YAKUTAT DISTRICT COASTAL MANAGEMENT PROGRAM

Prepared for the

CITY OF YAKUTAT

by

ALASKA CONSULTANTS, INC.

January, 1981

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

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FOREWORD

The Alaska Coastal Management Act and its regulations set out the content and guidelines for preparation of district coastal management programs. The regulations do not require that district programs follow a particular format as long as all essential elements and guidelines of the district program are addressed.

The Yakutat District Coastal Management Program is organized to present the elements of the district plan and management program in a logical sequence which fits the coastal issues at Yakutat and is laid out in seven chapters as follows:

Chapter I - Introduction: This chapter presents a broad overview of the natural setting and history of Yakutat and its region, its present state of development and the major planning issues and activities of the recent past.

Chapter II - District Coastal Management Boundaries: The district program's boundaries and geographic sphere of influence are defined.

Chapter III - Coastal Resource Inventory: This chapter presents an inventory of the coastal resources in and adjacent to Yakutat as a basis for development and implementation of the district coastal plan and program.

Chapter IV - Future Coastal Uses and Activities: This chapter presents an analysis of economic trends and future development patterns for the important coastal uses and activities which are subject to the district management program and which may affect the management of the coastal resources inventoried in Chapter III.

Chapter V - Goals and Issues: The community's long range goals for coastal planning and management are outlined and the major coastal planning issues facing the district are identified.

Chapter VI - Coastal Management Plan: This chapter presents elements of the coastal management plan. This plan is the outcome of an evaluation of the suitability of the coastal resource base (Chapter III) to accommodate the coastal uses and activities forecast for the district coastal zone (Chapter IV). The evaluation will use the standards for coastal development set out in the Alaska Coastal Management Act and related regulations. This chapter will also identify areas in the district meriting special attention and special measures appropriate for their proper management.

Chapter VII - Coastal Management Program Implementation: This chapter describes the means by which the district coastal management plan will be implemented. The chapter treats administrative, budgetary and personnel needs, administrative procedures, and coordinated use of a variety of

district planning powers such as zoning, subdivision and building codes, capital improvements programs, public land management, and cooperative agreements and intergovernmental coordination.

At the beginning of each of Chapters II through VII, the section(s) of the Alaska Coastal Management Act or its regulations pertinent to the topics covered in the chapter is cited for easy reference.

Over the past decade, many planning and resource studies about the Yakutat area have been published by the City of Yakutat and other parties. These studies contain a great deal of information about the Yakutat region, much of which is directly relevant to the City's coastal management program. The present project drew upon these existing data sources, insofar as they were current and relevant to coastal issues. A comprehensive bibliography of these data sources is included as an appendix to this report.

Chapter 1

INTRODUCTION

INTRODUCTION

Yakutat is a physically isolated Gulf of Alaska community of about 600 residents. About 425 people, most of them Tlingit Indians, live within the boundaries of the City of Yakutat, with the remainder living outside but near the City. Yakutat is the only settlement and the City is the only local government unit within a 400 mile stretch of the Gulf of Alaska coastline (see Figure 1).

Yakutat is situated at the northwestern edge of an extensive outwash plain, the Yakutat Forelands, amid a landscape of mountains, glaciers, fiords, lowland forests and ocean coastline. The town has developed along Monti Bay, a well sheltered cove at the entry to the larger Yakutat Bay. In turn, Yakutat Bay is the only large, protected deep water natural harbor between Cordova 225 miles to the north and Cross Sound, 150 miles to the south.

Over the past decade, primarily because of improved local economic opportunities and living conditions, Yakutat's population has rebounded from a long term decline. The City of Yakutat exerted an aggressive leadership role to bring about this reversal and today the community has an exceptionally wide range of public services for a small and remote Alaska town. Yakutat has an excellent State-owned and maintained airport and has daily jet service. However, shipping services have been erratic because of low freight volumes and the decaying physical condition of local port facilities.

Commercial fishing and seafood processing is the mainstay of the local economy. This is supplemented by government employment, some tourism and recreation business geared to use of the area's exceptional scenery and fish and wildlife resources and, in the recent past, a spate of employment in support of offshore oil and gas exploration in the Gulf of Alaska.

The Yakutat area enjoys natural systems which are basically healthy, productive and as yet little harmed by human use. Because of the area's small population and the absence of heavy industry, its waters and air are virtually unpolluted and it is free of other types of large scale environmental degradation. To date, the main problems of environmental management pertain to the growing pressure of recreational hunting and sport fishing upon local fish and wildlife populations, the persistent scars of old logged areas near town where regrowth has been slow, and some small scale local damage usually due to poor construction practices. However, on the horizon are prospects for large scale development in the offshore oil and gas industry and in timber harvesting which pose the most serious potential problems yet encountered to coastal environment management in the Yakutat region.

The City of Yakutat is a first class city with a jurisdiction of eight square miles of coastal lands and waters. As a first class city, it is

required under the Alaska Coastal Management Act to prepare a district coastal management program. Yakutat is smallest in population and is the most remote of all municipalities engaged in coastal management planning. As the only settlement and government in this vast and otherwise unpopulated region, the City is legitimately concerned about possible events within its sphere of influence which could have a major impact on the town's social character and lifestyle, its economic resources and welfare, and its physical development and governing institutions.

The importance of Yakutat's position as the premier natural harbor in the region and the only settlement with public, commercial and transportation services is magnified by the rough and hazardous seas of the Gulf of Alaska where storms often force fishing boats and other marine traffic to take shelter in Yakutat Bay. These same stormy seas prohibit the siting of port facilities for many miles along the exposed and wave-beaten outer coastline north and south of Yakutat Bay. Another critical environmental factor is that the entire Gulf of Alaska is within an extremely active and violent seismic zone, which accents the importance of a natural harbor like Yakutat Bay with good protection against earthquake-caused tsunamis.

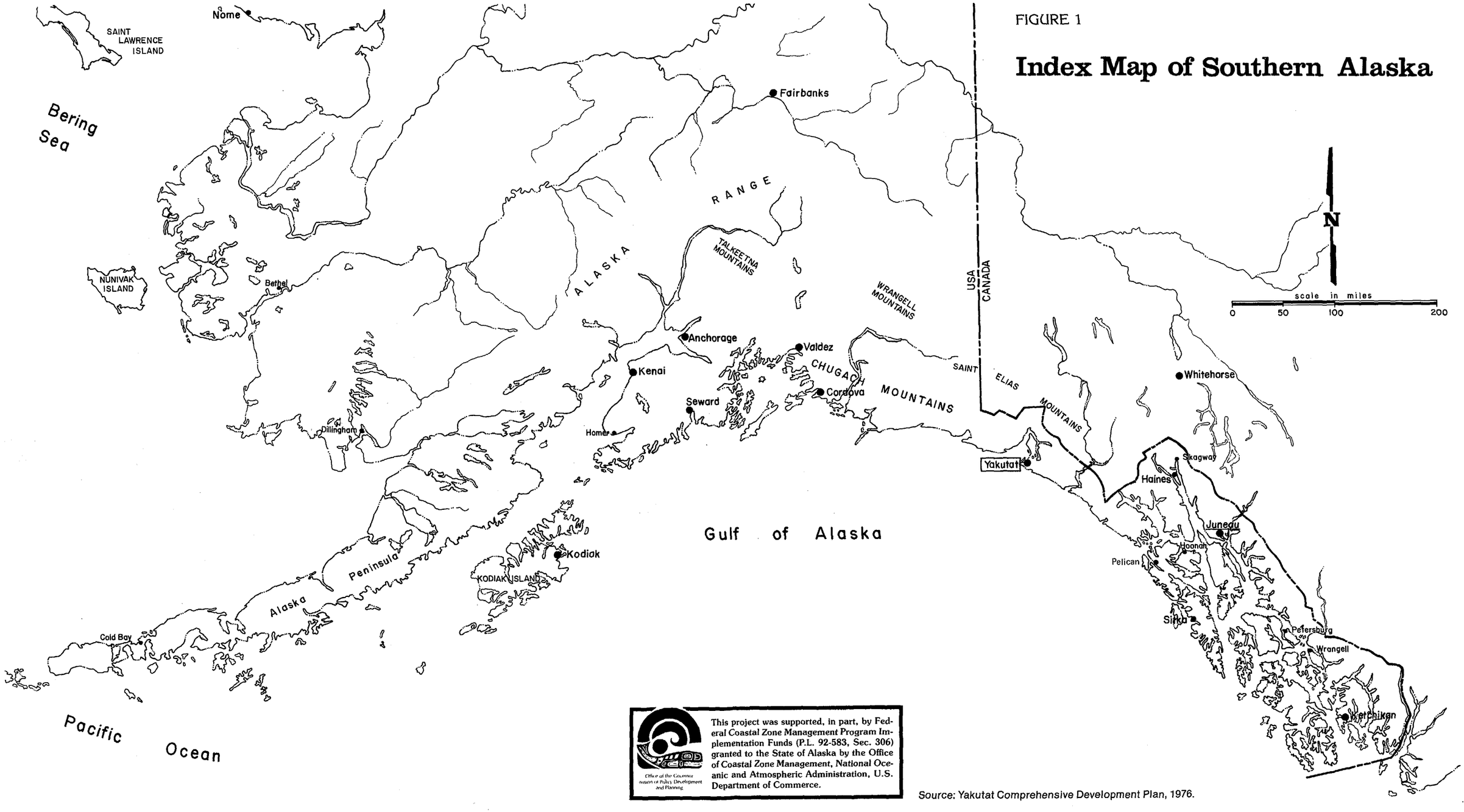
Because of its marine transportation potential, Yakutat is of overriding interest to the offshore petroleum industry in the eastern Gulf of Alaska. It is the feasible and logical landward link, if one is needed, for the marshalling of industrial materials and manpower serving offshore exploration and for movement of crude oil and natural gas production from offshore fields to market via oil tankers and LNG ships. It is likely that Yakutat will hold a similar attraction for the bottomfish industry in the Gulf of Alaska if the economics of that industry begin to favor shore-based processing.

The earlier Northern Gulf of Alaska OCS Lease Sale #39 held in April 1976 resulted in only a brief and unsuccessful exploratory effort, but that sale mobilized the City to formulate the basic development policies which remain the frame of reference for the City's coastal management planning. The legacy of Sale #39 includes:

1. City commitment and strategy to fully exert its local planning powers to ensure that oil industry operations did not conflict with local planning goals.
2. Private construction of a small marine service base on Monti Bay for offshore support of oil and gas exploration in the Gulf of Alaska.
3. Execution of a complex land exchange to permit expansion of the service base, if needed, under terms agreeable to the City and local residents.
4. City acquisition of the Ocean Cape tract as part of the land exchange.
5. Reservation under option to Pacific Alaska LNG Company by Yak-Tat Kwaan of an industrial site on Monti Bay for a potential LNG plant and terminal.

FIGURE 1

Index Map of Southern Alaska



This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Source: Yakutat Comprehensive Development Plan, 1976.

Since Sale #39, events have introduced other new and significant elements to the context of waterfront planning at Yakutat. Among these are:

1. State adoption and implementation of coastal management legislation.
2. Negative exploration results of Sale #39.
3. Destruction by fire of the City of Yakutat cold storage facility.
4. Further deterioration of the Ocean Cape dock.
5. Rising interest in the development potential of the bottomfish industry.
6. Cancellation of the Pacific Alaska LNG Company's industrial site option for an LNG plant and terminal on Monti Bay.
7. Scheduling of a second federal OCS sale near Yakutat, the Eastern Gulf of Alaska Sale #55, in October 1980.
8. Scheduling of a State sale of submerged lands in the Gulf of Alaska in mid-1984, within the general region between Icy Bay and Cross Sound. The State is also considering an earlier sale, pending the outcome of federal OCS Sale #55.
9. Scheduling of a State timber sale near Icy Cape north of Yakutat in October 1980 and tentative scheduling of a timber sale on the Yakutat Forelands by the U.S. Forest Service.

In recent years, the City of Yakutat has consistently and energetically pursued its goals for community and economic development, but it has had to pursue those goals in the midst of rapidly shifting events. Today's great uncertainties stem from the unpredictable future course of offshore oil and gas development and the shore-based groundfish industry in the Gulf of Alaska region. Either one of these industries has the potential to alter Yakutat on a scale and at a pace which is unprecedented locally except for a brief influx of military activity experienced here during World War II. Unfortunately, it is presently not possible to determine the time, place or scale of specific future developments in these two industries, or even to be assured that any developments will materialize at all. Regardless, the potential water-dependent land uses and marine facility requirements of these industries in Yakutat's vicinity must be an important background factor in the City's long range planning strategies for coastal management and its capital improvement programs.

Meanwhile, the City must reckon with its current needs and uncertain future conditions and take steps to further its community goals. During the past decade, the City has engaged in a series of major planning projects to guide local planning and development decisions. The first of these projects was Yakutat's first comprehensive plan, the Yakutat, Alaska, Comprehensive Development Plan completed in 1971. This plan guided many physical and economic development projects which the City initiated in the late 1970's.

A second, more intense round of local planning was triggered in the mid-1970's in response to the prospect of large scale oil and gas and fisheries developments. At the outset of this second round of planning, the City sponsored a comprehensive in-depth socioeconomic survey of its residents to identify community attitudes and the development needs and

goals of the community. The results of this survey were published in 1975 as the Yakutat Socioeconomic Survey and provided the policy framework for the City's subsequent planning efforts. Foremost among the City's broad development goals are:

1. Moderate economic growth compatible with the traditional character of the community.
2. Economic betterment, with particular stress on more diversified, productive and profitable local participation in the fishing industry.
3. Improved living conditions.
4. Conservation of the area's natural resources, especially its fisheries resources.

In 1976, the City completed its updated Comprehensive Development Plan, followed by the City of Yakutat Capital Improvements and Services Program in 1978. These projects addressed the City's ongoing planning and development needs as well as special issues raised by potential developments in the oil and gas and groundfish industries. The City also has had an active Overall Economic Development Planning Committee which has prepared and annually updates the City's Overall Economic Development Plan. Most recently, the City has undertaken a number of projects to guide redevelopment of its waterfront and its fisheries industry, as well as a coastal management project.

Apart from the City's own planning efforts, the resources of the City and the region have attracted the attention of various non-local development and planning interests. The community has been the subject of planning and resource studies by numerous other resource agencies in connection with proposed oil and gas, fisheries and timber developments. Foremost among these studies are the Bureau of Land Management's Environmental Impact Statements for OCS Lease Sales #39 and #55 and related environmental and socioeconomic studies, the U.S. Forest Service's Land Management Plan for the Tongass National Forest, State of Alaska development planning for OCS activities and the groundfish industry, and Yak-Tat Kwaan's management planning. Clearly, the coordination of this mixed array of development interests at play at Yakutat will be a matter of central concern for the City's coastal management program.

Chapter 2

DISTRICT COASTAL MANAGEMENT BOUNDARIES

DISTRICT COASTAL MANAGEMENT BOUNDARIES

6 AAC 85.040, BOUNDARIES. (a) Each district must include a map of the boundaries of the coastal area within the district subject to the district program. Boundaries must enclose those lands which would reasonably be included in the coastal area subject to the district program if they were not subject to the exclusive jurisdiction of the federal government.

(b) Before council approval of the district program, initial boundaries must be based on Biophysical Boundaries of Alaska's Coastal Zone (published by the Office of Coastal Management and the Alaska Department of Fish and Game, 1978, a copy of which is on file with the Office of the Lieutenant Governor, and which is available from the Office of Coastal Management) and must include the zone of direct interaction and the zone of direct influence.

(c) Final boundaries of the coastal area subject to the district program may diverge from the initial boundaries if the final boundaries

(1) extend inland and seaward to the extent necessary to manage uses and activities that have or are likely to have a direct and significant impact on marine coastal water; and

(2) include all transitional and intertidal areas, salt marshes, saltwater wetlands, islands, and beaches.

(d) If the criteria in (c) of this section are met, final boundaries of the coastal area subject to the district program may be based on political jurisdiction, cultural features, planning areas, watersheds, topographic features, uniform setbacks, or the dependency of uses and activities on water access.

(e) The boundaries of the district must be sufficiently compatible with those of adjoining areas to allow consistent administration of the Alaska coastal management program. (Eff. 7/18/78, as amended).

Authority: AS 44.19.893
AS 46.40.030
AS 46.40.040

The City of Yakutat is smallest in population and among the smallest in area of all municipalities undertaking district management programs, as well as being the most isolated from other settlements. Yakutat's municipal boundaries take in 8 square miles of which an estimated 1,940 acres are land, 230 acres are tidelands and 2,950 acres are coastal marine waters. The City's coastline is about 8.5 miles long and no

point within the City is more than 2,000 yards from salt water. The nearest incorporated settlements are Cordova, about 225 air miles to the northwest and Pelican, on Chichagof Island about 175 miles to the southeast.

The Alaska Coastal Management Act requires every district to designate the landward and seaward boundaries of its coastal zone, that is, the area which will be subject to the district coastal management program. The boundaries are to encompass the lands and coastal waters within the district's jurisdiction, management of which may significantly affect marine coastal waters.

In order to simplify and standardize the task of district boundary definition, the Act directs the Alaska Department of Fish and Game to define coastal zone boundaries for initial consideration by districts during program development. In its publication Biophysical Boundaries of Alaska's Coastal Zone, the Department defined three coastal zones according to biophysical criteria: zone of direct interaction, zone of direct influence and zone of indirect influences. The Department also mapped each of these defined zones for each coastal region. Districts may either adopt the biophysical coastal zone boundaries recommended by the Department of Fish and Game or may, with appropriate justification, propose their own definition of district coastal boundaries for approval by the Coastal Policy Council.

Figures 2 and 3 show boundaries for these three coastal zones as defined by the Department of Fish and Game for the Eastern Gulf of Alaska subregions from Cape Suckling to Cape Sitkagi and from Cape Sitkagi south to Cape Fairweather.

The municipal boundaries of many coastal districts extend far inland or border other coastal management districts. For these coastal districts, the task of defining which areas under their jurisdiction fall within the coastal zone or how their district program should interrelate with the coastal management programs of neighboring districts has often raised complex issues. Yakutat, faces a very different, almost opposite set of issues. The community has a modest incorporated area and is isolated from other settlements, but is almost totally dependent on sound management of the coastal resources of a vast and rich coastal region within the unorganized borough which is primarily owned by the federal government.

The City's entire jurisdiction is well within the zones of "direct interaction" and "direct influence" as defined by the Department of Fish and Game. Furthermore, for its own planning purposes, the City regards its entire jurisdiction to be within the coastal zone. Thus, from a legal and technical point of view, the issue of intramural coastal boundaries for the Yakutat district program is resolved by general agreement that the entire City is within the coastal zone and subject to the district management program. The absence of neighboring districts nullifies the issue of coordination with other district programs.

FIGURE 2

YAKUTAT REGION
COASTAL BIOPHYSICAL BOUNDARIES
CAPE SUCKLING TO CAPE SITKAGI

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

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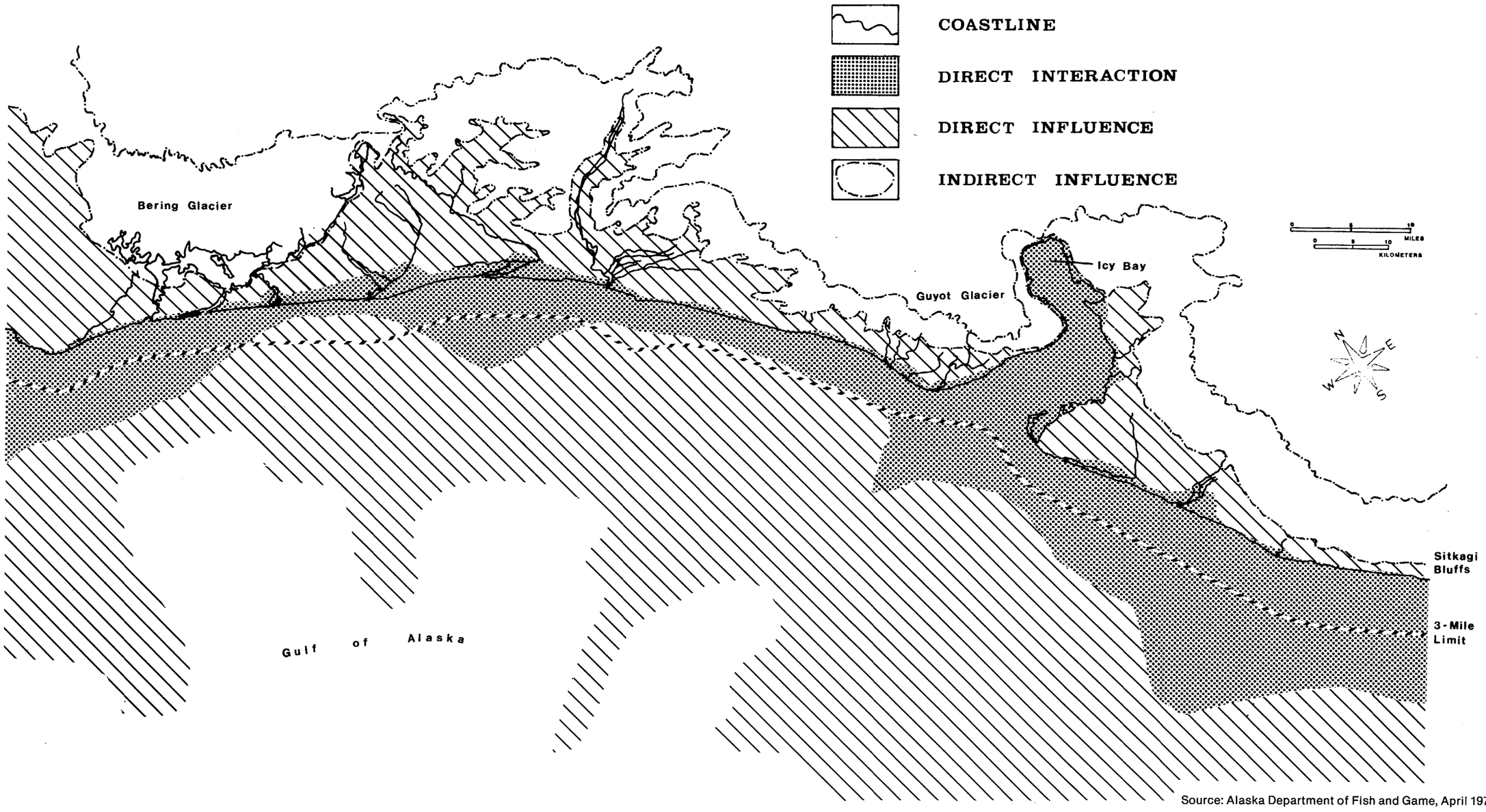
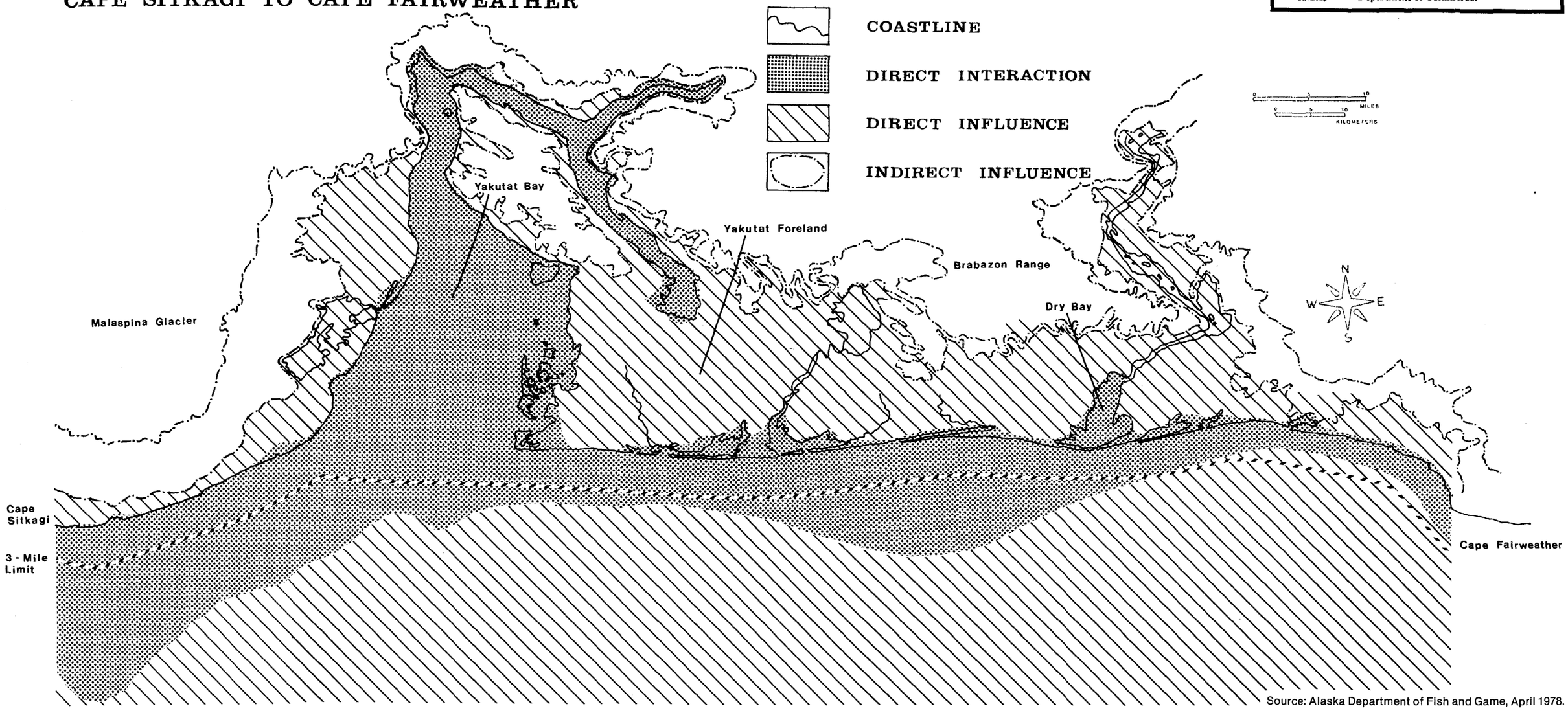


Source: Alaska Department of Fish and Game, April 1978.

FIGURE 3

YAKUTAT REGION
COASTAL BIOPHYSICAL BOUNDARIES
CAPE SITKAGI TO CAPE FAIRWEATHER

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.



Source: Alaska Department of Fish and Game, April 1978.

On the other hand, defining the sphere of extraterritorial influence of Yakutat's district program, that is, the geographic area outside the City's boundaries which needs to be considered in relation to the district program, is a very critical practical issue.

Yakutat's city limits enclose the main part of the developed community area, but they do not include most of the land and coastal area traditionally occupied and currently used by Yakutat residents. The City's boundaries do not include most of the "zone of direct influence" in the Yakutat region. However, because Yakutat is the base of operations and point of access for use, development and management of the coastal resources of the broader region, the policies and implementation of its district coastal management program will exert significant force over the resource management plans and practices of the other landlords and administrators of the region's coastal resources. Conversely, the greater part of the coastal resources, management of which is critical to the livelihood and lifestyle of Yakutat residents and is critically affected by the district program, is technically outside the geographic scope of the district.

The interplay between local district coastal management programs and regional, state and national coastal management concerns is acknowledged in the administrative regulation rules governing the development of district programs, as follows:

1. District programs must include a resource inventory of coastal habitats in the district and in adjacent areas and must consider the interaction of its management program with adjacent coastal habitats.
2. District programs must give consideration to uses and activities of greater than local concern, of state concern and of national interest. The district must ensure that uses of overriding regional, state or national concern are not arbitrarily or unreasonably excluded from its coastal zone by the district program. Typical uses and activities in this class are regional marine transportation facilities; national defense facilities; major energy facilities and development activities; and state parks and recreational areas, state game refuges and sanctuaries and critical habitat areas.
3. Within the district boundaries, certain "excluded" federal lands are not legally subject to local jurisdiction and are not directly covered by the district coastal management program. Nevertheless, activities on these excluded lands must be managed in a manner compatible with an approved district program.

For the most part, Yakutat's extraterritorial concerns focus on the region's natural resources. Specifically, the City is concerned about the effects on the community of proposals and programs for more intensive use and development of its natural resource base, and with the transportation and industrial facilities and community development which will be needed to support resource development programs in the region. Of particular concern to the City are:

1. Federal plans to lease offshore tracts in the Gulf of Alaska for oil and gas development and State plans to lease nearshore and coastal upland tracts near Yakutat for oil and gas development.
2. Timber harvest plans and management practices of the U.S. Forest Service, the State of Alaska, the Sealaska Corporation and the Yak-Tat Kwaan in the Yakutat region.
3. Fisheries management programs of the Alaska Department of Fish and Game to conserve and enhance the productivity of anadromous streams in the Yakutat region.
4. Proposals for development of a Yakutat-based groundfish harvesting and processing industry.
5. Potential for development of the tourist industry, based on more intensive use of the region's recreational resources, including fish and wildlife, scenic resources and rivers and lakes.
6. Development of transportation facilities and community infrastructure at Yakutat and environmental degradation ensuing from any of the above resource based economic activities.

The City of Yakutat has an obvious stake in the long term management of the region's oil and gas, fish and wildlife, timber and wilderness resources. It has a corresponding need to formulate and assert its basic policy positions with regard to their management. Development or mismanagement of any of these resources will have serious adverse effects on the resource base upon which Yakutat residents depend for their livelihood and lifestyle. Also, because of the City's central role in the region's transportation network and other support services, resource development activities will almost surely rely upon the City as a base of operations and field support. Thus, the City will effectively be a partner in development decisions and its cooperation will be essential to the furtherance of major resource development projects. Because the City is the only local government in the region and represents a majority of the region's residents, it is the main public spokesman voicing local concern in regard to the resource management plans and activities of federal, state and major private resource owners and managers. For this reason, the district program addresses major resource management issues within the district's geographic sphere of influence, defined to encompass the zone of direct interaction and direct influence between Cape Fairweather and Cape Suckling.

The Alaska Coastal Management Act encourages coordination between district programs and other public and private land owners and resource management agencies outside district boundaries but within their sphere of influence. Of special importance to Yakutat is the potential for interagency agreements to develop and implement coordinated management plans for coastal resource units and natural systems which fall within several jurisdictions or where their management will seriously affect the interests of the adjacent district. The policy base of its district coastal management program will also provide the City with a point of departure for formal participation in the planning process of federal and state agencies for management of the region's coastal resources.

In order to satisfy the statutory and regulatory standards for an approved district program, the present phase of the City's coastal management program concentrates primarily on the coastal management topics within the City's immediate jurisdiction. However, it also addresses extraterritorial areas and issues which are critical to the City's own concerns for sound management of coastal resources in its region.

Chapter 3

COASTAL RESOURCE INVENTORY

COASTAL RESOURCE INVENTORY

6 AAC 85.050. RESOURCE INVENTORY.
Each district program must include a resource inventory which describes, in a manner sufficient for program development and implementation

(1) habitats listed in 6 AAC 80.130 that are found within or adjacent to the district;

(2) major cultural resources that are found within or adjacent to the district;

(3) major lands and water uses and activities which are conducted within or adjacent to the district;

(4) major land and resource ownership and management responsibilities within or adjacent to the district; and

(5) major historic, prehistoric, and archaeological resources which are found within or adjacent to the district. (Eff. 7/18/78, Reg. 67)

Authority: AS 44.19.893
AS 46.40.030
AS 46.40.040

6 AAC 80.130. HABITATS. (a) Habitats in the coastal area which are subject to the Alaska coastal management program include

(1) offshore areas;

(2) estuaries;

(3) wetlands and tideflats;

(4) rocky islands and seacliffs;

(5) barrier islands and lagoons;

(6) exposed high energy coasts;

(7) rivers, streams, and lakes; and

(8) important upland habitat.

I. INTRODUCTION

The Alaska Coastal Management Act singles out for inventory five classes of resource data deemed to be of critical importance for coastal resource management: coastal habitats; cultural resources; major land and water uses and activities; major land and resource ownership and management responsibilities; and historic, prehistoric and archeological resources. The protection and vitality of these resources is the primary purpose of federal and state coastal management legislation. This chapter catalogs these resources in the City of Yakutat and adjacent areas and describes the resource features most significant for the district coastal program.

II. HABITATS

The Alaska Coastal Management Act sets out eight types of coastal habitats for which resources must be inventoried in the district coastal management plan. These are offshore areas; estuaries; wetlands and tideflats; rivers, streams and lakes; important upland habitats; exposed high energy coasts; rocky islands and seacliffs; and barrier islands and lagoons. The inventory of habitats is to cover the district's direct jurisdiction and adjacent areas. In the following analysis, the term "adjacent" has been applied flexibly, as appropriate to fit the specific habitats and their associated resource values rather than according to a single rigid geographic boundary.

There are significant examples within the City of Yakutat of the first five types of these habitats (see Figure 4). The sixth habitat type, exposed high energy coast, is found along the ocean beach both north and south of the entrance to Yakutat Bay, but not within the Bay nor within Yakutat's corporate boundaries. These ocean beaches have high recreational and scenic value and are an important part of the coastal ecosystem of the Yakutat region and are therefore included in the resource inventory. The remaining two types of coastal habitats, rocky islands and seacliffs and barrier islands and lagoons, do not occur as distinct habitat types in the immediate Yakutat area and are therefore not included in the resource inventory.

This inventory is organized to present a brief definition of each type of habitat, an inventory of significant occurrences of each type within or adjacent to Yakutat, an identification of outstanding resource values and an account of the major management problems and issues associated with each. The location and extent of each habitat type is also illustrated. Resource data for the habitat inventory was drawn from many sources, but the assistance of the Alaska Department of Fish and Game was invaluable for identification and descriptive purposes.

FIGURE 4

COASTAL HABITATS – CITY OF YAKUTAT

HABITAT LEGEND

- Estuaries and Offshore Areas
- Wetlands and Tideflats
  (NOTE: Few freshwater muskegs or saltwater marshes are delineated on this map.)
- Rivers, Streams and Lakes
- Important Upland Habitat
- Most Important Upland Habitat
  (This is a subcategory of "important upland habitat.")

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Yakutat Corporate Boundary

SHIPYARD COVE

PUGET COVE

YAKUTAT ROADS

MONTI BAY

MAIN AVENUE

ROAD

N

400 0 400 800 feet

SCALE 1:4800
DATE FEBRUARY, 1976

City of Yakutat

Sources: Alaska State Housing Authority, 1971; Alaska Consultants, Inc., 1976.

A. OFFSHORE AREAS

1. Definition

Offshore areas include marine waters and submerged lands seaward of the shoreline. These areas provide essential habitat for marine mammals, anadromous fish, marine fish, seabirds, shellfish and marine plants and micro-organisms.

2. Examples Within Yakutat

There are an estimated 2,950 acres of offshore habitat within Yakutat's jurisdiction or about 58 percent of the surface area within the City's municipal boundaries. This includes most of Monti Bay, part of Yakutat Roads, Shipyard Cove and Puget Cove. These bodies of water are generally well protected against ocean wave action by the Ocean Cape headland and the network of islands north of Monti Bay. However, Yakutat Roads and Monti Bay experience strong tidal flushes.

The marine species of most importance in local offshore areas for commercial and subsistence harvesting are halibut, tanner and Dungeness crab, and salmon. The first three are found in large numbers in the deeper waters of Monti Bay, while large salmon populations mill along the south coast of Monti Bay before entering Ankau Creek to spawn. In addition, there are important herring spawning areas at the head of Puget Cove and at Shipyard Cove. Puget Cove is also actively used for subsistence fishing. Finally, sea otters and harbor seals are reported to be occasionally present in Monti Bay.

3. Examples Adjacent to Yakutat

Yakutat residents actively use or are directly affected by others' use of all of Yakutat Bay and the sector of the Gulf of Alaska within fishing range of Yakutat (see Figures 5 and 6 at the back of this report). These areas include highly productive halibut and shellfish (crab, shrimp, scallop) grounds, bottomfish concentrations, salmon migration routes, probable migration routes for a number of endangered species of whale, and extensive marine mammal and seabird habitat.

