Tourist and pleasure	24,684	29
Visit friends and relatives	45,230	54
Business and pleasure	14,217	17
Total	84,131	100
Highway:		
Tourist and pleasure	60,523	92
Visit friends and relatives	4,128	6
Business and pleasure	1,397	2
Total	66,048	100
Marine highway:		
Tourist and pleasure	22,827	79
Visit friends and relatives	4,570	16
Business and pleasure	1,350	5
Total	28,747	100
Cruise ship:		
Tourist and pleasure	35,609	98
Visit friends and relatives	563	1.5
Business and pleasure	201	.5
Total	36,373	100
Tourists--all modes of transportation		215,299

Source: Dindinger (1973).

¹About 55 percent of all travelers were included in the survey.

are left on their own and many leave the ships--most for a few hours, but some until the next ship going their way arrives. Table 10 shows the number of passengers and vehicles landing in several south-east Alaska ports. The proportion of total passengers (and vehicles) accounted for by residents and tourists is impossible to calculate. But the high proportion of offloadings during the summer season indicates tourist impacts and use of nearby recreation areas and facilities may be considerable. One source indicated that a high proportion (55-60 percent) of summer ferry users during 1974 were nonresidents (see footnote 15); other data from the same report indicate that for June of 1975, 57 percent of Seattle boarders and 44 percent of Prince Rupert boarders sailed straight to Haines and Skagway, and 54 percent of Haines boarders and 37 percent of Skagway boarders sailed straight to Prince Rupert or Seattle. The conclusion is that, with the exception of Juneau and Ketchikan, the other ports

Table 10--*Number of vehicles and passengers arriving in southeast Alaska ports on the Marine Highway system, 1974*

Port	Number of vehicles ¹	Number of passengers ¹
Ketchikan	5,566 (58)	24,739 (62)
Wrangell	1,911 (59)	9,190 (55)
Petersburg	2,116 (56)	11,360 (88)
Sitka	1,766 (51)	6,574 (56)
Juneau	7,328 (59)	33,371 (66)
Haines	9,381 (65)	28,079 (70)
Skagway	2,322 (61)	18,795 (77)

Source: State of Alaska, Department of Public Works, Division of Marine Transportation.

¹Numbers in parentheses indicate the percentage of vehicles and passengers disembarking during the summer season, May through September.

of call receive few visitors coming ashore from the ferries.

Just who the southeast Alaska visitor is has not been well documented. Several earlier studies describe visitors to all of Alaska, but specific figures for the southeast region were not developed (Hinkson 1964; State of Alaska Department of Natural Resources 1964 (fig. 38).

The economic importance of this tourist inflow to southeast Alaska is not well understood. The 1975 study by McDowell (see footnote 15) indicates that economic impact ranges from slight to heavy with larger communities receiving the most impact and the majority of communities receiving little or no impact. But the data base is questionable. McDowell sums up the problem in stating, "The message here is that no data exist which are suitable for measuring the economic importance of tourism as an economic force." To be sure, tourism represents big investments on the part of vacationers, but the proportion ending up in southeast Alaska rather than elsewhere in Alaska or the United States is unknown.

McDowell also indicates that for an important tourist industry to develop requires three conditions--attractions, transportation, and accommodations. There is no question the region has the attractions. But the nature of the transportation system and accommodations available have important implications for tourism. Larger communities such as Juneau, Ketchikan, Skagway, and Haines have the ability to deal with tourists, but most others do not. And with most visitors traveling and living on cruise ships and ferries, the potential for economic benefits and associated impacts on local facilities in southeast Alaskan communities may be limited.

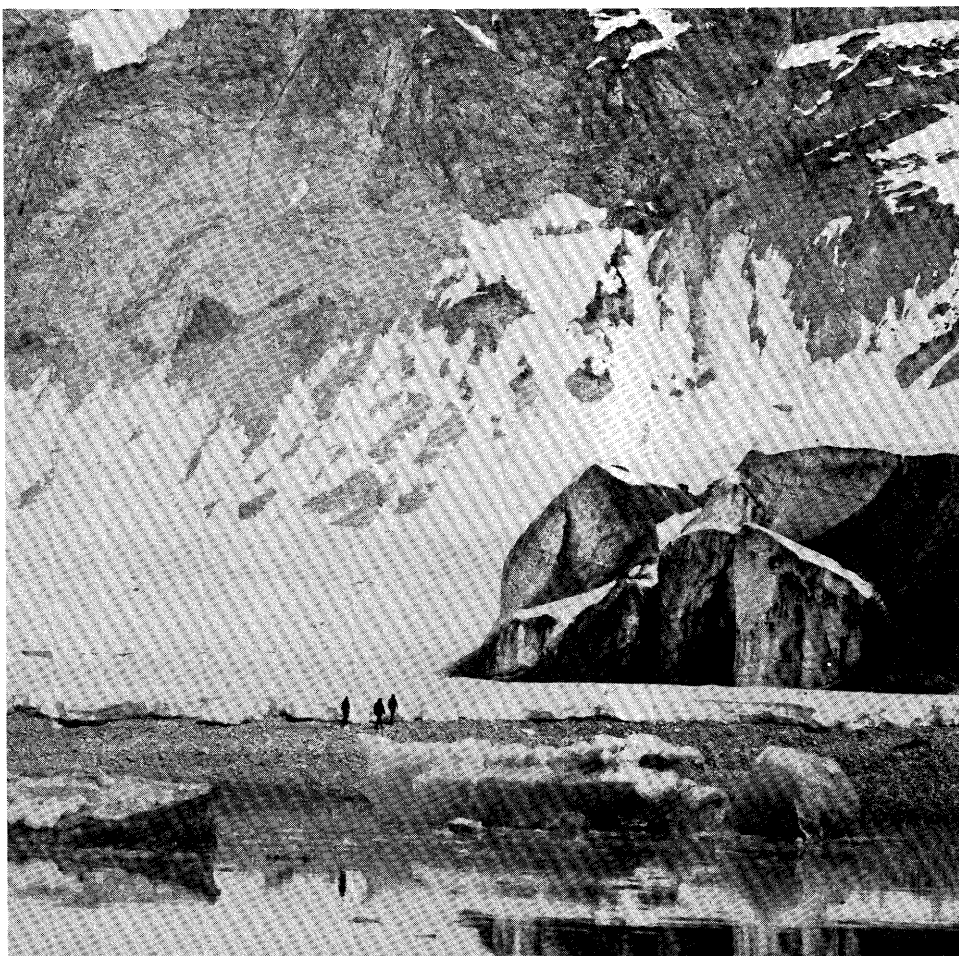


Figure 38.--Just who uses the recreational opportunities available in southeast Alaska is not well known. Little research has been conducted to determine what residents and tourists do to enjoy the area and how recreation affects local communities.

RECREATIONAL USE BY MAJOR ACTIVITIES

During fiscal year 1973, nearly 2 million visitor-days were spent in various public recreation areas and undeveloped lands and waters in southeast Alaska (table 11). What do all these recreationists do to enjoy the area's tremendous outdoor recreation and scenic resources? Based on the limited information available, the following general description presents what is known concerning current resident and nonresident recreation participation in southeast Alaska. Available data on participation rates for major activities of southeast Alaskans, as well as visitors to the area, are discussed for important categories of dispersed and developed activities. Unfortunately, information about the experiences these users were seeking (the real product of recreation management) is

Table 11--*Recreational use of Federal, State, and local government areas in southeast Alaska, fiscal year 1973*

Level of government	Visitor-days ¹	Percent of total
Federal areas	1,657,500	91
State areas	85,500	5
Local areas	72,800	4
Total	1,815,800	100

Source: State of Alaska, Department of Natural Resources (1976).

¹Rounded to nearest hundred. A visitor day is defined as the presence of a person for recreation purposes for 12 hours.

nonexistent; the number of "visits," "visitor days," etc., only indicate the relative importance of activities, based on how many participate. Tables 12 and 13 present the most comprehensive data available concerning outdoor recreation activities in southeast Alaska. The results of a survey of 1967 recreation participation rates of regional residents are shown in table 12. Although these data are based on only a small sample and are not representative of all the region's residents, they do, when combined with more recent information, including the 1975 use figures from management areas on the Tongass National Forest (fig. 39 and table 13), help paint a picture of the activities favored in this area. Data concerning use of State and National Parks are shown in tables 14 and 15. From these data, the following generalizations can be made about dispersed and developed recreation activities.

Dispersed Forms of Recreation

Most of Alaska, southeast included, is known for its abundant opportunities to "get away from it all." Many residents and nonresidents alike take advantage of this fact and head for the wilds to boat, hunt, fish, camp, hike, beachcomb, pick berries, and to do the many other things possible in this vast region. Because of the highly dispersed nature of this type of recreation (indeed, a major part of the appeal), information on the amount of dispersed recreation occurring is difficult to obtain (fig. 40). There are some data, however, which are indirect measures of the amount of dispersed use which is summarized in part in the preceding tables and in the following discussion. But one must keep in mind the "invisible" character of such recreation when interpreting the findings. Because it is dispersed, much of it is inconspicuous and easily overlooked. The available data probably underestimate the nature and extent of many dispersed recreation activities.

Table 12--*Participation of southeast Alaska residents in selected outdoor recreation activities, 1967*¹

Activity	Percent of population participating (12 years and older)	Average annual participation	
		Days per person	Days per participant
Trail-related activities:	88	80.9	91.9
Walking for pleasure	77	43.2	56.1
Nature study	50	21.5	43.0
Bicycling	23	7.4	32.2
Hiking	43	3.5	8.1
Snowmobiling	3-	.1	3.3
Motorcycling	10	2.3	23.0
Snowshoeing	3-	.2	6.7
Canoeing	7	.6	8.6
Horseback riding	7	.2	2.9
Dog sledding	1-	.03	3.0
Cross-country skiing	3-	.3	10.0
Mountain climbing with gear	5	.4	8.0
Picnicking	88	16.1	18.3
Driving for pleasure	82	35.5	43.3
Sightseeing	81	35.6	44.0
Fishing:	67	13.4	20.0
Freshwater	40	3.9	9.8
Saltwater	56	9.4	16.8
Ice	2-	.1	5.0
Motorboating	59	11.4	19.3
Swimming:	48	8.8	18.3
Lake and stream	21	2.0	9.5
Pool	18	2.6	14.4
Ocean	34	4.2	12.4
Hunting:	36	4.6	12.8
Big game	30	2.8	9.3
Small game	10	.9	9.0
Waterfowl	12	.9	7.5
Outdoor sports and games	36	7.9	21.9
Camping	35	3.2	9.1
Ice skating	25-	1.5	6.0
Snow play	17-	1.4	8.2
Flying for pleasure	14	1.5	10.7
Alpine skiing	7-	.7	10.0

Source: State of Alaska Department of Natural Resources (1967; 1970b, p. V-17 to V-50).

¹Based on a sample of 377 people from the boroughs of Juneau, Sitka, and Ketchikan.

Table 13--Summary of Tongass National Forest recreation use
for three management areas, 1975
(In thousands of visitor-days¹)

Activity	Management areas			Total
	Chatham	Stikine	Ketchikan	
Boating:				
Ships, yachts, ferries	171.0	72.0	115.5	358.5
Smaller powerboats	30.0	65.9	39.2	135.1
Canoeing	2.9	.5	1.2	4.6
Sailing	2.8	.5	.4	3.7
Rowing, drifting, rafting	2.3	1.3	1.9	5.5
Total	209.0	140.2	158.2	507.4
Fishing:				
Freshwater	18.8	6.6	18.4	43.8
Saltwater	53.0	80.7	52.7	186.4
Total	71.8	87.3	71.1	230.2
Hunting:				
Big game	31.0	6.4	9.6	47.0
Small game	1.0	.6	.4	2.0
Upland birds	1.1	.5	.3	1.9
Water fowl	6.9	43.8	5.1	55.8
Total	40.0	51.3	15.4	106.7
Recreation travel (mechanized):				
Autos	45.0	6.3	10.6	61.9
Motorcycles	4.5	.6	1.1	6.2
Ice or snow craft	15.6	4.9	3.2	23.7
Total	65.1	11.8	14.9	91.8
Picnicking	25.6	4.3	13.4	43.3
Hiking and walking	14.1	4.5	20.6	39.2
Camping:				
General	33.1	0	10.3	43.4
Auto	7.8	.3	.9	9.0
Trailer	5.0	.2	.5	5.7
Tent	6.4	11.4	14.2	32.0
Total	52.3	11.9	25.9	90.1
Visits (exhibits, talks, etc.):				
Interpretive exhibits	19.5	0	1.0	20.5
Programs and talks	8.3	0	0	8.3
Unguided tours (walking)	31.0	0	1.4	32.4
Interpretive signs	9.0	0	.4	9.4
Audio programs	4.0	0	0	4.0
General information	1.0	0	.6	1.6
Total	72.8	0	3.4	76.2
Winter sports:				
Ice skating	3.0	.2	1.0	4.2
Sledding-tobogganing	1.5	0	.1	1.6
Skiing	24.1	.4	1.9	26.4
Snowplay	16.6	.6	2.4	19.6
Total	45.2	1.2	5.4	51.8
Viewing:				
Scenery	5.2	.8	.9	6.9
Unique, unusual environments	5.0	0	.5	5.5
Spectator sports	2.0	0	0	2.0
Total	12.2	.8	1.4	14.4
Recreation residence use	8.9	2.3	.5	11.7
Gathering forest products	5.6	1.6	4.0	11.2
Water sports:				
Swimming-bathing	2.1	.8	2.0	4.9
Diving	.8	.3	1.5	2.6
Waterskiing, etc.	.4	.3	.6	1.3
Total	3.3	1.4	4.1	8.8
Organized camp use	8.0	0	.7	8.7
Nature study	3.2	.5	4.3	8.0
Games and team sports	4.1	0	1.6	5.7
Bicycling	3.2	.3	.3	3.8
Horseback riding	1.8	0	0	1.8
Resort use	.6	0	0	.6
All activities	646.8	319.4	345.2	1,311.4

Source: U.S. Forest Service Recreation Information Management (RIM) Center, Recreation Use Information for Alaska. Washington, D.C.

