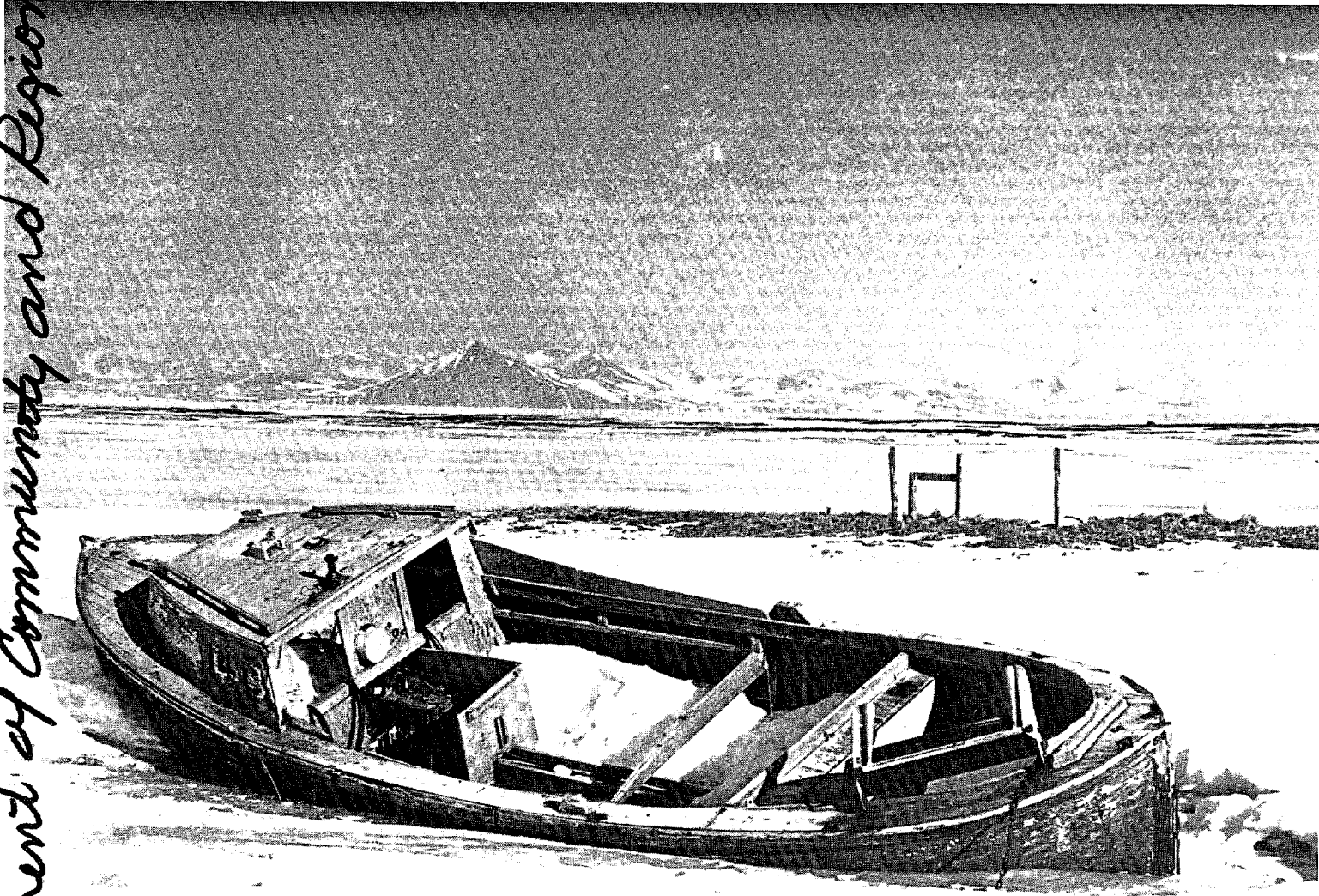


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YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA



PROPOSED WORK PROGRAM

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IRE & ASSOCIATES

JUNE 1980

Department of Community and Regional Affairs

DARBYSHIRE & ASSOCIATES

community planning and management services

June 6, 1980

U. S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

Mr. Peter Black, Chairman
Yukon-Kuskokwim Delta Coastal
Resource Service Area
Box 267
Bethel, Alaska 99559

Mr. Harold Sparck
Director
Nunam Kitlutsisti Inc.
Box 267
Bethel, Alaska 99559

Gentlemen:

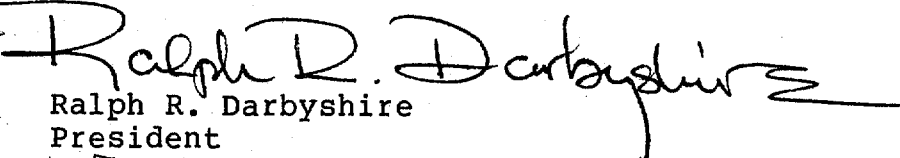
We are pleased to submit this proposed YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA WORK PROGRAM. It describes in detail the scope, content, scheduling, and cost of each suggested work element that must be completed in preparing a coastal management program for the service area.

In developing this program, we have paid strict attention to the requirements of the Federal Coastal Zone Management Act of 1972, the Alaska Coastal Management Act of 1977, the Alaska Administrative Code, and the desires of the Coastal Resource Service Area Board. Accordingly, we have provided for the preparation of the basic mapping tools that will be necessary; the identification of goals, objectives, and policies that should guide the planning effort; necessary resource inventory and analysis work; plan preparation; a plan implementation program; and a public involvement program.

During the course of this project we have been assisted by many private citizens and public officials. You and your staff were most helpful. The Governor's Office of Coastal Management, and Departments of Community and Regional Affairs, Natural Resources, and Fish and Game provided a considerable amount of information and ideas about how they might be able to assist in the development of your program. AVCP and Calista added insight into the data they have that could prove of assistance.

We are most appreciative of this assistance and would like to thank all concerned.

Respectfully submitted,


Ralph R. Darbyshire
President

Alaska Department of Regional and Community Affairs

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JAN 27 1981

A YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA
PROPOSED WORK PROGRAM

Prepared for the
Yukon-Kuskokwim Delta Coastal Resource
Service Area Board

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By

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The preparation of this report was financed in part by funds from the Alaska Coastal Management Program and the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, administered by the Division of Community Planning, Alaska Department of Community and Regional Affairs.

PREFACE

The Alaska Coastal Management Act of 1977 (AS 44.19 and AS 46.40) provides for the creation of coastal resource service areas (CRSA's) in the unorganized borough to be responsible for the preparation of coastal management programs. These service areas are to consist of one or more existing regional education attendance areas (REAA's). Further, the Commissioner of the Department of Community and Regional Affairs is designated the authority for deciding when two or more REAA's can or should be included in a single CRSA.

On December 18, 1978, the Commissioner of the Department of Community and Regional Affairs formally "determined that REAA's 3 and 4 (including the City of St. Mary's and excluding the City of Bethel) should be included in a single CRSA and REAA 5 should remain separate." This step is the first step which leads to CRSA organization and establishment of a service area board to develop the required coastal management program.

On May 15, 1979, the region's voters approved organization of a CRSA covering REAA's 3 and 4 - the Yukon-Kuskokwim Delta Coastal Resource Service Area. And, on September 15, 1979, the voters elected seven individuals from seven different election sections to sit as their service area board.

Following the election of the Board, the Department of Community and Regional Affairs retained Nunam Kitlutsisti, Inc., (an arm of the Association of Village Council Presidents - AVCP), to provide start-up support for the newly elected Board. As part of its charge, Nunam Kitlutsisti has furnished staff support to the Board and retained consulting assistance to produce a detailed work program that delineates the scope, content, cost, and scheduling for producing the area's coastal management plan. Darbyshire & Associates was selected by the Board to provide this consulting assistance and this project was initiated.