The continental shelf of the eastern Gulf of Alaska is an important habitat for numerous groundfish species and crustaceans. Deeper waters offshore from Yakutat Bay and Dry Bay are reported to serve as the major halibut spawning grounds for the whole North Pacific halibut fishery and as spawning grounds for other commercially important demersal species such as black cod, pollock and Pacific cod. The shallower shelf waters are important breeding and rearing areas for king, tanner and Dungeness crab and for shrimp species and scallops.

Halibut is an international fishery with catch levels and fishing periods regulated by the International Pacific Halibut Commission. Although comprehensive data on the halibut catch in the Yakutat area is not

available, it is reported that several million pounds of halibut are caught annually in the Yakutat area. Only a small share of this harvest is landed locally, ranging between roughly 100,000 and 200,000 pounds annually in recent years. However, the recent Ocean Cape Site Development Feasibility Study reports that if adequate processing and vessel support facilities were available, up to one million pounds of halibut could immediately be delivered to Yakutat. The same study also estimated that 3 million pounds of black cod and 6 million pounds of other groundfish were potentially within harvest range for delivery to Yakutat.

The offshore waters of the Gulf of Alaska near Yakutat also contain highly productive shellfish habitat. Table 1 presents the annual shellfish catch, by species, for the Yakutat area between 1970 and 1978. During that time, the annual commercial harvest averaged nearly 3 million pounds, with Dungeness and tanner crab accounting for almost all of the catch. The Ocean Cape Site Development Feasibility Study estimated that up to 2 ¼ million pounds of crab could be landed annually at Yakutat if Dungeness crab stocks were fully harvested on a sustained yield basis.

Offshore waters are critical to salmon stocks during some periods of their life cycle at sea. The more protected waters of Yakutat Bay and Russell Fiord are important herring spawning areas.

There are a number of resident marine mammal species in the offshore waters near Yakutat. Harbor seals are the most abundant, ranging along the nearshore coast from Cape Fairweather to Cape Sitkagi. Population concentrations can be found in Yakutat Bay, where they commonly haul out on bergy bits calved from the Hubbard Glacier, and at the mouths of the major rivers along the Yakutat Forelands, including the East, Alsek, Akwe, Italio, Dangerous and Situk Rivers. Steller sea lions are present throughout the Gulf of Alaska and frequent two hauling grounds: Cape Sitkagi, where up to 1,000 sea lions have been observed; and Cape Fairweather, where 200 sea lions have been noted on occasion. Fur seals are present offshore but are infrequent visitors to nearshore waters. There is a small population of sea otters in Yakutat Bay, where they were reintroduced by transplant in 1966 after having been wiped out by intensive hunting pressure in the early part of this century.

Limited information is available on the occurrence of whale species along the northeast Gulf of Alaska coast, but it is thought that the waters offshore from Yakutat serve as probable migration routes for a number of endangered species of whales, namely, humpback, gray, fin, right, sei, sperm and blue whales.

The offshore areas provide habitat for a great diversity and number of resident and migratory bird species. It is reported that, during fall migration, about 150,000 lesser Canada geese, 25,000 snow geese, 200,000 white-fronted geese, 200,000 sandhill cranes, 50,000 swans, 1,000,000 ducks and 35,000 dusky Canada geese migrate through the nearshore and offshore area of the Gulf of Alaska. Eastern Yakutat Bay between the Phipps Peninsula and Knight Island, and Russell and Nunatak Fiords are also important as overwintering areas for large bird populations.

TABLE 1

SHELLFISH CATCH BY SPECIES a/
YAKUTAT AREA b/
1970 - 1978
(pounds)

Year	King Crab	Dungeness Crab	Tanner Crab	Shrimp	Scallops	Total
1970	---	1,508,609	---	10,100	22,700	1,541,400
1971	---	1,668,700	---	---	84,900	1,753,600
1972	4,500	1,992,600	15,500	---	128,200	2,140,800
1973	---	3,086,000	1,893,100	---	173,200	5,152,300
1974	---	1,726,800	3,087,500	---	356,500	5,170,800
1975	6,300 c/	1,097,500 c/	1,997,200 c/	---	122,000	3,223,000
1976	---	628,900 c/	1,724,600 c/	---	189,500	2,543,000
1977	---	524,700 c/	966,700 c/	185,000 c/	22,000	1,716,400
1978 d/	6,900 c/	1,887,800 c/	988,600 c/	---	N/A	2,893,300
Average	2,000	1,571,100	1,187,000	21,700	122,100	2,903,900

a/ All figures rounded to nearest hundred.
b/ The Yakutat fisheries management area extends from Cape Suckling southeast to Cape Fairweather.
c/ Catches of 1974-75, 1975-76, 1976-77 and 1977-78 seasons, not calendar years.
d/ Preliminary figures.

Sources: Alaska Department of Fish and Game, Division of Commercial Fisheries. 1975. A Fish and Wildlife Inventory of the Northeast Gulf of Alaska.

The continued high quality of this entire offshore habitat is vital to the many valued species dwelling there for all or part of their life cycle. In addition, proper management of its fish and shellfish stocks is critical to Yakutat's commercial fishing industry and to the future emergence of a domestic bottomfish industry in the Gulf of Alaska for which Yakutat might serve as a base of operations.

4. Potential Management Problems

In the offshore areas of Monti Bay and eastern Yakutat Bay, the major management problems relate to control of potential pollution from industrial and other sources. The operation of processing and shipping facilities for seafood processing, oil and gas, and wood products industries usually involves discharge of large volumes of processed waters and wastes into marine waters. If these industries develop and expand at Yakutat, there will be potential for detrimental effects on the marine environment most heavily used by local residents. Likewise, effluents from the municipal sanitary waste treatment plant are a possible pollution source. Boating and small boat harbor activities are also potential chronic sources of low level hydrocarbon pollutants in the Monti Bay area.

There is local concern that competition between local subsistence and commercial fishermen for access to the favored shellfish grounds close to Yakutat may occur in the future. If the need arises, the Department of Fish and Game may be called upon to establish management guidelines for priority access to the resource for different user groups.

In the Gulf of Alaska, the outstanding management concerns are for the conduct of possible offshore and nearshore oil and gas operations, and for the transport of crude oil and gas. Such operations in the Gulf of Alaska would be beset by severe geological and climatic conditions, with higher than usual risk of mishaps. The location of tracts proposed to be offered for lease in OCS Sale #55 overlap with prime shellfish habitat and halibut and bottomfishing grounds so that there is potential for localized habitat disruption and onsite conflicts between drilling and submarine pipelaying operations and fishing activities.

B. ESTUARIES

1. Definition

Estuaries are semi-enclosed, often elongated bodies of water which contain measurable quantities of salt from the mixing of seawater with fresh water from rivers and streams. Estuaries are actually arms of the sea, which often branch landward into many parts and may include tidal rivers and river mouths, fiords, inlets and basins of tidewater glaciers. They are extremely productive and are vital habitats for many commercially important species of fish, shellfish and diverse sea and shorebird populations. All anadromous fish returning from the sea to

spawn in freshwater, such as king salmon, red salmon and steelhead trout, pass through estuaries. Most spawning of pink and chum salmon along the southern coast of Alaska occurs within estuarine habitats.

2. Examples Within Yakutat District

There are two examples of an estuarine habitat within the City of Yakutat.

The mouth of Ankau Creek, a short but critical section of the Ankau Lagoon system, is within Yakutat's corporate boundaries but most of the creek and the estuary and wetlands it links through tidal flows to saltwater is located outside the City within lands owned by Yak-Tat Kwaan.

The Lagoon on the inland side of Yakutat Highway near its intersection with Bayview Drive is also estuarine in nature. The construction of the highway across the tidelands on fill with a culvert for drainage appears to have altered the natural tidal flow and circulation patterns into the lagoon.

3. Examples Adjacent to Yakutat

The geological forces at work on the Yakutat Forelands have created a series of tidal estuaries at the mouths of all major rivers which drain the Forelands. These estuaries are protected against the open sea by characteristically elongated spits and beaches and are a critical link in the life cycle of anadromous fish species. In addition, these estuaries and extensive adjoining tideflats provide critical habitat for many migrant and resident bird species, including sandhill cranes, trumpeter swans, Canada geese and other species. Major waterfowl concentrations occur at Dry Bay, Johnsons Slough and the Ahrnklin River and Dangerous River estuaries. Harbor seals are also reported to be frequent visitors to the Dry Bay and Dangerous River estuaries.

Russell Fiord and Nunatak Fiord can also be classified as estuaries. The waters of these glacial fiords serve as habitat for seabirds, marine mammals such as harbor seals, and a variety of other marine species.

Finally, the major part of the Ankau Lagoon system is immediately adjacent to the district.

4. Potential Management Problems

The main potential management problems for estuaries in the Yakutat area concern maintenance of water quality and avoidance of physical disruption of the habitat. Estuaries are subject to the introduction of pollutants from upstream sources and, where strong tidal inflows occur, also from marine waters. Thus, any activities which contribute to deterioration of water quality within a watershed may also degrade its related estuary. Since many of the riverine estuaries in the Yakutat vicinity do experience strong tidal flows, they are open to the intrusion of marine pollutants,

such as oil spills, from outside waters. Depending on conditions, such a tidal flow could also be beneficial to the process of dispersing marine pollutants.

The construction of roads or pipelines across the coastal edge of the Yakutat Forelands could pose serious environmental problems to the series of estuaries which mark the outer coasts.

C. WETLANDS AND TIDEFLATS

1. Definition

Wetlands and tideflats are highly productive habitats which occur in the zone between land and water. Coastal wetlands are defined to include tidal marshes and swamps. Wetlands are rich in nutrients and plant life and are a key link in the coastal food chain. They are used variously for resting, nesting, feeding and spawning by shore and wading birds, waterfowl, fish and some small mammals. Freshwater swamps and bogs within the coastal zone are also considered coastal wetlands.

Tideflats include the shore edge alternately exposed and covered by changing tides. Tidelands often support a rich growth of algae and plant life and organisms which are important as food sources or shelter in the life cycle of many fish and shellfish species.

2. Examples Within Yakutat

The major occurrence of this type of habitat within Yakutat is approximately 230 acres of tidelands which border Yakutat's shoreline. Due to the tidal range (mean tidal range is 7.8 feet) and gradual beach slopes, there is a broad intertidal corridor along the entire shoreline. There are especially expansive tidal areas at the mouth of the Ankau and between the mainland and nearshore islands northwest of the lagoon. The lagoon itself, which is the gateway to an upland system of interconnected freshwater lakes and streams, may also be considered partly as coastal wetland. Other examples of coastal wetlands or tidelands include the shore edges of those islands in Monti Bay which are within the City's boundaries and the numerous low lying wetlands on coastal uplands.

3. Examples Adjacent to Yakutat

There are great expanses of wetlands and tidelands occurring in close association with the many estuarine inlets along the Yakutat Forelands coastline. These tidelands and wetlands contribute to the biological productivity of the estuaries while providing valuable habitat for waterfowl and intertidal species. The coastline and deep bays of the Yakutat Islands group and of eastern Yakutat Bay are usually bordered by extensive stretches of tidelands. Many of these beaches and bays are popular sources of beach foods for Yakutat residents.

4. Potential Management Problems

Coastal tidelands and wetlands are highly susceptible to degradation from disturbance of surface soil and vegetation and from deterioration of water quality. Potential problems at Yakutat include low level marine pollution from harbor and boating activities; construction of coastal facilities; disposal of fish processing wastes and sanitary wastes; and operation of the petroleum dock.

To date, development at Yakutat has not led to major disturbance of coastal tidelands and wetlands. The strong tidal flush tends to disperse low level minor spills of petroleum products and the fish processing wastes discharged into Monti Bay by the local processing operations with minimal local damage. At present levels of operation, direct discharge of ground-up processing wastes by the fish plants into Monti Bay does not seem to be a cause of environmental problems. This may not remain true if a high volume groundfish processing plant locates on Monti Bay.

Yakutat is also fortunate in that, unlike many other Southeast Alaska coastal towns, it is not so hemmed in by mountain topography that there is pressure to encroach upon tidelands for development. In fact, the residential growth pattern in recent years has tended to move away from the waterfront. Another positive feature is that the submarine topography of Monti Bay minimizes the need for dredging and filling to construct marine facilities.

In the future, the main changes anticipated relate to population growth and a related intensification of potential management problems. Another potential set of management problems could result from a new industrial role for Yakutat as a transshipment point for crude oil and liquefied natural gas. Such problems could include pre-emption of nearshore habitat customarily used for subsistence and commercial gillnetting, disturbance of tidelands for facility construction, low level chronic pollution from discharge of treated ballast waters, small incidental spills and other industrial discharges, and the unlikely possibility of a massive accidental spill of crude oil or LNG at or near Monti Bay.

D. FRESHWATER RIVERS, STREAMS AND LAKES

1. Definition

Rivers, streams and lakes are attractive habitat for a wide range of aquatic and terrestrial species. In the Yakutat area, these species include both anadromous fish and resident freshwater fish species, resident and migratory birds and waterfowl, as well as year-round big game such as moose and black and brown bear, furbearers and other small mammals. Most rivers and streams in the Yakutat region are important as migration routes and often also as spawning areas for salmon species.

2. Examples Within Yakutat

Examples of this type of habitat within Yakutat are few but important. Ophir Creek crosses the southeastern corner of the city's corporate boundary before flowing the major part of its course to Summit Lake and the Gulf of Alaska. There is also a network of freshwater streams and lakes situated in an essentially undeveloped portion of the Evangelical Covenant Church's tract. Both of these areas have been proposed as areas meriting special attention and are described in greater detail in Chapter 6 of this report.

Other examples of this class of habitat are a number of scattered pothole lakes throughout the city and a small stream discharging into Puget Cove which hosts a small salmon run.

3. Examples Adjacent to Yakutat

The Alaska Department of Fish and Game has catalogued a total of 93 anadromous fish streams in the Yakutat management area between Cape Fairweather and Cape Suckling. Nine of these streams contribute significantly to the region's commercial salmon harvest. The overall productivity of the anadromous river systems in the Yakutat coastal region can be gauged from the salmon catch statistics. Between 1970 and 1977, the total annual commercial salmon harvest in the Yakutat area was 1,628,000 pounds, with reds and coho the dominant species (see Table 2).

A review of catch figures for the separate streams or stream systems indicates the relative importance, by species, of these streams to the commercial fishery (see Table 3). Overall, the most important rivers in 1978 were the Situk, Alsek and East Rivers which together accounted for nearly 60 percent of the total set net harvest. In terms of species, the Alsek, Situk and East Rivers supported the largest red salmon runs, while the Kaliakh-Tsiu Rivers and the Situk River were the most important coho systems. King, pink and chum salmon returns were limited in volume and distribution throughout the Yakutat region. Each species heavily favored a single river system, respectively, the Alsek River (kings), the East River (chums) and Humpback Creek in the Yakutat Bay (pinks).

While salmon harvests vary from year to year, (1978 was the second highest harvest in eleven years and marked by an especially strong coho return but a low return of Situk River reds), 1978 was fairly representative for establishing the relative importance of individual river systems of the Yakutat Forelands as habitat for salmon species.

The total commercial set net harvest in the Yakutat-Yakataga area in 1978 was 297,586 fish. Another 34,987 fish were taken by the local troll fishery. Furthermore, as an undetermined part of the salmon stocks spawned and reared in Yakutat area streams are caught at sea, these harvest data do not fully reflect stream productivity as salmon habitat.

TABLE 2

COMMERCIAL SALMON CATCH BY SPECIES a/
YAKUTAT AREA b/
1970 - 1977
(pounds)

Year	Salmon Species					Total
	King	Red	Coho	Pink	Chum	
1970	128,000	679,000	350,000	17,000	67,000	1,241,000
1971	138,000	837,000	359,000	282,000	41,000	1,657,000
1972	90,000	832,000	485,000	12,000	74,000	1,493,000
1973	75,000	878,000	377,000	72,000	89,000	1,491,000
1974	112,000	570,000	728,000	21,000	42,000	1,473,000
1975	89,000	459,000	360,000	297,000	32,000	1,237,000
1976	89,000	875,000	518,000	116,000	75,000	1,673,000
1977	66,000	1,334,000	993,000	283,000	85,000	2,761,000
Average	98,000	808,000	521,000	138,000	63,000	1,628,000

a/ All figures rounded to nearest thousand.
b/ The Yakutat fisheries management area extends from Cape Suckling southeast to Cape Fairweather.

Source: Alaska Department of Fish and Game, Division of Commercial Fisheries.

TABLE 3

YAKUTAT-YAKATAGA SET NET SALMON CATCH
1978
(number of fish)

River System	Salmon Species					Total	Percent of Total
	King	Red	Coho	Pink	Chum		
Awke	28	1,630	14,846	199	53	16,756	5.6
Alsek	2,285	49,646	13,402	39	164	65,536	22.0
Dangerous	--	4	1,142	12	5	1,163	0.4
East	80	31,003	4,727	185	5,428	41,423	13.9
Italio	2	993	7,493	239	391	9,118	3.1
Kaliakh-Tsiu	--	--	36,347	--	--	36,347	12.2
Lost	19	3,906	6,264	779	5	10,973	3.7
Manby Shore	2	2,592	12,072	4	--	14,670	4.9
Situk	344	32,033	30,909	6,798	35	70,119	23.6
Yahtse	1	1	3,456	3	1	3,462	1.2
Yakutat Bay	99	5,253	654	22,009	4	28,019	9.4
TOTAL	2,860	127,061	131,312	30,267	6,086	297,586	100.0
Local Troll Fishery	3,386	--	31,601	--	--	34,987	

Source: Sea Grant.

The Alaska Department of Fish and Game has undertaken a number of fisheries enhancement projects in the Yakutat area to manage and improve the productivity of the local salmon habitat. These include:

1. Humpback Creek cooperative stream enhancement
2. Situk River egg take site
3. Situk River weir
4. Coho salmon rearing ponds
5. Old Situk River weir
6. Italio River fish passage

Certain streams in the region, most notably the Lost, Situk and Alsek Rivers, are famous worldwide for their sportfishing quality and attract heavy use by recreational visitors and sport fishermen.

Among the many rivers of the region, the Situk River has been singled out by the U.S. Forest Service for its outstanding habitat and recreational values:

> "...The Situk and its associated tributaries and lakes, provide habitat for approximately 100,000 red salmon, 50,000 pinks, 30,000 coho, 2,000 kings, chums, 3,000 steelhead, sea-run cutthroat trout and Dolly Varden char annually. It supports an outstanding sport fishing stream and the strongest spring and fall run of steelhead in Alaska. The run of anadromous Dolly Varden is outstanding. Lakes within the (Situk River Management) Unit offer resident rainbow angling. Bald eagle nesting sites are numerous along the entire length of the river. From Mountain Lake to Forest Highway #10, is some of the finest brown bear habitat in Alaska. The potential for non-consumptive brown bear use is high. The watershed supports trophy moose." a/

The region also possesses numerous lakes with high habitat values. Harlequin Lake, choked with ice from Yakutat Glacier, is noted as a nesting and staging area for waterfowl, especially sandhill cranes. The series of freshwater lakes and potholes which pock the glacial moraines paralleling Yakutat Bay between Sawmill Cove and Chicago Harbor provide nesting areas for trumpeter swans and other waterfowl. In addition, the Pike Lakes area forms a distinct and unique ecological community on the Yakutat Forelands. This area was not covered by the most recent glaciation and the lakes here contain the only population of northern pike known to occur in Alaska south of the Alaska Range. The vegetation of the surrounding uplands is also not typical of the Yakutat Forelands and includes the westernmost stand of lodgepole pine on the continent. At one time, the U.S. Forest Service considered (but did not classify)

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a/ U.S. Department of Agriculture, Forest Service, Alaska Region. January 13, 1975. Draft Environmental Statement: Tongass National Forest Land Use Plan. Juneau.

the Pike Lakes area for management as a scientific research area because of its unusual ecological characteristics.

4. Potential Management Problems

Aquatic habitats such as rivers, streams and lakes are susceptible to many types of degradation. The principal management problems concern maintenance of water quality. Human uses and activities can affect adversely both water quality and other critical features of these habitats in complex and unexpected ways, thereby damaging their productivity for fish, waterfowl and other wildlife populations. At present use patterns and activity levels, these habitats in Yakutat are relatively undamaged, although their maintenance will increasingly become a challenge as growth pressures infringe upon them.

Lakefronts and stream banks are attractive for and sensitive to residential and recreational development. Such development can contribute to a loss in water quality, bank erosion, detrimental changes in water temperature, turbidity, runoff volume and water quality through addition of pollutants and excess nutrients.

A second potential management problem is timber harvesting adjacent to streams and lakes. Poor logging and road building practices can significantly alter runoff patterns, cause erosion and stream siltation, smother spawning beds, elevate water temperatures and otherwise harm the essential features of these habitats. In addition, insensitive recreational use can have similar adverse effects on the quality of aquatic habitats.

The productivity of these habitats is also influenced by management practices governing the harvest of fish and wildlife resources. This is most obviously the case for anadromous streams and lakes where future productivity may be affected by the commercial fishing harvest, and subsistence and recreational sportfishing harvest of naturally occurring fish stocks. Management programs for stream rehabilitation and stocking also play an important role in the maintenance and enhancement of the productivity of such habitats.

E. IMPORTANT UPLAND HABITATS

1. Definition

Important upland habitats within the coastal zone are those areas where maintenance is essential for terrestrial wildlife populations or to protect the quality of other coastal habitats. Within the Yakutat region, the upland forests and vegetative cover perform an important function in regulating the drainage of surface runoff and the water quality of freshwater streams and lakes.

2. Examples Within Yakutat

The Alaska Department of Fish and Game has recommended classifying the entire upland area within the City as important upland habitat. Three particular sub-areas are also recommended for designation as "most important upland habitat". These include a broad corridor on both sides of Ophir Creek where it crosses the southeast corner of the City boundary, uplands surrounding the system of freshwater lakes and streams on the undeveloped southwestern part of the Evangelical Covenant Church tract, and the beach area north of the mouth of Ankau Creek. These areas take on added management importance because they border highly productive marine and aquatic habitats. Each of these most important upland habitats is within proposed areas meriting special attention in Chapter 6 of this report.

Woodlands within the built-up area of town are also important for their scenic value and as buffers to road noise and traffic.

3. Examples Adjacent to Yakutat

The upland vegetation of the Yakutat Forelands between Yakutat Bay and the Deception Hills is dominated by muskeg, brush and forest. Muskeg and other unforested areas cover about 60 percent of the Forelands with a vegetation mixture of sedges, willows, deer cabbage, heather and similar species. The dominant species of the forested areas of the Forelands is Sitka spruce, with lesser amounts of western and mountain hemlock and black cottonwood. These uplands provide habitat for a wide variety of wildlife, including moose, deer, brown and black bear, wolf, wolverine and mountain goat.

4. Potential Management Problems

Activities posing the greatest potential management problems to upland habitats in the Yakutat region are timber harvesting and intensified recreation use. Timber harvest activities and related road construction inevitably involve some degree of disturbance to the soils and vegetative cover. These disturbances can result in serious habitat degradation, especially where harvesting intrudes on waterfowl nesting areas, bear denning areas, winter goat range and other areas which are critical in the lifecycle of upland wildlife.

In a region with the heavy rainfall and complex stream patterns of the Yakutat Forelands, poor timber harvesting and road construction practices may also alter drainage patterns and promote erosion, with adverse effects on stream water quality and the vitality of aquatic habitats. Where scenic values are high, they may be severely depreciated by harvesting, especially clearcutting. The practice of clearcutting, which leaves border stands exposed to high winds, also contributes to windfall losses, which the Forest Service has cited as the major cause of tree loss in the Yakutat area.

A second set of management problems stem from human use of upland habitats for hunting and other recreational activities. Heavy hunting pressure, among other factors, contributed to the steep decline in moose populations on the Yakutat Forelands after 1970. This type of management problem may grow with increased use rates and with easier access to remote areas due to an expanded system of forest roads or popular use of off-road vehicles. Adverse effects upon wildlife habitats and populations may be made more acute when recreational uses and hunting pressures are concentrated along access corridors or in favored use areas.

F. EXPOSED HIGH ENERGY COASTS

1. Definition

Exposed high energy coasts are characterized by direct exposure to ocean waves and storm surges which result in an active surf zone and dynamic shoreline processes such as erosion and deposition. High energy coasts can be extremely productive habitats due to the favorable mixture of nutrients, sunlight and oxygen and provide habitat for fish, molluscs, crustaceans, marine mammals, seabirds and marine plants.

2. Examples Within Yakutat

Because the entire coastline of the City of Yakutat is within Yakutat Bay and is sheltered from the open ocean, there are no examples of this type of habitat within the City.

3. Examples Adjacent to Yakutat

Virtually the entire stretch of ocean coastline between Cape Fairweather to the south and Cape Sitkagi to the north can be considered an exposed high energy coastline, intermittently broken by river mouths. For most of its length, the ocean beach is backed by a heavily wooded beach ridge.

4. Potential Management Problems

The ocean beaches near Yakutat are not generally susceptible to adverse use or development, mostly because they are neither needed nor suitable for many uses often made of beaches. The generally hostile sea conditions made the coast unattractive for engineered improvements. In addition, because of an abundance of other sources of gravel and fill materials nearer town, the beaches are not needed as a source for such materials.

However, there are two potential uses which may provide cause for concern in the future. First, the delivery of crude oil or natural gas from offshore fields to marine facilities near Yakutat for transfer to tanker vessels might require one or more submarine pipeline landfalls across the exposed outer beach or along a semi-sheltered river channel. Second, timber harvesting of coastal timberlands which encroach upon dunes and

beach ridges could damage vegetative cover and expose beach ridges to wind and wave erosion. These changes could upset the beach stability and its use as habitat.

A further concern of the City of Yakutat is the possibility of an offshore accident involving a crude oil tanker carrying North Slope oil southbound from the Port of Valdez. Such an accident might result in a massive oil spill offshore, with the possibility of significant damage to the marine and coastal environment if the spill was carried ashore to the outer beaches or into coastal estuaries by tidal action. The point of origin of the spill plus prevailing wind, current and tidal patterns would significantly influence the dispersal pattern of an oil spill and the effectiveness of measures to contain and clean up petroleum contaminants.

III. CULTURAL RESOURCES

For a relatively small community, Yakutat has a reasonably comprehensive range of community facilities and services. However, because of its scale and limited local tax revenues, many of these facilities and services have been established with a maximum of assistance from other levels of government.

A. POPULATION

Yakutat is the only permanent community along the Gulf of Alaska coast between Cordova and Gustavus. The City estimates that a total of 600 persons currently live within its road-connected area. Of this, it is estimated that 449 persons live within Yakutat's corporate limits. A majority of City residents claim Tlingit descent, whereas most persons living outside town are white.

B. EMPLOYMENT

The most recent count of employment in the Yakutat road-connected area was undertaken by Alaska Consultants, Inc. in 1977 (see Table 4). Of a total of 257 persons employed on an annual average year-round basis, almost one-third (82) were in government occupations, with local government employment accounting for about half of this figure. (The proportion of local government employment should now be higher since closure of a 13-man Coast Guard Loran station at Ocean Cape).

Other major employment sectors in 1977 were agriculture, forestry and fishing, which employed an annual average of 38 persons; followed by 32 persons each in trade and in manufacturing; and 30 in transportation, communication and public utilities. (Employment in manufacturing has probably decreased since a May 1977 fire destroyed most of the Yakutat

TABLE 4

AVERAGE ANNUAL FULL-TIME EMPLOYMENT a/
YAKUTAT ROAD-CONNECTED AREA
1977

Industry Classification	Number	%	% Basic	Basic Number	Secondary Number
Agriculture, Forestry and Fishing	38	14.8	100	38	0
Mining	8	3.1	100	8	0
Contract Construction	13	5.1	46	6	7
Manufacturing	32	12.4	100	32	0
Transportation, Communication & Public Utilities	30	11.7	63	19	11
Trade	32	12.4	31	10	22
Finance, Insurance & Real Estate	5	2.0	40	2	3
Service	17	6.6	29	5	12
Government	82	31.9	40	33	49
Federal	(34)	(13.2)	(91)	(31)	(3)
State	(8)	(3.1)	(25)	(2)	(6)
Local	(40)	(15.6)	(0)	(0)	(40)
TOTAL	257	100.0±	60	153	104

a/ Includes self-employed and military personnel.

Source: Alaska Consultants, Inc. September 1978. City of Yakutat, Capital Improvements and Services Program. Anchorage.

cold storage plant). Employment in the remaining sectors is less significant and has probably changed little since 1977 except for mining where 1977 figures were temporarily swollen by the presence of oil company personnel associated with offshore exploratory drilling activities.

C. COMMUNITY FACILITIES

As previously noted, Yakutat has a reasonably comprehensive range of community facilities and services for a town of its size although most have been funded by either the State or federal governments.

1. Community Buildings

These include a 6-room city hall which was built in 1971 with State assistance and which is located on Bayview Drive adjacent to the developed area north of the old cannery; and the former City school which was condemned by the State Fire Marshal for use as a school in 1973 and which is now used as offices and as a residence for a physician's assistant who is associated with the health clinic. This office/residential facility is located on Bayview Drive south of the city hall.

2. Cultural Facilities

Yakutat has no museum and no public library except for a small collection at the school which is theoretically available to all community residents.

3. Public Safety

Yakutat has had local police protection services since 1949 although such services have not always been provided by the City itself. Currently, the City employs a constable who has some training and there is a State trooper based in the road-connected area outside town who is theoretically responsible only for areas outside Yakutat's corporate limits but who in practice also provides services within town. The City has no police station and the local constable uses space in the city hall, as necessary.

Yakutat has an all-volunteer fire department which provides services within the town's corporate limits and, when possible, also to outlying road-connected areas. Additional firefighting capability is available at the airport where the Federal Aviation Administration maintains a pumper and the State stations a crash truck. The City has two modern pumpers which are housed at the old City gymnasium, adjacent to the city hall. In town water sources include 24 hydrants and several streams and ponds. Yakutat's Insurance Services Office (ISO) class rating was recently upgraded from 10 to 8. The community has had several major fires but none involving the destruction of more than one building.

4. Health

Reflecting its small size, Yakutat has no hospital, nor is any doctor, dentist or registered nurse based in the community. However, the town does have a health clinic with six attached units of elderly housing which is located off Bayview Drive uphill from the city hall. This facility is rented by the U.S. Public Health Service and is staffed by a physician's assistant and health aide personnel. The facility is also used by visiting dentists and physicians and an itinerant State public health nurse. However, for more than routine medical or dental services, local residents normally travel to Juneau, Sitka or Anchorage.

5. Education

As a first class city, Yakutat is also a school district responsible for constructing, maintaining and operating its own public school system. In addition, the city school district serves children from the road-connected area outside town and is reimbursed for this by the State.

The Yakutat high school and elementary school are located on a 20 acre site off Forest Service Highway near the junction of Airport Road. Both are modern facilities in good condition. The elementary school was constructed in 1978 and has ten teaching stations and five classrooms plus a library, multi-purpose room and swimming pool. Final enrollment at the elementary school has ranged between 90 and 100 students during the past four years. The high school was constructed in 1973 and includes seven classrooms and a gymnasium. The facility was designed to serve 80 students, with final enrollment over the past four years ranging between 60 and 75 students.

6. Parks and Recreation

For a small community, Yakutat has a good range of formal and informal recreation amenities. Formal outdoor recreation facilities include a small City playground off Bayview Drive which is associated with the old school, school playground areas, a hard surfaced basketball court within the Alaska State Housing Authority (ASHA) housing subdivision off Situk Road, a small boat harbor at Shipyard Cove at the north end of town, and an improved picnic area at Cannon Beach, outside town on the Gulf of Alaska coast. The City is also in the process of developing a 5 acre recreation area off Situk Road next to the school. Ultimately, this area is planned to include picnic tables, a playground and a hard surfaced sports area.

Formal indoor recreation facilities in Yakutat include the Alaska Native Brotherhood Hall located off Bayview Drive on a bluff immediately north of the old cannery, a dance spot at a local lodge off Airport Road a short distance outside Yakutat's corporate limits, a multi-purpose room at the health center which is used by elderly residents, and facilities associated with the two schools.

Finally, the Yakutat area offers a wide variety of informal outdoor recreation experiences, including exceptional hunting and fishing opportunities which attract not only local residents but also visitors to the community.

D. LOCAL GOVERNMENT FINANCES

As a first class city located outside an organized borough, Yakutat has a broad range of municipal powers permitted by Alaska law. To enable it to adequately exercise its responsibilities, cities of this class may levy property taxes of up to 30 mills (or 3 percent of assessed valuation), although this millage may be exceeded if it is applied to debt service, and levy a local sales tax of up to 3 percent. Currently, Yakutat has established a mill rate of 13.7, a rate which has been held almost constant over the past three years, and levies a 2 percent sales tax.

According to the State Assessor, the full value of property within Yakutat's corporate limits in 1979 was $10,830,510, with about one-quarter of this being oil and gas-related property associated with the marine service base constructed during 1976 on the south side of Monti Bay. The addition of this major new taxpayer to the local tax rolls has resulted in a significant increase in local property tax revenues although the community remains heavily dependent on assistance from other levels of government, particularly for the construction of new facilities and for the operation of its school system.

On the other hand, despite limited local tax resources, Yakutat is in the enviable position of having incurred no long term municipal debt. Both schools were constructed by the State, while federal or State funds have also been used in construction of the cold storage plant, the community water and sewer systems and the health clinic, as well as for smaller projects such as the city hall.

IV. LAND AND WATER USES

A. LAND USE AND UTILITIES

Excluding islands, there are about 8.5 linear miles of coastline within Yakutat's corporate boundaries. However, less than one-quarter of this coastline has actually been developed. Despite the appeal of water access in a fishing community, development along the Yakutat waterfront is not continuous, having been strongly influenced by topography, locally poor surface drainage and land ownership patterns. Generally, within the built-up area, prime flat, developable waterfront areas have been given over to relatively intensive transportation, commercial and industrial uses which require good water access. Tracts with inferior access or other physical constraints are in residential, commercial and

public uses for which water access is not essential. Figure 7 indicates existing land use patterns and the location of major community facilities.

Waterfront uses at Yakutat are fairly well sorted out. Commercial fishing and other water transportation-related uses such as the Ocean Cape dock and the cold storage dock are located near the head of Monti Bay. These are bordered by "heavier" industrial uses (the Standard Oil dock and the marine service base) to the west and by residential and public uses to the east and north. The entire developed area is bracketed at either end by vacant natural tracts: to the west by Ankau Creek and its neighboring tidelands and beach, and by Puget Cove to the northeast.

In the City's Land Use Plan (see Figure 8), there are five categories of coastal land use: residential, traditional industrial/commercial, general industrial, public and conservation. The coastline has been allocated among these uses by the plan approximately as follows: residential - 18 percent; traditional industrial/commercial - 12 percent; general industrial - 27 percent; public - 10 percent; and conservation - 33 percent. The plan seeks to retain waterfront areas used for traditional industrial and commercial activities (e.g. fisheries) and public and residential use in that status, to designate a logical area away from existing development for new water-dependent heavy industrial uses not compatible with existing uses (e.g. oil and gas-related development) and to establish conservation and public use areas which would protect valued recreational areas and habitat and provide buffers for industrial areas.

With certain significant exceptions, the developed waterfront is serviced by the municipal water and sewer systems and by a privately owned and operated electric utility (see Figure 9). No water and sewer or electric power services serve the small boat harbor in Shipyard Cove at the end of Mallott Avenue. However, extension of these public utilities to Shipyard Cove would improve the amenities available there and make feasible a broader range of marine services and recreational facilities for boat harbor users.

Both the cold storage and the marine service base provide their own electric power requirements, due to the limited generating capacity and finances of the private utility. It would undoubtedly be more economical, efficient and mutually advantageous for the cold storage plant to purchase its power from the local utility if arrangements could be made to finance upgrading of the electric power system.