¹Recreation use of National Forests is measured in visitor-days. One visitor-day is defined as 12 visitor hours which may be any combination of numbers of people and time spent (e.g., 1 person for 12 hours or 12 people for 1 hour).

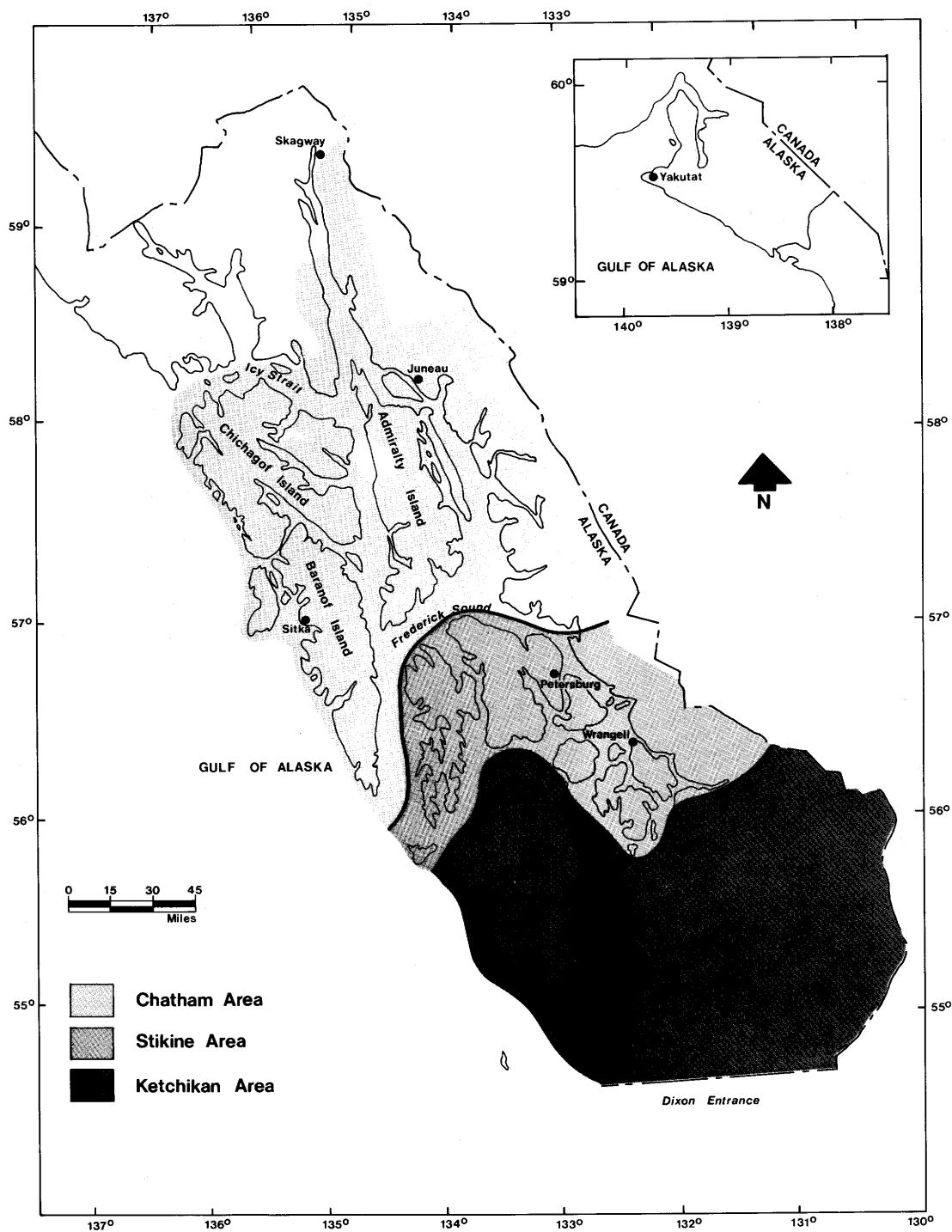


Figure 39.--Management areas on the Tongass National Forest.

Table 14--*Summary of visits to the Alaska State Park System by sites in southeast Alaska, July 1, 1973 to June 30, 1974*¹

Location of site by borough	Resident	Nonresident	Total
Ketchikan borough:			
Refuge Cove Picnic Wayside	8,016	4,343	12,359
Totem Bight Historic Site	11,123	24,819	35,942
Knudson Cove Boat Launch ²	1,872	472	2,344
Total	21,011	29,634	50,645
Wrangell area:			
Pat's Creek Campground	180	814	994
City and borough of Sitka:			
Baranov Castle Historic Site	755	186	941
Halibut Point Picnic Wayside	7,146	751	7,897
Old Sitka Historic Site	2,287	6,737	9,024
Total	10,188	7,674	17,862
City and borough of Juneau:			
Sheep Creek Trail	509	40	549
Mount Roberts Trail	2,207	1,281	3,488
Perseverance Mountain, Juneau, and Granite Creek Trails	6,472	1,413	7,885
Total	9,188	2,734	11,922
Haines borough:			
Chilkoot Lake Campground and day use area	2,107	13,378	15,485
Portage Cove Campground	754	3,456	4,210
Mosquito Lake Campground	1,227	971	2,198
Total	4,088	17,805	21,893
Skagway:			
Liarsville Campground	366	661	1,027
Chilkoot Trail ³	205	204	409
Total	571	865	1,436
Total southeastern region	45,226	59,526	104,752

Source: State of Alaska Department of Natural Resources, Division of State Parks.

¹Visits are defined as the entry of an individual for recreation purposes.

²Now under Division of Water and Harbors.

³Other data in National Park Service files show heavier use for this period: 296 visits by residents, 810 by nonresidents, for a total of 1,106.

Table 15--*Summary of recreation use data for National Park areas in southeast Alaska during 1976*

Glacier Bay National Monument:	
Total visits	84,945
Overnight stays, total:	12,628
Lodge	9,983
Campgrounds	1,068
Backcountry	1,577
Special use data number of visits:	
Tour boat (in Park tours)	6,546
Tour aircraft	458
Fishing charters	1,056
Cruise ships	46,488
Sitka National Historical Park:	
Total visits	81,624

Source: Superintendents, Glacier Bay National Monument and Sitka National Historical Park.



Figure 40.--Because of the highly dispersed nature of recreation in southeast Alaska, information on the amount of recreation occurring is difficult to obtain (photo, courtesy of Chuck Horner).

The locations of outdoor recreation participation in dispersed activities on the Tongass National Forest are shown in table 16.

Table 16--*Use of dispersed recreation areas on the Tongass National Forest during 1975*

Type of area	Visitor-days ¹	Percent
Ocean	703,300	61
General undeveloped	178,100	16
Roads	99,200	9
Lakes, ponds	58,200	5
Trails	52,700	5
Rivers, streams	40,700	4
Reservoirs	1,000	0
Total	1,133,200	100

Source: U.S. Forest Service Recreation Information Management (RIM) Center, Washington, D.C.

¹ Recreation use of National Forests is measured in visitor-days. One visitor-day is defined as 12 visitor hours which may be any combination of numbers of people and time spent (e.g., 1 person for 12 hours or 12 people for 1 hour).

The importance of marine and freshwater environments is obvious. More than 70 percent of such activities are water-oriented, mostly on saltwater. "General undeveloped" areas also account for a significant portion of the total dispersed use.

Hunting and Fishing

With the diverse and abundant fish and wildlife populations in this region of Alaska, it would be surprising if hunting and fishing were not major recreation activities. The data in table 12 indicate that more than one-third of the residents hunt and more than two-thirds fish. On the Tongass National Forest, fishing is the second most popular recreation activity in terms of visitor-days; hunting is third (table 13).

Table 17 shows license sales for 1974. Of the more than 25,000 fishermen, 39 percent were nonresidents. Only 8 percent of licensed hunters were nonresidents.

At Glacier Bay in 1976, 1,056 people used the fishing charter service, up from 772 in 1975 and from 321 in 1974.²⁰

²⁰Source: Superintendent, Glacier Bay National Monument.

Table 17--*Sport fish and game license sales in southeast Alaska, 1975*^{1/}

Licenses sold	Residents ² (percent of total)	Nonresidents (percent of total)	Total
Fishing	15,717 (61)	9,915 ³ (39)	25,632
Hunting	10,243 (92)	895 (8)	11,138
Trapping	1,651 (100)	3 (0)	1,654

Source: State of Alaska Department of Fish and Game.

¹Residents under 16 years of age are not required to have licenses for either hunting or fishing. Nonresidents under 16 years of age need a license for hunting, but none for fishing. Residents of Alaska for 30 years and persons over 60 years old do not need a license.

²A person must live in Alaska 12 months to qualify for a resident hunting or fishing license.

³6,295 (60 percent) of these were 10-day visitor licenses.

Tables 18 and 19 show the harvest from fishing and from hunting. State of Alaska Department of Fish and Game²¹ estimates indicate

Table 18--*Estimated catch and time investment for sports fishermen in southeast Alaska, 1973*¹

Species	Number of fish caught
Dolly Varden	46,800
Cutthroat trout	25,000
Coho salmon	22,200
Pink salmon	20,000
Chinook salmon	9,400
Halibut	7,000
Sockeye salmon	5,000
Chum salmon	4,100
Rainbow trout	3,000
Steelhead	2,000
Brook	1,000
Arctic grayling	200
Total	145,700
Angler-days	156,880
Fish caught per angler-day	0.9

¹Data provided by State of Alaska Department of Fish and Game, Division of Sports Fisheries.

²¹Sports Fishery Division. Another source (McDowell 1975, footnote 15) estimates the number of man-days of fishing in southeast Alaska to be over 300,000 and the catch to exceed 460,000 fish in 1973. National Forest data for the Tongass National Forest in 1975 show just over 200,000 man-days.

Table 19--*Reported big game harvest in southeast Alaska, 1973-74 season*

Animal	Number harvested	Limit per person	Percent nonresident ²
Deer	¹ 5,000-7,817	3-4	--
Moose	367	1	³ --
Mountain goat	327	2	³ 13-73
Black bear	66	2	42
Brown bear	132	(4)	35
Wolf	94	0	--
Total	5,986-8,803		

Source: Compiled from State of Alaska Department of Fish and Game harvest records.

¹Two methods are used by the Alaska Department of Fish and Game for estimating deer kills-harvest tickets and interviews. The range from 5,000 (harvest tickets) to 7,817 (interviews) deer harvested results from these two procedures.

²-- means "not reported."

³The number indicates the variation in proportions between game management units reporting these data.

⁴1 every 4 years.

that, for 1973, sport fishermen spent over 150,000 days in catching more than 145,000 fish. Major species caught were Dolly Varden, cutthroat trout, the five salmon species, and halibut. During 1974, residents of the three largest cities (Juneau, Sitka, and Ketchikan) were estimated to have spent nearly 200,000 hours fishing on 45,000 ocean fishing trips (USDA Forest Service 1977a).

Little information exists regarding the success of big game hunters. But in the 1973-74 season, about 6,000 to 9,000 big game animals were taken in southeast Alaska (table 19), the majority of which were deer. Ninety-four wolves were harvested; nearly three-fourths of these were shot, the rest trapped. The majority of wolves are thought to have been shot while the hunter was after other species or was involved in nonhunting activities.

A recent study indicates that hunting, as might be expected, is largely a male-oriented sport, although the proportion of women who hunt is on the rise (see footnote 17)--mostly younger women. A significantly higher proportion of women were found to be anglers.

Difficult access in and around southeast Alaska is part of the unique appeal of this area, and offers special difficulties (or attractions, depending on one's perspective) for the hunter and fisherman. Both sports are almost exclusively water oriented except near the local towns. Using charter services--boats and planes--to get to favored hunting grounds is a way of life for most nonresident

sportsmen and for many resident sportsmen seeking locations at some distance from settlements. Many residents own pleasure boats, which are often used for hunting and fishing. Others use canoes along streams or at many of the lakes in the area.