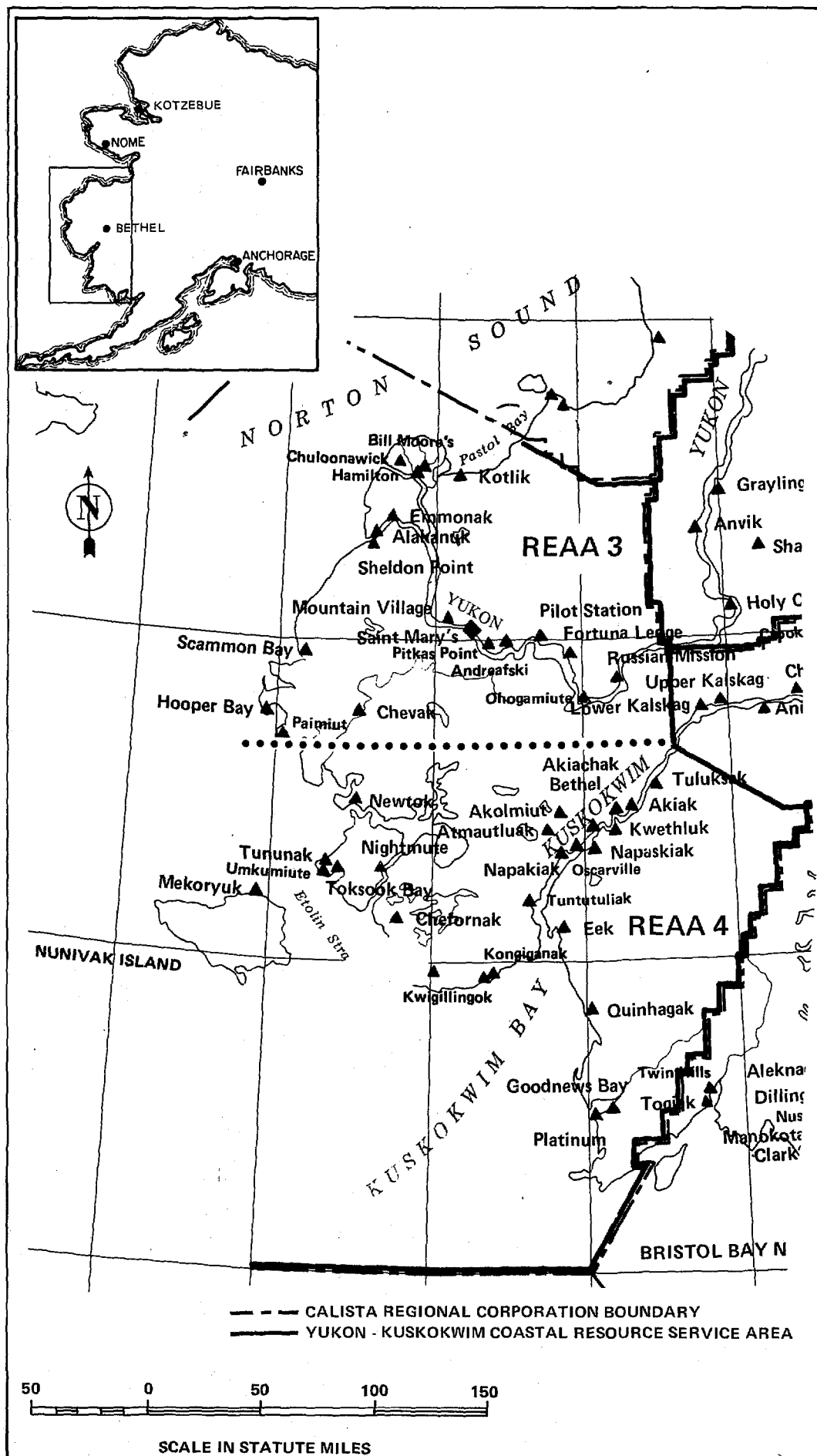
YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA
PROPOSED WORK PROGRAM

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YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA*



*REAA'S 3 & 4 (Excluding the City of Bethel)

YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA
PROPOSED WORK PROGRAM

INTRODUCTION

The Yukon-Kuskokwim Delta Coastal Resource Service Area (CRSA) covers approximately 58,000 square miles in Southwestern Alaska. This makes the area larger than 39 of the remaining 49 states and approximates the State of Florida in size.

Encompassing most of the drainage of the lower Yukon and Kuskokwim Rivers, the area extends approximately 350 miles north to south, and 125 miles east to west. It also includes Nunivak and St. Matthew Islands, located 25 and 225 miles, respectively, offshore. The 43 different communities in the region are home to between 15,000 and 20,000 residents. Over 90 percent of the population is Yupik Eskimo.

Pursuant to federal and state law, the region may prepare a coastal management program. The program is to be developed by a locally elected Yukon-Kuskokwim Delta Coastal Resource Service Area Board, and is to provide for the balanced protection of natural systems and cultural values.