Although the seafood processing plants are on the city water distribution system and are major water users at times of peak operation, their ground-up processing wastes do not enter the City waste collection and treatment system and are instead discharged into Monti Bay, without apparent adverse effects on the marine habitat according to local Alaska Department of Fish and Game personnel. The marine service base derives its water from on-site wells and has its own waste treatment plant.

FIGURE 7

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

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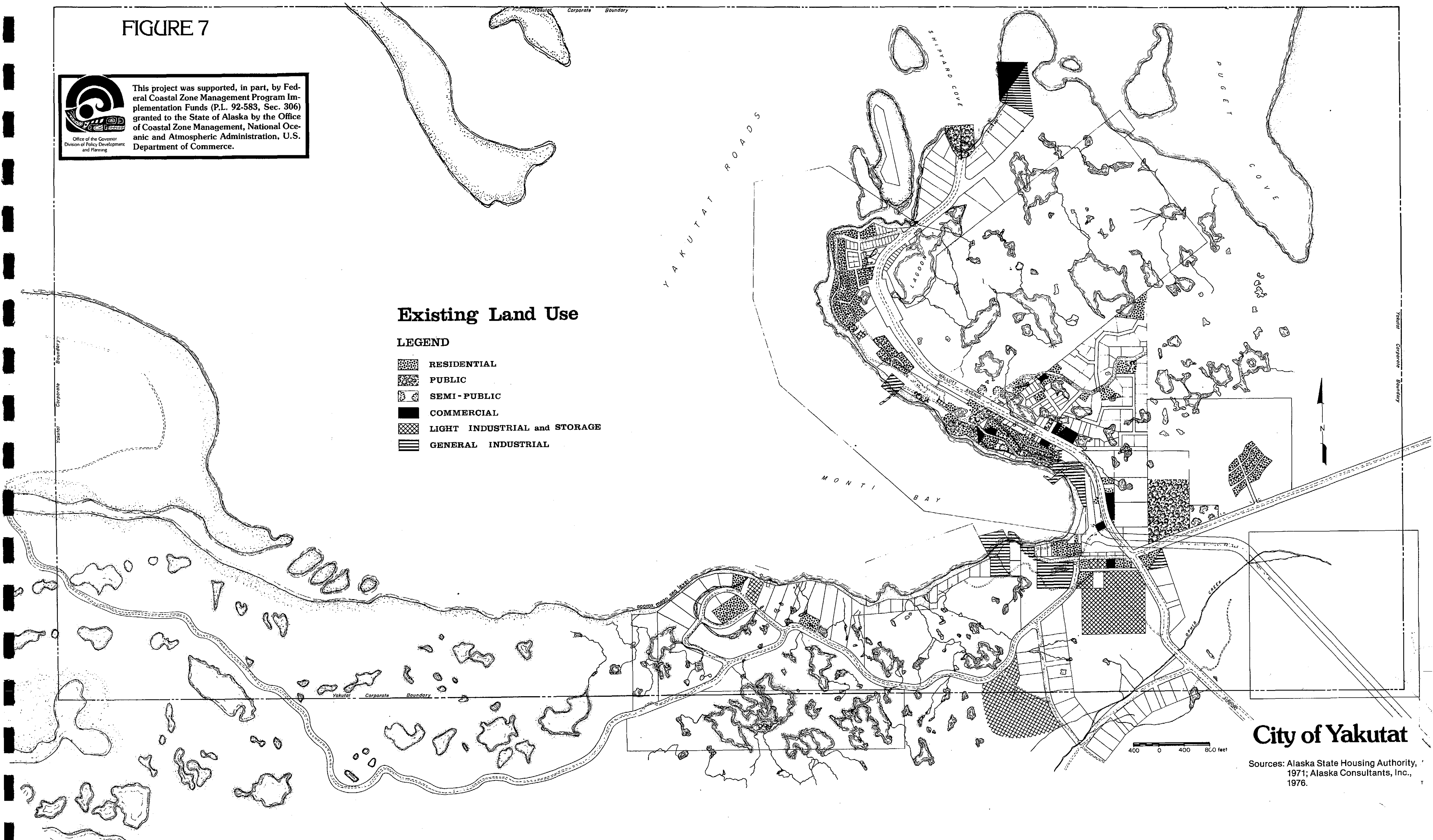

City of Yakutat

Sources: Alaska State Housing Authority, 1971; Alaska Consultants, Inc., 1976.

FIGURE 8

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

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LAND USE PLAN - 1976

- Residential
- Commercial
- Commercial/ Waterfront/ Residential
- General Industrial
- Public
- Conservation Area
- Major Thoroughfares
- Collector Streets

Corporate Boundary

Cemetery

Cemetery

Ocean Cape

Proposed Park

Small Boat Harbor

SHIPYARD COVE

YAKUTAT ROADS

Playground recommended in this area

Cemetery

AIRPORT

Proposed Library/Museum

Proposed Recreation Center

Health Clinic

Proposed City Hall

City Dock and Proposed Ferry Terminal

Proposed Waterfront Access Site

School and planned expansion

Proposed Public Safety Building

Proposed City Garage

Power Plant

Proposed Hospital

to Yakutat Airport

to Coast Guard Station

400 0 400 800 feet

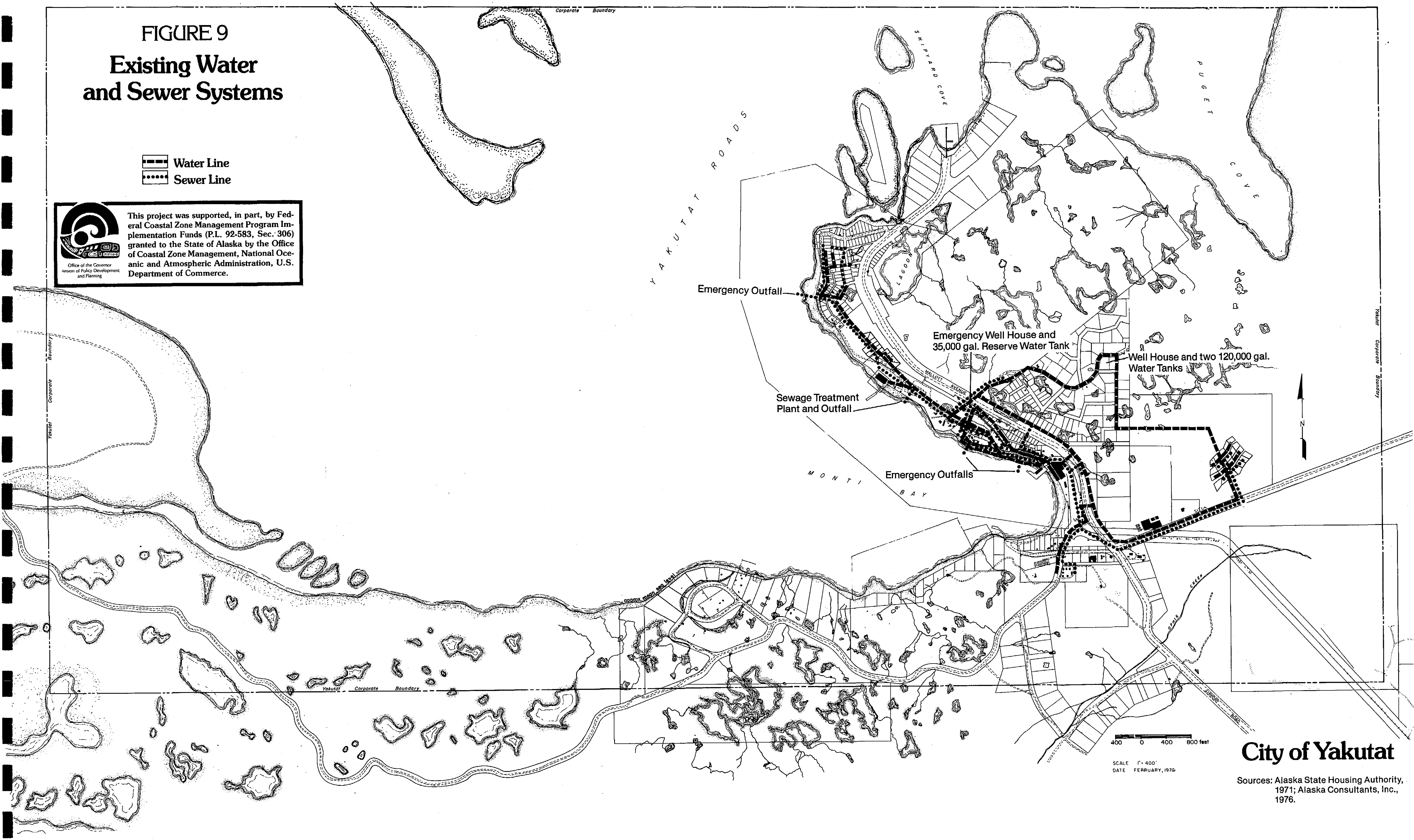
SCALE 1" = 400'
DATE FEBRUARY, 1976

City of Yak

Sources: Alaska State Hous
1971; Alaska Cons
1976.

FIGURE 9

Existing Water and Sewer Systems



Water Line
Sewer Line
Emergency Outfall
Emergency Well House and 35,000 gal. Reserve Water Tank
Well House and two 120,000 gal. Water Tanks
Sewage Treatment Plant and Outfall
Emergency Outfalls
YAKUTAT ROADS
MONTI BAY
SHIPYARD COVE
PUGET COVE
LAGOON
MALLOTT AVENUE
Yakutat Corporate Boundary
approx. mean sea level
400 0 400 800 feet
SCALE 1" = 400'
DATE FEBRUARY, 1976
Office of the Governor Division of Policy Development and Planning

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

City of Yakutat

Sources: Alaska State Housing Authority, 1971; Alaska Consultants, Inc., 1976.

The City's developed water sources are adequate for present levels of use. The U.S. Public Health Service estimates that when both processing plants were operating, daily consumption was about 230,000 gallons per day, with industrial consumption accounting for close to three-quarters of all water use. However, the system's existing supply and storage capacity could be taxed fully if local seafood processing facilities were restored to their former levels of operation. Fortunately, it appears that the groundwater resources of the Yakutat area are abundant. The service base wells are reportedly capable of supplying up to an additional 360,000 gallons per day which would be ample to meet the town's foreseeable future needs unless extraordinary local developments in the groundfish or oil and gas industry took place.

The City's capital improvements program includes projects to extend water and sewer lines to Shipyard Cove and to develop an intertie between the City and service base water systems.

B. NAVIGATION AND HARBOR ACTIVITIES

As reported in the United States Coast Pilot, Yakutat Bay has a 16.5 mile wide entrance between Ocean Cape to the southeast and Point Manby on the northwest. Two to three miles outside a line between Ocean Cape and Point Manby, there is a narrow submarine ridge at a depth varying from 3.5 to 16 fathoms. During very heavy weather, breakers or pronounced swells have been observed across the entire entrance to Yakutat Bay, making entrance dangerous at such times.

Within Yakutat Bay itself, water depths range from about 6 fathoms west of Khantaak Island to 166 fathoms off Point Latouche, 23 miles above the entrance. Where there is no systematic current data available for Yakutat Bay, it is thought that the pattern of current movements is locally complex.

The Coast Pilot also reports that recent topographic surveys show major discrepancies in the charted shoreline of Yakutat Bay, probably as a result of seismic activity, and advises mariners to exercise extreme caution when navigating in the area. A hydrographic survey of the area by the National Ocean Survey was underway in 1979 and a new edition of the Yakutat Bay chart will be published when the survey is completed.

In Monti Bay, water depths range between 20 to 40 fathoms. According to U.S. National Ocean Survey data, the maximum high tide is +12.6 feet and the maximum low tide is -2.6 feet. The mean tidal range is 7.8 feet.

The Coast Pilot states that a strong surge is often felt at the Ocean Cape dock at the head of Monti Bay and local sources report that unloading operations at the relatively more exposed cold storage dock are sometimes made more difficult by rough water.

Prevailing winds in the Yakutat area are from the east, except between May and August when they are from the east-southeast. The mean wind speed is 7 miles per hour. However, high winds from the southeast, occasionally in excess of 50 miles per hour and with a recorded all-time high of 75 miles per hour, may occur in the late fall and winter months.

Commercial shipping activity at Yakutat is light and local dock facilities are in poor condition. In recent years, Yakutat has been without regularly scheduled marine freight service and vessels stop here only to deliver or pick up accumulated volumes of cargo. During the summer of 1980, Yakutat received barge service from Pacific Western Lines on a monthly basis and from Northland Services, Inc. about every six weeks. However, services will either be curtailed or or eliminated during the winter season between November and April or May.

Port traffic data for 1977, the most recent year for which data is available, indicate that a total of 1,559 tons of dry cargo were shipped through the port of Yakutat in that year (see Table 5). Dry cargo was about evenly divided between incoming freight (741 tons), mostly foodstuffs and outbound freight (818 tons), mostly fish products. A review of shipping data for previous years suggests that 1977 levels may be about the baseline for dry cargo commerce in and out of Yakutat, excluding the export of logs, logging equipment and other irregular shipments. Since 1977, after the destruction of the cold storage plant, the volume of outbound cargo has undoubtedly declined somewhat, since most salmon is now being shipped out by air.

Over the years, Yakutat's chronic commercial shipping problem has been low traffic volumes and under-use of its port facilities. Low demand has made it uneconomic for marine shippers to maintain regular shipping services to Yakutat. Furthermore, low use rates have made it economically infeasible to maintain, improve and operate Yakutat's port facilities. Partly as a result, the general cargo dock is now badly deteriorated. Steady decay of the Ocean Cape dock, culminating in collapse of the ice house and part of the dock face in 1979, has severely impaired its usefulness and safety.

In the summer of 1979, the City made temporary emergency repairs, including installation of some new pilings and decking, to temporarily restore use of the dock for cargo handling and fish deliveries. However, these were only stopgap meansures. A 1980 engineering survey found most supporting piles for the dock and related buildings to be gravely weakened by decay. Short of reconstruction or a major rehabilitation project, it appears that Yakutat could at any time lose the use of its only public dock facility which is suitable for general commerce.

Yakutat has made improved shipping service a major economic and community development goal. To this end, the City acquired and is seeking to redevelop the Ocean Cape dock and site to provide more efficient freight handling and storage. The City is also pursuing expansion of the local seafood processing industry and some diversification into groundfish processing and transshipment, all of which would promote higher shipping volumes, especially for outbound freight.

TABLE 5

ANNUAL TRAFFIC SUMMARY
PORT OF YAKUTAT
(tons)

	1973	1974	1977
Inbound	6,935	6,818	10,672
(Fuels)	(5,435)	(5,741)	(9,931)
(Other)	(1,500)	(1,077)	(741)
Outbound	38,717	539	818 a/
(Fish products)	(945)	(354)	
(Logs)	(34,583)	--	
(Other)	(3,189)	(185)	
TOTAL	45,652	7,357	11,490

a/ No breakdown available.

Source: U.S. Army, Corps of Engineers, Alaska District, Anchorage, Alaska. Unpublished data.

Bulk fuel products for consumption at Yakutat are delivered to the Standard Oil dock west of the Ocean Cape facility and immediately adjacent to the marine service base pier. Deliveries are made six or seven times per year by the Alaska Standard, a small 225 foot tanker with a draft of 18.5 feet and a capacity of 18,000 barrels (750,000 gallons) of fuel. Fuel products are piped uphill and away from the waterfront to a diked tank storage area on the bluff above the dock facilities. The Standard Oil dealer supplies fishing vessels at this dock and also supplies fuel products to the supply boats which operated from the marine service base during the earlier OCS exploration program. In 1977, port data indicate that 9,931 tons of bulk liquids (fuels) were delivered to Yakutat. This was about 4,000 tons above the volume delivered in the two years before Northern Gulf of Alaska OCS Lease Sale #39 and was probably inflated by fuel supplies destined for offshore supply rather than strictly local use.

Most vessel traffic in Monti Bay and Yakutat Bay is made up of small local fishing boats and pleasure craft. Yakutat fishermen and the Yakutat fishing fleet are primarily engaged in fishing for salmon, halibut and other species in nearshore and inside waters or in the sheltered waters of Yakutat Bay. A measure of activity in Monti Bay during the salmon season is provided by Table 6. On the average during this eight year period, 200 boats made 3,018 landings annually, delivering 1,489,000 pounds of salmon each year. To these figures must, of course, be added less frequent landings of crab, halibut and other fish species.

By recent estimate of the Yakutat Fishermen's Cooperative, the locally owned and based fishing fleet numbers about 38 vessels. Of these, about 10 are in the 26 to 36 foot range and eight in the 32 to 65 foot range, with the rest being less than 26 feet in length. These vessels are suited to their customary use but are inadequate for outside deep water fisheries such as groundfish. Offshore fishing in the Gulf of Alaska for bottomfish, crab and other species is normally undertaken by vessels in the 80 to 110 foot range and requires a level of capital investment beyond the means of local fishermen. As a result, local fishermen presently lack the vessels and gear as well as the experience necessary to enter groundfish harvesting.

In addition to the local fishing fleet, several larger fishing vessels engaged in the offshore fisheries deliver their catch at Yakutat and make seasonal use of Yakutat's port and boat harbor facilities for supplies and moorage. However, the community's convenience for the offshore fishing fleet is presently offset by its lack of diversified and large scale processing capability, its limited supply of marine services, the overcrowded state of its small harbor, and by the mobility of offshore fleet vessels which makes it feasible for them to land their catch at more distant but better equipped ports.

During the two years (1976-1978) when exploration and Continental Offshore Stratigraphic Test (COST) wells were being drilled in the Gulf of Alaska, the Yakutat oil service base was visited daily by offshore supply boats in the 200 foot class and by occasional barges delivering

TABLE 6

YAKUTAT SALMON CATCH
NUMBER OF BOATS AND LANDINGS
1965 - 1976

	Pounds Landed	Number of Boats a/	Number of Landings b/
1969	1,642,000	213	3,421
1970	1,235,000	214	3,002
1971	1,661,000	182	2,912
1972	1,493,000	180	2,540
1973	1,495,000	217	3,645
1974	1,473,000	227	3,109
1975	1,237,000	181	2,553
1976	1,673,000	184	2,958
Average	1,489,000	200	2,018

a/ All gear types.
b/ Number of landings equals the number of days each boat landed fish.

Source: Sea Grant.

industrial supplies. Use of the service base has virtually ceased since the eleventh and last exploratory dry hole was shut-in in late summer of 1978. However, it is expected that the service base will again be used to support exploration of tracts offered in OCS Sale #55 scheduled for October 1980.

V. LAND RESOURCE OWNERSHIP AND MANAGEMENT

From the time of its original settlement, Yakutat's physical development pattern has been strongly influenced by land ownership patterns, especially those of church and public agencies. In the future, the ownership and management status of lands in Yakutat and its vicinity will continue to be a critical factor for planning and management of land uses and development.

Significant changes in land ownership patterns have occurred during the past decade or are imminent, primarily as a result of the Alaska Native Claims Settlement Act. This Act has resulted in the transfer of large tracts in and near Yakutat to private ownership by the Yak-Tat Kwaan and, possibly, also by the Sealaska Corporation. In addition, it has triggered an intensive re-evaluation, still underway, of the future management status of federal lands in the Yakutat region (see Figure 10 at the back of this report).

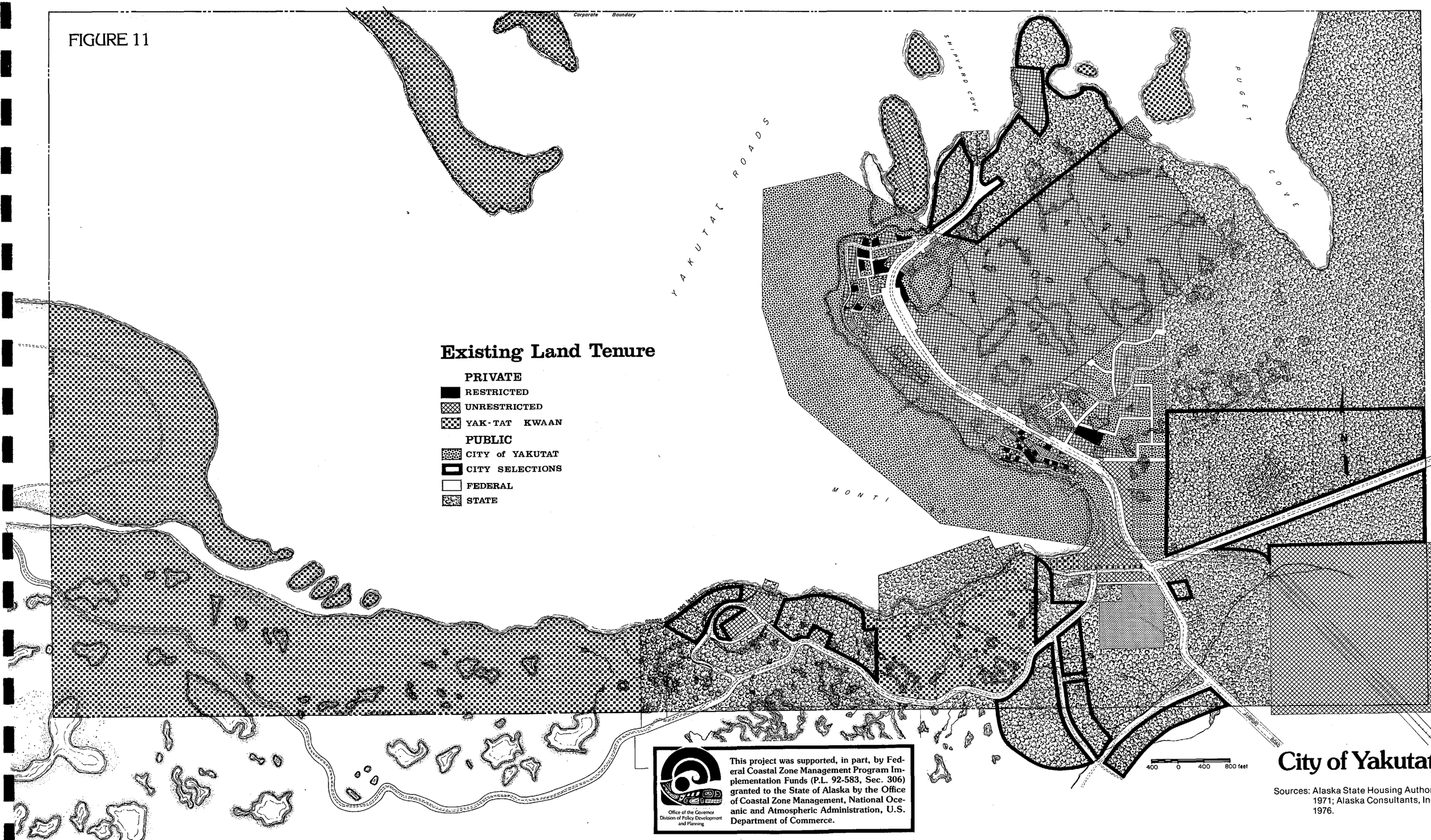
The City of Yakutat has also acquired some key tracts in town and has filed for additional acreage as part of its municipal lands entitlement from the State. Finally, the City is entitled to receive 1,280 acres of land for municipal expansion purposes from the Yak-Tat Kwaan under Section 14(c)(3) of the Alaska Native Claims Settlement Act and is seeking to have the Evangelical Covenant Church transfer its lands to local ownership. Thus, when the various land transfers now pending in the Yakutat region are concluded, land tenure patterns will be radically different.

A. CITY OF YAKUTAT

Land tenure patterns within the City of Yakutat as of 1976 are shown in Figure 11 and summarized in Table 7. At that time, of the total land area of 1,940 acres within the City's boundaries, approximately 1,150 acres or about 59 percent was in private ownership and 790 acres or about 41 percent was in public ownership. Yakutat's corporate limits also include about 230 acres of tidelands, of which 202 acres are owned by the City and 28 acres by the State.

The major private land owner is the Yak-Tat Kwaan Inc. which has acquired 631 acres within the City, mostly as part of its total conveyance of 23,040 acres under the terms of the Alaska Native Claims Settlement Act. Within the City, the main land holdings of the Kwaan are largely

FIGURE 11



City of Yakutat

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Office of the Governor
Division of Policy Development and Planning

Sources: Alaska State Housing Authority, 1971; Alaska Consultants, Inc., 1976.

TABLE 7

LAND TENURE
CITY OF YAKUTAT, ALASKA a/
1976

	Land Area (acres)	Percent of Total
Private	1,150.16	59.3
Unrestricted	513.26	26.4
Restricted	6.32	0.3
Yak-Tat Kwaan, Inc.	630.58	32.5
Public	789.84	40.7
City of Yakutat b/	73.14	3.8
State of Alaska	694.03	35.8
Federal	22.67	1.2
(Townsite Trustee)	(2.32)	(0.1)
(Other Federal)	(20.35)	(1.0)
TOTAL LAND AREA	1,940.00	100.0

a/ Yakutat's corporate limits also include 229.56 acres of tideland, of which 201.94 acres are owned by the City of Yakutat and 27.62 acres by the State of Alaska.

b/ As of August 1980, the City of Yakutat has selected an additional 94.55 acres of State-owned lands as part of its entitlement to receive 10 percent of the vacant, unappropriated and unreserved State lands within its corporate limits.

Sources: U.S. Bureau of Land Management.
Alaska Division of Lands.

undeveloped tracts between the ARCO service base and the western City limits, of which the Kwaan owns all but a small section. The Kwaan-owned tract includes a portion of the marine service base site, now leased to ARCO, and a large coastal tract zoned for industrial development which was formerly under option to Pacific-Alaska LNG Company for possible development as an LNG terminal. The western end of the Kwaan's holdings includes the entry to the Ankau Lagoon System. The Kwaan also owns most of the island group north of Monti Bay, part of which is within Yakutat's corporate limits.

The Yak-Tat Kwaan has prepared a land use plan for the management of its lands. Within the City, some Kwaan lands have been designated for development and others for mixed subsistence and timber management use, with restrictions on public use of some lands near the mouth of the Ankau (see Figure 12).

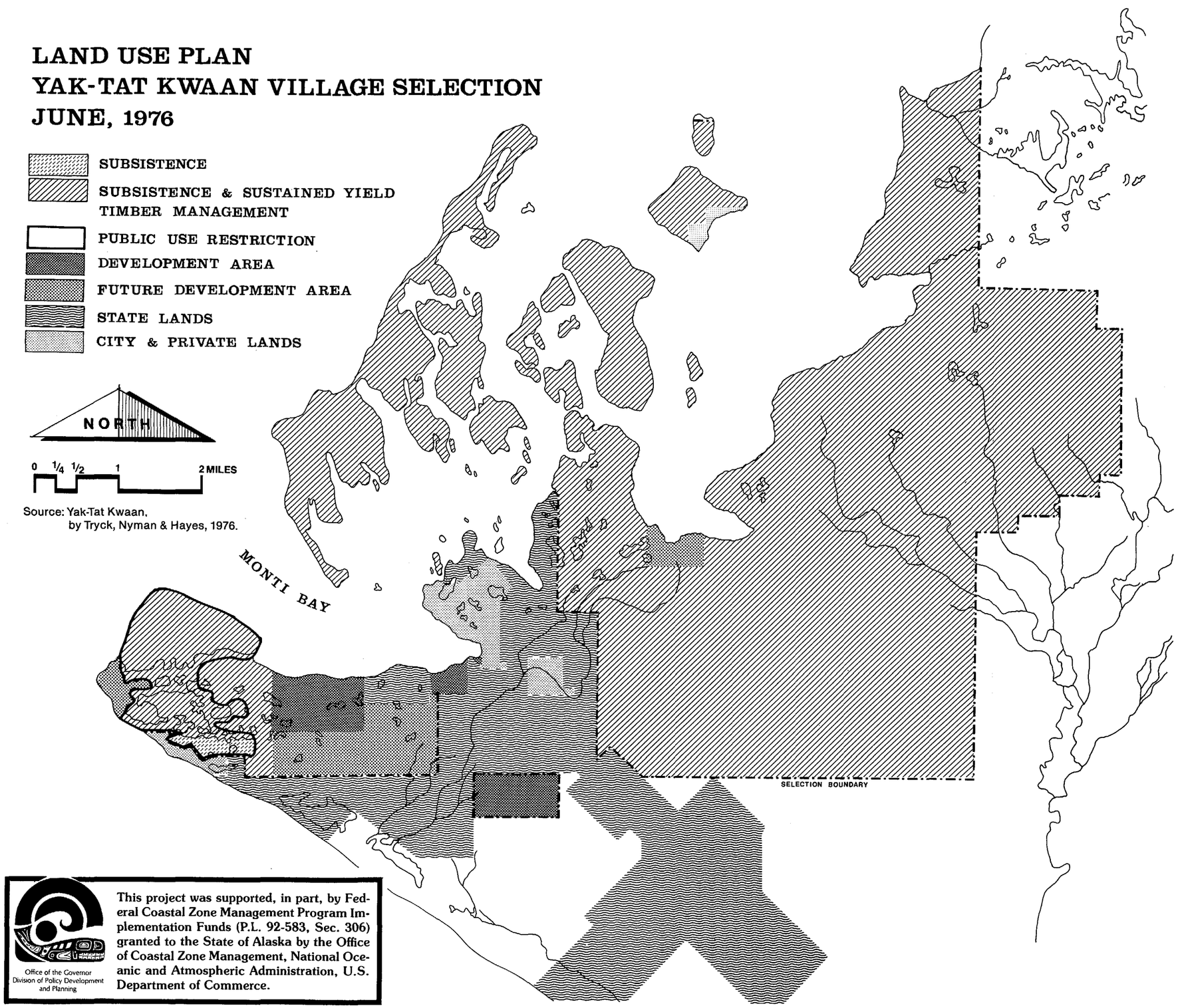
The Evangelical Covenant Church is another major property owner within the City. The Church has owned the 290 acre Mission tract located between the northern and central parts of town since 1908. This tract is now mostly vacant but it includes some valuable waterfront land on Monti Bay and much of the uplands area between Monti Bay and Puget Cove. The Church no longer maintains a mission at Yakutat and has no specific plans for use of its lands. Within the past decade, in response to local initiatives, the Church leadership has expressed an interest in deeding its lands to the City of Yakutat or to the Yak-Tat Kwaan. However, although the City and the Kwaan have actively pursued discussions with the Church on this subject, no definite commitment from the Church has yet been made. The Yakutat Comprehensive Development Plan notes that part of the Mission tract has excellent potential for residential development and the Alaska Department of Fish and Game has identified another part of the tract near Shipyard Cove as important upland habitat.

Most remaining privately owned lands within the City are small parcels in the subdivided areas of town. Nearly all of these lands are in unrestricted or fee simple ownership. However, about 6 acres of land are still held under restricted title. Restricted deeds retain some of the trust relationship between the federal government and Native citizens. Properties held in restricted ownership cannot be alienated without approval by the federal Trustee, cannot be taxed and are not normally subject to local or State zoning, housing, building or other regulatory codes.

Even after pending transfers to the City are completed, the State will continue to be a significant landowner at Yakutat. As of August 1980, the State owned about 694 acres within Yakutat's corporate limits, of which about 95 acres were in the process of being conveyed to the City as part of its entitlement under the Municipal Land Entitlement Act of 1978. Lands which will be retained in State ownership include undeveloped tracts bordering Airport Road and through which Ophir Creek flows, plus most of the forested area between Forest Highway 10 and Puget Cove. The State also owns about 28 acres of tidelands in Yakutat, mainly on the south side of Monti Bay and at Shipyard Cove.

FIGURE 12

LAND USE PLAN
YAK-TAT KWAAN VILLAGE SELECTION
JUNE, 1976



Source: Yak-Tat Kwaan,
by Tryck, Nyman & Hayes, 1976.

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Under Section 14(c)(3) of the Alaska Native Claims Settlement Act, the Yak-Tat Kwaan is obligated to reconvey to the City of Yakutat not less than 1,280 acres of land for future community expansion purposes, as follows:

> (c) Each patent issued pursuant to subsections (a) and (b) shall be subject to the requirements of this subsection. Upon receipt of a patent or patents. ...
>
> (3) the Village Corporation shall then convey to any Municipal Corporation in the Native village or to the State in trust for any Municipal Corporation established in the Native village in the future, title to the remaining surface estate of the improved land on which the Native village is located and as much additional land as is necessary for community expansion, and appropriate rights-of-way for public use, and other foreseeable community needs: Provided, That the amount of lands to be transferred to the Municipal Corporation or in trust shall be no less than 1,280 acres;

The City and the Yak-Tat Kwaan have not yet settled which lands will be conveyed to the City. However, given the location of lands selected by the Kwaan, it is clear that most of these community lands will be situated outside the City's present boundaries.

Because most vacant buildable land in Yakutat is in State or church ownership, the scarcity of homesites for new residential construction has long been a serious community problem at Yakutat. However, the City has initiated a program to remedy this problem through subdivision and disposition of City-owned tracts suitable for residential development. In the summer of 1980, the City made homesite lots in a new City subdivision off Forest Highway 10 available for local acquisition. Furthermore, much of the land which the City will obtain under the Municipal Land Entitlement Act is in the same area and is suitable for residential use.

Counting pending transfers from the State, the City of Yakutat owns approximately 168 acres of land and 202 acres of tidelands. These lands include large tracts around Shipyard Cove, on south Monti Bay, at the school site and north of Forest Highway 10, as well as numerous small parcels scattered throughout town. The City also owns the Ocean Cape tract, acquired from the Shell/ARCO/Mobil group in 1976. This approximately 7 acre tract at the head of Monti Bay is well situated for redevelopment of port facilities and fish processing plant use.

The federal government is only a minor landowner in the City of Yakutat. Its main holding is the 20 acre Federal Aviation Administration (FAA) tower site at the south end of town and a few parcels totaling about 2 acres in the Native Townsite which are still held by the Townsite Trustee.

B. YAKUTAT AREA

Outside Yakutat's corporate boundaries but within the immediate vicinity of the community there are three major land owners. These are the Yak-Tat Kwaan, the State of Alaska and the U.S. Forest Service (see Figure 13).

Most of the Yak-Tat Kwaan's land selections are outside Yakutat's corporate limits and were drawn from U.S. Forest Service holdings. The Kwaan's selections fall into three main blocks: The Phipps Peninsula encompassing the Ankau Lagoon System west of Yakutat; a large forested block extending eastward along both sides of Forest Highway 10 between Yakutat's eastern boundary and Humpback Cove; and Khantaak, Dolgoi, Kriwof and several smaller islands lying immediately offshore from Yakutat. Kwaan landholdings include valuable timber resources, potential industrial sites (e.g. Sawmill Cove), extensive coastline, critical coastal and upland habitats (e.g. Ankau Lagoon, Redfield Cove, Humpback Creek and the Yakutat Island group) and numerous sites of historic and traditional use value. The Yak-Tat Kwaan's land use plan for its holdings emphasizes multiple use management for subsistence use and sustained yield timber harvest.

In the immediate Yakutat area, the State of Alaska holds title to the 3,600 acre Yakutat Airport tract and has received tentative approval for another 3,958 acres south and east of the City. Both the Airport Highway and Ophir Creek Road are bordered by State owned or State selected lands. State tentatively approved lands also include a 1.5 mile stretch of Yakutat ocean beach facing on the Gulf of Alaska.