For the nonresident, guide services are usually necessary and are required by law for hunting some species unless one is accompanied by a resident. Many of the lodges feature accommodations, transportation, and guide services. Recreation cabins are frequently used as base camps for hunting and fishing.

Boating

The more than 14,000 registered boats estimated to be in southeast Alaska indicate the importance of boating to local populations. Although boating in itself is often a pleasurable activity, in this area its major importance is transportation for other recreation activities (fig. 41). In southeast Alaska, the boat also often substitutes for the camper vehicle of the lower 48 States.



Figure 41.--Boating is a pleasurable activity and boats are the primary way to reach many recreation opportunities in southeast Alaska (Plateau Glacier in Glacier Bay National Monument).

Information on recreational boating activities is sparse. The United States Coast Guard registration figures include only motorized boats over 16 feet in length. The many skiffs, canoes, kayaks, etc., are not included, yet these are important recreation equipment for many people. Types of boats vary from skiffs to huge cruisers, and many families own several kinds. The number of sailboats is also increasing.

More than 65 percent of southeast Alaskans participate in motorboating or canoeing (table 12). Within the National Forest, boating (including yachts, ferries, cruise ships) is by far the most important activity; more than twice the number of visitor-days are reported for boating than for any other activity (table 13). Park officials report that more than 1,000 private boaters reportedly entered Glacier Bay during 1975.

Not included in these figures are nonresident boaters venturing up the coast or along the Inside Passage from the lower 48 States. Although estimates of this type of use are not available, observers indicate the use is growing. Ketchikan residents estimated seeing about 50 nonresident boats in port per week from the lower 48 States during the summer (see footnote 17). Several Seattle-based organizations offer the would-be adventurer into southeast Alaskan waters advice on where to go and how to stay afloat.

Both motorized and nonmotorized forms of recreational boating are growing. The abundant marine, lake, and stream settings offer spectacular and isolated locations for whatever style of water travel one is seeking. An increasing number of resident and nonresident recreationists transport their rafts, canoes, or kayaks to prize locations. Two recreational trails include tramways where open boats of up to 20 feet can be loaded for portages between bodies of water. These facilities were built during the Civilian Conservation Corps days and are in a state of disrepair, offering potential hazards to the unwary. Other developments such as moorages, docks, and landings have been built in many areas (often for commercial purposes many years ago) and are used by recreational boaters.²²

Sightseeing

Viewing the many attractions of southeast Alaska is a major activity (fig. 42). The explosive growth in visits to tour ships is based mainly on the appeal of sightseeing. Data related to the nature of this activity and how much takes place by boats and ships, planes, autos, or other modes of transportation are, however, sparse.

²²An inventory of marine facilities in southeast Alaska has been compiled by the Alaska Division of Parks in Juneau.

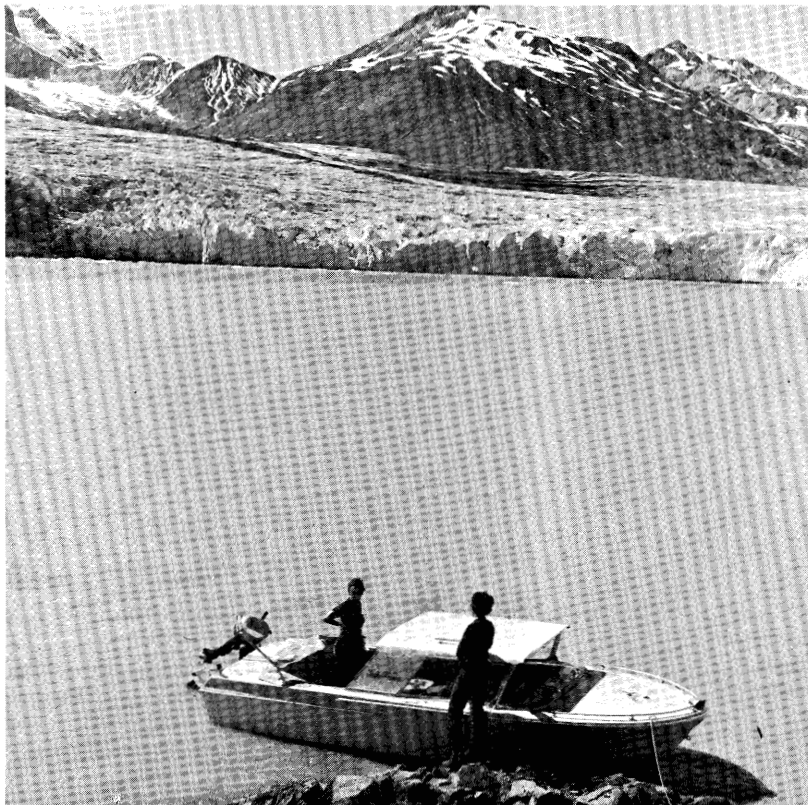


Figure 42.--Viewing the many attractions of south-east Alaska is a major activity (photo, courtesy of Chuck Horner).

More than four-fifths of southeast Alaska residents reported that they engaged in sightseeing in 1967 (table 12). How they do it is unknown; but it undoubtedly takes many forms, often a part of other recreation activities such as the extensive boating described in the previous section. More than 20,000 visitor-days of nature study and viewing scenery and unique environments were reported for the Tongass National Forest in 1975 (table 13).

One would think that the importance of driving for pleasure would be limited by the few roads in southeast Alaska, but more than 80 percent of southeast Alaska's residents report this activity (table 12). Whether they do this exclusively around their local communities or use the Alaska State ferry system is not known. Mechanized recreation travel on the Tongass National Forest ranks fourth in the number of visitor-days of use (table 13).

National Park Service figures for 1976 show that nearly 85,000 visitors came to Glacier Bay National Monument, one of the most spectacular locations in southeast Alaska (table 15). Many of these visitors saw the area from the deck of comfortable ships and viewed

a rugged and undeveloped landscape, complete with a rich natural and cultural history and diverse wildlife populations.

Certainly for the visitor to southeast Alaska, sightseeing is a major attraction--whether on foot, on the water from the deck of a State ferry or cruise ship, on the narrow gage railway from Skagway to Whitehorse, Yukon Territory, in the air from a chartered plane, or even from a commercial airliner at 35,000 feet.

The importance of sightseeing is highlighted by the number of buslines, charter planes, boat companies, and even guides offering their services for sightseeing purposes in most communities.

Hiking

Although the total number of miles of formal trails in southeast Alaska is small, hiking appears to be an important recreation activity for many people. With the absence of roads and trails in most locations, foot travel is necessary to reach many land-based attractions, whether on one of the islands or on the mainland. After flying or boating to the chosen area for an outing, many people spend part of their time hiking either for a particular experience or for other activities such as fishing, hunting, nature study, beachcombing, and camping. Many favored locations can also be reached by the trails leading from some of the communities in the area. Other recreationists may prefer to venture cross country across wild lands (fig. 43), although this type of travel is difficult in forested



Figure 43.--A wealth of undisturbed natural and cultural resources are available for the visitor who chooses to sightsee by striking out across primitive areas.

areas near the water because of dense brush and concern for brown bear encounters.

Southeast Alaska affords an abundance of such opportunities, and it is not surprising that nearly 80 percent of southeast Alaskans report walking for pleasure as an activity (table 12). In addition, almost half the residents indicate some time spent hiking. The distinction between the two forms is not clear, but the importance of foot travel is important. On the Tongass National Forest, nearly 40,000 visitor days were spent hiking (table 13). Whether on the trails or striking out cross country, the hiker has unlimited opportunities for exercise, solitude, and appreciation of outstanding natural settings.

The total amount of hiking at Glacier Bay National Monument is not known, but it certainly would include the 1,577 back-country users during 1976 (table 15). More than 12,000 people reportedly used State Park trails in 1974; about 25 percent of these people were nonresidents (table 14). In the newest National Park, Klondike Gold Rush Historical Park, approximately 1,500 hikers crossed the Chilkoot Pass in 1976. A survey of the hikers is being conducted (1977) by the National Park Service.

In a 1974 survey of hikers around Juneau, users felt that "the trails need to be better physically maintained, the tread needs to be kept free of running water, brush needs to be cut, both for comfort and as a safety factor in spotting bears, and some clearing for views could enhance the hikers' experience." This same study also gathered data related to all types of trail use which allows some comparison with earlier studies. These data indicate that (at least for Juneau residents) hiking is nearly twice as popular as reported in the earlier study of southeast Alaskans (72 vs. 43 percent) (see footnote 17). Trails now receive more winter use than they did a few years ago, mainly for cross-country skiing.

Public Cabin Use

Rapid growth in use of U.S. Forest Service recreation cabins since 1970 is shown in table 20 (fig. 44). Popularity of cabins on lakes and canoe routes has greatly increased. In 1975, nearly 32,000 people used the cabins on the Tongass National Forest. Only a few of the cabins approach maximum capacity, however (fig. 45). Most cabins are used at less than 20 percent of capacity. Cabins that offer the easiest access and best opportunities for enjoying scenery, hiking, fishing, and hunting, are the most frequently used. Many of the lesser used cabins are older buildings and are hard to get to. Several once-popular cabins no longer receive much use, reportedly because of logging in the area. For example, Luck Lake cabin usage has declined from 100 visitor-days in 1970 to no use in 1975. Lack of information about the attractions available at some

Table 20--Forest Service recreation cabin use by management area

Year	Chatham		Stikine		Ketchikan		Total ¹	
	No. of parties	No. of people	No. of parties	No. of people	No. of parties	No. of people	No. of parties	No. of people
1970	² 390	² 1,576	NA	NA	NA	NA	390	1,576
1971	³ 168	³ 988	NA	NA	710	2,019	878	3,007
1972	⁴ 652	⁴ 2,255	297	1,058	632	2,401	1,581	5,714
1973	³ 244	³ 1,129	456	1,627	748	2,621	1,448	5,377
1974	² 762	⁴ 3,776	473	1,764	667	2,322	1,902	7,862
1975	² 767	⁴ 3,784	534	2,028	751	2,631	2,052	8,443
Total	2,983	13,508	1,760	6,477	3,508	11,994	8,251	31,979

Source: U.S. Forest Service Recreation Information Management (RIM) data, Alaska region, Juneau.

NA = Not available.

¹For areas reporting data.

²Reported by Sitka and Juneau; Yakutat report missing.

³Sitka only; others missing.

⁴Reported by all three districts (Sitka, Juneau, and Yakutat).

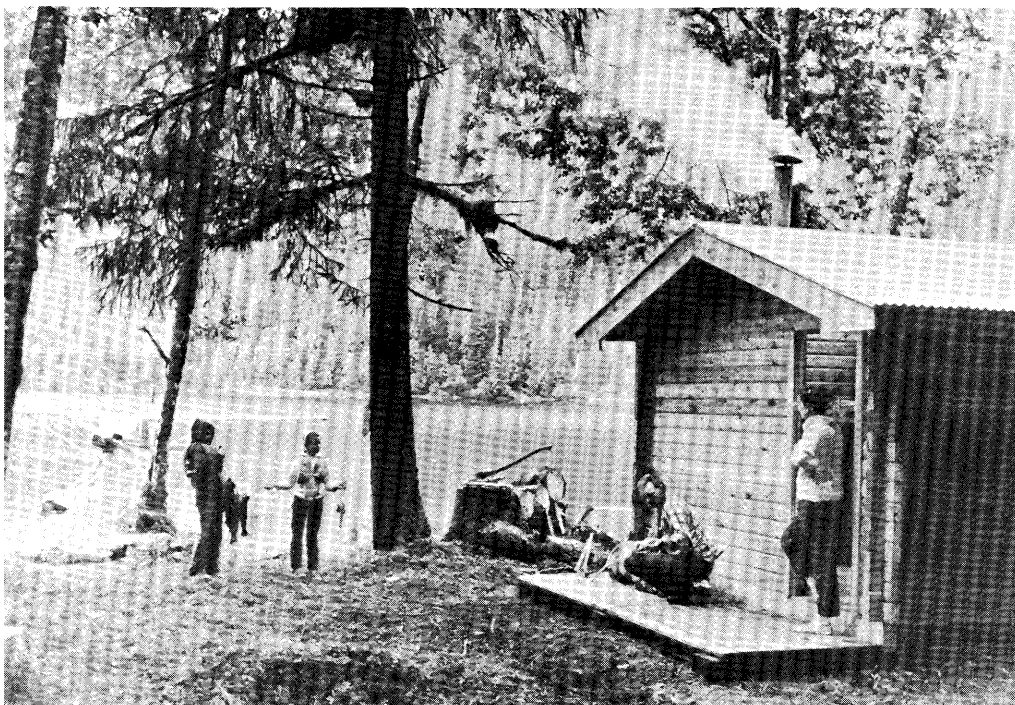


Figure 44.--Southeast Alaska offers 151 public recreation cabins managed by the U.S. Forest Service.