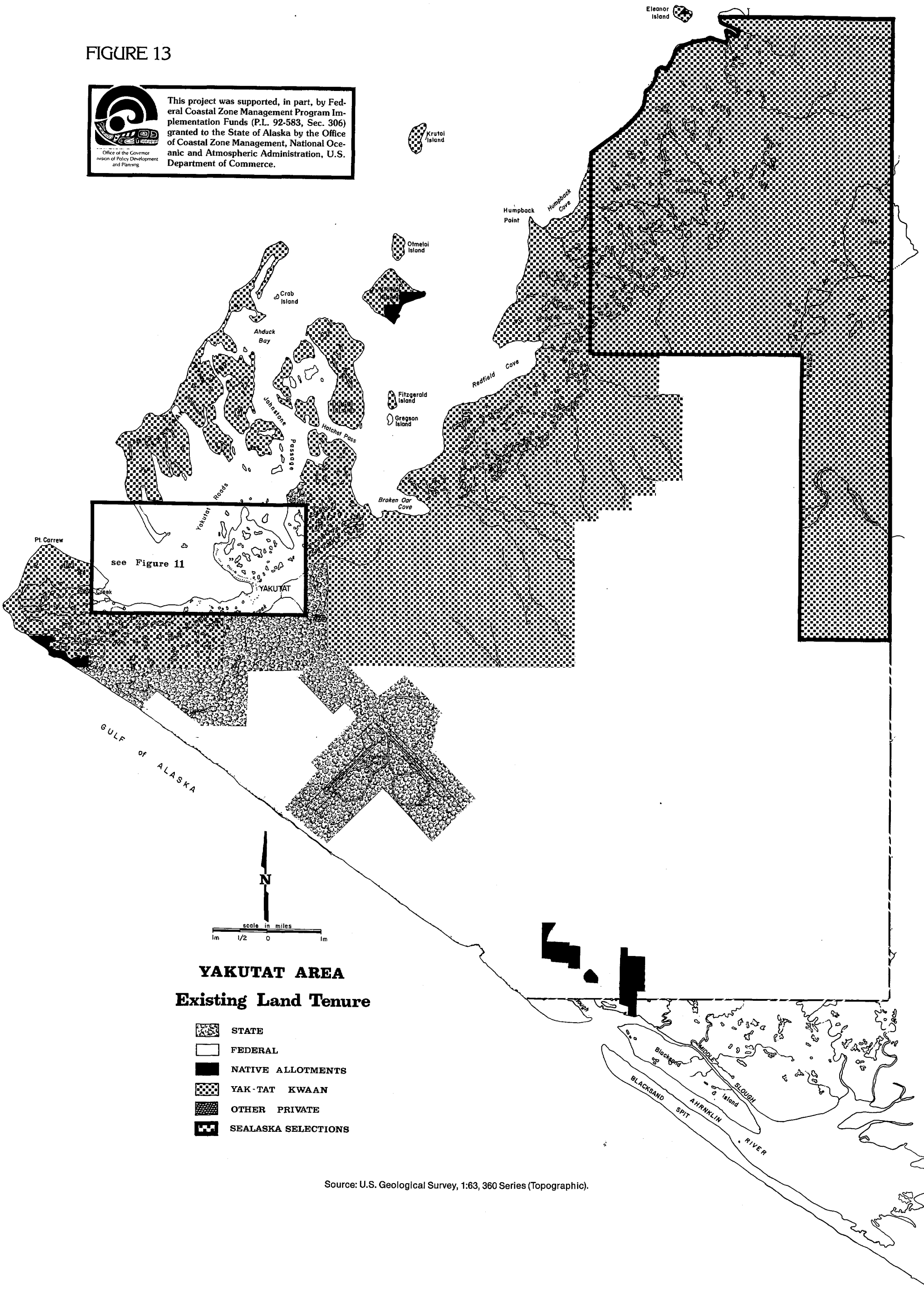
With minor exceptions, primarily Native allotments, the U.S. Forest Service owns and manages all other lands in the Yakutat area between Yakutat Bay and the northern border of Glacier Bay National Monument. This 703,061 acre area is part of the Chatham District of the Tongass National Forest and includes about forty-four contiguous townships in the vincity of eastern Yakutat Bay and Forest Highway 10 which have been withdrawn for possible selection by Sealaska Corporation under terms of the Alaska Native Claims Settlement Act. These withdrawals are part of Sealaska's "overselection" pool and may ultimately remain in Forest Service ownership, if not needed to satisfy Sealaska's land entitlement. The final dispostion of this withdrawal will not be known until uncertainties affecting the availability of other lands selected by Sealaska are resolved.

The Forest and Rangeland Renewable Resources Planning Act of 1974 and the National Forest Management Act of 1976 direct the Secretary of Agriculture to "undertake land and resource management plans for units of the National Forest System, coordinated with the land and resource management planning process of State and local governments and other Federal agencies". The Forest Service has undertaken a prolonged, intensive process of resource evaluation and assessment and evaluation of management alternatives for the Tongass National Forest, including

FIGURE 13

Office of the Governor
Division of Policy Development and Planning

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

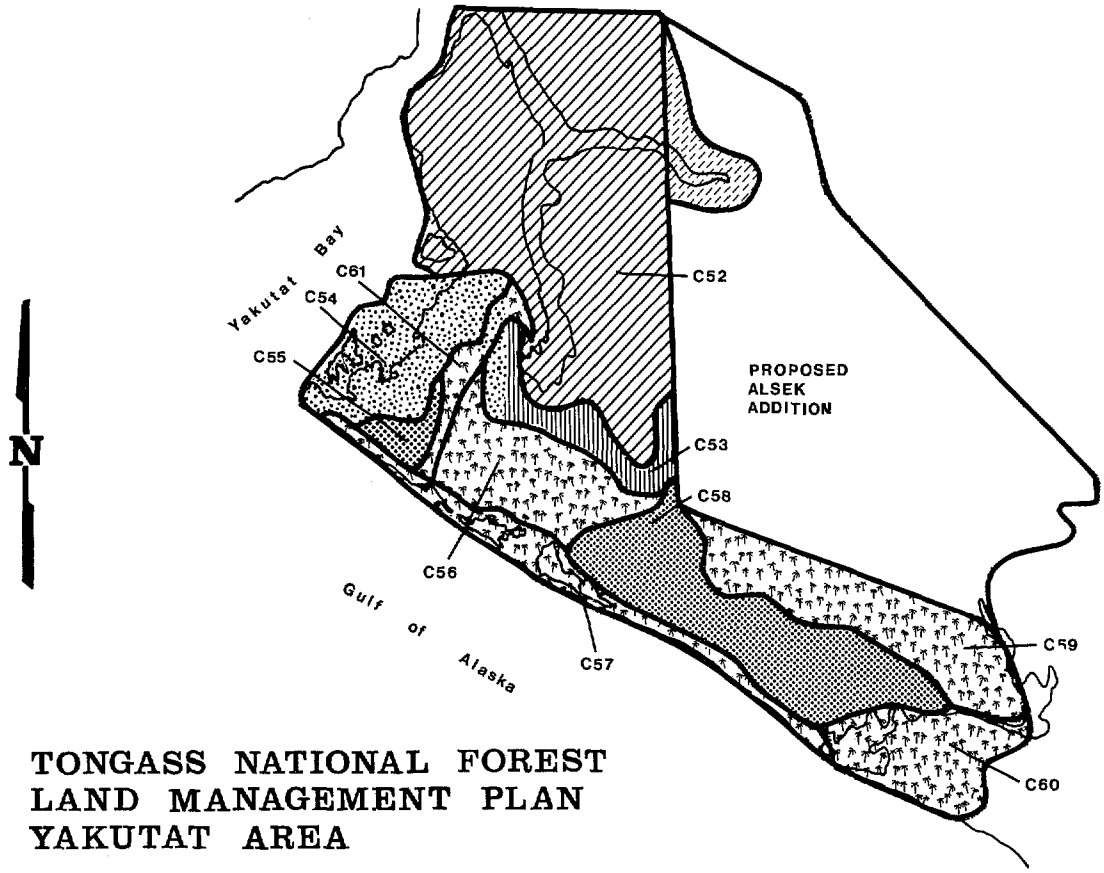


YAKUTAT AREA
Existing Land Tenure

- STATE
- FEDERAL
- NATIVE ALLOTMENTS
- YAK-TAT KWAAN
- OTHER PRIVATE
- SEALASKA SELECTIONS

Source: U.S. Geological Survey, 1:63, 360 Series (Topographic).

FIGURE 14



TONGASS NATIONAL FOREST
LAND MANAGEMENT PLAN
YAKUTAT AREA

LUD I WILDERNESS USES

LUD II ROADLESS AREA

LUD III MULTIPLE USE MANAGEMENT

LUD IV INTENSIVE USE AND MANAGEMENT

C56 AREA WITH SPECIFIC MANAGEMENT DIRECTION (SEE TABLE 8)

NATIVE LAND SELECTIONS

WILDERNESS AREA EXTENSION IN PROPOSED FOREST SYSTEM ADDITION

Source: U.S. Forest Service, February 1979.
No Scale Provided

Office of the Governor
Division of Policy Development and Planning

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its holdings in the Yakutat area. This process culminated with the March publication of the Final Environmental Impact Statement for the Tongass Land Management Plan (see Figure 14 and Table 8).

The Yakutat sector of the Tongass National Forest is subdivided into ten management areas. The Tongass Land Management Plan assigns each management area to one of four possible Land Use Designation (LUD) classes, with area specific guidelines for future management. The LUD classification system can be briefly characterized as follows: LUD I-wilderness uses, including hunting and fishing; LUD II-roadless area; LUD III-multiple use management; and LUD IV-intensive resource use and development. The ten management areas in the Yakutat region are classified as follows:

LUD I - management area C-52 (Russell Fiord) comprising 295,252 acres or 45 percent of the Yakutat region.

LUD II - management areas C-56 (Dangerous River), C-57 (Yakutat Beach Dune), C-59 (Brabazon Range), C-60 (Dry Bay) and C-61 (Situk River), totaling 238,631 acres or 34 percent of the region.

LUD III - management areas C-54 (Yakutat Bay), C-55 (Yakutat Airport) and C-58 (Yakutat Forelands), comprising 137,020 acres or 19 percent of the region.

LUD IV - management area C-53 (Yakutat Highway) containing 32,158 acres or 4 percent of the region.

The greatest density of commercial forest lands occurs in management areas C-53 (the Yakutat Highway corridor to Dangerous River) and C-58 (the Yakutat Forelands between Dangerous River and Dry Bay). The management guidelines for C-58 note that this roadless area was closed to logging and other entry for a two year period beginning December 1, 1978 under the Federal Land Policy Management Act. However, if not permanently classified otherwise by Congressional action by December 1980, this management area's closed status will lapse and it may be opened to timber harvest, as appropriate to a LUD III management area. The City of Yakutat, Yakutat residents, Native organizations and conservation groups have consistently argued that the Yakutat Forelands should be placed permanently in a LUD I or LUD II classification.

Local residents are concerned that timber harvesting across this sector of the Yakutat Forelands would adversely affect the area's outstanding fish and wildlife habitats, interfere with traditional use patterns and damage the important commercial fishery based on the productivity of the area's anadromous streams. The City has strongly urged that classification of this section of the Forelands be upgraded, with management priority given to protection of fish and wildlife habitat. Retention of the Yakutat Forelands management area in a LUD III classification, with the prospect of its being eventually opened to commercial timber harvesting, stands as a major source of conflict between the City of Yakutat and the Forest Service over the management of the area's coastal resources.

TABLE 8

MANAGEMENT PLAN, TONGASS NATIONAL FOREST, YAKUTAT AREA
BY MANAGEMENT AREA

Management Area Summary			Management Direction/Emphasis
LUD I MANAGEMENT AREAS			
C52-Russell Fiord			This area is proposed for wilderness. A recreation opportunity inventory and plan will be completed.
	NFS Acres	CFL Acres	
Operable CFL	---	22,000	
High Visual Sensitivity	8,867	8,867	
Medium Visual Sensitivity	1,657	1,657	
Beach Fringe Through 500 Feet	3,429	3,128	
Special/Unique Areas	0	0	
Bald Eagle Nesting Areas	5,372	2,691	
Total Acres	295,252	32,794	
LUD II MANAGEMENT AREAS			
C56-Dangerous River			Soil restoration work is planned for the middle Dangerous River airport and cabin area. Major activity emphasis will be toward "back country" development.
	NFS Acres	CFL Acres	
Operable CFL	---	4,277	
High Visual Sensitivity	2,143	2,143	
Medium Visual Sensitivity	0	0	
Beach Fringe Through 500 Feet	0	0	
Special/Unique Areas	79	0	
Bald Eagle Nesting Areas	4,298	1,437	
Total Acres	70,412	9,727	

C57-Yakutat Beach Dune

	NFS Acres	CFL Acres
Operable CFL	---	3,353
High Visual Sensitivity	3,442	3,442
Medium Visual Sensitivity	0	0
Beach Fringe Through 500 Feet	0	0
Special/Unique Areas	0	0
Bald Eagle Nesting Areas	3,260	1,515
Total Acres	19,534	3,442

A water trail system is planned along the beach from Dry Bay to Yakutat. A number of shelters, portages, trail marking and camp sites are planned. This management area has extensive road systems used primarily by commercial fishermen to transport freshly caught salmon to bush airstrips to be flown to Yakutat for processing. These are one lane unimproved roads which are essential to the commercial fishing industry of Yakutat. The continued use of these roads will be permitted.

C59-Brabazon Range

	NFS Acres	CFL Acres
Operable CFL	---	2,558
High Visual Sensitivity	2,024	1,781
Medium Visual Sensitivity	1,849	1,849
Beach Fringe Through 500 Feet	0	0
Special/Unique Areas	0	0
Bald Eagle Nesting Areas	1,651	0
Total Acres	89,053	4,291

Fish habitat improvement is planned for Italio Lake VCU 384. Major activity emphasis will be directed toward the continuance of the custodial management of the "back country" resource values of the management area.

C60-Dry Bay

	NFS Acres	CFL Acres
Operable CFL	---	28,240
High Visual Sensitivity	12,311	10,196
Medium Visual Sensitivity	0	0
Beach Fringe Through 500 Feet	0	0
Special/Unique Areas	81	0
Bald Eagle Nesting Areas	6,071	3,656
Total Acres	45,725	30,429

A river trail is planned along the Alsek River in cooperation with the National Park Service and the British Columbia Park Service. The trail will tie into the beach trail to Yakutat. This area has extensive road systems, a number of bush airstrips, a fish processing plant and a number of special use permit fishing camps. These facilities are used primarily by commercial fishermen and are essential to the commercial fishery of Dry Bay. The continued use of these facilities will be permitted.

C61-Situk River

	NFS Acres	CFL Acres
Operable CFL	---	6,051
High Visual Sensitivity	4,977	4,977
Medium Visual Sensitivity	0	0
Beach Fringe Through 500 Feet	0	0
Special/Unique Areas	409	136
Bald Eagle Nesting Area	1,568	1,227
Total Acres	13,907	7,574

The recreation use of the river will be facilitated with improvement of a parking area, existing trails, the middle Situk airstrip and the boat landing on the lower Situk River. Other heavy use areas will be planned for soil restoration work. This area is one of the outstanding sport and commercial fisheries in Alaska. All five salmon species -- king, coho, pink, chum and reds -- are in this system. The sport fishing quality of this river is well known as is a valuable commercial fishery which is utilized by Yakutat fishermen. There are three Forest Service recreational cabins including two on the river and one on Situk Lake. One bush landing strip is maintained to provide access to the central part of the river. The river is a favorite float stream for Alaska fishermen as well as many nimrods from outside the state. Continued use of the unimproved access road to the Situk River for commercial fishing camp use will be permitted.

LUD III MANAGEMENT AREAS

C54-Yakutat Bay

	NFS Acres	CFL Acres
Operable CFL	---	1,021
High Visual Sensitivity	0	0
Medium Visual Sensitivity	0	0
Beach Fringe Through 500 Feet	0	0
Special/Unique Areas	0	0
Bald Eagle Nesting Areas	1,375	1,375
Total Acres	1,388	1,375

Nearly this entire management area is Native selection land. VCU 363 and 369 are entirely Native selection. Major activity emphasis will be toward custodial management of the various resource values within the management area.

C55-Yakutat Airport

	NFS Acres	CFL Acres
Operable CFL	---	3,131
High Visual Sensitivity	339	339

Soil restoration work is planned for past timber sales and other small timber sales may be planned in the future. Waterfowl habitat improvement is planned as well as a VIS display at the airport. There are Native selection lands in VCU 367. This area has been temporarily withdrawn under the Federal Land Policy Management Act and no timber

Medium Visual Sensitivity	611	611
Beach Fringe Through 500 feet	0	0
Special/Unique Areas	0	0
Bald Eagle Nesting Areas	679	204
Total Acres	11,116	4,073

harvest is planned for at least 2 years. If no action is taken by Congress during the period the area is withdrawn, management activities appropriate to LUD III will be affected.

C58-Yakutat Forelands

	NFS Acres	CFL Acres
Operable CFL	---	54,437
High Visual Sensitivity	11,688	11,433
Medium Visual Sensitivity	0	0
Beach Fringe Through 500 Feet	0	0
Special/Unique Areas	1,106	682
Bald Eagle Nesting Areas	5,106	1,356
Total Acres	124,516	62,943

Management of this area is of special concern to the City of Yakutat, many environmental groups and Native organizations. They are concerned over the potential effect of logging on fisheries and local lifestyles. For this reason, special care will be taken in protecting these values. Moose habitat improvement is planned in VCI 379. Future independent timber sales may be scheduled. This area has been temporarily withdrawn under the Federal Land Policy Management Act and no timber harvest is planned for at least 2 years. If no action is taken by Congress during the period the area is withdrawn, management activities appropriate to LUD III will be affected.

LUD IV MANAGEMENT AREAS

C53-Yakutat Highway

	NFS Acres	CFL Acres
Operable CFL	---	21,720
High Visual Sensitivity	4,034	4,034
Medium Visual Sensitivity	0	0
Beach Fringe Through 500 Feet	0	0
Special/Unique Areas	0	0
Bald Eagle Nesting Areas	0	0
Total Acres	32,158	21,720

Of special concern is the view from Harlequin Lake. Any timber harvesting planned will meet visual quality objectives so as not to adversely affect the user experience. This area may be considered for an independent timber sale. A trail may be constructed for access to the Russell Fiord wilderness area. There are Native selection lands in VCU's 374 and 373. This area has been temporarily withdrawn under the Federal Land Policy Management Act and no timber harvest is planned for at least 2 years. If no action is taken by Congress during the period the area is withdrawn, management activities appropriate to LUD IV will be affected.

Source: U.S. Department of Agriculture, Forest Service. 1979. Tongass Land Management Plan, Final Environmental Impact Statement, Part 2. Juneau.

Ownership and management of coastal lands north and west of Yakutat Bay to Cape Suckling is divided among federal, State and private interests. The uplands northwest of Yakutat Bay and at the head of Icy Bay are part of the newly created Wrangell-St. Elias National Monument, administered by the National Park Service. The remainder of the coast and bordering uplands between Icy Bay and Cape Suckling have been selected by the State and are presently in a tentatively approved or patent pending status. Finally, a large tract immediately east of Icy Bay has been withdrawn as part of the regional deficiency lands available for selection by Chugach Natives, Inc. under terms of the Alaska Native Claims Settlement Act.

VI. HISTORIC, PREHISTORIC AND ARCHEOLOGICAL RESOURCES

The people of the Yakutat area have a diverse ethnic heritage. The original settlers in the area are believed to have been Eyak speaking people from the Copper River although today the traditional language and culture of the area is predominantly Tlingit. Reflecting the area's diverse cultural heritage, Yakutat residents today perceive their area of management concern as being much wider than the immediate Yakutat area.

The cultural origins of the people of the Yakutat area are perhaps best summed up by de Laguna:

> "The story of Yakutat is in many respects that of the whole Gulf of Alaska from Cross Sound to the edge of Prince William Sound. This is not because the inhabitants of this narrow coastal strip were alike in speech and culture, or had a common origin; indeed they spoke at least three to four different languages, and traced their origins to different homelands. But they became united through trade, war, potlatches, and intermarriage; and ... they came to share a common destiny. The former settlements at Lituya Bay, at Dry Bay, on the rivers between Dry Bay and Yakutat, as well as those farther west at Icy Bay, at Cape Yakataga and Kaliakh River, at Controller Bay, and about the Copper River Delta, are now deserted. A few descendants of their former inhabitants may be found in Cordova, in Hoonah and Sitka, or in Juneau, but the greater number live today at Yakutat. Aside from a handful of persons at Cape Yakataga or at Katalla beyond Controller Bay, or perhaps for a few isolated trappers or prospectors at other spots, Yakutat is the only permanent community left on the whole Alaskan Gulf Coast, and it still retains cultural traces and traditions derived from the diverse tribes whose shattered remnants have mingled to form its present native population ...
>
> The history of Yakutat begins in pre-Russian days with the migration of interior tribes from behind the mountains to the

coast, and from the mouth of the Copper River eastward along the shore. There was also the northwestward expansion of Tlingit from what the Yakutat people call "the Southeast of Alaska", some coming on foot along the shore or over the glacier highways, or going inland over the Chilkat Pass and down the Alsek River to Dry Bay, while others paddled their canoes up from Cross Sound or farther south. Then came White men in the late 18th century: Russian agents of the Shelikov Company commanding baidarka fleets of Aleuts, Koniags, and Chugach; and English, Spanish, and American traders and explorers. For 10 years the Russians attempted to maintain an agricultural colony and trading post at Yakutat, but this was destroyed by the natives in 1805. Then followed a period of relative isolation from Europeans, while Tlingit influences became firmly established all the way to Controller Bay. Before the middle of the century, smallpox wiped out the inhabitants of many settlements. Other disasters followed, and the population began to shrink back into the present settlements, moving back to southeastern Alaska or to Yakutat." a/

Initial settlement of the Yakutat area was severely hampered by the presence of massive glaciers. Most of these glaciers are presently in retreat. However, the Malaspina Glacier across the bay from Yakutat still covers an 850 square mile area lying within the Wrangell-St. Elias National Park and Preserve, and remains a formidable barrier to overland travel. Mountainous terrain and glaciers associated with what is now the Glacier Bay National Park and Preserve posed similar barriers to the southeast.

There are no known archeological remains which suggest human settlement in the Yakutat area before the glacial advance which occurred in Yakutat Bay between 970 and 1290 A.D. During a subsequent recession which saw glacial fronts retreat beyond even their present levels, local legends have it that people from the Copper River first moved into the Yakutat area. A glacial readvance culminating in the 18th century overwhelmed at least one village in Icy Bay, although the advance was not as extreme in Yakutat Bay. The glaciers were again in retreat by the end of the 18th century, permitting Native settlement over a greater area although retreat of the Icy Bay glacier did not begin again until about 1904. Except for the Hubbard Glacier, glaciers in the Yakutat area have continued to retreat since the beginning of the century, except for a brief period of readvance between 1905 and 1910 which was stimulated by the 1899 earthquake.

Reflecting its relatively short period of settlement, the Yakutat area has no known prehistoric or archeological remains of great antiquity. The area does, however, possess a number of former village or camp sites of archeological interest (see Figure 15). Most are located along the east side of Yakutat Bay, in the Ankau area, along the coast between the

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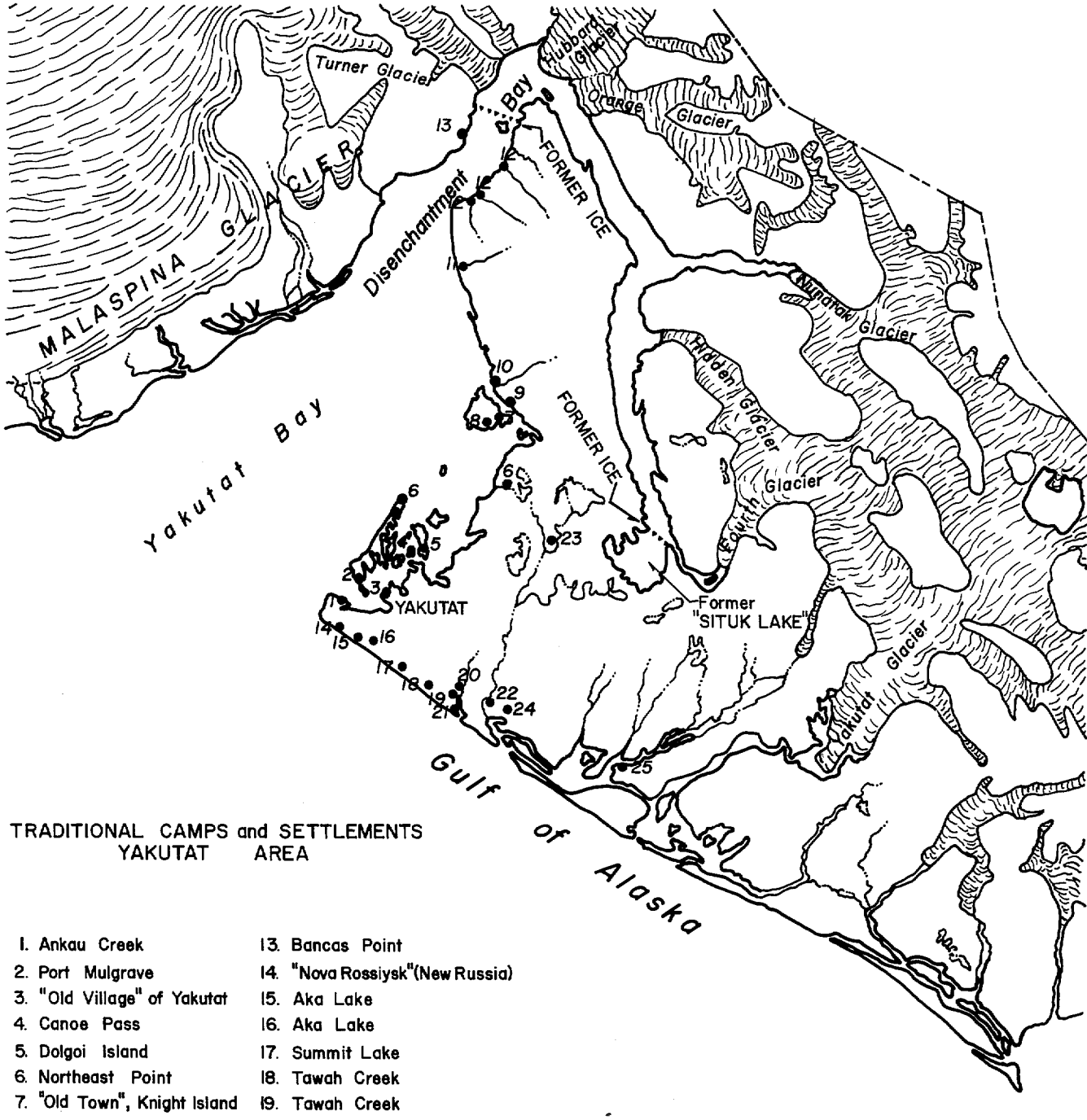
a/ de Laguna, Frederica. 1972. Under Mount Saint Elias: the History and Culture of the Yakutat Tlingit, Part One. Washington, D.C., Smithsonian Institution Press.

Lost and Italio Rivers and in the Dry Bay area. According to de Laguna, information about villages in the latter area is sketchy, partly because the shifting stream channels have rendered maps inaccurate and are confusing to informants.

Sites in the general Yakutat area were evaluated by de Laguna et al in 1952 and, excluding Dry Bay, are described as follows:

1. Ankau Creek. A village in the vicinity of the cemetery was charted by Dixon in 1787 and noted by Vancouver in 1794. De Laguna unsuccessfully searched for remains of this village in 1952.
2. Port Mulgrave on Khantaak Island. The "modern" village here was founded around 1875 to 1880 to take advantage of the visits of trading schooners. It was located on the same spot as an earlier village charted by Dixon in 1787. The "modern" village was abandoned by 1893 and the site is now covered by a graveyard.
3. "Old Village" of Yakutat. This village was established in 1899 when the mission was established nearby. The area is still occupied although there was a marked movement of population southward with the opening of the cannery in 1904. Part of the lowland where the original houses stood has since been washed away. This area of town has recently seen renewed residential development.
4. Canoe Pass. Settlements were reported on both sides of Canoe Pass but de Laguna was able to identify only one site on the north side of the Pass.
5. Dolgoi Island. A former village site was reported on the east side of Dolgoi Island but de Laguna was unable to locate it. However, a site was discovered near the mouth of a small stream on the south end of the Island.
6. Northeast Point of Khantaak Island. A village at this location was charted by Dixon in 1787 but de Laguna was unable to find it. Various former camping places were reported on the north end of the Island, on nearby "Crab Island" and at the mouth of Humpback Salmon Creek opposite Krutoi Island.
7. Old Town, Knight Island. This site on the southern tip of Knight Island was reportedly settled before the Russian presence in the Yakutat area. It is uncertain why or when the site was abandoned. Since Russian times, it has been used as a camping place.
8. Knight Island. Another site was reported about a half-mile east of Old Town on the south shore of Knight Island, but de Laguna was unable to locate it.
9. "Little Fort" Island. An island east of Knight Island close to the mainland is supposed to have been fortified against Chugach raids. The site was examined and verified by de Laguna but was substantially changed by an uplift of about 12.5 feet resulting from the 1899 earthquake.

FIGURE 15



TRADITIONAL CAMPS and SETTLEMENTS
YAKUTAT AREA

1. Ankau Creek
2. Port Mulgrave
3. "Old Village" of Yakutat
4. Canoe Pass
5. Dolgoi Island
6. Northeast Point
7. "Old Town", Knight Island
8. Knight Island
9. "Little Fort" Island
10. Mainland across from Knight Island
11. Point Latouche area
12. Point Latouche area
13. Bancas Point
14. "Nova Rossiysk"(New Russia)
15. Aka Lake
16. Aka Lake
17. Summit Lake
18. Tawah Creek
19. Tawah Creek
20. Lost River
21. Lost River
22. "Situk Village"
23. "Eagle Fort"
24. Johnstone Slough
25. Ahrnklin River

Source: Frederica de Laguna, 1974.
No Scale Provided

Office of the Governor
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10. Mainland, across from Knight Island. A former Chugach camp reportedly existed at this location but the site was not visited by de Laguna. (This site was raised about 5.5 feet as a result of the 1899 earthquake).
11. Point Latouche area. An old sealing camp was reported about 3.5 miles below Point Latouche. Malaspina noted this location in July 1971. De Laguna was unable to land at the site in 1952.
12. Point Latouche area. Three sealing camps used in post-Russian times were located between 1.25 and 3.5 miles above Point Latouche and were described by Grinnell in 1901. The camps were also visited by the Harriman Alaska expedition in the spring of 1899 when they were occupied by 300 to 400 natives from Yakutat, Sitka and Juneau. During the 1899 earthquake, the shore in this area was raised from 7.5 to 12 feet. Modern camping places are on the south shore of Haenke Island and on the mainland opposite.
13. Bancas Point. A camp is reported to have existed on high ground near Bancas Point on the west side of Yakutat Bay.
14. "Nova Rossiysk" (New Russia). The site of the Russian post (1796-1805) was on the narrowest part of the barrier beach between the ocean and the largest of the Ankau lagoons (Russian Lake). Reportedly, the post contained seven buildings within a stockade and another five buildings outside. However, although de Laguna visited the site several times, she was unable to find any trace of the fort. A site thought to be that of Nova Rossiysk was placed on the National Register of Historic Places in 1972.
15. Aka Lake. The occupants of a former village along the middle of the ocean side of Aka Lake died in a smallpox epidemic of 1836-1839. This site was later used as a fish camp.
16. Aka Lake. A village is reported to have existed at the junction of Aka Lake and a stream connecting Aka and Summit Lakes. This village was not visited by de Laguna but was originally occupied by Eyak Indians who were killed by the Tlingits.
17. Summit Lake. A village occupied first by Eyak speakers and later by Tlingits was located on a sandhill along Summit Lake on the ocean side of the outlet toward Lost River. The Tlingits here died in the 1836-1839 smallpox epidemic. This site was not examined by de Laguna in 1952.
18. Tawah Creek (Lost River). There was a small village on Lost River before the Russian occupation, located almost opposite the Number Two runway of Yakutat airport. This later became a principal Tlingit village, most of whose occupants were subsequently wiped out by smallpox. The survivors of this epidemic moved to Khantaak Island and the original site is used today only as a fish camp. It was extensively investigated by de Laguna in 1952.
19. Tawah Creek (Lost River). This village was located on Lost River about one-quarter of a mile above its confluence with

Little Lost River. It originally belonged to the Muddy Water People and was later acquired by the Bear House clan. Smallpox killed many residents in 1836-39 but a number survived and the village remained inhabited up to about 100 years ago. This site was also extensively investigated by de Laguna in 1952.

20. Lost River (Little Lost River). A site on the west bank of Little Lost River is supposed to have been the oldest village of one group of Tlingits in the Yakutat area. The site was examined by de Laguna in 1952 but she was unable to corroborate local claims of great antiquity for this site.
21. Lost River. Today, this site is a fish camp. The site was formally established in 1919 when a railway was constructed and several residences constructed.
22. "Situk Village". This village was on the east bank of the Situk River and was founded around 1875-80 and abandoned about 1916. The site was explored by de Laguna in 1952. She was unable to establish the existence of an older village at this site although there may have been one.
23. "Eagle Fort". This village reportedly consisted of four houses connected by tunnels and surrounded by a palisade and was built by one of the Yakutat Tlingit groups shortly after 1805 in fear of Russian retaliation. The site was not visited by de Laguna.
24. Johnstone Slough. This was the site of a single house built about the middle of the 19th century. Today, it is also the site of a fish camp.
25. Ahrnklin River. A site about 2 miles above the mouth of the Ahrnklin River was reportedly the main village of one branch of Tlingits in this area. The village was abandoned when most of the inhabitants died, either in a feud or from smallpox.

At the time of the first recorded contact with European visitors in 1783, the Native residents were still spread among many small settlements throughout the region. This pattern persisted for another century, a period during which a few unsuccessful efforts were made to establish outposts in the vicinity of Yakutat. In 1795, the Russians established a post called Nova Rossiysk (New Russia) near present day Yakutat on the shore of the lagoon between the Ankau and the ocean coast. A second post, a blockhouse, was established at the site of what later became known as the Old Village. These outposts were shortlived. Local residents soon became angry at Russian governing policies which interfered with traditional fishing practices and family patterns and rose up in 1805 to overrun both posts. No other outposts were established near Yakutat during the period of Russian ownership although many explorers, traders and whalers visited the area. This isolation from the outside world persisted when Yakutat, along with the rest of Alaska, was purchased by the United States in 1867. At the time of the first U.S. Census of Alaska in 1880, about 300 Natives but no Europeans were recorded as residents of the Yakutat area.

Shortly after 1880, the first lasting American influence began to be felt in the Yakutat area. During the 1880's, American traders and gold

prospectors arrived here and the black sands of Khantaak Island and the ocean beach south of Yakutat Bay were worked by miners for gold, with only limited success. However, this marked the beginning of a period of steadily increasing contact between Yakutat area residents and American traders, travelers, adventurers and missionaries.

With the advent of the first missionary in 1887 and the establishment of a mission in what is now called the "Old Village" in 1888, complete with a church, school and sawmill, Yakutat began to take on its modern form as area residents were encouraged to congregate in a single settlement. This trend was strengthened in 1903 through the establishment of a cannery on Monti Bay to the south of the "Old Village" and development of a railway between the cannery and prime fishing sites on the Situk River. Together, these developments resulted in a permanent shifting of settlement patterns from a scattering of small villages and camp sites to a single larger, dominant central community.

The physical arrangement of Yakutat today still reflects the community's early development. The Evangelical Covenant Church mission was built in what has come to be known as the Old Village and much of the 291 acre mission property located between the northern and central areas of town remains undeveloped. The cannery and its railhead were situated at the head of Monti Bay on what is now known as the Ocean Cape tract. The railroad has since been torn up but the original dock remains although it is now in disrepair, as are most of the remaining original cannery buildings. Engine No. 2 of the Yakutat and Southern Railway also remains and is now viewed as an historic community asset.

However, Yakuat is also a modern community whose development has been influenced by more recent events, including construction of a major airport here shortly before World War II which greatly reduced Yakutat's isolation from the outside world, and construction of Mallott Avenue in 1962 which drew much of the town's residential and commercial focus away from the waterfront. The very strong commitment of community leaders to improving living conditions in Yakutat has been reflected in the aggressive pursuit of public funds for such wide ranging projects as a cold storage plant, water and sewer systems and school facilities. Nevertheless, while the modern community of Yakutat bears little visible resemblance to a Tlingit village, cultural traditions remain a very important part of the lifestyles of many local residents.

Chapter 4

FUTURE COASTAL USES AND ACTIVITIES

FUTURE COASTAL USES AND ACTIVITIES

The Alaska Coastal Management Act sets out nine broad groups of coastal land and water uses and activities which must be addressed in a district coastal management program. These are coastal development; geophysical hazard areas; recreation; energy facilities; transportation and utilities; fish and seafood processing; timber harvest and processing; mining and mineral processing; and subsistence. The administrative regulations for the Act define in detail the rules by which each of these groups of uses and activities, if applicable, are to be treated in a district management program.

Administrative regulations for coastal development and geophysical hazard areas do not really address specific coastal uses and activities. Instead, they set out management priorities and standards which are generally applicable to all uses and activities in the coastal zone. The coastal development standards state that priority consideration should be given to potential coastal land and water uses according to the degree of their dependence on a coastal location. First priority is to be given to water-dependent uses and activities, second to water-related uses and activities and third to uses and activities which are not water-dependent or water-related but for which a suitable inland site is not available. The geophysical hazard area standards require identification of hazard areas and the adoption of protective measures to ensure that development in such areas does not unduly threaten the safety of persons or property. As they are more appropriate to that section, priorities for coastal development and standards for geophysical hazard areas are included in the Coastal Management Plan chapter of this report.

The remaining seven groups of coastal uses and activities relate to specific human uses of coastal lands and waters, with the nature and extent of these uses being largely determined by basic economic activities and the population growth and secondary economic activities which they engender. The administrative regulations require each district to identify sites or areas which are suitable and unsuitable for these uses and activities, so that they can be accommodated in a manner compatible with overall goals of the district coastal management program and maintenance of coastal resources.

This chapter analyzes present trends and probable future developments at Yakutat in each of the following basic economic sectors: fishing and seafood processing; energy development; timber harvesting and processing; transportation and utilities; mining and mineral processing; and recreation and subsistence. This analysis focuses on future facility and land use needs for these economic activities. Finally, this chapter includes a forecast of future population growth at Yakutat as a basis for estimating population-related demands which will made upon the district's coastal lands and waters. This assessment of future demands for the use of coastal sites and resources is then matched against the City's coastal

management goals and the inventory of coastal resources to develop the district coastal management plan.

I. RECREATION AND SUBSISTENCE

In its Comprehensive Development Plan and Capital Improvements and Services Program, the City of Yakutat identified municipal improvements projects needed to accommodate the formal recreation activities of present and future local residents. Three of these projects are of coastal importance. These are development of public parks with shelters and picnic facilities both at Sandy Beach on Monti Bay and on the wooded point between Shipyard and Puget Coves, and rehabilitation of the old foot trail which linked town with the small boat harbor. These waterfront parks, combined with the small boat harbor and municipal ownership of most of the tidelands will ensure good public access to water and beach areas and good in-town opportunities for water-oriented outdoor recreation. The Cannon Beach picnic area outside town is popular for large community events, while local natural areas important for recreational use include the Ankau and Ankau Beach, the lakes area on the Mission Tract, and Ophir Creek.

Outside Yakutat, there are few developed public recreational facilities in the region, consisting mainly of eleven remote cabins built by the Forest Service on the Yakutat Forelands. Essentially, all public lands in the region are open to wilderness and recreational use, with lands in the vicinity of Russell Fiord and the north side of Yakutat Bay being in either the Wrangell-St. Elias National Park and Preserve or the Russell Fiord Wilderness Area.

In 1979, the Alaska Division of Parks undertook an inventory of coastal areas in the Yakutat region with significant recreational, scenic, historic and wilderness values. That inventory, published as Recreation, Scenic and Heritage Areas of Particular Concern, Cape Suckling to Cape Fairweather and the Outer Kenai Coast, identified thirteen areas of prime recreational or related value in the region, all of which are of interest and use to local residents (see Table 9).

Recreation at Yakutat for residents and visitors alike is strongly oriented toward outdoor activities such as hunting, fishing, boating, hiking and beachcombing. Because of Yakutat's outstanding outdoor recreation assets and good air service, visitors are a significant contributor to demands on the region's recreation resources. For local residents, however, the most popular recreation activities and use areas are so closely allied to subsistence food gathering activities that these two topics can effectively be treated together.

The close connection between recreation and subsistence activities at Yakutat has been noted by numerous researchers, most recently by McNeary in his 1978 study titled "Local Exploitation of D-2 Lands in the Gulf of Alaska Region". This study documented traditional and present subsistence

TABLE 9

COASTAL RECREATION, SCENIC AND HERITAGE AREAS OF PARTICULAR CONCERN
YAKUTAT REGION

Area	Major Use Value
Icy Bay	Scenic, Recreation, Wildlife
Malaspina Glacier	Scenic, Recreation, Wildlife, Historic
Russell Fiord	Scenic, Wilderness, Recreation, Wildlife
Knight Island	Archeologic, Recreation, Scenic
Chicago Harbor	Recreation, Scenic, Wilderness
Khantaak Island	Historic, Scenic, Recreation, Wildlife
Shipyard Cove	Scenic, Recreation, Wildife
Yakutat & Southern Railway Co. Engine No. 2	Historic, Recreation
Canoe Trail	Historic, Recreation, Scenic, Wildlife
Yakutat Beaches	Recreation, Historic, Scenic
Situk River	Recreation, Scenic, Historic, Wildlife
Harequin Lake-Dangerous River	Scenic, Recreation, Wildlife
Alsek River	Wilderness, Recreation, Scenic, Historic, Wildlife

Source: Alaska Department of Natural Resources, Division of Parks. July 1979. Recreation, Scenic and Heritage Areas of Particular Concern, Cape Suckling to Cape Fairweather and the Outer Kenai Coast. Anchorage.

use by Yakutat residents of the entire Gulf of Alaska region from Cape Suckling to Cape Fairweather. While subsistence activities are carried on throughout the region, the areas of most intensive use were found to be eastern Yakutat Bay and the Yakutat Forelands west of Dangerous River, with significant use also made of the Malaspina Forelands, eastern Yakutat Forelands, Disenchantment Bay and Icy Cape. A measure of continuing economic and cultural importance of subsistence food gathering at Yakutat can be derived from a 1975 socioeconomic survey which found that 56 percent of Yakutat area households obtained a quarter or more of their food from subsistence activities.

As could be expected in a fishing community, recreational boating is a favorite activity and is often combined with subsistence food gathering. The most popular areas for recreational boating/subsistence are the relatively protected waters of the many bays, channels and coves formed by the islands and indented coastline of Monti Bay and eastern Yakutat Bay. These include Monti Bay (subsistence and commercial set netting, shellfish), Puget Cove (trolling for king and silver salmon), Redfield Cove (trolling for king and silver salmon, set netting, crabbing and sealing) and Eleanor Cove/Chicago Harbor (trolling for king and silver salmon, herring eggs and sealing). The intertidal areas of the beaches in these areas also yield a variety of beach foods, such as clams, cockles, chitons and seaweeds which are collected by some residents.

The most important subsistence activity of Yakutat residents is salmon fishing. Subsistence permits allow the holder to set net for salmon for home use, usually during the forty-eight hours before and after the commercial season opens. Most subsistence set netting is done at the Situk River, Monti Bay and Sawmill Cove. Sport fishing for such food species as steelhead, cutthroat trout and Dolly Varden is also locally popular, with the Situk River and Ankau Creek especially favored for that activity. Ophir Creek is traditionally important to older people who catch "redfish" (i.e. spawned-out red and coho salmon) there in fall. Some residents also harvest eulachon during their run in February and March, with the most popular harvest spots being Situk and Lost Rivers and Summit Lakes.

Among other subsistence activities, berry picking, especially for salmon berries, blueberries and strawberries, is an almost universal seasonal pastime. Hunting for harbor seals was formerly an important spring subsistence activity, with established seal camps at Disenchantment Bay and some residents still hunt seals, primarily in Redfield Cove, Eleanor Cove and Disenchantment Bay. Among big game species, local hunters take moose, bear, goat and Sitka deer, although most big game hunting pressure arises from visiting sportsmen. Small game is not abundant in the Yakutat area and apparently has not been of importance for subsistence. Waterfowl are hunted in fall in the Ankau and at other staging areas across the Yakutat Forelands. Limited quantities of gull, tern and kittiwake eggs are collected around Yakutat Bay and at Icy Bay and are considered a traditional treat by older Natives.

With daily jet service to both Anchorage and Juneau, Yakutat receives many tourists, most of whom come to take advantage of this area's expectional hunting and fishing opportunities. This area offers probably the best stream sport fishing in Southeast Alaska and is the only place in the region where king salmon can be taken in fresh water. Sportsmen here can fish for steelhead, all five salmon species, cutthroat trout, Dolly Varden char, northern pike, rainbow trout and grayling although the main sport fishing effort is for steelhead and red and king salmon. In recent years, due to growing visitor use, the take of steelhead and stream sport salmon fishing has been limited to two fish per day of each variety.

The Situk River is especially popular as it is large and slow moving enough to permit float type fishing trips. Tawah Creek, Lost River and Ankau Slough are all accessible by road and are popular with fishermen while other excellent sport fishing streams include the Italio, Akwe and Don Rivers although the latter are currently accessible only by light aircraft. The Yakutat area also offers good recreational salt water fishing opportunities especially for king and silver salmon.

In addition to its excellent sport fishing, Yakutat is one of Southeast Alaska's premier hunting areas. Moose, brown bear, black bear (including the blue color phase or glacier bear), deer, goat and wolves make up the main big game species, while marine mammals, waterfowl and small fur bearing animals are also numerous. However, moose and bear are the species receiving the most attention from hunters.

Moose migrated to the Yakutat Forelands from the Interior during the 1930's and became established on the west side of Yakutat Bay in the 1950's. Their numbers increased rapidly and soon attracted the attention of hunters. In 1969, a peak of 514 hunters took 324 moose but the number of hunters and animals taken then dropped dramatically until 1974 when the Yakutat Forelands were closed to moose hunting. The herd around the fringes of the Malaspina Glacier, on the other hand, remained well stocked and limited hunting continued in that area. In 1978, moose hunting on the Yakutat Forelands was permitted for the first time since 1974 but the quota of 25 moose each for the Forelands and the west side of Yakutat Bay was only a fraction of the number taken in previous years.

The decline of moose populations in the Yakutat area is reflected in a sharp decrease in the use of Forest Service cabins here, most of which were located for moose hunters. The total number of visitor days at these cabins declined slightly more than 50 percent between 1970 (8,972 visitor days) and 1977 (4,454 visitor days).

Yakutat is a favorite area for guided trophy hunting by non-residents of black and brown bear, plus the blue color phase of black bear, glacier bear. Some mountain goats are also taken. According to the Southeastern Office of the Division of Game, about 20 black bear, the same number of brown bears and one or two glacier bears are taken each year. Goat hunting has shown some increase in this area, with between 20 and 30 taken in 1978.

Although hunting and fishing remain the Yakutat area's primary attraction for tourists, the spectacular scenery of this area also attracts other groups. There are around twenty peaks of over 11,000 feet above sea level in the nearby St. Elias and Fairweather Ranges which attract experienced mountain climbers each year. In addition, the Forest Service maintains about 20 miles of hiking trails in the Yakutat area although most are not accessible by road, while the area also attracts its share of photography buffs and beachcombers.

The impact on Yakutat's economy from tourism is primarily felt through the use of guide services, air charter and boat rental operations and lodge facilities, plus some purchasing of goods and services within the community. Visitors stay at one of two lodges in the road-connected area or at one of the eleven Forest Service cabins in the larger area.

In the future, it is expected that the wish of local residents to participate in the traditional variety of subsistence activities will remain fairly constant. Some change may be experienced in sport hunting patterns with the passage of the Alaska National Interest Lands Conservation Act, since this will prohibit sport hunting within both the Wrangell-St. Elias and Glacier Bay National Parks, and a modest increase in recreational visits to the Yakutat region is likely, with some added pressure on the local fish and wildlife populations. Otherwise, the general level of outdoor recreation activities can be expected to grow in step with local population and economic growth. Only if major oil and gas development is based at Yakutat are major new recreational demands likely to arise.

II. ENERGY FACILITIES

The future demand for major coastal energy facilities in the Yakutat area will depend on three factors: further oil and gas lease sales; discovery of commercial reserves of oil and/or gas; and a decision to use onshore storage and loading systems to transport fuel products. While the speculative nature of oil and gas exploration in frontier regions makes it uncertain whether Yakutat will ultimately have to deal with large scale oil and gas development, the stakes for the community are high and the possibility can therefore not be ignored.

The Gulf of Alaska region has many superficial oil seeps and has long been regarded as a potential oil and gas province. In fact, Alaska's first oil production took place from the Katalla field between Yakutat and Cordova where oil was discovered in 1902 and about 154,000 barrels of oil were produced over a thirty year period. Between 1957 and 1960, both the federal and State governments issued onshore oil and gas leases in the Yakutat area and four exploratory wells were drilled near town, with some resulting non-commercial shows of oil or gas. Later, between 1960 and 1967, the State held six sales of nearshore tracts in State waters in the Northern Gulf of Alaska, including two sales in Yakutat Bay. However, none of these early leasing and exploratory activities in

the Yakutat area resulted in commercially significant finds of oil or gas.

Within the past decade, urgent national energy demands have made it economically and politically attractive to explore the oil and gas potential of the outer continental shelf (OCS) sector of the Gulf of Alaska, while the technical advances of the offshore industries have made such activities feasible. There has already been one major federal OCS lease sale in the northern Gulf of Alaska and a second is planned in October 1980 for the eastern Gulf of Alaska.

Modern offshore oil and gas development in a remote and environmentally hostile frontier province such as the Gulf of Alaska is a technically sophisticated and capital intensive industry, involving the outlay of billions of dollars. It usually also involves the construction of major onshore industrial facilities to provide support for offshore operations and to transport oil and gas products. As a result of interest in oil and gas development in the Gulf of Alaska region, the prospect of offshore oil and gas development in the vicinity of Yakutat has become a major consideration in the City's recent community planning activities and in the development of its coastal managment program.

Offshore oil and gas exploration in the Gulf of Alaska sector near the Yakutat area has already significantly shaped the planning strategy for coastal management at Yakutat. Before the Northeast Gulf of Alaska OCS Lease Sale #39 of April 1975, the Gulf of Alaska was considered by the U.S. Geological Survey and by the oil and gas industry to be a frontier petroleum province of exceptional potential. The U.S. Geological Survey's pre-sale estimates for the tracts then proposed for leasing ranged from 100 million to 2.8 billion barrels of recoverable oil and from 300 billion to 9 trillion cubic feet of natural gas. At the sale, industry invested $572,000,000 for exploration rights on 76 tracts.

The optimistic expectations shared for Sale #39 by industry and the U.S. Geological Survey were dispelled by actual exploration. During the three years following the sale, 11 offshore exploratory wells were drilled between Icy Bay and Kayak Island. All were dry holes. No further exploration efforts are currently planned by any of the lease holders and, in the absence of further exploration, the leases will expire in May 1981.

During the period of exploration activity associated with Sale #39, the ports of Yakutat and Seward were used as shoreside bases of operations to provide logistic support to the semi-submersible drilling rigs. The principal support facility at Yakutat was the newly built marine service base jointly operated by Shell and ARCO. The service base is made up of a 120 foot concrete surfaced finger pier with four dolphins for simultaneous mooring of up to four barges or two 200 foot supply boats; a 75 ton crane; 8,300 square feet of covered storage; on-site power generation, water supply, sewage treatment plant, bilge water treatment plant and incinerator. Because of its excellent facilities and convenient location, Yakutat's airport also was used as a transfer point for light supplies and for personnel en route to and from the offshore rigs in its sector.

Although OCS Sale #39 did not result in oil or gas discoveries, speculative interest in other untested areas of the Gulf of Alaska remains. The U.S. Department of the Interior has scheduled a second frontier sale in this region, the Eastern Gulf of Alaska OCS Sale #55, for October 1980 (see Figure 16 at the back of this report). The proposed sale area described in the Final Environmental Impact Statement initially included 350 offshore tracts totaling 1,957,242 acres southeast of Yakutat. However, in the Notice of Sale, the proposed lease area was reduced to 211 tracts, totaling 1,201,262 acres. These tracts are directly offshore from the Yakutat Forelands at a distance of 15 to 60 miles and, for the most part, in water depths of between 200 to 600 feet. The proposed lease tracts are 25 to 75 miles distance from the City of Yakutat.

The eventual outcome of oil and gas exploration in frontier areas is highly unpredictable, as shown by the costly and disappointing results of Sale #39. By the same token, specific onshore industrial facility requirements and other community impacts are difficult to predict and to plan for until commercial finds are made and development options become clear. For this reason, the hypothetical method of scenario building is frequently used to illustrate possible development outcomes and is used here to investigate the scale of development and the types of OCS-related facilities which could be demanded as a result of Sale #55.

The U.S. Geological Survey, Bureau of Land Management and other parties have published several widely varying estimates of the range of oil and gas production which might result from Sale #55. However, for present purposes, exact estimates of possible production levels are not as important as identification of the types and approximate scale of local marine facilities and activities which may be demanded and which should be considered in the district coastal management plan.

There are three general types of OCS marine facilities which offshore development could require in the Yakutat area. These are offshore service bases, oil terminals and LNG terminals. For this analysis, the low, mean and high resource estimates originally developed for Sale #55 by the U.S. Geological Survey have been used to illustrate possible future demands for OCS energy facilities at Yakutat. These estimates were used for various studies conducted under the Bureau of Land Management's Socioeconomic Studies Program to assess the transportation, socioeconomic and sociocultural impacts of Sale #55 on Yakutat. (The resource estimates later used by the Bureau of Land Management in its final environmental impact statement were more modest).

The Bureau of Land Management's low estimate of recoverable oil and gas discoveries for Sale #55 is below the threshhold volume required for profitable production. It is, therefore, equivalent to an exploration only scenario. Such a scenario would be very similar to the unsuccessful Sale #39 as far as activity levels and facility requirements at Yakutat are concerned. The marine service base would be reactivated during exploration, but no new port or other facilities would need to be constructed.

The estimate of recoverable resources for the mean scenario (500 million barrels of oil, 3.75 trillion cubic feet of gas) and high scenario (1.35 billion barrels of oil and 9.3 trillion cubic feet of gas) differ greatly in scale but are very similar in the types of new onshore facilities they could promote. For each of these scenarios, it is assumed that expansion and intensified use of the existing marine service base on Monti Bay would take place and construction in the sale region of a major onshore oil terminal and an LNG liquefaction plant and terminal to transship oil and natural gas production would be required. Table 10 shows the relative scale of possible oil and gas terminal facilities at Yakutat compared with similar existing or proposed facilities elsewhere in Alaska.

In a study done under the Bureau of Land Management's Socioeconomic Studies Program, Northern Gulf of Alaska Transportation Systems Impact Analysis, Eakland and Associates analyzed possible regional transportation impacts of Sale #55 (see Tables 11 and 12). That study estimated approximate marine shipping activity levels and marine facilities which the mean and high scenarios would require.

Under the mean scenario, the study projected that:

1. Service base traffic would peak at about 3,200 supply boat visits annually, which would require a dock capacity of 5 berths or some expansion of the existing facility.
2. Construction of an onshore oil terminal with capacity to handle up to 250,000 barrels per day. This terminal would require an estimated 88 oil tanker visits annually at peak production.
3. Construction of a natural gas liquefaction plant and terminal with a peak capacity of 1 billion cubic feet per day, requiring up to 122 LNG ship visits annually.

For the high scenario, the corresponding peak estimates were used:

1. A total of 5,600 supply boat visits annually, requiring 8 berths.
2. An oil terminal of 750,000 barrels per day throughput capacity, generating up to 286 tanker visits per year.
3. An LNG plant and terminal with 2 billion cubic feet daily throughput capacity requiring up to 237 LNG ship visits annually.

III. TRANSPORTATION AND UTILITIES

The need for marine transportation improvements and utilities in Yakutat's coastal zone will largely be governed by the pattern of future economic development here. If the city's economic growth is limited to gradual expansion of traditional economic activities, its need for marine transportation facilities will remain limited in scale, focusing mainly

TABLE 10

COMPARISON OF CAPACITY
MARINE OIL TERMINALS AND LNG PLANTS

Marine Oil Terminals	Daily Capacity
Valdez Terminal	1,500,000 barrels
Drift River (Cook Inlet)	250,000 barrels
Yakutat Mean Scenario, Sale #55	250,000 barrels
Yakutat High Scenario, Sale #55	700,000 barrels
Natural Gas Liquefaction Plants	
Phillips (North Kenai)	174 million cubic feet
Pacific Alaska LNG (North Kenai proposed)	400 million cubic feet
Yakutat Mean Scenario, Sale #55	1,000 million cubic feet
Yakutat High Scenario, Sale #55	2,000 million cubic feet

Sources: Dames and Moore.
International Petroleum Encyclopedia 1980.

TABLE 11

ESTIMATED VISITS PER YEAR
SUPPLY BOATS, OIL TANKERS AND LNG TANKERS
MEAN AND HIGH SCENARIOS
YAKUTAT, ALASKA

Year	Mean Scenario			High Scenario		
	Supply Boats	Oil Tankers a/	LNG Ships b/	Supply Boats	Oil Tankers a/	LNG Terminals b/
1981	432			432		
1982	432			720		
1983	720			864		
1984	720			1,008		
1985	720			864		
1986	576			1,008		
1987	768			1,620		
1988	1,908			2,208		50
1989	2,628		50	4,200		50
1990	2,784	15	60	5,220	58	105
1991	3,168	43	106	5,616	124	169
1992	1,776	81	122	5,424	200	216
1993	816	88	120	4,560	260	230
1994	336	74	115	2,400	286	237
1995	336	53	103	720	283	236
1996	336	40	96	720	264	229
1997	336	30	91	720	230	219
1998	336	22	87	720	191	211
1999	336	16	84	720	192	205
2000	336	12	81	720	134	200

a/ Assumes average tanker fleet size of 120,000 dead weight tons (DWT).
b/ Assumes average LNG vessel capacity of 130,000 cubic meters, comparable to vessels used in Cook Inlet.

Source: Peter Eakland and Associates, Inc.

TABLE 12

LOGISTICS REQUIREMENTS FOR YAKUTAT-BASED DRILLING
MEAN AND HIGH SCENARIOS

Mean Scenario

Year	Yakutat Shelf Tonnage (Short Tons)				Inbound	
	Drill Pipe	Dry Bulk	Fuel	Drill Water	Dry Goods Barges a/	Fuel Tankers b/
1	2,749	7,812	13,884	21,696	2	3
2	3,207	9,114	16,198	25,312	3	3
3	5,498	15,624	27,768	43,392	4	6
4	5,498	15,624	27,768	43,392	4	6
5	5,498	15,624	27,768	43,392	4	6
6	4,124	11,718	20,825	32,544	3	5
7	4,124	11,718	20,825	32,544	3	5
8	4,672	12,268	21,804	35,356	3	5
9	9,824	19,478	34,618	63,080	5	7
10	18,426	32,478	57,722	110,894	9	12
11	28,866	49,096	87,255	170,360	13	18
12	19,924	33,927	60,297	117,725	9	13
13	6,555	11,001	19,551	38,171	3	4

High Scenario

Year	Yakutat Shelf Tonnage (Short Tons)				Inbound	
	Drill Pipe	Dry Bulk	Fuel	Drill Water	Dry Goods Barges a/	Fuel Tankers b/
1	2,749	7,812	13,884	21,696	2	3
2	5,498	15,624	27,768	43,392	4	6
3	6,415	18,228	32,396	50,624	5	7
4	7,331	20,832	37,024	57,865	5	8
5	6,415	18,228	32,396	50,624	5	7
6	5,498	15,624	27,768	43,392	4	6
7	5,130	13,570	24,118	38,972	4	5
8	8,897	20,054	35,642	61,472	5	8
9	17,957	34,356	61,060	112,902	9	13
10	31,478	54,710	97,234	188,038	15	20
11	42,236	72,022	128,002	249,914	20	26
12	47,381	80,822	143,642	280,450	22	29
13	39,475	67,390	119,770	233,842	18	24
14	18,760	31,728	56,389	110,092	9	12
15	2,760	4,632	8,232	16,072	2	2

a/ Dry goods barges = (Drill pipe tonnage + Dry bulk tonnage)/(6,000/barge).
b/ Fuel tankers = (Fuel Tonnage)/(5,000 tons/tanker).

Source: Peter Eakland and Associates, 1979.

on maintenance or expansion of existing facilities. On the other hand, major developments in the oil and gas, groundfish or wood products industries would require the construction of new marine transportation facilities and the designation of some new utility corridors. As the latter are likely to be specially designed, single purpose transportation facilities dedicated to specific industrial uses rather than being open to general use, they are treated in connection with those individual industries.

Yakutat is exclusively dependent upon water and air transportation for the shipment of freight to and from the community. Thus, the reliability and cost of marine shipping services are critical factors in local living standards and in the economic health of the local fishing and seafood processing industry which is greatly affected by the shipping costs for its products. At present, Yakutat's public cargo dock and cargo handling facilities are in a poor state of repair and are inadequate for local shipping requirements. Port redevelopment is essential to the town's economic vitality.

In order to estimate the future demand for port capacity at Yakutat, a forecast of future general cargo and bulk fuel commerce was prepared. Recognizing the uncertain development of new industries, four separate projections were prepared to reflect different economic assumptions. Thus, there are separate projections for a base case level of economic development, for a mean and a high OCS scenario and for a bottomfish development case (see Table 13). The projections include only general cargo which might be delivered over a public dock and bulk fuels for delivery to the petroleum dock. They specifically exclude heavy industrial equipment and cargoes which would be delivered directly to docks associated with new industrial facilities.

These commerce projections were compared with the cargo handling capacity of a new crane-equipped general cargo dock, such as the City is seeking to build at Ocean Cape, and with the bulk fuel handling capacity of the petroleum dock, estimated in a 1979 Corps of Engineers report at between 97,000 and 203,000 tons of fuels annually. The comparison indicated that the proposed new dock facility and the existing petroleum dock would have adequate capacity to handle projected general cargo and bulk fuel shipments in any of the scenarios.

The City's capital improvements program proposes eventual extension of the cold storage dock to provide a loading float and sheet pile wave break. This, plus expansion of the adjacent upland storage area, would provide added fish handling capacity and protection against swells which sometimes interfere with docking and unloading activities at the cold storage site.

The City's small boat harbor at Shipyard Cove is scheduled for expansion. The official moorage capacity of the harbor is 50 boats, but as many as 25 more boats can be accommodated through "double-parking". Boat stalls vary in length from 17 to 41 feet. The demand for moorage space is well above capacity, as there are usually 90 to 100 vessels vying for space

TABLE 13

FORECAST OF GENERAL CARGO AND BULK FUEL TONNAGE
YAKUTAT, ALASKA
1980 - 2000

Year	OCS Cases						Bottomfish Case	
	Base Case		Mean Case		High Case			
	General Cargo	Bulk Fuel	General Cargo	Bulk Fuel	General Cargo	Bulk Fuel	General Cargo	Bulk Fuel
1980	1,800	10,000	1,800	10,000	1,800	10,000	1,800	10,000
1985	2,000	11,000	2,400	13,000	3,800	21,000	2,300	13,000
1990	2,300	13,000	6,500	36,000	10,200	57,000	3,600	20,000
1995	2,700	15,000	6,700	37,000	10,500	58,000	5,000	28,000
2000	2,900	16,000	6,900	38,000	10,900	61,000	5,900	33,000

Source: Alaska Consultants, Inc.

in the summer salmon season, with potential for even more demand by transient vessels if space were available. The 1978 capital improvements program recommended that 60 more stalls be added to the boat harbor as soon as possible, mainly to meet current demands. The State Division of Harbor Design and Construction now has under design a project which will about double the moorage capacity, but this will barely take care of short term needs. Over the longer run, the demand for moorage space can be expected to grow in pace with population growth. Furthermore, if Yakutat fishermen upgrade the local fishing fleet and if new processing plants draw more transient traffic to Yakutat, additional capacity for larger vessels will be needed.

It is not anticipated that there will be a demand for major utility corridors for community purposes at Yakutat. However, new industrial development in the oil and gas or timber industry may require overland transportation corridors in or near the coastal zone for pipeline routes to transport oil or natural gas production to terminal facilities or to truck logs from the eastern Yakutat Forelands if that area is opened to timber harvesting.

IV. FISHING AND SEAFOOD PROCESSING

The commercial fishing and fish processing industry has been Yakutat's major economic activity since the turn of the century. The primary species of commercial value harvested locally is salmon, supplemented by halibut and crab. All of the local commercial catch is landed at Yakutat and some additional landings are made by the offshore fleet active in the Gulf of Alaska. However, much of the region's diverse fishery resources are harvested and processed offshore or delivered to other ports for processing. Thus, there is opportunity for Yakutat to strengthen the fisheries sector of its economy through fuller participation in the harvesting and processing of the region's fishery resources. The City is now actively pursuing means to strengthen and expand its role in the region's fisheries.

A. TRADITIONAL FISHERIES

The Yakutat fisheries management area extends from Cape Suckling to Cape Fairweather (see Figure 16 at the back of this report). Yakutat is the only community within this fisheries area but a large share of the fish harvested here is either not caught by locally based fishermen or is not processed at Yakutat, or both. The fishing effort by Yakutat fishermen is almost exclusively centered around salmon with most shellfish and halibut taken by boats from outside the Yakutat area.

There are more than twenty major salmon stream systems in the Yakutat region with about nine systems supporting a commercial set gill net fishery on a regular basis. These are the Akwe, Alsek, Dangerous, East-

Dohn, Italio, Kaliakh-Tsiu, Lost, Situk and Yahtse Rivers. It is on these river systems as well as Manby Shore and inside Yakutat Bay that most effort by local set net fishermen is concentrated.

Unlike the traditional set gill net salmon fishery pursued by many Yakutat residents, the troll fishery in this area is relatively new. There are two distinct troll fleets, one fishing the "inside" and the other fishing the "outside" waters. The inside troll fishery has developed during the past ten or so years and is primarily a locally based hand troll fleet made up of skiffs and pleasure boats, most of which do not venture outside Yakutat Bay.

By contrast, most of the offshore power trollers are more than 80 feet long with the smallest being in the 40 to 50 foot range. The offshore troll fishery has grown in importance in Southeast Alaska during the past fifteen or so years as many of the earlier trolling grounds in the region became less productive and large boats began fishing the outside waters, first off Baranof and Chichagof Islands and, more recently, the Fairweather grounds north of Cape Spencer. According to the Alaska Department of Fish and Game (1975), as much as 75 percent of the total Southeast Alaska troll catch now comes from these offshore areas, with about 30 percent of the total coming from the Fairweather grounds. However, most vessels engaged in the power troller salmon fishery offshore from Yakutat land their catches elsewhere, primarily at Pelican but sometimes as far away as Seattle.

Halibut is a minor element in Yakutat's fisheries industry. This is an international fishery, with catch levels and the length of the fishing season regulated by the International Pacific Halibut Commission. According to the Commission, a total of 1,391,000 pounds of halibut was landed at miscellaneous Central Alaska ports in 1977. This designation included Yakutat, Cordova and several other ports. According to the Alaska Department of Fish and Game, little halibut is landed locally. Information provided by local processors, indicates that approximately 228,000 pounds of halibut were landed at Yakutat in 1973, 155,000 pounds in 1974 and 128,000 pounds in 1975. Although no statistics are available, the amount of halibut processed at Yakutat since the May 1977 cold storage plant fire has probably decreased further.

Shellfish is an important part of Yakutat's fish processing industry although little is taken by locally based fishermen. According to the Alaska Department of Fish and Game, slightly more than half of the crab caught in the Yakutat fisheries area is usually processed at Yakutat. The area has sizable Dungeness and tanner crab pot fisheries, a scallop dredge fishery and a minor shrimp pot fishery. In addition, some king crab are occasionally taken in Yakutat Bay.

According to the Alaska Department of Fish and Game, Dungeness crab are fished off the coast of the Yakutat area by vessels in the 35 to 55 foot range. Fishing gets underway in June and usually ends in August or September when bad weather conditions discourage most fishermen. However, some small catches are recorded through to the end of the season in February.

Alaska Department of Fish and Game personnel in Petersburg indicated that a total of 1,887,767 pounds of Dungeness crab were caught in the Yakutat fisheries area during the 1977-78 season. Petersburg Fish and Game personnel further reported that most Dungeness crab landed in Yakutat in 1978 was whole cooked and flown to California.

The Dungeness crab fishery originated on the West Coast and that area remains its principal market. Thus, Alaska catches tend to fluctuate in relation to the size of the West Coast catch. Between 1960 and 1973, catches in the area north and west of Cape Spencer generally increased, with these increases being primarily due to corresponding increases in effort. In 1973, the catch reached a record high of 3,086,022 pounds but then fell in successive years through the 1976-77 season when a total catch of only 542,726 pounds was recorded. However, these decline in the catch were primarily due to exceptionally good Dungeness catches on the West Coast rather than to any decline in the resource off Yakutat.

Tanner crab is a very important but a relatively new fishery in the Yakutat area. Except for 708 pounds taken in 1968, commercial exploitation of this species did not get underway here until 1972 when 15,493 pounds was taken. The catch rose rapidly during the following two years, peaking at 3,087,512 pounds in 1974. Since 1974, catch levels for this species have fallen, with a total of 998,646 pounds recorded for the 1978 season. However, at least part of this apparent decline is believed to be due to the imposition of a minimum legal size limit of 5.3 inches for male tanner crabs in 1976. According to Alaska Department of Fish and Game personnel in Petersburg, tanner crab processed at Yakutat in 1978 were mostly whole cooked and flown out of the area. However, some were taken in live tank vessels to Cordova for processing.

The tanner crab fishery in the Yakutat area operates primarily in offshore waters between 30 and 110 fathoms in depth. Vessels are large, most of them in the 110 foot class. The season opens at the beginning of September and extends through the middle of May although bad weather often limits fishing effort during the winter months. Tanner crab has proven to be a very important addition to Yakuat's fishing and fish processing industry and has served to extend the fishing season through the winter months. The outlook for this fishery appears good and promises to continue to be of considerable importance in Yakutat's economic well being.

Scallops have been commercially exploited in the Yakutat area only during the past ten years. This had traditionally been an East Coast fishery but a decline in the national catch in 1966 coupled with promising results of exploratory scallop fishing in Alaska attracted several East Coast vessels to this State. However, the Alaska scallop fishery has not lived up to initial expectations.

The only areas in the Gulf of Alaska region which support significant numbers of weathervane scallops are near Yakutat and Kodiak, with the latter being the most productive. According to the Alaska Department of Fish and Game, major beds in the Yakutat area occur 20 to 40 miles

offshore between Cape St. Elias and Cape Fairweather in depths ranging from 34 to 56 fathoms or deeper. Vessels which engaged in this fishery were generally in the 90 to 100 foot class, while dredges were usually 12 to 14 feet wide. The scallops were shucked on board ship and the meats washed, packed and iced down in the hold. Almost all deliveries were made to Kodiak.

The first year for which commercial scallop catches were recorded in the Yakutat fisheries area, 1968, was the most productive to date. In that year, a total of 903,468 pounds of shucked meats were caught here. Catches remained high in 1969 but then fell off dramatically to 22,726 pounds in 1970. Although catches then rose gradually through 1974, they have since fallen off again, with only 22,000 pounds recorded in 1977 and none in subsequent years. Scallops remain a fishery with a higher potential for exploitation under better market conditions and the successful introduction of mechanical shucking equipment. In the short term, however, no significant activity is foreseen.

No commercial stocks of red or brown king crab occur in Yakutat Bay. Little is known about king crab stocks in the Yakutat area but their commercial potential is believed to be minor. At least five species of shrimp are found in Yakutat Bay but they have attracted little commercial interest. Periodic efforts by vessels using beam trawl gear and shrimp pots have not proven very successful and it is assumed that most shrimp taken here in the future will continue to be for subsistence purposes.

According to the Alaska Department of Fish and Game, other fish species are present in the Yakutat area but relatively little is known about them. Immature herring are found on the east side of Yakutat Bay during the summer months and usually attract a large number of small king salmon feeders to the area. However, little information is available as to the economic potential of a local herring fishery. In addition, there are large razor clam populations in the Yakutat area but they remain essentially unexploited except by a few local residents.