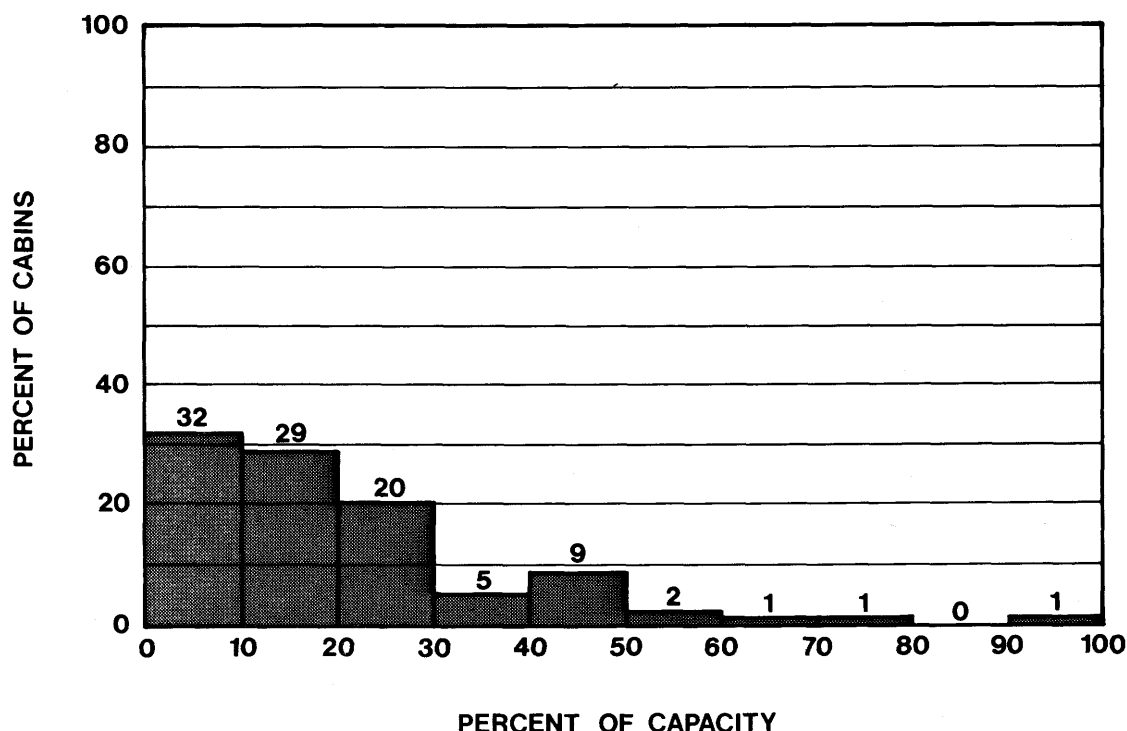


Figure 45.--Use based on 151 cabins. The theoretical seasonal capacity is the time that the cabin is considered usable in a normal season (calendar days) X people at one time X 2. This estimate varies between cabins.

cabins may also explain their low use. Much of the use occurs during the summer months for fishing, although a high proportion of cabins near prime hunting areas are used in hunting season. This use is sensitive to changes in length of hunting seasons and limits as well as to fluctuations in game populations. Other cabins are used throughout the year.

Table 21 identifies the residence of persons registering for use of cabins during the 1975 season. Most (91 percent) were from southeast Alaska, but some residents of other States and Canada ventured here. Observers feel that this number is increasing annually and that Alaska residents often register for out-of-State guests who use the cabins. These data would, therefore, underestimate the total amount of nonresident use. A cooperative study between the U.S. Forest Service and the University of Alaska is underway on cabin users in one area of the Tongass National Forest.

Dispersed Camping

More than a third of all southeast Alaskans report that they camp (table 12). National Forest data indicate that, for 1975, more than 90,000 visitor days were spent camping; 84 percent of this was in general camping and tent camping--other than with autos or

Table 21--Residence of groups using Forest Service cabins in southeast Alaska for 1975,
by management area¹

Registrant's residence ²	Chatham		Stikine		Ketchikan		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska:								
Southeast	269	90	497	93	683	90	1,449	91
Other	9	3	0	0	4	0	13	1
Total	278	93	497	93	687	90	1,462	92
Outside Alaska:								
United States	³ 20	7	⁴ 37	7	65	9	122	8
Canada	0	0	0	0	3	0	3	0
Total	20	7	37	7	68	9	125	8
Total registrants	298	100	534	100	755	100	1,587	100

Source: Compilation of U.S. Forest Service cabin reservation data.

¹These data are based on all areas but the Juneau and Yakutat districts of the Chatham area which had incomplete data.

²Based on residence of person registering. This probably understates use by persons living outside southeast Alaska because persons living in southeast Alaska may register for friends or relatives from other areas.

³U.S. residents: 8 Pacific Northwest; 9 Southwest; 2 East; 1 Northeast.

⁴U.S. residents: 15 Pacific Northwest; 11 Southwest; rest scattered throughout country.

⁵U.S. residents: 30 from Pacific Northwest; rest scattered throughout country.

trailers (table 13). Although these data do not allow us to determine the amount of dispersed camping away from facilities (cabins, campgrounds, etc.), the opportunities are abundant (fig. 46); and



Figure 46.--Camping at undeveloped sites is a popular activity in southeast Alaska (photo, courtesy of Chuck Horner).

it would be surprising if this activity was not substantial. Most overnight boating and floatplane trips would necessarily require camping, so the number of participants is undoubtedly quite large. At Glacier Bay, over 1,500 visitors stayed overnight in the area during 1976 (table 15).

As a response to the apparent popularity of dispersed camping, a pamphlet on beach camping has been prepared by the U.S. Forest Service which outlines the precautions necessary for camping in remote areas (Constantine 1976).

Private Cabins

Under special permit, the Forest Service has leased 76 private cabin sites in southeast Alaska and reports nearly 12,000 visitor days for them in 1975 (table 13). The extent of use of other private recreation cabins not located on National Forest lands is not known. This is one of the few National Forests in the Nation still offering this opportunity, although few sites are being leased now. Many other regions of the country have been forced to terminate this use because of increasing recreational pressures.

Dispersed Winter Sports

Dispersed winter sports in southeast Alaska include cross-country and alpine skiing, snowshoeing, sledding, tobogganing, ice fishing, some dog mushing, ice skating, snow playing, and snowmobiling (fig. 47). Dispersed winter recreation activities are sometimes limited by snow conditions in some areas, unsuitable rough terrain for some activities, dense vegetation, or lack of appropriate formal routes and facilities (trails and shelters) for the snowmobiler and cross-country skiers; but despite these limitations, winter recreation use has grown rapidly in recent years. Generally, the best conditions are in the northern part of the panhandle.

More than 60 percent of southeast Alaska residents report that they participate in some type of winter recreation (table 12); U.S. Forest Service figures show more than 50,000 visitor-days spent in winter sports (table 13). The large amount of winter activities occurring is not surprising because the winter season is long (up to 7 months); but the proportion of those activities taking place in developed vs. dispersed sorts of locations cannot be determined. Some user groups have organized and are reported to have developed shelters and trails in local areas, which is an expression of the popularity of these sports.

Dispersed Road-Oriented Activities

Although the road system in southeast Alaska is not extensive,



Figure 47.--Generally, the best winter sports areas are in the northern part of the panhandle.

road-oriented dispersed recreation plays an important role for many users. The limited roads surrounding the communities provide opportunities for berrypicking, hunting and fishing, camping, and often for access to more remote locations beyond the road's end.

More than 80 percent of southeast Alaska residents report they drive for pleasure (table 12). Nearly 70,000 visitor-days of road travel in autos or motorcycles were reported on the National Forest in 1975 (table 13), although the nature and amount of dispersed road recreation in southeast Alaska have not been well documented.

In addition to the major roads outside the communities, access to timber sale roads through both logged over and natural areas is possible in several areas; use of these locations is reportedly increasing. In other States, dispersed recreation use of roaded areas is increasing rapidly (Hendee et al. 1976); it is not surprising that the same thing would occur in southeast Alaska where the opportunity exists.

On Prince of Wales Island, an extensive road network exists as a byproduct of timber harvest activities and many local residents and some nonresidents recreate along these roads. Local Forest Service managers have prepared a brochure identifying recreational attractions along the road system. The amount of use in this area is not known.

Beachcombing

For the ardent beachcomber, southeast Alaska is a dream come true. The nearly 30,000 miles of tidal shoreline speak clearly enough for the opportunities available, as does the presence of many trophies such as Japanese glass fishing floats; but nothing is known about the extent of this activity. With the large boating population of southeast Alaska, boats from the lower 48 States included, seeking trophies along the beach must be an important part of the recreation experience here as it is in other coastal areas of the country. As access to remote beaches is made easier, this type of recreation is certain to increase.

Mountain Climbing

About 5 percent of southeast Alaskans reported mountain climbing in 1967 (table 12), but little is known about the nature and extent of this activity. By standards of the lower 48 States, the opportunities are ample and exciting; but peaks to the north--particularly McKinley--are probably more attractive to skilled mountain climbers from the lower 48. Some climbers from the Anchorage and Fairbanks areas are, however, reported to come to southeast Alaska to climb the icefields and peaks.

Other Dispersed Recreation Activities

Motorcycling, horseback riding, bicycling, and swimming are other activities in which southeastern Alaska residents reportedly engaged (table 12). At least two common activities were both omitted from the survey on which table 12 is based--berrypicking and beachcombing. Motor vehicle registration (table 3) indicates that the potential for motorcycling exists in some areas. But the amount of recreational use outside the communities, on backroads or trails, is unknown. Little information is available on the importance of horse use, bicycling, or swimming in dispersed areas. Lack of appropriate facilities and short summers may limit the extent of such activities, however.

Developed Recreation Activities

Although recreation activities in developed areas are usually

more observable than those in dispersed areas, data concerning the amount of developed recreation in southeast Alaska are not much better than for dispersed forms. In many cases, it is impossible to distinguish between the two.

Table 22 gives information concerning recreation use of developed sites on the Tongass National Forest for 1975. Table 23 shows use of developed State Park sites. Other data for this section are shown in tables 12 and 15. An interesting fact emerges from these figures; less than 15 percent of the total estimated recreation use is on developed sites--207,900 days (table 22) compared with 1,133,200 days in dispersed areas (table 16).

Possible explanations for this relationship are: relatively few developed areas exist on the Forest; there are abundant dispersed areas which users prefer to visit; or a combination of both factors. An analysis of existing State Park, National Park, and Forest Service use figures gives the following picture of the major types of use of developed sites.

Table 22--*Use of developed recreation sites on the Tongass National Forest, 1975*

Type of developed site	Visitor-days ¹	Percent
Campground	88,100	42.3
Interpretive sites:		
Major	40,000	19.0
Minor	23,300	11.0
Winter sports	17,300	8.3
Picnic	12,600	6.0
Recreation residence	11,700	6.0
Organization:		
Forest Service	400	.2
Private	11,100	5.3
Play, park, sports	700	.3
Observation	1,300	1.0
Hotel, lodge, resorts	700	.3
Boating	700	.3
Total	207,900	100.0

Source: U.S. Forest Service Recreation Information Management (RIM) data, Alaska Region, Juneau.

¹ Recreation use of National Forests is measured in visitor-days. One visitor-day is defined as 12 visitor hours which may be any combination of numbers of people and time spent (e.g., 1 person for 12 hours or 12 people for 1 hour).

Table 23--*Number of visits to State Parks in southeast Alaska, by type of developed site, July 1, 1973, to June 30, 1974*¹

Type of site	Resident		Nonresident		Total	
	Number	Percent	Number	Percent	Number	Percent
Campground	4,634	19	19,280	81	23,914	100
Picnic area	15,162	75	5,094	25	20,256	100
Historic site	14,165	31	31,742	69	45,907	100
Total	33,961	--	56,116	--	90,077	--

Source: State of Alaska Department of Natural Resources, Division of State Parks.

¹Visits are defined as the entry of an individual for recreation purposes.

Campgrounds

In the 1937 study of recreation in southeast Alaska, little camping "for the sake of camping" was reported (Cameron et al. 1938). The situation seems very different today. Over a third of southeast Alaskan residents reported they camped in 1967 (table 12). Use figures from State and Federal agencies indicate that there were more than 1,000 overnight stays at the campground at Glacier Bay National Monument in 1976 (table 15); that more than 23,000 visitors went to State Park campgrounds in southeast Alaska, more than 80 percent of whom were nonresidents (table 23); that more than 88,000 visitor-days were spent in Forest Service campgrounds (table 22). A total figure for campground use in southeast Alaska cannot be computed because of the various ways in which these agencies collect and summarize their data.