Until May 13, 1977, there were two seafood processing plants in the community, Yakutat Cold Storage and Western Seafoods. The Yakutat Cold Storage was owned by the City of Yakutat and leased to the Yakutat Fisherman's Cooperative which froze salmon, halibut and crab. However, except for the ice house and dock, this plant was destroyed by fire in May 1977. A second processor, Western Seafoods, is located in the old Ocean Cape cannery and normally processes salmon, Dungeness crab, tanner crab and minor amounts of halibut. Close to 25 persons were employed in fish processing on an average annual year-round basis in Yakutat in 1977, plus almost 40 in fishing. Nearly all of these people are local residents.

The April 1977 fire which destroyed the Yakutat cold storage plant has brought some changes to the Yakutat area's salmon fishery. During the 1978 and 1979 seasons, salmon was purchased by both the Yakutat Fisherman's Cooperative and Western Seafoods and in 1978 by two other buyers. Much of the fish bought by the Cooperative was processed at the Western

Seafoods plant and most salmon purchased by the two local plants was frozen and flown out of the area. One other buyer flew salmon directly out of Yakutat while the fourth shipped his fish to Juneau.

B. FUTURE PROSPECTS

The City of Yakutat has made development of a modern, diversified seafood processing industry its highest priority for local economic development. However, four major factors presently limit the economic benefit Yakutat can derive from its fisheries. These are:

1. Lack of modern, diversified processing plant capacity.
2. Poor marine shipping services, mainly due to poor docking facilities and low shipping volumes.
3. Inadequate fleet moorage and marine services for local and transient fishing vessels.
4. Small vessel size and limited range of the local fishing fleet.

The Ocean Cape Site Development Feasibility Study undertaken for the City in 1980 estimated that Yakutat could ultimately support a substantially higher level of seafood processing than it currently does if full advantage was taken of the community's location in relation to the offshore fishery resources in its sector of the Gulf of Alaska. That study compared the current annual delivery of 3,000,000 pounds of fish and shellfish at Yakutat for local processing with a long term potential of 14,250,000 pounds annually. The long term estimate assumed utilization of now unexploited species, mainly black cod, increased landings by the non-local fleet engaged in the offshore harvest of traditional species, and capture of part of the Gulf of Alaska's bottomfish harvest for local processing, as well as continued processing of the traditional local catch.

A two phase process of development of the local fisheries is foreseen by the City:

1. The first phase would involve reconstruction through private investment of a processing plant at the City cold storage site. This facility would concentrate primarily on processing traditional high value species (salmon, crab and halibut) to meet the processing requirements of local commercial fishermen, supplemented by landings from the offshore fleet.
2. Phase two envisions the development through private investment of a moderate volume processing plant which, in addition to traditional species, would rely heavily upon deliveries of bottomfish species from the deepwater fisheries to Yakutat for processing.

Successful redevelopment of Yakutat's fisheries industry is closely linked to transportation and boat harbor improvements which are discussed in greater detail in the preceding transportation and utilities section of this report.

V. TIMBER HARVESTING AND PROCESSING

Commercial use of timber products in the Yakutat area dates back to 1888 when the Swedish Free Mission built a small sawmill in the community. Since that time, sporadic logging activities have taken place. However, while the Yakutat area has timber resources capable of supporting a sizable wood products industry, development of these resources is currently at a very low level. To date, only a minor amount of the commercial timber in the Yakutat area has been logged. For many years, most of the timber resources of the Yakutat area were placed in limbo due to the U.S. Forest Service's 1965 contested (and subsequently lapsed) long term St. Regis Paper Company timber sale, which included up to 50,000,000 board feet annually from the old Yakutat Working Circle. The later moratorium on independent timber sales during the period of Native land selections, and the Roadless Area Review and Evaluation and Tongass Land Management Plan processes prolonged the period of low timber harvest activity.

Commercial logging in the Yakutat area ceased after the only locally based logging operation shut down in 1978 and shipped its logging equipment out of the area. This operator had previously harvested and trucked timber to Sawmill Cove where it was sorted into pulp logs and saw timber to be barged to the Sitka pulp mill or to sawmills in Wrangell and Haines.

Almost all commercial timber in the Yakutat area is within the Tongass National Forest, with comparatively minor (although commercially significant) amounts being in State ownership or having been selected by the Yak-Tat Kwaan and, tentatively, also by the Sealaska Corporation under terms of the Alaska Native Claims Settlement Act.

Using figures supplied in 1977 by Tongass National Forest Service personnel in Juneau, there are currently about 754,500 acres of National Forest land in the Yakutat area, although only 213,700 acres were classed as commercial forest land. Excluding hardwoods, the Forest Service has calculated that these forest lands were capable of yielding a total of 4,199 million board feet of timber. Of this volume, about 78 percent is Sitka spruce, 14 percent is western hemlock and the remaining 8 percent is mainly mountain hemlock or black cottonwood. The Forest Service no longer calculates sustained timber yields from specific areas within the Tongass National Forest. However, using relationships between volume and sustained yield developed by the Forest Service in its 1961 inventory in this area, Forest Service lands in the Yakutat area should be capable of yielding between 71,000,000 and 72,000,000 board feet of timber per year using a 120 year rotation.

However, much of these timber resources are located in roadless areas with very high recreational, habitat and scenic values and were placed in LUD I or LUD II classifications under the Tongass Land Management Plan. Such classifications preclude timber harvesting. That plan also placed about 91,000 acres of prime timber lands in LUD III or LUD IV

classifications which allow timber harvest. The Forest Service currently has only one timber sale planned for the Yakutat Forelands area. This sale, scheduled for 1985, is approximately 15 million board feet in size, and will be located in Management Area C-53, specifically in T28S, R35E, to the north of the Dangerous River Highway and west of the Antlen River.

Local objections to timber development in the area east of Dangerous River have been strong. Major concerns focus on possible damage to fish and wildlife habitat and extension of the forest road system into this roadless area. Thus, while timber harvesting is deemed to be compatible with LUD III and LUD IV designations, it is not presently clear which areas and what volumes of timber might eventually be made available for harvest by the Forest Service.

State selections between Icy Bay and Cape Suckling total 331,805 acres, of which an estimated 125,000 acres are of commercial forest quality. A 1963 U.S. Forest Service timber inventory estimated that these lands then held approximately 2,036 million board feet of timber. The State held a major timber sale in the eastern part of this area in 1969 and plans another sale of about 49 million board feet in October 1980.

Under the terms of the Alaska Native Claims Settlement Act, the Yak-Tat Kwaan, Inc. was entitled to select 23,040 acres of land in the immediate vicinity of Yakutat. According to figures supplied by the Kwaan, the lands selected include 19,430 acres of commercial forest with a total timber volume of approximately 521.4 million board feet. These timber lands are planned to be managed on a sustained yield basis, with most to be clear-cut except on the Phipps Peninsula.

Despite the problems and uncertainties presently facing the wood products industry in the Yakutat area, significant growth in this industry is possible over the next twenty years, provided that market conditions are strong. It is anticipated that the Forest Service will periodically hold independent sales at a level which will sustain a small logging operation at close to peak levels of activity and that smaller sales by Native corporations and the State, possibly supplemented by additional Forest Service sales, could support a second logging operation or an enlarged single operation.

The timber resources of the area alone are not capable of supporting a large sawmill. A high proportion of the timber stands are of pulp rather than sawlog quality and it is presently more economic to barge logs out of the area to mills elsewhere in Southeast Alaska than to retain sawlogs in Yakutat for processing and have additional sawlogs barged in. However, this could change in the future. In addition, other companies operating in the northern Gulf of Alaska area may find it desirable to transport their sawlogs to Yakutat. The operations of the Southcentral Timber Development Company at Icy Bay are a case in point. The State sold 200,000,000 board feet of timber there in 1969 and has scheduled another sale in October 1980. At the present time, logs are barged 350 miles from Icy Bay to the company's mill at Jakolof Bay, near Seldovia. Transporting these logs to a small mill at Yakutat would appear to be a more logical alternative if agreements could be worked out with other timber operators.

VI. MINING AND MINERAL PROCESSING

Large scale mineral development is an industry with potential for adverse effects on coastal lands and waters. However, the prospects for mineral development in the Yakutat region appear remote through the forseeable future.

According to a recent U.S. Forest Service resource assessment:

> "Analysis of samples from the (Yakutat) region disclose numerous small anomalous concentrations of many metals, but none that apnear to have any immediate economic significance. The best-appearing potential resource for several metals is probably the sands of the present beaches and the elevated beach terraces on the Yakutat foreland, but these deposits need additional exploration work in the economic evaluation. Past mineral production has been insignificant." a/

In view of this negative appraisal, large scale mineral development has been discounted as an activity of potential concern to the Yakutat district coastal management program.

VII. FUTURE POPULATION

Many dramatic coastal management choices at Yakutat stem directly from economic development projects and the need to site, design and operate associated industrial facilities and utilities in a manner compatible with the protection of coastal values. Perhaps less obvious are the pressures on coastal resources which may accumulate over time due to population growth and the accompanying need to use more land for added housing, community facilities and private businesses. Such growth can be to the detriment of coastal habitats, environmental quality, conservation of fish and wildlife populations and can result in overuse or loss of natural areas traditionally enjoyed for their recreational, subsistence and historic values. For these reasons, a forecast of Yakutat's future population growth potential and of the demands this growth is likely to place upon the coastal zone is an essential part of the district coastal management program.

The development of population projections for the Yakutat district coastal management program is complicated by the location of district boundaries and by the speculative nature of future development projects in the Yakutat area, particularly of the oil and gas and groundfish industries.

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a/ Source: U.S. Department of Agriculture, Forest Service, Alaska Region. April 1978. Minerals Task Force Working Report. Juneau. (TLMP 4).

Not all residents of the Yakutat area live within the district's boundaries. However, as a practical matter, the City is the center of the Yakutat region and virtually all area residents make use of the City's resources and of the recreational and economic assets of the larger region. For these reasons, the population of the entire road-connected area rather than of just the City provides the best measure of possible future demands on the coastal resources of the district and the adjacent area. Therefore, a single population forecast has been prepared for the area as a whole.

Yakutat's economic and population growth can, in part, be estimated from an analysis of present and foreseeable future trends in the community's traditional economic base. The base case economic and population forecast assumes a continuation of recent economic patterns and trends at Yakutat through the year 2000, with growth arising primarily from fuller use of the renewable natural resources of the lands and waters of the immediate Yakutat area (see Table 14). Specifically, significant additional employment in the fishing and seafood processing industries is assumed, based on new processing plant capacity and added landings of traditional species and some bottomfish at Yakutat for processing. A modest level of added employment in government is foreseen, as is creation of some new employment in the wood products industry. Also assumed is a steady expansion of the local trade and services sectors, stimulated in part by an increased level of visits to Yakutat for outdoor recreational activities such as sport fishing and hunting. For an explanation of the detailed economic analysis upon which the base case population forecast was derived, reference is made to Alaska Socioeconomic Studies Program: Northern Gulf of Alaska - Petroleum Development Scenarios, Local Socioeconomic Impacts, October 1979, prepared by Alaska Consultants, Inc. for the U.S. Bureau of Land Managment, Alaska Outer Continental Shelf Office.

Under the base case premises, the Yakutat area's population is forecast to grow from about 600 residents in 1980 to 750 by 1990, reaching an estimated 950 residents by the year 2000. This base case population forecast does not take account of the potential effect on Yakutat's economy and population of development in two non-traditional industries, oil and gas development and high volume groundfish harvesting and processing. As of 1980, the future course of these industries at Yakutat remains speculative, but if the most optimistic estimates of their development potential were realized, the community's population could increase many times over the next two decades. It is premature to state except in general and qualified terms, when or on what scale these industries might develop or what level of population growth they might engender. However, within these limits, separate estimates have been prepared of the population which could be added in the Yakutat area if certain hypothetical cases or scenarios about oil and gas development and groundfish development occur. Two cases corresponding to the mean and high scenarios for Sale #55 were prepared for oil and gas development. A single scenario for groundfish development was also prepared. The main value of these hypothetical scenarios is to compare the potential growth implications of these industries with how Yakutat might grow if its traditional livelihood patterns prevailed.

TABLE 14

POPULATION FORECAST, YAKUTAT AREA
BASE CASE, GROUNDFISH SCENARIO AND OCS SCENARIOS
1980 - 2000

Year	Base Case Forecast	Groundfish Scenario Increment	Mean OCS Scenario Increment a/	High OCS Scenario Increment b/
1980	600	--	--	--
1985	650	350	175	600
1990	750	575	1,400	2,675
1995	900	975	1,300	2,650
2000	950	1,050	1,375	2,750

a/ The mean scenario does not include the temporary construction workforce expected to be housed in camp facilities during the second half of the 1980's. This workforce is estimated to peak at about 1,100 workers.

b/ The high scenario does not account for the temporary construction workforce expected to be housed in camp facilities. This workforce is estimated to peak at about 3,600 workers in the middle years of the decade.

Source: Alaska Consultants, Inc.

The population forecast for the groundfish scenario assumes the addition of a labor intensive processing plant and related facilities at Yakutat with a capacity to process from 10,000 to 15,000 tons of groundfish annually. This forecast was updated from an analysis presented in the Capital Improvements and Services Program prepared by Alaska Consultants, Inc. for the City of Yakutat in September 1978. With the establishment of a groundfish processing plant of this scale in the near future, Yakutat's population is estimated to grow by an added 575 residents over the base forecast by 1990 and another 500 residents by the year 2000.

The two OCS senario population forecasts presented for the federal OCS Sale #55 were drawn from Northern Gulf of Alaska Petroleum Development Scenarios, Local Socioeconomic Impacts. The scenarios correspond with a mean find and a high case find, respectively. No population forecasts for exploration only or low find cases are included since they would have only minor and temporary effects on local population trends. However, it should be noted that the U.S. Geological Survey and Bureau of Land Management consider these two OCS scenarios encompass the most likely outcome for Sale #55.

Each production scenario contributes a share of new resident population associated with the installation and operation of the various OCS industrial facilities predicated at Yakutat. Under the mean find OCS scenario, the Yakutat area's population climbs steeply in the latter part of the 1980's during the busiest period of offshore oil and gas field development and onshore facility construction. Thereafter, population growth stabilizes as the intensive but short term development phase yields to the production phase.

The mean oil and gas scenario would add about 1,300 new permanent residents to the Yakutat area, more than doubling the base case population forecast. This does not include a temporary construction workforce assumed to be housed in temporary camp facilities during the second half of the 1980's. This temporary workforce is estimated to peak at about 1,100 workers.

The high find OCS scenario envisions the most striking changes in Yakutat's future population. The pattern of growth generally resembles the mean find scenario, that is, rapid population growth accelerating to a peak toward the end of the first decade and leveling off thereafter. However the scale of growth is much greater.

Under the premises of the high find case, Yakuat's population is estimated to grow by an additional 600 residents by 1985 due to oil and gas development. By 1990, the oil and gas-related permanent population is estimated to reach nearly 2,700 residents and remain at that level through the rest of the century. This permanent population growth does not include temporary construction workers assumed to be housed in camp facilities outside town and estimated to peak at about 3,600 by the mid-1980's.

Chapter 5

GOALS AND ISSUES

GOALS AND ISSUES

6 AAC 85.020. NEEDS, OBJECTIVES, AND GOALS. Each district program must include a statement of the district's overall coastal management needs, objectives, or goals, or the district's comprehensive land and resource use plan. (Eff. 7/18/78, Reg. 67)

Authority: AS 44.19.893
AS 46.40.030
AS 46.40.040

The goals and issues for the coastal management plan have been drawn from the City's basic planning documents, supplemented by discussions with City officials. These coastal management goals are an update and, to some degree, a refinement of the City's standing planning policies. However, the review of existing planning documents indicates that, even in light of new circumstances, the basic thrust of the City's earlier development policies remains sound and is also generally consistent with the requirements of the Alaska Coastal Management Act and related regulations.

The City's goals for management of the area's coastal lands and waters can be summarized in the following broad terms:

1. Limited overall community economic and population growth, with priority given to traditional economic activities.
2. Protection of the subsistence and commercial fishery resources and recreational values of Monti Bay, Yakutat Bay and the Yakutat Forelands.
3. Development of a modern diversified seafood processing industry.
4. Promotion of efficient, economic marine transportation services.
5. Reservation of the central Monti Bay waterfront for traditional uses.
6. Containment of OCS-related facilities to a designated industrial district on southern Monti Bay, with a separate self-contained residential camp for OCS workforce personnel.
7. Small boat harbor expansion with public utilities and related marine services and recreational facilities.
8. Management of public lands in Yakutat region with priority given to traditional uses and conservation of fish and wildlife values.

Chapter 6

COASTAL MANAGEMENT PLAN

COASTAL MANAGEMENT PLAN

I. INTRODUCTION

The Alaska Coastal Management Act and its regulations set out specific standards for the location and management of uses subject to the district coastal management program and some general management guidelines. This chapter explains how the City of Yakutat's district coastal management plan for the coastal lands and waters of the district and its environs satisfies these standards. It addresses in separate subsections each of the use or management standards set out in law or regulation, explaining how the district plan and management guidelines meet the standard in light of the coastal resource inventory (Chapter III), the forecast of future use demands (Chapter IV) and the City's coastal management goals (Chapter V).

For each use or management standard, the appropriate legislative or regulatory guideline is cited at the start of the subsection. Figure 17 illustrates the general plan for land and water uses as well as certain specific use sites which are incorporated into the district coastal management plan. It also shows proposed areas for siting of each of the subject uses occurring within the district or its environs. Figure 18 indicates present zoning in the City of Yakutat.

The inventory of coastal resources and the analysis of future demands on coastal resources documented the vital connections between Yakutat and the entire coastal region between Cape Fairweather and Cape Suckling. An effective coastal management program for the district must recognize and address these connections. For this reason, the City's coastal management goals and its district plan take a geographically comprehensive approach to coastal resources, especially fishery resources. Likewise, the district implementation program stresses the need to build a permanent general process for coordinated coastal resource management within its geographic sphere of influence, supplemented by special management arrangements as needed to address important localized resource management issues.

II. RECREATION AND SUBSISTENCE

6 AAC 80.060. RECREATION. Districts shall designate areas for recreational use. Criteria for designation of areas of recreational use are

(a) (1) the area receives significant use by persons engaging in recreational pursuits or is a major tourist destination; or

(2) the area has potential for high quality recreational use because of physical, biological, or cultural features.

(b) Districts and state agencies shall give high priority to maintaining and, where appropriate, increasing public access to coastal water. (Eff. 7/18/78, Reg. 67)

Authority: AS 44.19.893
AS 45.40.040

6 AAC 80.120. SUBSISTENCE. (a) Districts and state agencies shall recognize and assure opportunities for subsistence usage of coastal areas and resources.

(b) Districts shall identify areas in which subsistence is the dominant use of coastal resources.

(c) Districts may, after consultation with appropriate state agencies, Native corporations, and any other persons or groups, designate areas identified under (b) of this section as subsistence zones in which subsistence uses and activities have priority over all nonsubsistence uses and activities.

(d) Before a potentially conflicting use or activity may be authorized within areas designated under (c) of this section, a study of the possible adverse impacts of the proposed potentially conflicting use or activity upon subsistence usage must be conducted and appropriate safeguards to assure subsistence usage must be provided.

(e) Districts sharing migratory fish and game resources must submit compatible plans for habitat management. (Eff. 7/18/78, Reg. 67)

Authority: AS 44.19.893
AS 46.40.040

As the natural resources, geographic areas and use patterns of importance to the recreational and subsistence elements of the coastal management plan are very closely related, they are treated together.

The district plan identifies a number of suitable areas to be reserved for future recreational use. These areas provide for a variety of water-oriented recreational activities and also provide numerous points of public access to coastal beaches and waters. Shipyard Cove is a convenient and naturally well suited location for moorage and ramp facilities for recreational boating and is planned to continue in that use, to be managed as part of a multiple-use area meriting special attention.

Figure 17

Proposed Coastal Land and Water Use Plan

Note: All marine waters are classified as a conservation zone.

Office of the Governor
Division of Policy Development and Planning

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

- Residential
- Commercial/ Waterfront/ Residential
- Commercial
- General Industrial
- Public
- Conservation Area
- AMSA Boundary
- OCS Marine Service Base Site and Expansion Area
- Potential Energy Facility Site
- Potential Pipeline Corridor
- Subsistence

Proposed Park
Shipyard Cove AMSA
Small Boat Harbor
Crab
Fish
Proposed Fish Processing Plant and Dock Expansion
Crab
Proposed City Dock and Fish Processing Plant
Sandy Beach Park
Waterfowl
Fish
Ophir Creek AMSA
Ankau Lagoon AMSA

400 0 400 800 feet

SCALE 1" = 400'
DATE FEBRUARY, 1976

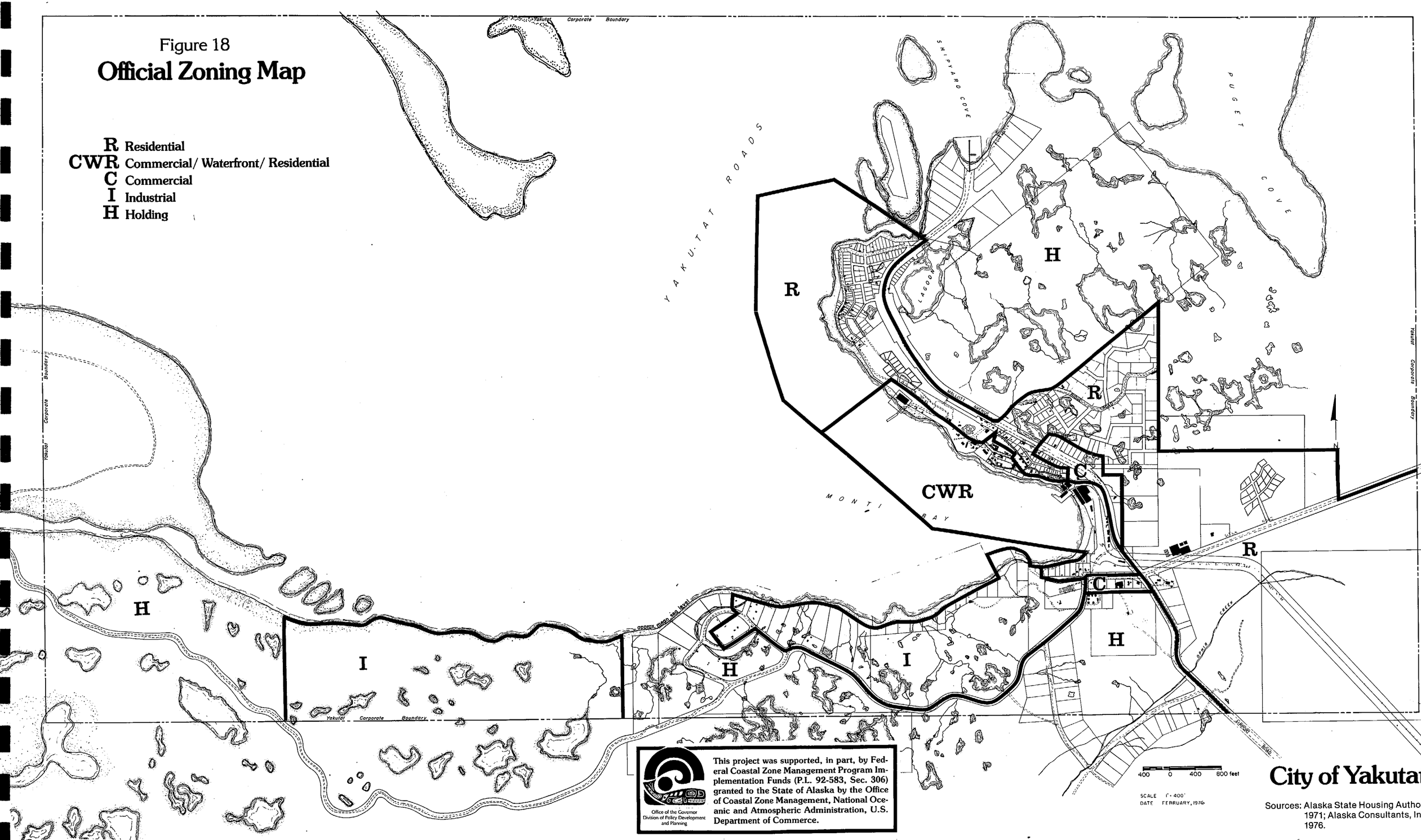
City of Yakutat

Sources: Alaska State Housing Authority, 1971; Alaska Consultants, Inc., 1976.

Figure 18

Official Zoning Map

R Residential
CWR Commercial/ Waterfront/ Residential
C Commercial
I Industrial
H Holding



This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Office of the Governor
Division of Policy Development and Planning

City of Yakutat

Sources: Alaska State Housing Authority, 1971; Alaska Consultants, Inc., 1976.

There are certain habitats within the district which possess biological resources of exceptional value for joint recreational and subsistence use. These habitats have been identified and proposed for classification and management as areas meriting special attention to conserve them against adverse use or development in the future. They are Ankau Lagoon, Ophir Creek and the Shipyard Cove area.

In view of the local importance of the nearshore and coastal waters of Monti Bay and Puget Cove for a mixture of subsistence and recreational activities, the district plan proposes that marine waters within the City be managed as a conservation zone to protect the productivity of the habitat. The primary use in this conservation zone shall be subsistence and other uses shall be permitted only under management guidelines which seek to avoid or minimize interference with the continuance of traditional subsistence uses. Consistent with this management policy, the district plan also identifies potential sites for new coastal development such as energy facilities, pipeline landfalls and corridors, and wood products industries to minimize potential use conflicts with areas of special value for recreational and subsistence use activities. In particular, the district plan provides that new industrial development be located at or near already developed areas on Monti Bay or Sawmill Cove and be excluded from eastern and upper Yakutat Bay and away from the biologically valuable streams, estuaries and uplands of the Yakutat Forelands.

Because of the critical importance of the natural resources of Yakutat Bay and the Yakutat Forelands to Yakutat residents for subsistence and recreational use (as well as their economic value to the commercial fisheries), the district plan proposes a broad regional management policy which assigns first priority to conservation of the fish and wildlife habitats and populations of the Yakutat coastal region for established and traditional subsistence, recreational and commercial uses. Planning and management mechanisms to implement this broad coastal management policy are included in the following chapter of this report.

III. ENERGY FACILITIES

6 AAC 80.070, ENERGY FACILITIES, is amended to read:
(a) Sites suitable for the development of major energy facilities must be identified by districts and the state in cooperation with districts.

(b) The siting and approval of major energy facilities by districts and state agencies must be based, to the extent feasible and prudent, on the following standards:

(1) site facilities so as to minimize adverse environmental and social effects while satisfying industrial requirements;

(2) site facilities so as to be compatible with existing and subsequent adjacent uses and projected community needs;

(3) consolidate facilities;

(4) consider the concurrent use of facilities for public or economic reasons;

(5) cooperate with landowners, developers, and federal agencies in the development of facilities;

(6) select sites with sufficient acreage to allow for reasonable expansion of facilities;

(7) site facilities where existing infrastructure, including roads, docks, and airstrips, is capable of satisfying industrial requirements;

(8) select harbors and shipping routes with least exposure to reefs, shoals, drift ice, and other obstructions;

(9) encourage the use of vessel traffic control and collision avoidance systems;

(10) select sites where development will require minimal site clearing, dredging and construction in productive habitats;

(11) site facilities so as to minimize the probability, along shipping routes, of spills or other forms of contamination which would affect fishing grounds, spawning grounds, and other biologically productive or vulnerable habitats, including marine mammal rookeries and hauling out grounds and waterfowl nesting areas;

(12) site facilities so that the design and construction of those facilities and support infrastructures in coastal areas of Alaska will allow for the free passage and movement of fish and wildlife with due consideration for historic migratory patterns and so that areas of particular scenic, recreational, environmental, or cultural value will be protected;

(13) site facilities in areas of least biological productivity, diversity, and vulnerability and where effluents and spills can be controlled or contained;

(14) site facilities where winds and air currents disperse airborne emissions which cannot be captured before escape into the atmosphere;

(15) select sites in areas which are designated for industrial purposes and where industrial traffic is minimized through population centers; and

(16) select sites where vessel movements will not result in overcrowded harbors or interfere with fishing operations and equipment.

(c) Districts shall consider that the uses authorized by the issuance of state and federal leases for mineral and petroleum resource extraction are uses of state concern. (Eff. 7/18/78, Reg. 67, as amended).

Authority: AS 44.19.893
AS 46.40.040

The Alaska Coastal Policy Council and the legislature has approved the following definition in 6 AAC 80.900 for major energy facilities which are likely to locate in, or which may significantly affect, the coastal area:

> "major energy facility" means a development of more than local concern carried out in, or in close proximity to, the coastal area, which meets one or more of the following criteria:
>
> (a) a facility required to support energy operations for exploration or production purposes;
>
> (b) a facility used to produce, convert, process, or store energy resources or marketable products;
>
> (c) a facility used to transfer, transport, import, or export energy resources or marketable products;
>
> (d) a facility used for in-state energy use;
>
> (e) a facility used primarily for the manufacture, production, or assembly of equipment, machinery, products, or devices which are involved in any activity described in (a) - (d).

Major energy facilities include marine service bases and storage depots, pipelines and rights-of-way, drilling rigs and platforms, petroleum or coal separation, treatment, or storage facilities, liquid natural gas plants and terminals, oil terminals and other port development the transfer of energy products, petrochemical plants, refineries and associated facilities, hydroelectric projects, other electric generating plants, transmission lines, uranium enrichment or nuclear fuel processing facilities, and geothermal facilities.

Under federal and state coastal management legislation, major coastal energy facilities are designated as uses of national interest or uses of state concern. The district coastal management program must consider future demand for suitable sites for coastal dependent energy facilities

in its vicinity. By law, the district program cannot "arbitrarily or unreasonably restrict or exclude" the location of major energy facilities in its jurisdiction.

The major coastal energy facilities of concern to the Yakutat district program are various industrial and related facilities associated with the exploration and possible production of oil and natural gas resources. Aside from possible oil and gas resources, there may be some potential for hydropower development associated with the Ankau, lakes in the Mission tract and the Alsek River although this potential is presently highly speculative. However, there are no other local energy resources such as coal which have a potential to affect Yakutat's coastal zone.

Because of its location, sheltered harbor and existing transportation services, the Yakutat area will be the primary center of support for exploration and, if commercial reserves are discovered, for development and production activities resulting from OCS Sale #55.

There are three general support functions which must be provided from shore to offshore oil and gas operations. These are marine and air logistic support for offshore operations, export of produced crude oil and natural gas and support for personnel engaged in oil and gas related industrial activities. Table 15 identifies these support functions and the onshore facilities normally required to provide for them.

Of these OCS support facilities, three are coastal dependent. These are marine service bases, crude oil terminals and LNG plants and terminals. The functions of air logistic support and personnel support, though essential for offshore operations, do not need coastal sites for their operation and can be located some distance inland.

Prior to passage of the Alaska Coastal Management Act, the City of Yakutat developed, adopted and forcefully implemented clear local planning policies toward siting of OCS-related energy facilities in the Yakutat area. Although these planning policies were developed in advance of the Coastal Management Act, review indicates that they were adopted based on criteria solidly in conformance with the energy facility siting standards adopted under the Act.

The broad rationale for the City's original energy facility siting policies was to accommodate recognized national and state interests in the extraction of potential oil and gas reserves in the region according to a plan which prevented adverse socioeconomic impacts upon the Yakutat community and adverse environmental impacts on the coastal resources upon which local residents heavily rely for their livelihood and lifestyle.

To achieve these ends, the City's land use plan and other policy documents identified and reserved specific sites on Monti Bay for future use by OCS-related coastal industrial facilities (see Figure 17). The proposed sites were rated as feasible and suitable for OCS-related uses for the following reasons:

TABLE 15

ONSHORE SUPPORT FUNCTIONS AND FACILITIES
OCS OIL AND GAS OPERATIONS

Support Function	Onshore Support Facility
Logistic Support:	
Marine logistic support (storage and transfer of drill supplies and equipment, offshore industrial services, pipecoating, administrative services, etc.)	Marine service base/port industrial park
Air logistic offshore support (transfer of offshore personnel and storage and transfer of light cargo for offshore use)	Airport and heliport, air cargo facility, airport industrial park
Product Export:	
Crude oil	Crude oil terminal, etc.
Natural gas	LNG plant and terminal, etc.
Personnel Support:	
Transient crews	Transient quarters, temporary construction camp
Permanent onsite workforce	Permanent camp facilities

Source: Alaska Consultants, Inc.

1. Adequate acreage for initial construction and later expansion of anticipated OCS facilities.
2. Consolidation of OCS-related facilities avoided proliferation and dispersion of coastal industrial uses.
3. Good access to a sheltered harbor of adequate depth and size with immediate shipping access to and from the Gulf of Alaska.
4. Suitable soil conditions.
5. Relatively low habitat value, with no anadromous streams.
6. Exclusion of heavy industrial facilities and marine traffic from Yakutat Bay and the Alsek River corridor.
7. Containment of new industrial development on vacant tracts near but safely separated from developed areas of town by buffer zones.
8. Compatibility with the city comprehensive development plan and development plans of major landowners.

The State subsequently performed its own evaluation of seventeen harbor locations in the Northern and Western Gulf of Alaska potentially suitable for siting of OCS-related onshore industrial facilities. Its findings, published as Planning for Offshore Oil Development: Gulf of Alaska Handbook, support the City's siting policies.

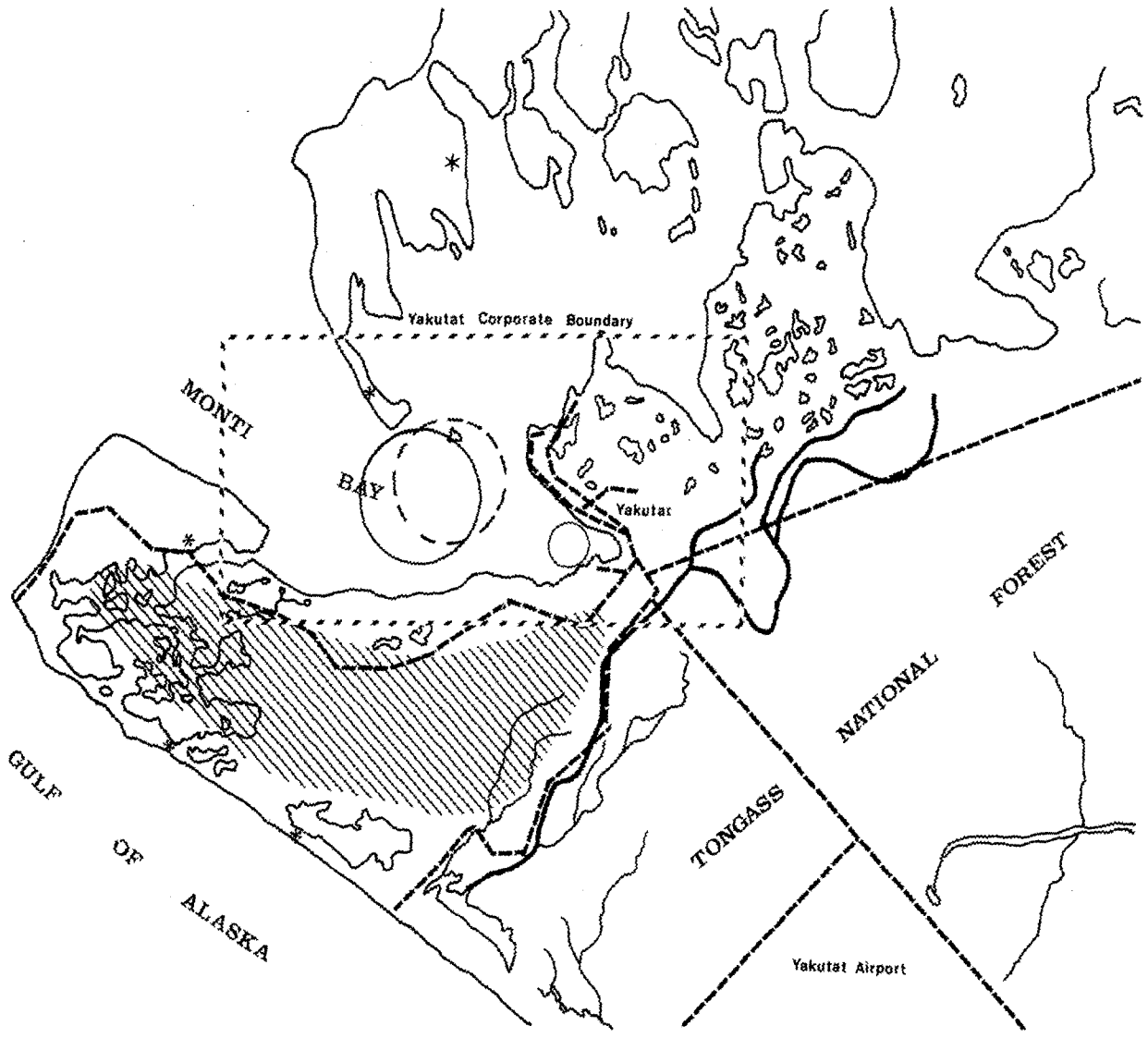
Eight potential harbor sites in the Northern Gulf of Alaska, including two in the Yakutat region (Monti Bay and Icy Bay) were systematically evaluated for development suitability according to an extensive set of engineering, environmental and socioeconomic criteria. Of these, Monti Bay was ranked first as a potential site for a marine service base, oil terminal and LNG terminal (see Figure 19). Two potential problems associated with Monti Bay were pipeline routes across active fault areas and tanker shipping routes through productive fishing grounds. However, these problems are common to all coastal locations in the Northern Gulf of Alaska and do not specifically downgrade Monti Bay in comparison to other sites in the region.