The distinction between resident and nonresident camping warrants comment. Although it is not possible to distinguish between residents and nonresidents for the Federal campgrounds, the State Park use figures indicate a relatively low use by residents. This is not surprising because most campgrounds are within only a few minutes' drive of residents' homes, at the end of the limited road system. Local residents seem to use these areas for overnight camping to a limited extent, but one study indicated that campgrounds receive extensive day use by residents who prefer to return home at the end of the day (see footnote 17).

The only information about nonresident campers was compiled in 1964 (State of Alaska Department of Natural Resources 1964). The University of Alaska report (see footnote 17) summarized and interpreted the results as follows:

The now outdated 1964 "campers survey" showed that the average nonresident camper was middle aged, traveled as a member of a couple, in a vehicle, and was in professional or highly skilled occupation. It appears that this is still an accurate description of the camper. Since that time another distinct group could be included in the report. The age group between 18 and 25 years now appears to be traveling more extensively in Alaska than during the 1964 study. Usually they are traveling as a childless couple or with groups of friends. They travel either by car or rely on public transportation. Those traveling by car appear to have similar behavioral characteristics to the older couples traveling by car.

Data related to campground occupancy are not available, but one study indicated that facilities are adequate around communities with the exception of Haines and Juneau (see footnote 17). Observers at Ketchikan report that many tourists camp overnight in a grocery store parking lot. The reason for this is not clear since the nearby Forest Service campground is rarely filled to capacity. Lack of information about the campground, proximity of the parking lot to the ferry dock, or a preference for staying in town are all possible motives.

Picnic Areas

Most southeast Alaska residents picnic (table 12). Although many probably do so in dispersed settings, much picnicking occurs at the many nearby picnic areas. On the Tongass National Forest, more than 40,000 visitor-days were spent picnicking, 12,000 of this (30 percent) at developed picnic sites (tables 13 and 22). And as discussed earlier, some of the use reported at campgrounds was probably by resident picnickers rather than campers; how much is unknown.

State Park picnic areas received about twice the amount of use as Forest areas with about 75 percent of the use by residents. No information is available about picnicking at developed outdoor recreation sites operated by local government agencies.

Resorts

Resorts are located on the National Forest and at Glacier Bay National Monument. The Forest Service reported only about 700 visitor-days at the lodges in 1975 (table 22); and 9,983 overnight stays were recorded at Glacier Bay during 1976 (table 15), an increase from 7,655 in 1975. Little is known about the composition of these groups or their activities. It is believed, however, that while staying at the lodges on the National Forest, users primarily engaged in hunting and fishing and those at Glacier Bay went sight-seeing.

Interpretive Sites

Use of interpretive sites in southeast Alaska seems to be an important activity for many people who want to learn more about the area's natural, historical, and cultural resources. No information is available about the proportion of southeast Alaskans who visit these sites because this was not a part of the 1967 statewide survey. But some useful information is available concerning recent use of interpretive sites.

The Forest Service reports that in 1975 more than 60,000 visitor-days were spent at developed interpretive sites (table 22). More than 60 percent of these were at major sites including the Mendenhall Glacier Visitor Center where 100,000 people are estimated to visit yearly.²³

Nearly 46,000 visitors are estimated to have visited State Park historical sites in fiscal year 1974 (table 23). National Park Service figures indicate that more than 81,000 visitors saw the interpretive displays at Sitka National Historical Park in 1976 (table 15). Interpretive contacts at Glacier Bay exceeded 64,000 visitors during 1976.²⁴

Southeast Alaska has a unique type of "developed interpretive site"--the tourships and ferries, on which trained personnel explain the many features of the area. The U.S. Forest Service, under a cooperative program with the Alaska Division of Marine Transportation, runs the program on the State ferries traveling the Alaska Marine Highway; during 1976, more than 160,000 people attended the 1,893 programs provided.²⁵

The National Park Service provides several interpreters for each tourship as it cruises through Glacier Monument. Over half of the more than 46,000 tourship passengers in 1976 took the opportunity to attend the formal programs provided.

Winter Sports Areas

Few developed winter sports areas exist in southeast Alaska. Forest Service figures indicate that about 17,000 visitor-days were

²³USDA Forest Service. Alaska Forest data. Alaska Region, March 1976.

²⁴Superintendent, Glacier Bay National Park (annual public contact report).

²⁵This number exceeds the total number of passengers during this period (103,000+) because some people attended more than one program (USDA Forest Service. 1976 Season Summary for the Marine Highway Interpretive Program, Alaska Region).

spent at developed ski areas in 1975 (table 22), about 23 percent of the total amount of winter sports activities (including snowmobiling) reported for the entire Tongass National Forest (table 13).

SEASONALITY OF RECREATION ACTIVITIES²⁶

The high degree of seasonality shown by the tourist inflow data presented earlier suggests when most nonresidents would engage in recreation activities. Results of the 1967 statewide survey of resident recreation participation show similar patterns. Although the patterns described in that report are based on tourists to all of Alaska, patterns of tourists to southeast Alaska would not be expected to vary significantly. Three seasonal activity patterns were observed:

1. Activities that occur predominantly during the summer season (May through September) include hiking, berrypicking, beachcombing, camping, mountain climbing, picnicking, fishing, boating, bicycling, and motorcycling.
2. Predominantly winter season activities (October through April) include winter sports--skiing, snowshoeing, snowmobiling, etc.
3. Participation in other activities is spread throughout a large part of the year; nature study and walking for pleasure (April through October); hunting (mainly August through November, but some continues all year); and driving and flying for pleasure in which participation occurs all year (weather permitting).

With the exception of walking for pleasure and nature study, participation occurs primarily on weekends; 60 percent of the walking for pleasure and 50 percent of the nature study takes place during the week.

VARIATION IN ACTIVITIES BY AREA

It would be unlikely for participation in recreation activities to be equally spread throughout all areas of southeast Alaska. Many factors influence the distribution of use, including the availability of opportunities (examples include winter sports areas, good fishing, big game populations, roads, and trails) and the proximity and size of potential user populations, i.e., residents who live nearby and tourists who arrive by plane, ship, or car.

²⁶Brent and Goldberg (1970) discussed the problems this seasonality presents in terms of the Alaskan tourism industry.

In table 13, use for various recreation activities within the three management areas of the Tongass National Forest is shown. Two examples will illustrate how this information can be used.²⁷

Winter sports activities, including snowmobiling, were recorded primarily in the Chatham area (81 percent). Reasons for this include better snow conditions because this is the most northern area, large resident user populations compared with other areas, and the presence of more developed winter sports facilities.

Waterfowl hunting occurs predominantly in the Stikine area (78 percent). The area is noted for high quality waterfowl hunting.

TRENDS

Attempts to project future demand and participation for various recreation activities have proved unreliable.²⁸ Information on future use is, however, important for effective management and planning. Analyzing trends is one approach for determining what to expect in the future (see footnote 15). In this section we will briefly summarize the little existing information about trends in tourism and recreation activities in southeast Alaska. The reader is cautioned, however, to review all the limitations of the data described earlier.

The increasing importance of recreation and scenic values in the United States has been well documented (Bureau of Outdoor Recreation 1973). Dispersed recreation in particular has seen more rapid growth than other forms. With many unique features including vast expanses of undeveloped lands, southeast Alaska is becoming increasingly important to residents and visitors who wish to enjoy the many possible recreation activities as well as to appreciate the esthetic appeal.

In 1881, the first excursion party of 80 people visited Alaska's Panhandle. By 1890, the number of visitors was in excess of 5,000. In 1974, more than 230,000 people entered Alaska, most of whom (70 percent) spent at least part of their time in southeast Alaska

²⁷For readers interested in more detail, this information is broken down by smaller geographic areas in the Forest Service RIM System, Alaska Region, Juneau.

²⁸See the Alaska State Outdoor Recreation Plan (State of Alaska Department of Natural Resources 1970a) for a discussion of problems in forecasting future growth in recreation activities. It also describes the procedures used in forecasting use for various recreation activities in all Alaska.

(table 8).²⁹ So the increase has been substantial with the annual growth at about 15 percent from 1964 to 1973. Use of ferries on the Alaska Marine Highway has increased by over 60 percent since 1970 (table 24). (Note that table 24 shows total ferry passenger numbers; table 7 gave figures only for tourists using the ferries.)

Table 24--*Increase in use of the Alaska Marine Highway ferry system from 1970 to 1975*

Fiscal year	Cars	Passengers
<u>Number</u>		
1970	36,333	138,227
1971	35,463	144,696
1972	37,628	156,102
1973	42,432	180,553
1974	44,034	193,023
1975	52,287	224,213
Total	248,177	1,036,814
<u>Percent</u>		
1970-75	44	62

Source: State of Alaska Division of Marine Transportation.

Growth in resident populations in southeast Alaska is an indicator of the potential for their recreation and related activities. The estimated 1974 population of 50,000 is an increase of about 43 percent since 1960, representing an annual increase of nearly 3 percent (table 25).

The best available trend data showing what these potential users do in southeast Alaska are data from specific areas and sites where accurate records have been kept. Generally, information about use of dispersed recreation activities and areas (with the exception of public recreation cabins) is of questionable reliability and will not be discussed here except to say that the annual increase has been estimated at about 15 percent. Information about past and present use of some of the developed areas and sites reveals the rapid growth of recreation in southeast Alaska, some of which is summarized below. These increases probably indicate what is occurring throughout this region.

²⁹ This estimate is based on all tour ship and ferry passengers plus half the airline and highway passengers.

Table 25--*Population trends and projections,
southeast Alaska*

Year	Population (to nearest thousand)	Year	Projected population
1940	25,000	1980 ²	66,000
1950	28,000	1985 ²	85,000
1960	35,000	1990 ²	99,000
1970	43,000		
1974 ¹	50,000		

¹State of Alaska Department of Labor, "Current Population Estimates by Census Division."

²University of Alaska Institute of Social, Economic, and Government Research.

1. National Park Service records indicate that visits have increased from about 7,300 in 1966 to more than 84,000 in 1976, a 1,150 percent increase (table 26). They anticipate an annual increase of about 10 percent per year for the next several years. Visits at Sitka National Historical Monument increased from 15,500 in 1960 to more than 80,000 in 1976.

Table 26--*Recreational visits to two National Park Service
areas in southeast Alaska*

Glacier Bay National Monument			Sitka National Historical Monument		
Year	Visits	Percent change	Year	Visits	Percent change
1966	7,372	--	1960	15,500	--
1967	12,238	66	1965	25,800	66
1968	13,382	9	1971	43,200	67
1969	16,048	20	1974	63,783	48
1970	27,940	74	1975	76,962	21
1971	25,708	-8	1976	81,624	6
1972	24,675	-4			
1973	35,961	46			
1974	41,528	15			
1975	71,968	73			
1976	84,945	18			
Average annual change		31	Average annual change		42

Source: Superintendents at each park.

2. U.S. Forest Service campground use increased from 28,600 visitor-days in 1973 (see footnote 15) to more than 88,000 visitor-days in 1975 (table 22). Public cabin use increased 48 percent from 1972 to 1975 (table 20).
3. Total passenger traffic on the White Pass and Yukon route railways (fig. 48) has increased by more than 80 percent since 1963 (table 27).



Figure 48.--The White Pass and Yukon Route winds its way to Lake Bennett. Total passenger traffic has increased by over 80 percent since 1963.

Other data could be compiled to establish trends related to the amount of recreation in general as well as specific recreation activities, for example, boat sales, gasoline sales at marinas, use of local facilities such as motels and museums, and hunting and fishing license sales. The conclusion drawn from the data presented here, however, is that recreation use in southeast Alaska is increasing, rapidly in some cases.

Although specific, reliable trend data for dispersed recreation areas and activities are not available, the importance of those activities cannot be ignored. On the National Forest alone, they are estimated to represent more than 1 million visitor-days (table 16). And, if the estimated 15-percent annual increase is accurate, then an additional 150,000 visitor-days will occur in 1976.

Table 27--Traffic by White Pass and Yukon route, 1963-73

Year	Skagway to Whitehorse	Whitehorse to Skagway	Skagway to Bennett (round trip)	Skagway to Carcross (round trip)	Rail local	Total
<u>Number of passengers</u>						
1963	3,802	3,551	2,201	18,525	989	29,068
1964	4,114	3,122	2,569	17,927	947	28,679
1965	4,572	3,461	4,701	6,202	492	19,428
1966	6,692	5,485	6,096	8,044	725	27,042
1967	6,056	5,923	3,822	6,233	474	22,508
1968	10,472	9,004	7,116	8,756	1,116	36,464
1969	11,563	9,513	18,858	--	958	40,892
1970	6,148	5,242	14,480	--	547	¹ 26,417
1971	11,511	10,190	18,721	--	1,201	41,623
1972	13,612	11,624	15,582	--	1,820	42,638
1973	16,165	14,014	20,520	--	2,014	52,713
<u>Percent</u>						
Increase	425	394	932	--	203	81

Source: Barron and Casavant. Economic Impact of Proposed Klondike Gold Rush National Historic Park on Skagway, Alaska. 1974.

¹Labor strike from July 7 to August 17.