While sites identified on Monti Bay are generally suitable for construction and operation of major energy facilities, their development and use would require special attention to solve some unavoidable coastal management problems. These include socioeconomic impacts on the community, conflicts with traditional local uses of the coastal zone, maintenance of air and water quality, habitat disruption, seismic hazards, harm to scenic coastal views, marine traffic management and public safety. Some of these potential problems relate to the design and operation of the facilities themselves, some to site features, and others to management of offshore oil and gas-related activities.

Some of the noted problems, particularly those relating to technical aspects of facility design and operation, are the exclusive or concurrent statutory responsibility of federal and state regulatory agencies. Where federal and state agencies have jurisdiction, the City's coastal management program supports adherence to best management practices consistent with the City's own siting policies for coastal energy facilities to mitigate potential adverse impacts on air and water quality,

FIGURE 19

Monti Bay
OCS Facility Site Suitability Analysis



KEY SITKA DEER WINTERING HABITAT

STELLER SEA LION ROOKERY

SALMON SPAWNING STREAM

ARCHEOLOGICAL OR HISTORIC SITE

ROAD

TURNING BASIN, SUPPLY BOAT

TURNING BASIN, OIL TANKER

TURNING BASIN, LNG CARRIER

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Source: Alaska Department of Community and Regional Affairs, 1978.

No Scale Provided

public safety, traditional uses of coastal waters and lands, and habitat productivity.

In addition to its specific siting policies, the City also supports a number of other coastal management guidelines to guide development of coastal energy facilities. These measures include:

1. Consolidation of housing for transient, temporary and on-site workers for all OCS-related activities in a single enclave. The enclave should be designed to provide a full range of facilities and services of excellent quality to meet all the basic needs of the OCS-related workforce. These facilities and services should include housing, utilities, health and social services, recreation and other essential needs. This guideline is intended to minimize disruptive social impacts upon the traditional community and to prevent strains on existing but limited community facilities and services as a result of OCS development. Planned, consolidated development of facilities for OCS workers away from the coastline will also reduce cumulative land use impacts and other adverse environmental impacts of OCS development on coastal resources.
2. Adoption of a policy of local hire and non-resident workforce rotation, such as is practiced at Prudhoe Bay, Drift River and the offshore platforms, to limit the scale of permanent population growth impacts at Yakutat resulting from OCS development.
3. Set-back of crude oil and LNG storage and processing facilities from the coastline with visual screens and buffer zones to minimize safety hazards and damage to coastal views.
4. Protection of the habitat, subsistence recreational and cultural resources of the Ankau Lagoon area from possible impairment stemming from noise pollution, water quality deterioration, intensified human use or damage to scenic resources.
5. Prohibition of helicopter traffic over town, over waterfowl habitat or over other habitats sensitive to disruption by loud noise levels.
6. Completion of a program of studies and specific plans needed to develop mitigating measures for best management of coastal energy facility development. Priority study topics include marine pollution effects, oil spill trajectories, oil spill containment and clean-up plans, a detailed inventory of coastal habitats and populations, a catalog of commercial and subsistence use areas on Monti Bay and detailed community impact analyses of energy facility development.
7. Location and construction management of pipeline landfalls and overland pipeline routes to avoid conflicts with sensitive estuaries and other prime coastal habitat across the Yakutat Forelands and especially the Ankau Lagoon system and Situk River estuary.
8. Exploration, development and production activities for any State leases of nearshore and onshore tracts will share use of established support facilities for workers, transportation

services and product export, with a minimum of coastal road construction. This policy will minimize any added environmental and community impacts.

IV. TRANSPORTATION AND UTILITIES

6 AAC 80.080. TRANSPORTATION AND UTILITIES. (a) Transportation and utility routes and facilities in the coastal area must be sited, designed, and constructed so as to be compatible with district programs.

(b) Transportation and utility routes and facilities must be sited inland from beaches and shorelines unless the route or facility is water-dependent or no feasible and prudent inland alternative exists to meet the public need for the route or facility. (Eff. 7/18/78, Reg. 67, as amended).

Authority: AS 44.19.893
AS 46.40.040

DEFINITION: "transportation and utility routes and facilities" include power transmission lines, mineral slurry lines, oil and gas pipelines, land and marine corridors, railways, highways, roadways, air terminals, water and sewage transfer, and facilities required to operate and maintain the route or facility.

The forecast of future coastal use demands identified a potential need for three types of new coastal transportation facilities and utility routes at Yakutat. These were dock facilities at the Ocean Cape tract and at the cold storage plant site; small boat harbor expansion; and oil and gas pipeline landfalls and corridors.

The sites proposed in the district plan for improved dock facilities were recommended for traditional industrial/commercial use in the 1976 Land Use Plan and are currently zoned as Commercial-Residential-Waterfront. The planned improved or rebuilt dock facilities represent a continuation of established uses at each site. Both projects were proposed in the City's 1978 Capital Improvements and Services Program.

The City has given top priority to reconstructing the decayed Ocean Cape dock and warehouse to improve shipping services to the community and to meet the needs of the local fish processing industry. The City developed and submitted a proposal to the State Legislature in January 1980 for rebuilding the Ocean Cape dock and warehouse facilities to serve the long term general cargo shipment and storage needs of the local community, the local and offshore fish processing industry, and the oil and gas industry. The City's proposal presented the following multi-phase program, accompanied by an estimated budget and schedule:

Phase 1: Site feasibility and study and preliminary engineering.

Phase 2: Design and engineering of the entire project.

Phase 3: Construction of the dock and warehouse facility.

Phase 4: Construction and improvements to open storage and staging areas as well as road and access improvements.

Phase 5: Site modifications to the processing facility to permit renovation or reconstruction of a modernized plant.

Phase 6: Renovation or reconstruction of the processing plant utilizing private industry investment.

Of these phases, the first (site feasibility and preliminary engineering) is completed and the second (project design) is underway. The feasibility study was completed in May 1980 and concluded that economic conditions are highly favorable for private development of a second seafood processing plant to diversify Yakutat's economic base, if modern general cargo dock and marine shipping services were available. It also reported that the Ocean Cape tract was well suited for a general cargo dock and related facilities. The City received a direct grant of $1.3 million from the 1980 Legislature to initiate pre-construction studies for the Ocean Cape dock project and defray part of the ultimate construction cost. In addition, the November 1980 general election will include a State general obligation bond referendum of $51,347,000 for port and harbor improvements projects, including $3,000,000 to be applied to the Ocean Cape project. If the referendum is approved, Yakutat will be able to proceed with immediate construction of the proposed Ocean Cape dock and warehouse project. a/

As of August 1980, the City was near concluding negotiations for reconstruction of the cold storage processing plant but had not formulated specific plans for expansion of the attached dock.

Also pending is a project by the Alaska Division of Waters and Harbors to double the mooring capacity of the small boat harbor at Shipyard Cove. The urgent need for this project was established in the City's Capital Improvements and Services Program and has been confirmed by the Yakutat Fisheries Study, the Ocean Cape Site Development Feasibility Study and the State's Community Planning and Development for the Bottomfish Industry: Phase One Report. The Shipyard Cove site is proposed in the district program to be part of a multiple use Area Meriting Special Attention (AMSA) because of its unique suitability for small boat harbor development in the Yakutat area. The harbor expansion project is discussed in greater detail in Chapter 7 of this report.

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a/ The November, 1980 general election approved the referenced referendum.

If sufficient commercial reserves of oil or natural gas are discovered in lease sale area #55 to justify construction of a crude oil or LNG terminal on Monti Bay, it will be necessary to establish a pipeline landfall site and a pipeline corridor to transport production from offshore tracts to the terminal facilities. It is critical to avoid pipeline construction activities across the many sensitive estuaries and anadromous stream habitats on the Yakutat Forelands, near Ankau Lagoon or across the entrance to Monti Bay. Therefore, the City recommends that any pipeline landfall sites be confined to the coastal section between Lost River and Summit Lake. From this landfall the pipeline would run overland, via existing roads wherever possible (e.g. RAL Highway and Airport Road), to the area shown in Figure 17 as eligible for storage and transshipment facilities. This routing will avoid the most sensitive habitats and require a minimum of overland pipelaying and road construction activities near the coastal zone.

The district plan does not anticipate any new highways or roadways or major power transmission lines along the coastline. The site designated for major energy facilities use, the only new major coastal development forecast, has inland access for road and utilities services.

Finally, the Coast Guard does not consider that there is any immediate need to establish marine transportation corridors in this area. If the need arises in the future, the proposed district program does not in any way preclude their establishment.

V. FISHING AND SEAFOOD PROCESSING

6 AAC 80.090. FISH AND SEAFOOD PROCESSING. Districts shall identify and may designate areas of the coast suitable for the location or development of facilities related to commercial fishing and seafood processing. (Eff. 7/18/78, Reg. 67).

Authority: AS 44.19.893
AS 46.40.040

Through a series of recently completed feasibility studies, the City of Yakutat has identified specific facility and site needs to accomplish its long term goal of redeveloping the local commercial fishing and fish processing industry. The City's program anticipates a two phase process of development:

1. Phase One involves reconstruction through private investment of a processing plant at the City cold storage site. This plant would concentrate primarily on processing of traditional high value species (salmon, crab, halibut) caught by locally based commercial fishermen, supplemented by landings from the offshore fleet. As of August 1980, the City was close to concluding negotiations with the Yak-Tat Kwaan to sublease the City cold storage site to the Kwaan for construction of a new processing plant to be operational by the 1981 season.

2. Phase Two envisions the construction through private investment of a moderate volume processing plant on the Ocean Cape tract which, as well as traditional species, would rely heavily upon deliveries of groundfish from the deepwater fisheries for processing at Yakutat.

The City already controls the two sites identified for processing plant development. It leases the cold storage site from the Evangelical Covenant Church (and is seeking to obtain full ownership) and is owner of the Ocean Cape tract. Both sites are currently used for fish deliveries and limited processing operations. Their continued use is in conformance with the recommendations of recent feasibility studies and of the 1976 Land Use Plan, which proposed that the developed section of Yakutat's central waterfront be reserved for traditional industrial and commercial use. This site use is also compatible with the current zoning classification.

When fully developed, the two sites can accommodate processing plant capacity for the full 14,250,000 pounds annually of fish and shellfish potential estimated in the Ocean Cape Site Development Feasibility Study to be available for processing at Yakutat. This estimate includes a limited volume (6,000,000 pounds annually) of bottomfish. Some general estimates of the bottomfish resources in the Gulf of Alaska (e.g., those by Combs, Inc.) have projected a much higher potential for bottomfish processing at Yakutat. However, these higher estimates were not substantiated by the Ocean Cape Site Development Feasibility Study which found that the most profitable option for a Yakutat plant was a mixed operation using salmon, crab, halibut, black cod and bottomfish, and that a high volume bottomfish plant could not profitably compete with large catcher/processor vessels.

Furthermore, the City of Yakutat has taken the position that the economic and population implications of full fledged entry into large scale bottomfish processing at Yakutat are not compatible with the basic goals of limited growth and maintenance of the small town quality of life prized by Yakutat residents. Therefore, the district plan contemplates limited development of local bottomfish processing capability, sufficient to maintain efficient year-round use of plant capacity. The district plan also makes provision for the development of cold storage and transshipment capability at Yakutat to service offshore bottomfish floating processors in the northeast Gulf of Alaska region.

Other essential support elements in the City's fisheries industrial development program include reconstruction of the Ocean Cape dock, small boat harbor expansion, upgrading of water and power utilities and expanded fleet services. These are discussed in more detail elsewhere in this report, as are potential environmental problems such as disposal of larger volumes of processing wastes.

Over the long run, the paramount issue facing the fishing industry at Yakutat will be protection of coastal habitats throughout the region from abuse as a direct or indirect result of oil and gas development

and/or timber harvesting. Protection of the region's fish and shellfish populations from over-exploitation by commercial, recreational and subsistence consumers is also of critical importance.

It must be emphasized that the fishing industry and the fishermen are based at Yakutat but the fish and shellfish are not. Local understanding of the near total dependency of Yakutat's livelihood and identity on protection of the high quality of the region's coastal environment has prompted the City to take the position that the overriding resource management goal for the Yakutat region's coastal zone should be protection of fish and shellfish habitat productivity. Other elements of this plan, especially those dealing with energy development and timber harvesting and processing, also reflect this coastal management goal.

VI. TIMBER HARVESTING AND PROCESSING

6 AAC 80.100. TIMBER HARVEST AND PROCESSING, is amended to read:

(a) Commercial timber harvest activities in the coastal area must be conducted to as to meet the following standards:

(1) the location of facilities and the layout of logging systems must be sited so as to minimize adverse environmental impacts;

(2) free passage and movement of fish in coastal water must be assured; and

(3) timber harvest and timber management activities must be planned so as to protect streambanks and shorelines, prevent adverse impacts on fish resources and habitats, and minimize adverse impacts on wildlife resources and habitats.

(b) Commercial timber transport, storage, and processing in the coastal area must be conducted so as to meet the following standards:

(1) onshore storage of logs must be encouraged where compatible with the objectives of the Alaska Coastal Management Program;

(2) sites for in-water dumping and storage of logs must be selected and these activities conducted so as to minimize adverse effects on the marine ecosystem, minimize conflicts with recreational uses and activities, be safe from storms, and not constitute a hazard to navigation;

(3) roads for log transport and harvest area access must be planned, designed, and constructed so as to minimize mass wasting, erosion, sedimentation, and interference with

drainage, and must be adequately maintained until they are returned to their pre-road natural drainage patterns (put-to-bed); and

(4) stream crossings, including bridges and culverts, must be kept to a minimum number, designed to withstand seasonal high water and flooding, and must provide for free passage and movement of fish. (Eff. 7/18/78, Reg. 67, as amended).

Authority: AS 44.19.893
AS 46.40.040

The forests of the Yakutat region have high economic value both as habitat and as a source of timber. After its 1975 inventory, the U.S. Forest Service estimated that the Yakutat area of the Tongass National Forest includes 213,700 acres of commercial forest land, with a harvest potential of 4,200,000 thousand board feet. The Department of Natural Resources estimates that there are 125,000 acres of commercial forest on State selected lands in the Icy Bay area.

A major part of the commercial forest lands and access routes to them coincide with prime habitat for wildlife and anadromous fish. The function of these coastal uplands and the streams which cross them as sustaining habitat for the region's commercial fisheries and wildlife was described in the habitat section of the coastal resource inventory. Thus, there is high potential for conflict between timber harvesting and protection of other resources.

The management of forest lands throughout the entire region is a matter of concern to Yakutat residents because of their reliance on river fisheries of the Yakutat Forelands and along the coast up to Icy Bay, plus their traditional use of eastern Yakutat Bay for subsistence food gathering and recreation purposes. The City's general policy toward timber harvesting is that the coastal lands of the Yakutat region should be managed primarily for their proven long term productive value as fish and wildlife habitat, with priority for established and traditional uses.

The district plan classifies timber harvesting as a permissible land use, with the condition that it be demonstrated that adverse effects on fish and wildlife habitat and populations will not result and that interference with established uses will not occur. The plan proposes that appropriate regulatory powers of City, State and federal authorities be uniformly exercised throughout the region in a manner consistent with this condition. Furthermore, the district plan proposes that State or federal timber sales in the region be approved only after a thorough resource inventory and analysis is completed and a detailed timber harvest management plan is adopted which protects fish and wildlife habitat and populations.

Provision is also made in the coastal plan for a site at Sawmill Cove for onshore storage, processing and export of wood products. Rough sea conditions in the Gulf of Alaska necessitate that logs or wood products be shipped from Yakutat by barge.

VII. MINING AND MINERAL PROCESSING

6 AAC 80.110. MINING AND MINERAL PROCESSING. (a) Mining and mineral processing in the coastal area must be regulated, designed, and conducted so as to be compatible with the standards contained in this chapter, adjacent uses and activities, statewide and national needs, and district programs.

(b) Sand and gravel may be extracted from coastal waters, intertidal areas, barrier islands, and spits, when there is no feasible and prudent alternative to coastal extraction which will meet the public need for the sand or gravel. (Eff. 7/18/78, Reg. 67, as amended).

Authority: AS 44.19.893
AS 46.40.040

There are no known hard rock mineral resources of commercial interest in the Yakutat region. Thus, it is not anticipated that there will be any demand for sites or facilities in the Yakutat area to support hard rock mining activities and no provision has been made for them.

However, there will be demand for sand, gravel and fill materials for local construction uses. Yakutat is fortunate in that there is a plentiful supply of gravel, sand and fill materials in the vicinity of town. Since ample supplies are available in upland areas, the City proposes a planning guideline prohibiting commercial extraction of sand, gravel or fill materials (as well as other commercial mining) from tidelands or from upland areas within view of coastal waters. Otherwise, this extractive industry is governed by existing City zoning ordinances which set detailed performance standards regulating the location, design, operation and restoration of sites used for commercial excavation of earth and building materials.

Except for federal OCS development outside the State of Alaska's jurisdiction, the mining activity of greatest local concern is prospective oil and gas drilling on State-owned submerged and onshore tracts. The State's most recent (January 1980) Five Year Leasing Program tentatively proposed an exempt acreage sale in the eastern Gulf of Alaska in mid-1984. The State has not yet defined a specific area of sale interest in the coastal arc between Icy Bay and Cross Sound, but the proposed lease tracts would have to be drawn from State-held submerged tracts within the three mile limit or from the limited upland acreage owned by the State close to Yakutat. Under Department of Natural Resources regulations, an exempt acreage sale is not regarded as a major action and would not automatically require a full-fledged assessment of possible social, economic and environmental effects as part of the State's sale planning process.

In view of the potential effects of nearshore and onshore oil and gas lease activity in the Yakutat area upon the City and upon coastal habitats and fish and wildlife populations, the City opposes any State oil and gas leasing activity in the Yakutat region before a joint assessment of possible social, economic and environmental impacts has been completed. Such an assessment would be needed to ensure that a sale and its possible impacts would be fully consistent with the City's district coastal management program and the State's own coastal management program and policies. The City believes that a thorough pre-sale assessment is essential to plan for State oil and gas development in a way that is compatible with local coastal management objectives and to achieve close coordination of federal and State oil and gas development activities in the Yakutat region.

VIII. COASTAL DEVELOPMENT

6 AAC 80.040. COASTAL DEVELOPMENT. (a) In planning for and approving development in coastal areas, districts and state agencies shall give, in the following order, priority to

(1) water-dependent uses and activities;

(2) water-related uses and activities; and

(3) uses and activities which are neither water-dependent nor water-related for which there is no feasible and prudent inland alternative to meet the public need for the use or activity.

(b) The placement of structures and the discharge of dredged or fill material into coastal water must, at a minimum, comply with Parts 320-323, Title 33, Code of Federal Regulations (Vol. 42 of the Federal Register, pp. 37133-47 (July 19, 1977)). (Eff. 7/18/78, Reg. 67).

Authority: AS 44.19.893
AS 46.40.040

This standard sets priorities for allocating coastal lands and waters among competing uses and activities. It also requires that coastal construction activiites comply with pertinent federal regulations governing coastal dredging and filling.

The City's district management plan either reserves suitable sites at Yakutat for each water-dependent or water-related use or activity which is foreseen to be demanded or has identified suitable and feasible alternative sites within the region.

The coastal management plan (see Figure 17) makes specific provision for the following major water-dependent or water-related uses and activities:

1. Two fish and seafood processing plants with related dock facilities.
2. General cargo dock.
3. Small boat harbor expansion and related marine services.
4. OCS facilities (marine service base and LNG and crude oil terminals).
5. Pipeline landfall.
6. Log storage, processing and export.
7. Petroleum products dock.
8. Public recreation.
9. Coastal habitats and traditional subsistence uses.

The district plan seeks to conserve traditional coastal land and water use patterns. It specifically excludes any new and not coastal-dependent types of uses from the waterfront, except to accommodate a specific use of national interest and State concern, i.e. sites for major coastal energy facilities. It also directs facilities proposed for expansion or reconstruction (e.g. small boat harbor expansion, cold storage plant reconstruction and dock improvement, Ocean Cape dock and processing plant reconstruction) to sites where these are established, compatible and traditional types of uses.

Of particular local concern is protection from adverse use of coastal habitats important to the conservation of marine resources and of areas traditionally used for commercial fishing and subsistence food gathering activities. Therefore, the City's coastal plan sets a policy that habitat protection and traditional use are the overriding management objectives for tidelands and nearshore waters, except where unavoidable conflicts with a particular overriding use of national interest or State concern, such as coastal energy facility development, necessitates compromise.

With respect to regulation of the placement of marine structures and coastal dredge and fill operations, enforcement of such regulations as an element of the district coastal management program is the statutory responsibility of federal and State government agencies.

IX. GEOPHYSICAL HAZARD AREAS

6 AAC 80.050. GEOPHYSICAL HAZARD AREAS. (a) Districts and state agencies shall identify known geophysical hazard areas and areas of high development potential in which there is a substantial possibility that geophysical hazards may occur.

(b) Development in areas identified under (a) of this section may not be approved by the appropriate state or local authority until siting, design, and construction measures for minimizing property damage and protecting against loss of life have been provided. (Eff. 7/18/78, Reg. 67).

Authority: AS 44.19.893
AS 46.40.040

The Yakutat region is located within seismic risk zone 3, liable to experience major earthquakes in the range of 6.0 to 8.8 on the Richter scale. Since 1893, there have been five great earthquakes near Yakutat registering between 7.0 and 8.6 on the Richter Scale, plus many smaller earthquakes. The Yakutat region has been designated as an area of particular concern for geologic reasons by the Alaska Division of Geological and Geophysical Surveys.

The Yakutat area's seismic history and the engineering implications of this history are thoroughly described in the recent U.S. Geological Survey report, Reconnaissance Engineering Geology of the Yakutat Area, Alaska, With Emphasis on Evaluation of Earthquake and Other Geologic Hazards. This report broadly summarizes the possible effects of earthquake activity on geologic materials in the Yakutat area (see Table 16 and Figure 20) and the hazards posed by earthquake-related sea waves or tsunamis.

Surficial soils within the City of Yakutat are mainly made up of moraine materials which have relatively low susceptibility to damage from ground shaking, liquefaction, ground fractures and compaction and related subsidence. However, steeply sloped moraine deposits may be prone to landsliding and improvements built along the shore may be vulnerable to damage as a result of tectonic uplift or subsidence. The southeast corner of town is made up of outwash deposits which are considered safe from earthquake-related hazards. In developed areas of town, where construction and roadbuilding activities have altered the landscape, the susceptibility to earthquake damages is rated similar to moraine materials, except that areas of poorly compacted or over-steepened fill may be increasingly prone to failure from groundshaking or landslides.

Figure 21 illustrates changes which have taken place in the immediate Yakutat area as a result of previous earthquakes. Significant changes in the Monti Bay area have been a slight submergence of the beach line west of Ankau Creek; ground fractures along the same beach and in the vicinity north and west of Bayview Drive; submarine landslides and beach slumping at the southern end of Khantaak Island about two miles opposite the Ocean Cape site; and alteration of shoreline and intertidal channels at the entrance to Monti Bay. Previous earthquakes caused little structural damage in the Yakutat area except for the 1958 earthquake which damaged a steel frame hangar and a runway at the airport.

On the basis of available data, it is difficult to reach definitive conclusions about specific local damages which earthquake activity could cause along the Monti Bay shoreline and adjacent uplands. No specific earthquake-related damage to structures has thus far been observed along the central sections of the Monti Bay coast although this does not mean that such damage will not occur in the future. However, Monti Bay is well shielded against seismic sea waves, another natural hazard common to active earthquake regions. The Bay is also sheltered by offshore islands against waves which could be generated by massive icefalls in upper Yakutat Bay or Disenchantment Bay.

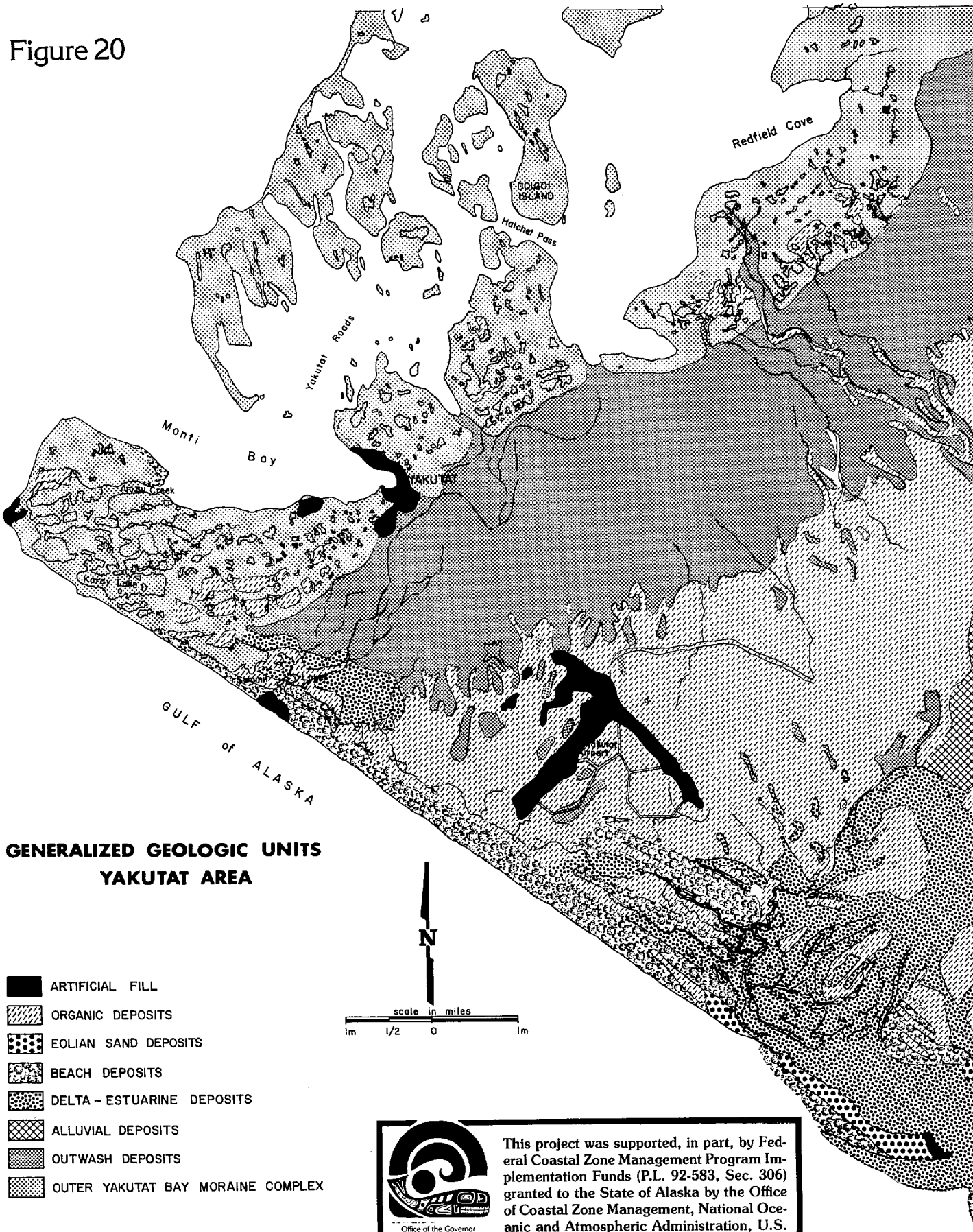
TABLE 16

POSSIBLE EFFECTS OF EARTHQUAKE ACTIVITY ON GEOLOGIC MATERIALS MAPPED IN THE YAKUTAT AREA

Mapped Geologic Materials	Sudden Tectonic Uplift	Sudden Tectonic Subsidence	Ground Shaking	Liquefaction	Ground Fracturing and Water and Slurry Fountains	Compaction and Related Subsidence	Landsliding
Artificial fill	Promotion of better drainage; less accessibility by boat of some fills	Flooding of margins of some deposits near near tidewater	High to moderate, especially around periphery of upper part of fill if poorly compacted during emplacement and if water table very high	Low; may respond to liquefaction of underlying deposits	Low to moderate; may be affected by fracturing of underlying material	Low to high; high where overlies (at shallow depth) saturated silty sand or if fill is not compacted to optimum density during emplacement	High along margins of fills; might be involved in movement of underlying deposits
Young beach deposits	Along gentle slopes, enlargement of deposits	Increased wave erosion of deposits, especially during storms	Moderate to severe, depending upon stage of tide and degree of saturation	Low to moderate	Low	Low to moderate; probably higher where newly deposited; however, such deposits even more subject to submarine landsliding	Low; locally very high where newly deposited
Coarse-grained outwash deposits	Probably none	Probably none	Probably none	Low to moderate	Probably none	Low	Low
End and ground moraine deposits	Disruption of some shore facilities	Disruption of some shore facilities and increased wave erosion of many deposits	Relatively low to moderate	Very low; locally moderate where deposits are saturated and have a large content of fine sand	Low	Generally low	Probably moderate to high, especially in steep-sloped areas of the deposits

Source: U.S. Department of the Interior, Geological Survey. 1979. Reconnaissance Engineering Geology of the Yakutat Area, With Emphasis on Evaluation of Earthquake and Other Geologic Hazards, by Lynn A. Yehle. Washington, D.C., U.S. Government Printing Office. (Geological Survey Professional Paper 1074).

Figure 20



GENERALIZED GEOLOGIC UNITS
YAKUTAT AREA

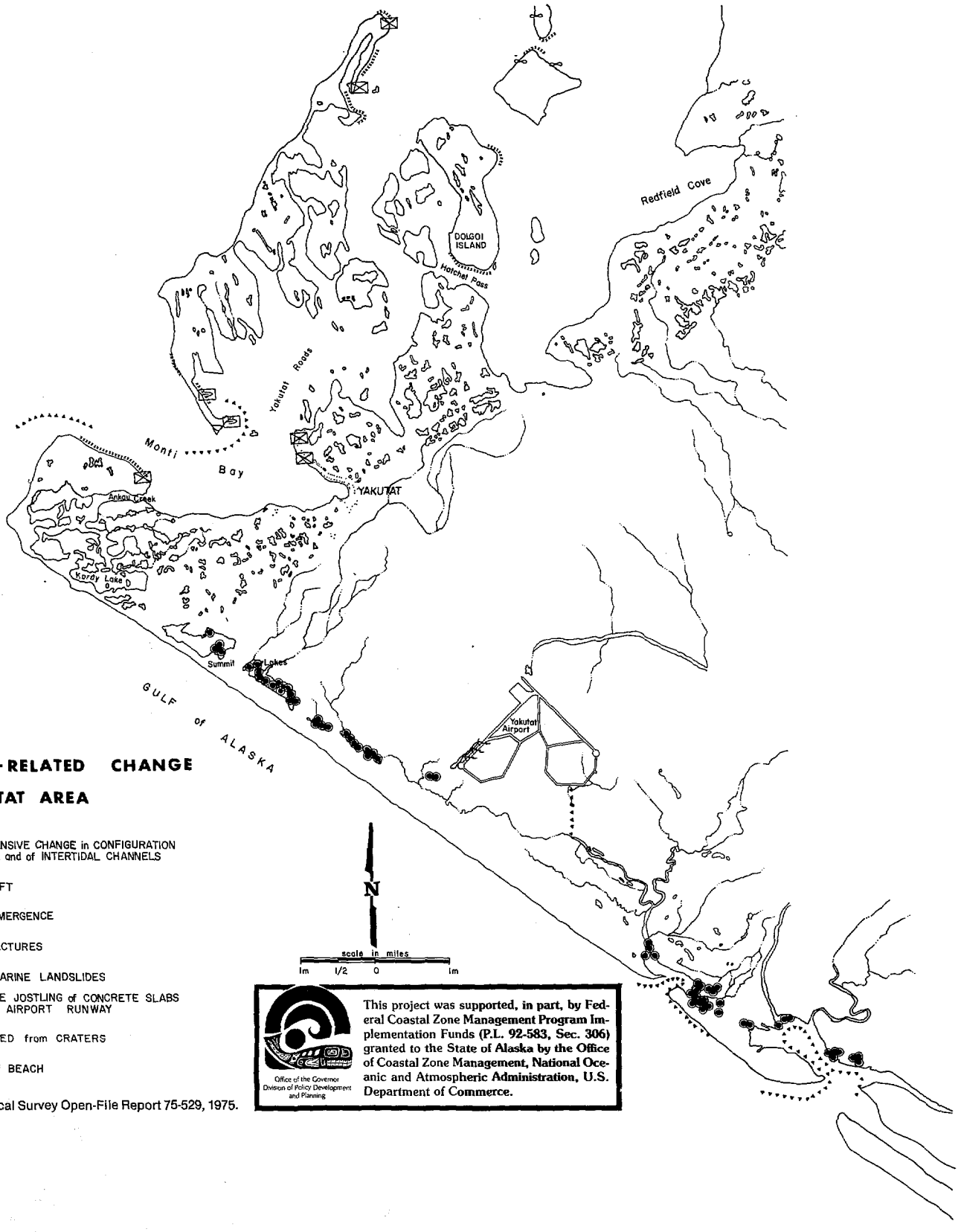
- ARTIFICIAL FILL
- ORGANIC DEPOSITS
- EOLIAN SAND DEPOSITS
- BEACH DEPOSITS
- DELTA – ESTUARINE DEPOSITS
- ALLUVIAL DEPOSITS
- OUTWASH DEPOSITS
- OUTER YAKUTAT BAY MORAINE COMPLEX

Source: U.S. Geological Survey Open-File Report 75-529, 1975.

Office of the Governor
Division of Policy Development and Planning

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

Figure 21



EARTHQUAKE-RELATED CHANGE

YAKUTAT AREA

- AREA of EXTENSIVE CHANGE in CONFIGURATION of SHORELINE and of INTERTIDAL CHANNELS
- SLIGHT UPLIFT
- SLIGHT SUBMERGENCE
- GROUND FRACTURES
- LARGE SUBMARINE LANDSLIDES
- MOST SEVERE JOSTLING of CONCRETE SLABS COMPRISING AIRPORT RUNWAY
- SAND EJECTED from CRATERS
- SLUMPING of BEACH

Source: U.S. Geological Survey Open-File Report 75-529, 1975.