FUTURE INFLUENCES

What the future holds for outdoor recreation and esthetic values in southeast Alaska is hard to predict. There are many important influential factors related to both the supply of opportunities and demand for them that have great potential for change in the next few decades. How they will change is often unclear, and there appear to be some powerful cross-currents.

In this section we will identify some major factors, possible changes in them, and their likely effects. There is an important need for better information on the factors described and future changes in them; monitoring change as it occurs would be valuable.

FACTORS AFFECTING SUPPLY

1. The supply of outdoor recreation opportunities and scenic resources can be affected by changes in land jurisdiction or ownership. Access could be affected and the type of future development altered depending on who manages what types of lands, where they are located, and what policies are decided on for their management.

As specified in the Alaska Native Claims Settlement Act and

amendments, each of the 10 recognized Native villages is entitled to select 23,040 acres (36 square miles) from Tongass National Forest lands. Selections must generally be made within the immediate vicinity of the villages--within 36-square-mile townships that are adjacent to or corner on the township in which the village is located, which is usually a block of nine townships (fig. 49) (Wilsey and Ham, Inc., McGaughan and Johnson 1973). One of the villages, Klukwan, is eligible to select lands well away from the village township areas. Juneau and Sitka Native groups will also select 23,040 acres each outside the boroughs. In addition, the southeast Alaska Natives' regional corporation (Sealaska) is eligible to select another 200,000 to 300,000 acres from the same general areas, and that organization can select any or all cemetery and historical sites. In total, these selection rights will reduce the size of the Tongass National Forest by about one-half million acres. The lands selected may be developed as the village governments and regional corporation decide. The regional corporation has a profit-making directive, however, but the villages do not. Possibilities range all the way from the development of resorts to clearcutting, with many intermediate alternatives. Gazaway (1964) indicated Native groups did not favor recreation development in their traditional areas, but the future course is unclear.

In addition, the State of Alaska is entitled to select up to 400,000 acres for community expansion and recreation from the Alaska National Forests, part of which will come from the Tongass National Forest. It also can select lands for the same purposes from public domain lands outside the National Forest (almost all in the Skagway area). Plans for these lands are indefinite now, although some State Parks and trail developments have been mentioned as possibilities.

2. Future economic developments have great potential for changing the supply of outdoor recreation opportunities on all lands of southeast Alaska. Extensive development could either alter the types of opportunities available along the recreation spectrum or reduce or eliminate certain types of opportunities entirely, a problem that has concerned many people and which was expressed by Marshall in 1937 (Marshall 1938, p. 213):

When Alaska recreation is viewed from a national standpoint, it becomes at once obvious that the highest value lies in the pioneer conditions yet prevailing throughout most of the Territory.... In Alaska alone can the emotional values of the frontier be preserved.... Alaska is unique among all recreational areas belonging to the United States because Alaska is yet a wilderness.

- a. Logging and associated road development and log storage in bays have potential for modifying outdoor recreation resources and opportunities and for detracting from the

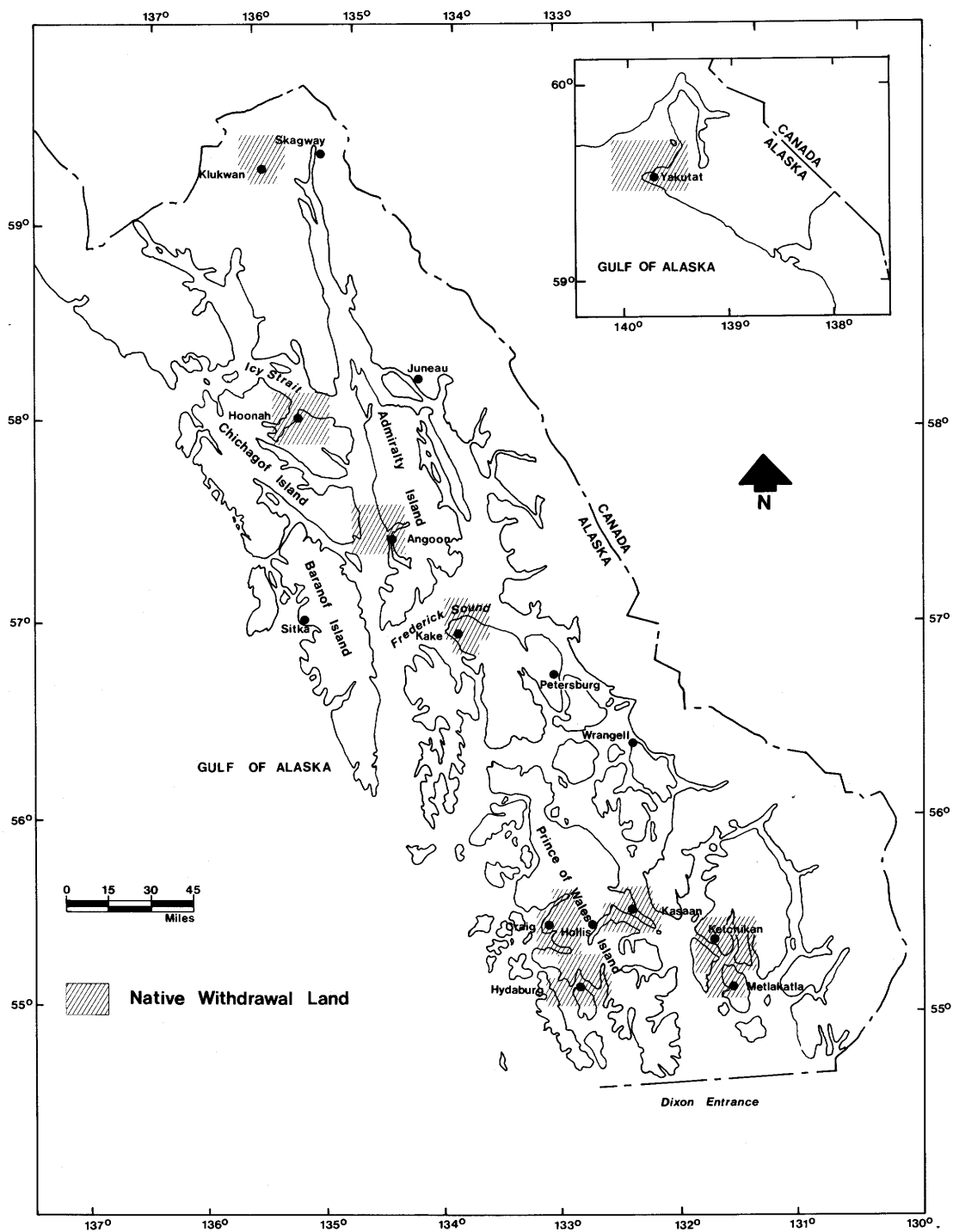


Figure 49.--General area of Native withdrawal lands in southeast Alaska.

appeal of the scenic resource (fig. 50). Since 1951, a series of four long-term timber sale contracts (50 years of timber harvest) totaling almost 22 billion board feet have been negotiated on the Tongass National Forest (fig. 36). In June of 1976, however, the Forest Service approved Champion International Company's request for cancellation of its long-term contract (8.75 billion board feet). The resulting effect will be to open up new options for the lands included in the contract areas, principally areas on Admiralty Island and the mainland south of Juneau. Whether these areas or parts of them will be included in future timber harvest plans is unknown at this time. The current land use planning process will consider a variety of alternative uses of these lands. The present allowable harvest level in Alaska's National Forests is nearly 900 million board feet (USDA Forest Service 1976), with about 91 percent of that from the Tongass National Forest. If the full allowable harvest is reached, cutting on about 30,000 acres will be required annually (Hutchison and LaBau 1975). The remaining long-term sales leave many specifics to be worked out in succeeding 5-year periods. Many smaller independent sales are also in progress or are planned for the future. Depending on what detailed plans are adopted, wildlife, recreational, and esthetic resources can be altered extensively. Unknowns include the specific locations of future cutting, whether tightly clustered or widely scattered; the location and type of roads and whether or not they remain open to public use; silvicultural methods used (clearcutting, shelterwood, or other methods); location of log storage areas; logging camp locations; and so on. All these factors have short- and long-run implications for recreation and scenic resources.

Widespread areas, roaded and developed largely as a result of logging, and those scheduled for cutting are many (fig. 36). And if market conditions improve, areas classified as marginal for timber harvest may then be considered for logging (Hutchison 1967).

In some areas, such as Prince of Wales Island, road systems are creating access to recreational opportunities of the kind commonly available in the lower 48 States but scarce in Alaska. Undoubtedly, the resulting road systems will have recreational value; but the desirable mixture of this kind of development and undeveloped, roadless opportunities is unknown.

The location of possible new timber processing plants could also alter recreation opportunities in their vicinity



Figure 50.--Recreation and esthetic resources can be altered extensively by a variety of factors including log storage areas in marine bays.

if the plants are located outside the existing communities in undeveloped country.

- b. Hydroelectric power developments are presently limited, but steep streams and heavy precipitation provide sites for dams and generators, especially on the mainland. Over 80 areas have been identified and reserved for possible development (Resource Planning Team 1975). Future developments could affect scenic resources and wildlife. The resulting manmade lakes would probably be small because the steepness of the terrain would offer limited recreation potential. Although impact of the dams would be confined to relatively small areas, powerlines and associated roads may have a significant impact on the visual resource.

- c. Geothermal resources are substantial (Resource Planning Team 1975). Natural hot springs are common and are evidence of the geothermal potential. Geothermal areas are located near Wrangell, Ketchikan, Sitka, and Hoonah, where markets for power exist. Development would hinge on further improvement of geothermal power generation technology that might alter relative costs of alternative power sources. It appears that outdoor recreation impacts of geothermal development would not be severe, and probably less negative than hydropower developments.
- d. The Alaska Panhandle has a long, colorful history of mining, and much of the early settlement was motivated by prospecting and mining activity. Mining has subsided to a low level. But, is substantial mining only part of past history, or could it rise again? Mineralized areas are extensive and claims abound--as many as 10,000 on National Forest lands. A very wide range of types of minerals are known to exist, including gold and silver, copper, lead, zinc, platinum, tungsten, nickel, cobalt, chromium, iron, molybdenum, antimony, uranium, palladium, mercury, and others. Mining has been legally permissible in Glacier Bay National Monument (one of only six units in the National Park Service where mining is permitted), and there has been significant filing of mining claims and continued prospecting in that area (Jettmar and Summers 1975). Public Law 94-429, passed in 1976, closed Glacier Bay and the other National Parks to new mining claims; and existing claims will be considered abandoned unless they are refiled with the Secretary of Interior by September 28, 1977. There is a 4-year moratorium on any new surface disturbance on valid claims, and the requirement for annual assessment work has been suspended. Congress intends to make a decision on the future status of mining during the 4-year moratorium. Future needs and technological change make this another uncertain element. With so many different minerals present, the chance of enough increase in value to trigger development seems quite real. For example, a molybdenum mine is expected to open near Ketchikan in the early 1980's. Mines and mining roads could adversely affect recreation and scenic resources.

Increasing resource development and even increased recreation use have potential for reducing the rich cultural heritage of southeast Alaska. Protection of cultural and historical areas and artifacts was identified as a major problem as early as 1937 (Cameron et al. 1938). It is even more so today with increasing timber harvest and recreational use in areas where artifacts of prewhite and more recent civilization occur. The Sealaska Native Corporation reports increasing loss at known sites from sale of artifacts, negligence, and vandalism. Native heritage is important not only to people within the Native community but also to all citizens who

might wish to appreciate the rich past culture of the Tlingit and Haida Indians. The problems in identifying the significance of this irreplaceable part of our history and in preserving it deserve prompt attention by land managers and the public. A start has been made in several agencies; for example, an archeologist in the Forest Service Regional Office in Juneau is working with interdisciplinary planning teams to identify and protect cultural sites. State law also protects antiquities.

FACTORS AFFECTING DEMAND

1. Local population change could alter recreation demands. The population of the panhandle is small but it is growing very fast (table 25). Population is projected to continue to grow rapidly, almost doubling in the next 15 years. Population projections are unreliable, however, and only the future will determine what will actually happen. The possible move of the State capital from Juneau could have a negative impact on the Juneau population, for example.
2. Change in demand by tourists from the lower 48 States depends less on population change (projected to grow slowly) than does change in demand by residents. Several other factors enter in, however. Growth in per capita income is one factor--visits to Alaska are expensive and rising incomes could result in increased visitation. Likely reductions at the more dispersed, less-developed end of the opportunity spectrum in the lower 48 States could produce a shift to Alaska of visitors who prefer such experiences. Changes in attractions in southeast Alaska such as the new Klondike Park and any new Wilderness Areas could alter use of those areas and of the region in general. More aggressive and widespread promotion and marketing of southeast Alaska outdoor recreation attractions also might increase tourism substantially. (For examples, see Spring and Spring 1967, Sunset Magazine 1976, Garret 1965.)
3. Changes in access to southeast Alaska could have a large effect on tourism, and changes in access within southeast Alaska could affect the distribution and amount of recreational use by both local residents and tourists. Improved highways in the rest of Alaska and Canada (particularly paving of the gravel portion of the Alaskan highway) might bring more people to southeast Alaska. Although the issue is presently dead, there have been proposals in the past for an extensive system of highways along the major islands of the Alexander Archipelago with short, connecting ferry links. Such a development, even in part, could totally alter recreation demand, as well as the nature of the recreational opportunities available. Several new ferry stops have also been proposed which would change use patterns within the area.