Office of the Governor
Division of Policy Development and Planning

This project was supported, in part, by Federal Coastal Zone Management Program Implementation Funds (P.L. 92-583, Sec. 306) granted to the State of Alaska by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

The Bureau of Land Management's final environmental impact statement for Sale 55 identified a potential offshore submarine slide area of about four miles by ten miles in area straddling the three mile limit line parallel to the Yakutat beach between the Arnkhlin River and Yakutat airport.

For purposes of coastal management planning, four broad conclusions about geophysical hazards at Yakutat can be reached. First, the region has a generally high potential for severe damage to coastal structures resulting from earthquake-induced subsidence or uplift and seismic shaking and caution is therefore needed in the siting and engineering design of coastal improvements to minimize these hazards. Second, the central Monti Bay shoreline and associated marine and upland structures have thus far withstood major earthquakes without serious damage. On the basis of this limited history and correlative geologic data, the head of Monti Bay appears less hazard prone than other sections of the City's coast. Third, under certain conditions, tsunamis could cause damage to low-lying structures along Monti Bay, especially in the vicinity of the Old Village. The U.S. Coast and Geodetic Survey warns that coastal lands open to the ocean and less than 50 feet above sea level should be considered susceptible to tsunami damage.

Finally, in view of the extreme seismic hazards of the region, it is critical that any offshore production platforms, submarine pipelines and large shore facilities which may be needed for offshore oil and gas development not be installed before questions of seismic hazards can be fully researched and satisfactorily resolved. In this regard, certain recommendations for further research and additional studies proposed by the U.S. Geological Survey are worth mentioning.

"1. Additional geologic mapping and field study of the Yakutat region, utilizing current aerial photographs and updated topographic maps and nautical charts, should be performed, including collection of data on the distribution and physical properties of geologic materials and the plotting of data concerning joints and faults. Such work might lead to discovery of economic mineral deposits, a better understanding of geologic structure of potential gas- and oil-bearing areas, the locating of generalized zones of potentially unstable slopes and zones of geologic materials subject to liquefaction, and the identifying of areas most suitable for construction.

2. In order to help indicate the possible location of future large earthquakes, the type of movement along known faults and inferred faults in the region should be determined. To accomplish this work, and to delineate any unknown active faults, records of earthquake events detected by seismological instruments in the region will have to be analyzed for a period of at least a few years. Also important are measurements of the slow, very small vertical changes in ground levels in the region; these measurements assist in determining the rate of rebound of land following glacial retreat and may provide an indication of possible future earthquakes.

3. Offshore geophysical studies should be continued and expanded. These studies should help determine the configuration of the sea floor, the nature of faults, and their relationship to the stability of geologic materials on the sea floor. Such work might result in the location of potential submarine landslides that could be triggered by movement along the faults.

4. Because of the potential for extensive wave damage in the Yakutat area, there should be a study of the natural oscillation periods of basins enclosing or related to large bodies of water in the region, to assist in prediction of possible wave heights. Basin areas include Yakutat Bay, adjoining fiords, and the Continental Shelf and associated sea-floor valleys of the Gulf of Alaska near Yakutat. In conjunction with the study, a probability analysis of tsunami frequency should be undertaken ...

5. Stability of steep subaerial slopes, especially along upper Yakutat Bay and adjoining fiords, should be analyzed to determine the areas of greatest probability of landslides and any associated high waves. Although initial detection of the most unstable slopes should be accomplished during areal geologic mapping, a separate analysis of slopes would permit a more thorough evaluation of those factors considered most responsible for the instability.

6. The advance and retreat of glaciers in the region should be monitored because of the potential for (a) large local waves from massive breakage of ice and from breakout of glacier-dammed lakes; and (b) blockage of navigation by glacier advances or greatly increased calving of tidal glaciers." a/

X. HABITATS

All productive marine, aquatic and terrestrial habitats in the Yakutat district and region have been identified in the inventory of coastal resources. As these habitats are used for commercial, subsistence or recreational purposes (and often for all three purposes), appropriate use and management guidelines have been discussed in previous subsections of this chapter.

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a/ Source: U.S. Department of the Interior, Geological Survey. 1979. Reconnaissance Engineering Geology of the Yakutat Area, With Emphasis on Evaluation of Earthquake and Other Geologic Hazards, by Lynn A. Yehle. Washington, D.C., U.S. Government Printing Office. (Geological Survey Professional Paper 1074).

In summary, the significant coastal habitats identifed within the district have been proposed for management as areas meriting special attention. The coastal habitats within the larger Yakutat region are proposed to be managed primarily for the protection of their fish and wildlife populations and for traditional types of commercial, subsistence and recreational uses. Non-traditional uses may be permitted, provided they do not adversely affect habitat values or established uses.

XI. AIR, LAND AND WATER QUALITY

6 AAC 80.140. AIR, LAND, AND WATER QUALITY. Notwithstanding any other provision of this chapter, the statutes pertaining to and the regulations and procedures of the Alaska Department of Environmental Conservation with respect to the protection of air, land, and water quality are incorporated into the Alaska coastal management program and, as administered by that agency, constitute the components of the coastal management program with respect to those purposes. (Eff. 7/18/78, Reg. 67).

Authority: AS 44.19.893
AS 46.40.040

Yakutat presently experiences no major problems in maintaining high standards of air, land or water quality. This is largely due to the absence of any uses and activities which might be significant sources of pollutants.

The City recognizes the superseding statutory authority of the Alaska Department of Environmental Conservation to protect air, land and water quality within the coastal zone. However, as part of its coastal planning program, the City has sought to identify potential threats to air, land and water quality and to define siting policies and management guidelines to dispell them, as follows:

1. Ankau Lagoon. This highly valued estuary is vulnerable to marine pollutants and nearby construction activities and has been designated as an Area Meriting Special Attention. The City has placed the part of the Ankau within its boundaries in a conservation zone and will seek compatible management of the larger part of the Ankau Lagoon System.

2. Ophir Creek Corridor. This andromous stream has been designated as an Area Meriting Special Attention. The section within the City is proposed for protection as a conservation zone. In addition, the City will seek to develop a suitable cooperative management plan with adjacent landowners for the remainder of the Ophir Creek corridor to maintain its water quality.

3. Discharge of processing waters. Discharge of ground fish and shellfish wastes directly into Monti Bay has not been a problem at present levels of operation, largely due to the

strong tidal flush. However, the Ocean Cape Site Development Feasibility Study estimated that, at peak operating levels, the proposed processing plant would generate an average of 500,000 pounds of low-grade ground fish waste per month. Environmentally sound disposal of processing wastes will be a requirement for new processing plant design and its operations will be monitored to assure compliance with required standards.

4. Sewage treatment outfall. Sanitary treatment plant effluent is presently discharged through a submarine outfall into Monti Bay, with no apparent problems. The City regularly collects effluent samples for testing, as required, and will continue this practice.

5. Coastal energy facilities. There are a host of potential environmental quality problems associated with the construction and operation of major coastal energy facilities. Most important among these are chronic and catastrophic oil spills, ballast water treatment discharge, vapor emissions at crude oil terminals, LNG plant thermal pollution, noise, damage to the natural landscape, dredging and filling of tidelands for marine facilities, and environmental problems associated with rapid population growth. Minimizing these potential problems was a consideration in the City's choice of sites for future development of OCS facilities and for an OCS residential enclave. The designated industrial site on Monti Bay will limit the penetration of marine pollutants into greater Yakutat Bay. In addition, the site is downwind from the community and well buffered by forest cover from settled areas. A preliminary review of submarine topography indicates that a minimum of disturbance for construction of terminal docking facilities will be necessary. A consolidated residential enclave for the OCS-related workforce will prevent environmental stress and deterioration of municipal facilities and services.

6. Boat harbor pollution. Chronic low level spills of fuels and oils is a widespread housekeeping problem at small boat harbors, including that of Yakutat. The City harbormaster plans to install a collection tank for disposal of waste oil at the boat harbor.

7. Marine oil pollution. Out of concern for a possible catastrophic oil spill from Valdez tanker traffic, offshore drilling, or at Yakutat, the City promoted and is participating in a demonstration study sponsored by the Department of Environmental Conservation. The study will develop a demonstration program for prevention, control and clean-up of catastrophic and chronic hydrocarbon spills in the Yakutat region and is scheduled for completion in early 1981.

8. Log storage. Waterfront log storage has been designated a prohibited use within the City's present boundaries. Sawmill

Cove, the area recommended for log storage and export, has been used for that purpose in the past and, although salmon are reported to feed on herring here, it is not an especially productive intertidal habitat according to local Alaska Department of Fish and Game personnel. Furthermore, Sawmill Cove is adaptable to onshore log storage and is reserved for this purpose in the Yak-Tat Kwaan's Land Use Plan.

9. Solid waste disposal. The City's sanitary landfill site, about 1.5 miles out Forest Highway 10, is dry, well drained, away from developed areas and has been approved for this use by the Alaska Department of Environmental Conservation. The site has adequate capacity for the foreseeable future, and the City is arranging to have it fenced to counteract a local bear problem.

10. Extractive industries. To protect tidelands and coastal landscapes, the City will take measures to prohibit the commercial removal of materials from tidelands and beaches and from upland sites within view of the coastline. The City's zoning ordinance regulates the location and operation of extractive industries in the district.

XII. HISTORIC, PREHISTORIC AND ARCHEOLOGICAL RESOURCES

As a result of its relatively recent glaciation, no historic resources of great antiquity have been discovered in the Yakutat region. The inventory of historic, prehistoric and archaeological resources identified twenty-five traditional camps and settlement sites in the Yakutat coastal area. Of these, only the most recent site, the "Old Village" dating from 1899, is actually within the district.

Beyond the district, there is a site between the Ankau Lagoon and the ocean beach, which is thought to be the location of the Russian post "Nova Rossiysk". This site is located on State lands and was placed on the National Register of Historic Places in 1972.

Most of the remaining traditional camps and settlement sites identified in the coastal resource inventory of the Yakutat area are scattered along the shores of Monti or Yakutat Bay (many are on lands selected by the Yak-Tat Kwaan or Sealaska Corporation), or along the rivers and estuaries of the western Yakutat Forelands on State or federal lands. The primary management policy proposed in the district plan for these areas emphasizes traditional uses which are compatible with the preservation of the resource values of these historic and cultural sites.

XIII. USES OF NATIONAL INTEREST AND STATE CONCERN

(6) "uses of state concern" means those land and water uses which would significantly affect the long-term public interest; these uses, subject to council definition of their extent, include:

(A) uses of national interest, including the use of resources for the siting of ports and major facilities which contribute to meeting national energy needs, construction and maintenance of navigational facilities and systems, resource development of federal land, and national defense and related security facilities that are dependent upon coastal locations;

(B) uses of more than local concern, including those land and water uses which confer significant environmental, social, cultural, or economic benefits or burdens beyond a single coastal resource district;

(C) the siting of major energy facilities or large-scale industrial or commercial development activities which are dependent on a coastal location and which, because of their magnitude or the magnitude of their effect on the economy of the state or the surrounding area, are reasonably likely to present issues of more than local significance;

(D) facilities serving statewide or interregional transportation and communication needs; and

(E) uses in areas established as state parks or recreational areas under AS 41.20 or as state game refuges, game sanctuaries or critical habitat areas under AS 16.20. (4 ch 84 SLA 1977)

The Yakutat district coastal management program does not "arbitrarily or unreasonably restrict or exclude" any uses of national interest or State concern, i.e. major energy development, resource development of federal lands, national defense facilities, regional transportation and communications facilities, or critical habitats. Specifically, the district program provides for all of these uses at Yakutat or at suitable alternative sites in the region in the following manner:

1. National interest. The national interest in coastal development sites to meet national energy needs and for resource development of federal lands is accommodated in sections of the district plan dealing with energy facilities and timber harvesting and processing. As there are no known proposals for national defense or security facilities in the City of Yakutat or its region, no specific provision has been made for these uses in the district program.

2. Uses of more than local concern. Since Yakutat is more than 150 miles from the nearest coastal management district, its district program will not affect that of any other district.

3. Energy facilities siting. The energy facilities element of the district plan provides for future energy facility sites projected to be demanded within the district. The economic analysis of uses subject to the coastal management program does not foresee any other major new industrial or commercial development dependent on use of Yakutat's coastal zone.

4. Inter-regional transportation. The State of Alaska's most recent Southeastern Alaska Transportation Plan (June 1980) did not propose any air, marine or highway transportation system improvements of regional importance at Yakutat. The former Department of Highways once considered the possible construction of an international highway from Yakutat to the Haines Highway via an extension of Forest Highway 10 across the Yakutat Forelands to and up the Alsek River corridor. That plan has since been discarded. Furthermore, construction of a highway traversing the St. Elias Range to the Haines Highway appears to be prohibitively expensive with few balancing economic benefits. In summary, an overland transportation link to Yakutat remains a very speculative proposition which is not supported by Yakutat area residents and it has therefore been disregarded as a practical consideration for the district coastal management program.

   The future installation of regional communications facilities is not likely to be a major land use in the district or to present conflicts which cannot be satisfactorily resolved within the district coastal management process.

5. Critical habitat. The district plan specifically protects as conservation areas or as areas meriting special attention all cataloged anadromous fish streams within the district. There are no state parks or recreational areas or state game refuges or sanctuaries in the district.

XIV. AREAS MERITING SPECIAL ATTENTION

Sec. 46.40.210. DEFINITIONS. In this chapter, unless the context otherwise requires,

(1) "area which merits special attention" means a delineated geographic area within the coastal area which is sensitive to change or alteration and which, because of plans or commitments or because a claim on the resources within the area delineated would preclude subsequent use of the resources to a conflicting or incompatible use, warrants special management attention, or which, because of its value to the general public, should be identified for current or future planning, protection, or acquisition; these areas, subject to council definition of criteria for their identification, include:

(A) areas of unique, scarce, fragile or vulnerable natural habitat, cultural value, historical significance, or scenic importance;

(B) areas of high natural productivity or essential habitat for living resources;

(C) areas of substantial recreational value or opportunity;

(D) areas where development of facilities is dependent upon the utilization of, or access to, coastal waters;

(E) areas of unique geologic or topographic significance which are susceptible to industrial or commercial development;

(F) areas of significant hazard due to storms, slides, floods, erosion or settlement; and

(G) areas needed to protect, maintain, or replenish coastal land or resources, including coastal flood plains, aquifer recharge areas, beaches and offshore sand deposits;

6 AAC 80.160.

(b) In addition to the categories contained in AS 46.40.210(1), areas which merit special attention may include the following:

(1) areas important for subsistence hunting, fishing, food gathering, and foraging;

(2) areas with special scientific values or opportunities, including those where ongoing research projects could be jeopardized by development or conflicting uses and activities; and

(3) potential estuarine or marine sanctuaries.

The Alaska Coastal Management Act requires district programs to identify as "areas meriting special attention" (AMSA's) those areas possessing unique or exceptional values which could be depreciated by future use or development. The Yakutat district plan proposes three areas wholly or partly within the city's boundaries for classification and management as AMSA's. These are the Shipyard Cove area, the Ophir Creek corridor and the Ankau Lagoon system (see Figure 17). In addition, the district plan proposes that two larger ecosystems within the region, eastern and upper Yakutat Bay and the eastern Yakutat Forelands, be studied and evaluated for possible designation as areas meriting special attention as part of a new cooperative regional coastal management program effort.

Chapter 7

COASTAL MANAGEMENT PROGRAM IMPLEMENTATION

COASTAL MANAGEMENT PROGRAM IMPLEMENTATION

6 AAC 85.100. IMPLEMENTATION. Each district program must include a description of the methods and authority which will be used to implement the district program. Methods and authority must be adequate to insure program implementation, and any additional methods or authority which are required must be specified. Methods and authority include land and water use plans, municipal ordinances and resolutions, (including shoreline, zoning, and subdivision ordinances and building codes), state and federal statutes and regulations, capital improvement programs, the purchase, sale, lease, or exchange of coastal land and water resources, cooperative agreements, tax exemptions for nondevelopment rights, memoranda of understanding, and coordinated project or permit review procedures. (Eff. 7/18/78, Reg. 67)

Authority: AS 44.19.893
AS 46.40.030
AS 46.40.040

As set out in State law, implementation of the Alaska Coastal Management Program is designed to rely, at each level of government, upon the coordinated exercise of existing statutory authorities and regulatory powers rather than upon the authorization of new governing powers and structures. The City's district program recognizes that the State and federal governments possess diverse and important powers for management of coastal resources, protection of the quality of the coastal environment and regulation of activities and facilities proposed for coastal areas. The City regards the exercise of these related State and federal powers as an integral and supportive tool for implementation of its district program. The Alaska Coastal Land and Water Use Guide, published by the Alaska Office of Coastal Management, catalogs existing federal and State authorities and regulations pertinent to coastal management.

Over the past decade, community development planning and plan implementation have been major concerns of the City of Yakutat. As a result, the City's basic planning policy documents are current and essential administrative tools and machinery for plan implementation are already in place and in operation. For this reason, implementation of Yakutat's district coastal management program builds upon existing planning policies and ongoing management activities, supplemented by some new measures specifically designed to enhance the City's coastal management capabilities and effectiveness.

The City of Yakutat was incorporated in 1948 and is now a first class municipality under Alaska law. In 1979, the City opted to change over from a mayor-council to a council-manager form of government. The council consists of six elected members and a mayor elected at large, while day to day City affairs are administered by a professional city manager. Other City administrative staff include a finance officer, a public works director, a city clerk and, as of August 1980, a full time

planner. The planner, partly funded by a joint grant from the Alaska Department of Community and Regional Affairs and the Bottomfish Coordinator of the Office of the Governor, is primarily concerned with coastal management and fisheries and OCS development planning.

As a first class city in the unorganized borough, the City of Yakutat can exercise all the powers allowed a municipality of its class. The City has, in fact, assumed a wide range of powers, as provided for by Chapter 48 of Title 29 of the Alaska Statues. It has assumed responsibility for most public facilities and services authorized under AS 29.48.030, as well as those mandated by Chapter 43 of Title 29 for cities outside boroughs.

The City's first comprehensive plan was prepared in 1971 and was thoroughly revised in 1976 to account for the new issue of possible large scale OCS oil and gas development. In 1978, the City developed and adopted and is now carrying out a long range capital improvements program. This program addresses the basic needs of present community residents, supplemented by a schedule of contingency projects and services in case major development in the the oil and gas or bottomfish industries occurs. The City also administers a zoning ordinance and subdivision regulations to ensure that development conforms with the Yakutat comprehensive plan.

Community economic betterment has been a central objective of the City's planning efforts. Toward this end, the City has sponsored numerous economic planning and development programs to improve the community's position in the conventional fisheries, including preparation and periodic updating of an Overall Economic Development Program (OEDP). The City's OEDP has stressed projects to improve local fish processing capacity and marine shipping services and the City has committed substantial financial resources to fund feasibility and engineering studies and to build needed capital improvements.

The Yakutat Planning and Zoning Commission is active, conducting its business at its regularly scheduled monthly meeting. This Commission also functions as the platting board. An Overall Economic Development Program Committee Supervises drafting of the OEDP and generally advises the City Council on economic development issues and policies. There is also a Parks and Recreation Committee which assists in formulating recommendations for recreational programs and improvements.

To fund its planning activities, the City has relied partly on local funds, but mostly on matching grants-in-aid obtained through a variety of State and federal agencies and programs. These include the Department of Community and Regional Affairs, the Department of Commerce and Economic Development, the Bottomfish Coordinator of the Office of the Governor, the Economic Development Administration, the Bureau of Indian Affairs, the HUD 701 program and the Coastal Zone Management Program. It is expected that the City will rely primarily upon grant funds available through Section 306 of the federal Coastal Zone Management Act for ongoing implementation of its district management program.

In addition to its basic administrative, staffing and budgetary framework, there are a number of specific measures the City of Yakutat will pursue to strengthen its coastal management capabilities. These include:

1. Zoning ordinance revision. The existing zoning ordinance includes four districts: residential, commercial-residential-waterfront, industrial and holding. However, the "holding" district status must be reaffirmed annually by the City council or it lapses. This district includes some lands recommended for conservation reserve or recreational use by the 1976 land use plan, as well as other undeveloped lands for which no long-term use has yet been determined. The City plans to consider a revision of its zoning ordinance early in 1981 which would add a "conservation" district to provide permanent protection, with appropriate management guidelines, for areas where the highest and best use is determined to be for subsistence, recreation, conservation and habitat purposes.

2. Public land acquisition. In order to ensure that lands needed for community expansion, major public facilities and recreation will be available in the future, the City is pursuing a careful program of public land acquisition. Public ownership of select tracts will assist implementation of key elements in the district plan, including the recreation element and the proposed areas meriting special attention. The City's land selections under the Municipal Land Entitlement Act of 1978 have emphasized recreational and conservation values and future residential development needs. Final transfer of the selected lands will enable the City to manage them in conformance with the district plan. The City will seek transfer of State tidelands to municipal ownership. Since a large part of the district's tidelands are already owned by the City and since State tidelands must be managed consistent with the district program, unified municipal ownership of all tidelands will simplify the task of their management.

3. Municipal tidelands management. Development of policies and administrative procedures for coordinated management of City tidelands will be a crucial element for future coastal development at Yakutat. The City will consider the adoption of an ordinance setting out municipal policies governing management of its tidelands which will be consistent with and supportive of the other features of the district management program.

4. Capital Improvements Program. Apart from regulatory measures, attainment of district goals for improved use and management of its coastal resources will involve actions to upgrade certain public facilities. The City's current Capital Improvements and Services Program includes several projects which are considered to be important elements in the district

coastal management program. These include reconstruction of the Ocean Cape dock, cold storage plant reconstruction and dock expansion, park development, small boat harbor expansion, public utilities extension to the small boat harbor, residential land development and land restoration. While the City's capital improvements program can be amended annually to reflect current needs, it is sound practice to undertake a comprehensive review of long term capital project needs every five years or so, and the City plans a major update of its capital improvements program in 1983.

5. Special studies. The sections of the district plan concerning energy facilities and geologic hazards identified a number of key topics on which further information is needed before sound decisions about the best management of oil and gas development can be made. District approval of major energy facility developments in accord with the district plan should be conditioned upon satisfactory completion of a program of special studies to provide the data needed for locational and management decisions about oil and gas development.

6. State oil and gas leases. Prior to a final decision by the State on its proposed leasing of submerged lands near Yakutat for oil and gas development, the City will seek preparation of a joint assessment with the State of possible social, economic and environmental impacts upon the community to ensure that the lease sale will be consistent with the district coastal management program.

7. Coastal management program funding. It is anticipated that the City will depend primarily upon grant funds available through Section 306 of the federal Coastal Zone Management Act to support staff and planning activities for ongoing implementation of its district management program.

8. Areas meriting special attention. Three areas were proposed for management as areas meriting special attention in the coastal district plan.

I. YAKUTAT CORE AREA PLANNING PROGRAM

Due to pending major federal land allocation decisions, State land disposition programs and the Alaska Native Claims Settlement Act, a new pattern of mixed private and public land ownership and use is evolving in the Yakutat core area (i.e. the area accessible by road around Yakutat, plus all of Yakutat Bay and its coastal fringe). The major landowners in this core area are the Yak-Tat Kwaan, the City of Yakutat, the State of Alaska, the U.S. Forest Service, the National Park Service on the north shore of Yakutat Bay and, possibly, the Sealaska Corporation.

The new land ownership pattern will make available lands which have long been needed for community and private use in the local area and will clarify the permanent management status of federal public lands around Yakutat. Some important problems remain to be worked out.

Ideally, land ownership patterns should be consistent with overall goals for management of the area's renewable resources (mainly fish and wildlife and forest lands), for conservation of traditional community use areas, and for resource and facility development essential to support community expansion and fisheries, oil and gas, timber and other economic activities. However, some lands best suited for private ownership because of their development potential or commercial resource values appear likely to be retained in public ownership, even after other coastal lands with high community use or amenity values (such as the Ankau uplands and much of the coastline of eastern Yakutat Bay and the islands offshore Yakutat) have been transferred to private ownership. This mixed pattern of land tenure has some potential to promote conflict between private and community interests in resource management in the core area.

Fortunately, the situation also offers opportunities to rationalize land ownership patterns through mutually beneficial negotiations to develop cooperative land management agreements and, possibly, to exchange land and development rights. Such agreements or exchanges would aim at a management scheme or land ownership pattern better suited to both community and private objectives than the status quo, such as was successfully achieved in the three-way land exchange between the Yak-Tat Kwaan, the City and the State to assemble a privately owned tract for development as an OCS marine service base.

Among specific resource issues which might be included on an agenda for cooperative planning and management for some or all of the core area resource managers are:

1. Timber harvest management plan for optimum economic benefits consistent with environmental protection in the core area.
2. Cooperative management agreement for the proposed Ophir Creek AMSA.
3. Cooperative management agreement for the proposed Ankau Lagoon system AMSA.
4. Implementation of the energy facilities siting element of the district plan.
5. Site selection and development planning for an OCS residential enclave.
6. Oil and gas pipeline landfall site and corridor planning.
7. Selection and transfer to the City of Yakutat of 1,280 acres for municipal expansion purposes by the Yak-Tat Kwaan under section 14 (c)(3) of the Alaska Native Claims Settlement Act.
8. Protective management of the marine and shoreline resources of Monti Bay, Yakutat Bay and the Yakutat Islands group for traditional community uses.

9. Management of coastal uplands and tidelands of eastern Yakutat Bay for compatibility with the long term management goals for the Wrangell-St. Elias National Park and Preserve and the Russell Fiord Wilderness Area.

Over the years, many different parties have shown concern for the management of particular resources and limited sites within the Yakutat core area. In connection with the implementation of this coastal management plan, the City of Yakutat proposes to take the initiative to promote a comprehensive cooperative resource planning program for the entire core area. All major resource owners and managers in the area would participate in this program with the goal of developing a consistent and coordinated set of management agreements which will better serve the shared interests of all concerned.

II. YAKUTAT FORELANDS INTERGOVERNMENTAL PLANNING PROGRAM

The Tongass Land Management Plan has classified its management areas (C-57 (part), C-58 and C-59) between Dangerous River and the Alsek River for LUD II (roadless area) or LUD III (multiple use) management. The area as a whole is closed to new entry or timber harvest until December 1980, when this closure will lapse and the LUD III area (C-58) will become open to timber harvesting. The Forest Service reports that it has no specific plans to initiate logging within the next two to three years although that action is under consideration for the long run.

During development of the Tongass Land Management Plan, the City of Yakutat, area residents and the Alaska Department of Fish and Game have consistently stated their shared concerns about opening of this sector of the Yakutat Forelands to a new intensive land use -- timber harvesting. Local residents and State biolgists have emphasized their position that the primary management objective for this portion of the Yakutat Forelands should be protection of existing and traditional uses of the area and that timber harvesting should not proceed at the expense of these established resource values and uses.

It is a significant management aspect of the Yakutat Forelands that it does not easily lend itself to uniform classification in large tracts for multiple use management, such as is proposed in the Tongass Land Management Plan. Resource features which are vulnerable to degradation by timber harvesting or intensive use are scattered throughout the area. In particular, the critical spawning and rearing areas of anadromous streams are widespread across an extensive network of streams and small tributaries. The location and seasonal use patterns of these streams and tributaries is not well known at this time. Because of the drainage pattern across the Forelands, any road system developed to support timber harvesting and log transport will necessarily traverse many productive steams, multiplying the likelihood of habitat damage through drainage interference, stream sedimentation and loss of water quality.

Other resource features of high economic, scientific, habitat, recreational and scenic value are scattered throughout this part of the Yakutat Forelands. Examples include the estuaries formed by the Dangerous, Italio, Akwe and Alsek Rivers; Harlequin Lake; prime wildlife habitat for moose, goat and bear; and Italio and Akwe Lakes.

The possibility of poorly conceived timber harvesting activities, together with the intensified use which would follow increased accessibility, raises basic policy issues for Yakutat residents. Local concern about timber harvesting on the Yakutat Forelands has been made acute by first hand observation of the damaging effects of poor logging practices on federal and State lands in the immediate vicinity of town. Large blocks of timber have been clearcut, with serious impairment of stream habitat and water quality, scenic values and windfall problems. Forest regeneration has generally been very slow, so that timber harvesting here often appears to be more of a one-time extractive industry than a truly renewable crop resource.

Local residents have also noted that the timber industry is not an established or traditional industry at Yakutat and that it has not and would not provide employment for local residents. For the most part, they are opposed to timber development which appears to offer few benefits and many potential costs to the community. Nevertheless, the expressed goals of the City and area residents toward management of the Yakutat Forelands have been positive, stressing the need for protection of productive habitat and traditional economic and subsistence uses rather than an outright prohibition of logging.

As a positive course of action, the City intends to nominate the Ahrnklin, Dangerous, Italio, Akwe and Lost Rivers, together with their tributaries, as Areas Meriting Special Attention, with the recommendation that they be managed primarily to conserve their exceptional habitat values for fish and wildlife populations. Timber harvesting will be a secondary management objective, allowed where such use is feasible without impairment of primary resource values.

Furthermore, the City proposes a Yakutat Forelands Intergovernmental Planning Program, with participation by the City of Yakutat, the U.S. Forest Service and the Alaska Department of Fish and Game. The objectives of the proposed Program are fourfold:

1. Complete a comprehensive resource inventory of critical habitats, fish and wildlife populations, and other coastal resources of the Yakutat Forelands.
2. Define timber cut areas which can be harvested without harm to primary resource values.
3. Develop detailed, site specific guidelines for road routing and construction, timber harvest practices, rehabilitation, etc., for timber management.
4. Identify field resources needed to ensure full compliance of field operations with the timber harvest plan.

III. AREAS MERITING SPECIAL ATTENTION

A. SHIPYARD COVE AMSA

1. Basis for Designation

The area lying south of Shipyard Cove is proposed for designation as an area meriting special attention because of its diverse recreational and habitat values.

2. Map

See Figure 17.

3. Description

The proposed Shipyard Cove AMSA area is an excellent and accessible example of the habitat diversity of the Yakutat area. Formed by a glacial moraine, the upland terrain is rolling and heavily forested and broken by numerous pothole lakes. The coastline affords spectacular views of Mt. St. Elias and the St. Elias Range and of the offshore islands. Eagles cruise the coastline, while harbor seals and, occasionally, sea lions and sea otters can be seen from shore. The protected nearshore waters are locally popular for crabbing and salmon trolling. The lagoon is a spawning and rearing area for coho and Dolly Varden and supports a subsistence salmon harvest. Wildlife including moose, brown and black bear, deer and furbearers are present. Local Alaska Department of Fish and Game personnel consider that conditions in the upland lakes are favorable for a stocking program which might provide a prime local sport fishing area.

4. Existing Ownership and Management

Nearly all of the coastal lands are owned by the State or the City of Yakutat. All of the State lands have been selected by the City as part of its municipal entitlement and it is expected that they will be transferred to municipal ownership. Most of the upland area is publicly owned, with some privately held tracts, including part of the Mission tract. Most of the tidelands (part of them already leased) remain in State ownership, except for a section owned by the City (see Figure 11).

The entire area is within the City's jurisdiction and is currently proposed in the land use plan for public and conservation uses. The existing zoning ordinance classifies the area as a holding district, which allows the continuation of existing uses or their expansion with the approval of the planning commission. No new uses are permitted. The classification as a holding district must be renewed annually. Adjacent areas to the proposed AMSA are in private ownership but are undeveloped or in residential use.

5. Use Conflicts

There are no significant existing use conflicts within the area. Potential conflicts would include the development or intensive use of sensitive tidelands, aquatic or upland habitats which might have adverse effects on their habitat and recreational values.

6. Proposed Management Scheme

It is proposed that a mixed use pattern be fostered for this AMSA with Shipyard Cove itself developed for small boat harbor and related marine uses, developed park and recreational facilities on the adjacent peninsula, and management of remaining areas as a conservation area for non-intensive recreational and subsistence uses. This management scheme is within the scope of the City's present authorities, supplemented by the management authorities of the Alaska Department of Fish and Game. The Department of Fish and Game is currently examining the feasibility of a stocking program to improve the productivity of some of the freshwater lakes within the area for sport fishing, an activity which would be highly compatible with the proposed management scheme.

B. OPHIR CREEK CORRIDOR AMSA

1. Basis for Designation

The Ophir Creek corridor is a prime spawning and rearing area for red and coho salmon and is also and an important wildlife habitat. It is noteworthy for its subsistence and recreational use values and for its scientific interest.

2. Map

See Figure 17.

3. Description

Ophir Creek is a highly productive anadromous stream which supports an important subsistence and commercial fishery. Because it is fed by groundwater, it seldom freezes in winter, making for favorable survival conditions. However, it appears that streamflow has been unfavorably affected by changes in the groundwater regime, perhaps as a result of glacial rebound or earthquakes, making stream protection even more critical.

4. Existing Ownership and Management

Within the City, lands in the Ophir Creek corridor are privately owned or are owned by the City or the State, with most of the State land bordering the Creek having been selected by the City as part of its municipal entitlement. Outside the City, land ownership and management responsibility is divided between the State and U.S. Forest Service.

Existing uses are few, the most prominent being subsistence salmon harvest and recreation. The corridor crosses the Airport Highway and runs parallel to the Coast Guard Road for about three miles. Some of the State lands and a private tract in the drainage have been logged.

5. Use Conflicts

Because of its characteristic low water flows, especially in dry summers, the Ophir Creek habitat is extremely vulnerable to any use or activity which could impair water flow and water quality in spawning and rearing areas. Thus, any intensive use such as housing, road development or logging poses use conflicts. While the stream itself is the most sensitive component of this ecosystem, any downstream use which adversely affected the estuary and lakes through which the salmon pass on their way upstream could harm salmon productivity.

6. Proposed Management Scheme

This AMSA is proposed for management as a conservation district, closed to all development within a 300 foot corridor. Subsistence and sport fishing and similar non-intensive uses will be allowed. Furthermore, any development within a 500 foot corridor should be stringently regulated to prevent erosion due to road building or site preparation. Connection to the municipal water and sewer systesm should be made mandatory to prevent drawdown of groundwater supplies or water quality deterioration.

This management scheme can be implemented by coordinated public management of City, State and federal land in the corridor and through City exercise of its zoning and platting authorities over private lands. In view of the shared management responsibilities for this area between the City of Yakutat, the Alaska Departments of Fish and Game and Natural Resources and the U.S. Forest Service, it is recommended that the City pursue with those public agencies the development of a cooperative agreement to attain compatible overall management of this area.

C. ANKAU LAGOON SYSTEM AMSA

1. Basis for Designation

The Ankau is a productive habitat for a diverse range of marine, waterfowl and wildlife species and locally popular for a variety of recreational and subsistence uses. It is an area which has traditional importance to

Yakutat Tlingits and includes the site of the New Russia post which is recorded on the National Register of Historic Places.

2. Map

See Figure 17.

3. Description

The Ankau Lagoon system is a complex estuary of interconnected lagoons and salt chucks. The estuary and related wetlands are a highly productive habitat for waterfowl, salmon and Dolly Varden and cutthroat trout.

4. Existing Ownership and Management

Nearly all of the Ankau uplands are owned by the Yak-Tat Kwaan, with a small portion covered by Native allotments or in State ownership. Only the northeastern corner of the Ankau is within the City's boundaries and directly subject to municipal jurisdiction. The Yak-Tat Kwaan's land use plan classifies the Ankau for subsistence use and for sustained yield timber management, with selective cutting limited to diseased and deadfall trees. The Kwaan's land use plan also places restrictions on public use of this area.

5. Use Conflicts

There are no present use conflicts within the area and none are anticipated as long as current use patterns and management status prevails. Potential use conflicts would include overuse due to increased recreational visits, development activities which might have adverse effects upon the Ankau's complex ecosystem, or heavy industrial development upon adjacent lands without adequate precautions to protect the environmental integrity of the Ankau Lagoon system.

6. Proposed Management Scheme

The sensitive land areas of the Ankau are mostly outside the City's boundaries and in private ownership. Therefore, it is proposed that the City explore with the Yak-Tat Kwaan and the Alaska Department of Fish and Game the possibilities for development of a cooperative management agreement which will seek to conserve the habitat, subsistence, recreational and cultural values of the Ankau.

Chapter 8

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