Long-range technical progress in air and sea transportation could lower real costs, reduce travel time, and increase recreational demand in the panhandle. Or, in contrast, rising energy costs could have the opposite effect and could make travel more costly, and, for all practical purposes, could make Alaska more remote and lightly visited than it is now. Which type of change will predominate is critical for shaping future recreation demand, but it cannot be predicted.

This last dilemma symbolizes the range of uncertainty and the fact that many of the forces affecting southeast Alaska originate far from the panhandle. Recreation supply and demand can be influenced by developments as remote as the cost of oil from Arabia or the price of woodpulp in Japan.

RECREATION ISSUES AND POLICY ALTERNATIVES

Conflicts between resource uses are certainly not unique to southeast Alaska; but they seem particularly apparent here because of major concentrations of important resource values and man's activities along the shorelines. This problem is identified by the Forest Service in the Tongass National Forest Guide as well as in the draft land use plan that preceded it. The draft land use plan stated:

The shoreline, where land meets the sea, is the focus of man's attention. The land adjacent to the shoreline is the area of greatest activity and has the highest concentration of values on the Forest. It contains the nesting trees of the bald eagle, much of the spawning grounds of the salmon, and the essential winter range for the deer. It contains some of the most productive soils and some of the most economically accessible stands of timber. The greatest amount of recreation use occurs here.

So the stage was set many years ago for almost unavoidable conflicts on the National Forest lands in southeast Alaska, and today, emotions run high about what the appropriate uses of those treasured resources are. The intensity of emotional feelings is illustrated in the following statement by the Alaska State Parks Division about future logging, "A major concern of many Panhandle Alaskans is that things are happening in southeast which will tarnish those qualities which create such prime outdoor recreation opportunities, which will erode their source of livelihood, and shatter their cherished lifestyle."³⁰ Other writers have raised

³⁰ Proposed revision of the Recreation Section in the Alaska State Parks Master Plan, State of Alaska Department of Natural Resources, Juneau.

similar concerns (Shepard 1976, Evans 1969).

In southeast Alaska, impacts from resource use (principally timber harvesting) are not spread evenly over the 27 million acres of land. Further, they are not even spread evenly over the 16



Figure 51.--Impacts from resource use are concentrated at the shoreline where a combination of conflicting values are focused.

million acres of the Tongass National Forest where most of the forested land is found. Impacts are concentrated at the shorelines and forested river villages where a combination of conflicting national, State, local, and individual life style values are focused (fig. 51). And with increasing demand for both wood fiber and recreational and scenic resources, conflicts are increasing rapidly. In 1937, the Resources Review Commission recognized this concern and said, "The Forest Service will take special precautions...to protect scenery along principal steamship routes" (Cameron et al. 1938). With the increasing importance of tour ships, recreational boating, and a variety of dispersed recreational activities on and off the principal routes, this problem is even more widespread and urgent today.

Because of the increasing conflicts, it is important that choices of outdoor recreation goals for southeast Alaska be made. Widely

divergent futures are possible. There have already been major changes since the ORRRC Report on Alaska appeared in 1962. Some of these changes may limit the available options, such as much heavier recreational use, more widespread logging and associated roads (which, although they have directly affected relatively few acres so far, have nevertheless altered the character of large areas along the sensitive shorelines), extensive timber sales (both long-term and short-term), the growth of the Alaska State ferry system, a great increase in tour ship numbers, a new visitor center at the Mendenhall Glacier and another at Sitka National Historical Park, new development at Glacier Bay National Monument, establishment of the Klondike Gold Rush National Historical Park, new public cabins, the appearance of snowmobiles, and so on.

Many of these changes, as they have affected outdoor recreation, were unplanned, unintended, and unexpected. Furthermore, there has been little evaluation of their effects. This is a problem not only in southeast Alaska but nationally as well. Recreation goals have not been clearly identified for National Forests until recently. As part of the Resources Planning Act, managing the National Forests for dispersed recreation will be emphasized (relative to developed types of recreation opportunities) in the future. Efforts are also underway at the national level to provide more specific direction about the National Forests' role in recreation across the entire recreation opportunity spectrum.

The National Park Service must also struggle with difficult decisions that determine the balance between its dual goals of protecting resources unimpaired and of providing for their enjoyment and use.

Experience elsewhere indicates how difficult it is to eliminate or reduce inappropriate uses once they have been established, and how much more acceptable are decisions on appropriate uses before they become established and evolve into vested interests. Examples from other parts of the country are plentiful: Summer home leases issued 40 to 50 years ago on what are now prime, public use areas are being terminated, but only slowly and painfully. Mechanized recreation (all-terrain vehicles, snowmobiles, motorboats) are being phased out of some areas where they do not fit, amid intense controversy. Public ownership of portions of shorelines in places like Lake Tahoe is being recovered at great cost.

The point is simple: Long-range planning before more commitments are made and patterns established can pay enormous dividends. As pointed out in an earlier report in this series about southeast Alaska, "the single most important problem is resource planning" (Harris and Farr 1974, p. 85).

Some progress has been made in expanding our knowledge about recreation and scenic resources in southeast Alaska. In 1937, the

Resources Review Commission recognized that the Forest Service "has not had sufficient opportunity to survey recreation possibilities in Alaska" (Cameron et al. 1938, p. 137). Today, combined efforts by the various agencies concerned with recreation potential in this area tell us quite a lot, much of which has been summarized here. But these efforts have not included detailed inventories of specific areas in the region for their recreation and scenic potential. Further, although we know quite a lot about potential opportunities, information related to use of them is scarce. Effective planning and management will require knowledge about both.

Five major issues stand out in any long-range planning related to recreation and esthetics: (1) protection of areas with high potential for recreation and scenic resource use, (2) interrelations of other resource uses and recreation-scenic values, (3) the desired mix of outdoor recreation opportunities, (4) coordination between the various recreation suppliers, and (5) adequate funding for recreation planning, development, and management.

1. The first issue, the need for protection of areas with high potential for recreation and scenic resource use, was described well by the Bureau of Outdoor Recreation in 1973 (page 27):

Some of America's natural resources need special consideration for their high recreation potential or their need to be protected. These are areas of great value to outdoor recreation on which uncontrolled development could result in irreversible damage to historic, cultural, or esthetic values, or natural systems or processes. Examples include coastal zones and estuaries; shorelines and flood plains of rivers, lakes, and streams; islands; rare or valuable natural areas; and scenic or historic areas.

Although this statement was made about the entire Nation, implications for the importance of southeast Alaska as a supplier of such opportunities is obvious; the resources described are abundant in southeast Alaska and most are under Federal ownership.

2. Interrelations of other resource uses and recreation-scenic values applies mainly to timber harvesting, although mining and associated roads, docks, and processing plants could have major impacts in the future. Most of the other resource uses generally apply to relatively small, isolated areas; but logging covers large areas, changes access, may alter fish and wildlife habitats, may destroy historical or cultural sites, and affects scenery, generally adversely, at least in the short run--clearcuts in southeast Alaska require at least 10 years to really green up (Baugh 1976, Harris 1974).

The usually rather uniform forests and the steep land exposed to

view from the waterways make the planning of harvesting areas difficult. But progress is being made and future planning can produce further improvements. Landscape architects' professional skills are now being applied in inventorying and evaluating the visual resource and the layout of cutting units to create more attractive openings, more in harmony with the natural scale and texture of the landscape (Burke 1975). Issues of logging location, whether logging should be modified or deferred,³¹ whether to group or scatter logging units, whether roads should be open to public use, and protection of fish and wildlife habitat are all critical issues that will need much careful future planning.

A key issue is determining the appropriate balance between use of land for production of timber or other commodities and recreation and scenic resource use; there are difficult challenges in reconciling differing national, regional, and local values and in working within the framework of each Federal and State agency's basic charter derived from legislation and policy. For example, the Alaska State constitution calls for resource use consistent with public interest, which State officials feel must include recognition of recreational and scenic resources in balance with commodity production, as shown in testimony on the National Forest Management Bill (U.S. Senate 1976). The National Park Service from its inception in 1916 has had a dual responsibility to protect natural conditions while providing for the use and enjoyment of the National Parks. The Forest Service mission, as defined in a series of legislation including the Organic Act of 1897, the 1960 Multiple Use-Sustained Yield Act, the Wilderness Act of 1964, the Endangered Species Act, the Forest and Rangeland Renewable Resources Planning Act of 1974, and the National Forest Management Act of 1976, is to strive to manage the National Forests for a balanced combination of uses that will best meet the needs of the American people. The problem for all these agencies is defining the balance needed in a constantly changing world.

3. The desired mix of outdoor recreation opportunities is a key decision, and one that really has not received as much attention as the integration of logging and recreation-scenic values. The choice is not all or none of one kind of opportunity, but how much of each type of opportunity along the spectrum to provide. Again, balance is the issue. It is imperative to make decisions soon about the types of opportunities to be featured, by which agencies, and the relative emphasis on each type of opportunity. If this is not done, the present distribution will surely shift due to ongoing management, perhaps in desirable ways, and perhaps not. Again, experience elsewhere indicates that as the

³¹See the Tongass National Forest Guide and the draft Tongass Land Use Plan for a discussion of alternative schemes and special area designations.

nature of recreation opportunities changes, use will continue and often grow. Most visitors will still appear generally satisfied. This, however, can be misleading in terms of the desirability of the change. What is not obvious is that the visitors are often new, different people with different interests, and the former visitors have been displaced in an "invasion-succession" process (Clark, et al. 1971). The people whose desires and preferences are no longer met must seek other areas for their type of recreation, if they can. Most often the people who are bumped out are those who prefer more dispersed, less developed areas with more solitude. Finding areas with these characteristics is becoming more difficult. Southeast Alaska provides such opportunities in abundance and with superlative quality. A decision is essential as to whether, or to what degree, these dispersed opportunities will be maintained and managed.

Specifically, what is the need for classified wilderness in southeast Alaska? The Forest Service has identified six wilderness study areas (fig. 36) and will consider wilderness in planning management for other roadless areas. A coalition of conservation groups has proposed more than 40 areas for various types of protective classification³² (fig. 52). There is doubt that the traditional air access and the cabins would be possible in classified wilderness, and some people believe that some other, intermediate, or back-country designation might be better suited to panhandle conditions. Or is some of both wilderness and back country needed? These are difficult and unanswered questions.

How much area is required for desired opportunities? Of what type? Where? What types of resource development and recreational activities are appropriate? Which are not?

The unique public cabins, which seem to fit the climatic conditions and brown bear situation of southeast Alaska so well, raise policy questions. How many cabins are appropriate? How isolated or widely spaced should they be? At what point can a lake support additional cabins? Where should cabins be located?

Roads pose many questions related to the mix of opportunities, most of which have already been discussed. New highways (such as the one from Carcross to Skagway) could drastically alter the character of large areas and the type of recreational experience

³²Southeast Alaska Conservation Council (SEACC). Response to the Tongass National Forest Land Use Plan. 1975. Decisions regarding the SEACC proposals are being made as part of the Forest Service planning process. Recent environmental impact statements, which call for logging and roadbuilding (including that in the long-term sale areas), affect more than 20 of the areas proposed for protective classification by SEACC.

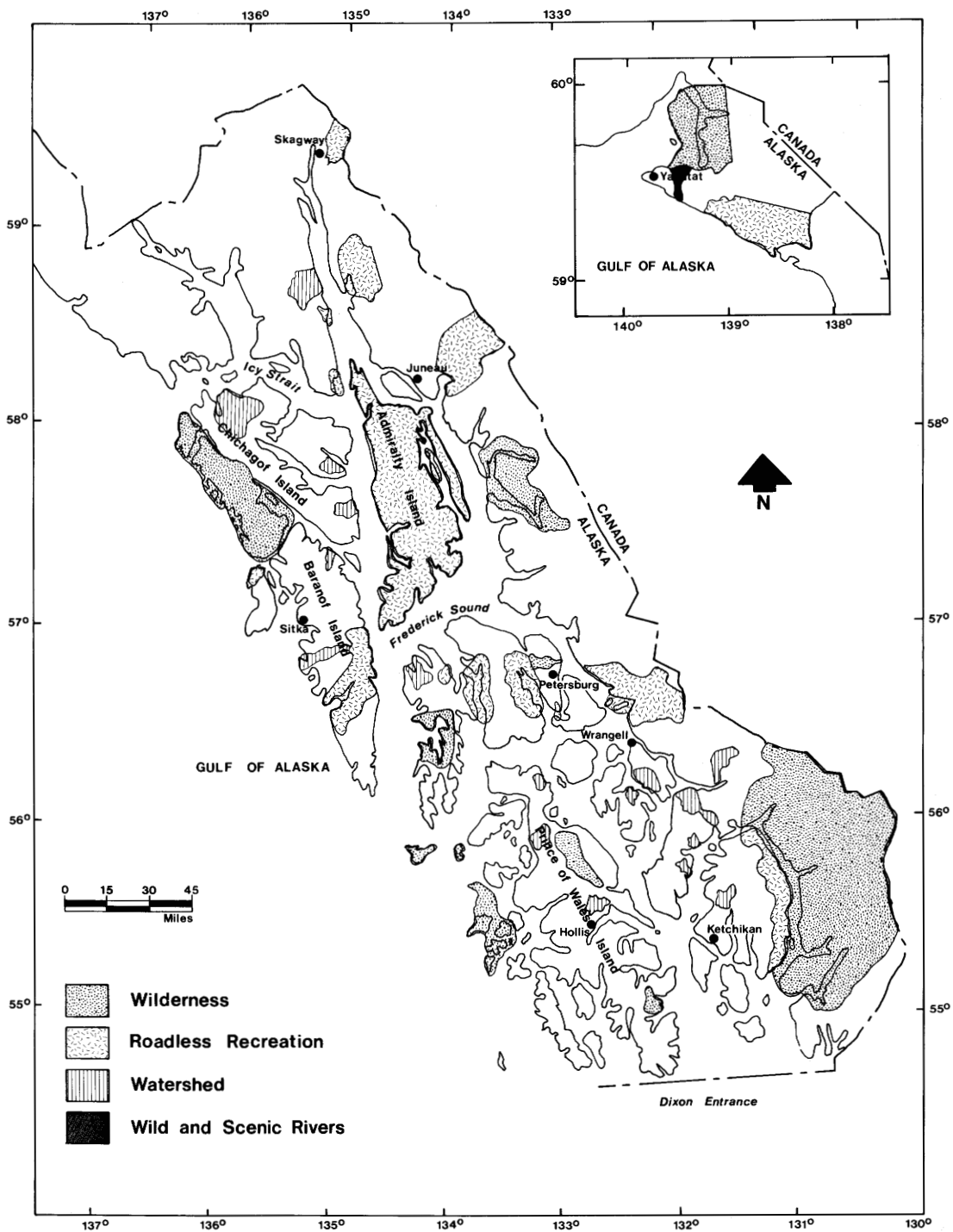


Figure 52.--Land designation proposals by the Southeast Alaska Conservation Council.

they offer. Logging roads, where they go, and whether they are open and will remain open for public use are critical questions. Road location can make it more difficult to protect historical and archeological sites. In addition, are there places where roads are desirable for recreation or scenic drives where logging and related roadbuilding will not occur?

What effect will decisions have on lifestyles of residents? How should local versus national recreation needs and values be balanced?

4. In the 1937 assessment of recreation in Alaska (Cameron et al. 1938), and again in the 1962 ORRRC reports, calls were made for coordination between the various recreation suppliers in Alaska. More recently, Thomas and White (1974) again stressed the "need to recognize common goals" and urged coordination. More than any time in the past, it is imperative that agencies with landownership responsibilities coordinate their efforts in planning, management, and data collection. Agencies and organizations without land jurisdiction responsibilities, but with interests in this area, should also be included. The specific roles each has in providing recreation and scenic resources need to be clarified and coordinated whenever possible.

Coordination is a very different problem in southeast Alaska than in the lower 48 States. The overwhelming dominance of public land, especially the Tongass National Forest, and the largely self-contained nature of the panhandle--where other, outside alternatives are remote--set the stage in a unique way. These features have required the National Forest to play a role in meeting local needs that elsewhere would be the responsibility of local, county, and State agencies. This will probably change somewhat as State and Native village land selections become final. The role of the National Forest will still be great, however, and this places a heavy responsibility on the Forest Service to coordinate its recreation planning with other agencies.

Recent events hold promise for the future. The National Forest has initiated efforts to strengthen its land use planning process and has involved other agencies and organizations in this effort. Recreation and scenic resources will certainly receive a great deal of attention--at local, regional, and national levels. Although final results will not be apparent for several years, the visibility of the process and the involvement of citizens are certainly keys to assuring that no important values are overlooked.

5. The four previous issues cannot be successfully resolved without adequate funding for recreational planning, development, and management. State and Federal funding levels for recreation management and planning in southeast Alaska are small and have

grown little in recent years. There is no easy answer to what an appropriate funding level would be for recreation in any State or Federal agency, or for any other part of a particular agency's program such as timber or wildlife management. This is not a problem unique to southeast Alaska. Resource managers in all parts of the country and at all levels of government are faced with the difficult task of arriving at an appropriate balance between resource programs which favor recreational and scenic values vs. those favoring production of commodity resources such as timber or mineral. With the values at stake, as described in such glowing terms by Bohn (1967), Muir (1915), Gannett (1904), and Marshall (1938), and pressures for utilization of some of these same resources, the issue of balance seems to be particularly important in southeast Alaska at the present time. Current land-use planning efforts, involving both local and national concerns, are intended to arrive at balanced programs with equitable funding levels for all resources, including recreational and scenic values.

RESEARCH NEEDS³³

The preceding discussion on recreation and esthetic resources and their use in southeast Alaska identifies the need for research-based information in some critical areas. Effective planning and management of recreation resources and use will require reliable information not now available. Some of the general research needs are described briefly here. But for any research program to be useful, consultation with land managers during the problem analysis stage will be necessary to assure that research is responsive to planning and management needs. Coordination between the various agencies involved in recreation management and research in southeast Alaska will also be essential to insure comparable and useful data.

The problem areas identified below call for use of existing research technology to provide information regarding southeast Alaska's recreation and scenic resources and their use. Development of new methodology for studying recreation-related issues is important, but usually it can be done more efficiently outside of Alaska. In addition to the general problems for study listed below, many of the research needs discussed in other reports in the "Ecosystems of Southeast Alaska" series have relevance for recreation and scenic resources.

³³ Recreation research needs for southeast Alaska are also discussed in an unpublished report, "Research Needs for Southeast Alaska," by John C. Hendee, available from the Pacific Northwest Forest and Range Experiment Station, 4507 University Way NE, Seattle, Washington 98105; in Yoesting (1975), and in Johnson (1977).

Gathering reliable baseline information regarding the amount and types of recreation use and users' attitudes, behavior, and perceptions is a basic research need. The data available are of questionable reliability and must be strengthened to allow for effective monitoring of trends and changes resulting from the future influences discussed earlier. Specific user populations (i.e., Native Indians, other residents, tourists, etc.) must be identified and their individual patterns of use and desires determined. This need is particularly apparent for the dispersed forms of recreation which are difficult to monitor. Better resource inventory data that can be used to support planning is also essential.

Other major problem areas requiring research include the following:

1. Economic impacts and trade-offs. What are the effects on local, State, and national economies from alternative resource development and recreation programs?
2. Physical and biological impacts of recreation use. What are the magnitude and importance of impacts related to recreation use and how might these impacts be controlled?
3. Needs, desires, satisfactions, and perceptions of local, State, and national clientele. Who is being served and who is not? Why? What impacts will increased resource utilization or tourism have on local or regional lifestyles?
4. Impacts on recreation and esthetic values from logging and other resource uses. What is the acceptable level and type of resource development such as timber harvesting and fish habitat management?
5. Availability of opportunities along the recreation opportunity spectrum. How is the distribution of opportunities being affected by current (and planned) resource development? Will increased tourism adversely affect the nature of the opportunities desired?

CONCLUSIONS

This paper has dealt with an assessment of the availability and use of recreational, scenic, and esthetic resources in southeast Alaska. We have also attempted to identify the interrelationships and conflicts between these resources and other resource values in this region, such as timber harvesting and mineral development. This analysis reveals that a range of possibilities exists for the future supply of recreational and scenic resources. The entire region is in a rapid state of change, however, which presents difficult challenges to resource managers and the local, regional, and national publics which they represent. There are a variety of forces at work, many in conflict with one another, and answers to the basic

question of "what is the appropriate balance in resource uses?" will not be easy. But programs to effectively manage and protect the rich recreational, scenic, historical, cultural, and esthetic resources of southeast Alaska (many of which are unique) will require prompt attention and cooperation from all land managers.

The information available about the supply of recreational and scenic resources, and particularly the use made of these resources, is either incomplete or of poor quality. A major effort to provide the basic information required for planning and management purposes will be necessary to allow objective assessments of impacts related to resource uses of all kinds. Just as the use of the timber or mineral resources for commodity purposes will affect the distribution of certain types of recreational and scenic resources, so will a decision to provide recreational or scenic opportunities of one kind or another affect how we can use other resources for commodity purposes. Although better information will not tell us what is the proper balance, it will provide resource managers and the public with an improved basis for determining the relative impacts from the available alternatives.

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APPENDIX

COMMON NAME

SCIENTIFIC NAME

Plants

alder, red
blueberry, Alaska
cabbage, deer
cedar, Alaska
redcedar, western
cottonwood, black
hemlock, mountain
hemlock, western
huckleberry
menziesia, rusty
pine, shore
spruce, Sitka

Alnus rubra
Vaccinium alaskaense
Fauria crista galli
Chamaecyparis nootkatensis
Thuja plicata
Populus trichocarpa
Tsuga mertensiana
Tsuga heterophylla
Vaccinium parvifolium
Menziesia ferruginea
Pinus contorta
Picea sitchensis

Animals

Land

bear, black
bear, brown
beaver
coyote
deer, Sitka black-tailed
fisher
fox, red
goat, mountain
hare, snowshoe
lynx, bobcat
lynx, common
martin
mice
mink
moose
muskrat
otter, land
porcupine
shrew, common
shrew, dusky
shrew, northern water
squirrel, flying
squirrel, red
weasel, short-tailed
wolf
wolverine

Ursus americanus
Ursus arctos
Castor canadensis
Canis latrans
Odocoileus hemionus sitkensis
Martes pennanti
Vulpes vulpes
Oreamnos americanus
Lepus americanus
Lynx canadensis
Lynx lynx
Martes americana
Cricetidae (family)
Mustela vison
Alces alces
Ondatra zibethica
Lutra canadensis
Erethizon dorsatum
Sorex cinereus
Sorex obscurus
Sorex palustris
Glaucomys sabrinus zaphaeus
Tamiasciurus hudsonicus
Mustela sp.
Canis lupus
Gulo gulo

Marine

clams
crabs
halibut, Pacific
herring
otter, sea
rockfish
sablefish
salmon, chinook (king)
salmon, chum (dog)
salmon, coho (silver)
salmon, pink (humpback)
salmon, sockeye (red)
scallops, mollusks
sea lion
seal, elephant
seal, harbor
shrimp
steelhead
trout, cutthroat
trout, rainbow
Dolly Varden
whales

Mollusca (phylum)
Brachyura (tribe)
Hippoglossus stenolepis
Clupea harengus
Enhydra lutris
Morone saxatilis
Anoplopoma fimbria
Oncorhynchus tshawytscha
Oncorhynchus keta
Oncorhynchus kisutch
Oncorhynchus gorbuscha
Oncorhynchus nerka

Zalophus and Otaria
Mirounga angustirostris
Phoca richardii
Natantia
Salmo gairdneri
Salmo clarki
Salmo gairdneri
Salvelinus malma
Cetacea (order)

The mission of the PACIFIC NORTHWEST FOREST AND RANGE EXPERIMENT STATION is to provide the knowledge, technology, and alternatives for present and future protection, management, and use of forest, range, and related environments.

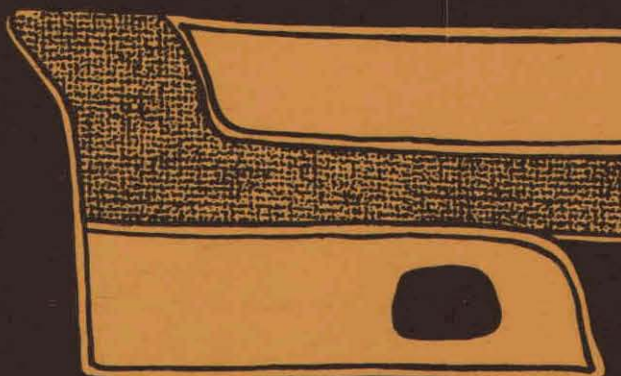
Within this overall mission, the Station conducts and stimulates research to facilitate and to accelerate progress toward the following goals:

1. Providing safe and efficient technology for inventory, protection, and use of resources.
2. Developing and evaluating alternative methods and levels of resource management.
3. Achieving optimum sustained resource productivity consistent with maintaining a high quality forest environment.

The area of research encompasses Oregon, Washington, Alaska, and, in some cases, California, Hawaii, the Western States, and the Nation. Results of the research are made available promptly. Project headquarters are at:

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