This proposed YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA WORK PROGRAM suggests the means by which the Board can develop this management tool. It thus:

- o contains a description of the more important laws and regulations which have to be met by the program;
- o considers the direction the Board wishes to take in preparing its plan;
- o describes the products that should result from the planning effort;
- o contains a description of tasks that will have to be completed to develop necessary planning tools;
- o outlines a program for identifying local coastal development issues and setting program goals, objectives and policy guidelines;
- o sets forth a description of the many physical, social, economic, and environmental inventories and analyses that will have to be completed before planning can begin;
- o presents descriptions of plan components that must be laid out;

- o describes planning implementation activities that should be initiated to put the suggested planning program into action;
- o sets forth a system for public involvement that ensures the ultimate program will reflect the ideas, attitudes, and desires of local residents; and
- o assigns work task responsibilities and presents estimated costs and a time schedule for completing individual work elements and the overall project.

THE LAW

Laws controlling the content, scheduling, and methodology for coastal management planning stem from three sources: the federal Coastal Zone Management Act of 1972, the Alaska Coastal Management Act of 1977 (AS 44.19 and AS 46.40), and the Standards and Guidelines for the Alaska Coastal Management Program set forth in the Alaska Administrative Code (6 AAC 80 and 6 AAC 85). These acts and administrative regulations set forth numerous guidelines and requirements. And, while each one of them is important to program design, only those requirements that appear to have a major effect on the program will be presented.

Federal Coastal Zone Management Act of 1972 (as amended)

This act spells out actions that each state must take if it decides to participate in the federal coastal management program. And, since nearly all of these requirements are also included in the state law, they apply equally to local coastal resource service areas. Three important parts of this act should be noted.

- o Federal lands are specifically excluded from the "coastal area" and, therefore, generally exempted from state or local district coastal management planning (e.g., the Clarence Rhode National Wildlife Range, Bering Sea National Wildlife Refuge, and the Nunivak National Wildlife Refuge).
- o The act provides for a device called "federal consistency" to assure federal compliance with coastal programs. That is, once a local district plan has been approved by the state and the U.S. Secretary of Commerce, all federal actions must comply (be consistent) with the approved coastal management program. This is a new method for state and local governments to influence federal actions in coastal areas.

- o Areas outside the three-mile limit offshore are excluded from the "coastal areas" (all of the federal Outer Continental Shelf oil and gas lease sale areas).

Alaska Coastal Management Act of 1977 (AS 44.19 and AS 46.40)

This act likewise spells out actions that coastal resource service areas must take when preparing their coastal management programs. It requires most of what the federal law requires and more. The more important provisions of this law state:

- o an Alaska Coastal Policy Council is set up to review/approve local district plans and then submit them to the legislature for final adoption;
- o service Area Coastal Management Programs must include:
 - a description of the boundaries of the coastal area subject to the program;
 - a list of the land and water uses subject to the program;
 - policies to be applied to the land and water uses subject to the program;
 - regulations to be applied to the land and water uses subject to the program;
 - a description of the proper and improper uses with respect to land and water within the coastal area;
 - a statement of the policies and procedures for determining which land and water uses will be allowed; and
 - policies which will be applied to areas which merit special attention;
- o coastal resource service areas have 30 months after they organize to complete and submit their plans. This time period can be extended up to a total of 54 months by the Alaska Coastal Policy Council. This means the work program suggested herein will have to be completed by December 20, 1981, unless an extension is obtained from the Alaska Coastal Policy Council;
- o if a coastal resource service area does not have or exercise zoning or other controls, its plan will be implemented by appropriate state agencies; and
- o coastal resource service area plans must be submitted to each city or village within its boundaries for review.

Standards of the Alaska Coastal Management Program
(6 AAC 80 and 6 AAC 85)

These standards were required to be adopted by the Alaska Coastal Management Act. The more important provisions of this code require:

- o districts give, in planning for coastal areas, priority to:
 - water-dependent uses and activities;
 - water-related uses and activities; and
 - uses which are neither water-dependent nor water-related;
- o districts identify geophysical hazard areas;
- o increased public access be provided to coastal water;
- o sites suitable for major energy facilities be identified;
- o siting and routing transportation facilities and utilities inland from beaches and shores;
- o regulating mining and mineral processing so as to be compatible with certain standards;
- o recognizing and assuring opportunities for subsistence usage of coastal areas and resources, and identifying areas in which subsistence is the dominant use of coastal resources;
- o designating areas as subsistence zones in which subsistence uses and activities have priority over all nonsubsistence uses and activities;
- o Managing habitats (i.e., offshore areas; estuaries; wetlands and tidelands; rocky islands and seacliffs; barrier islands and lagoons; exposed high energy coasts; rivers, streams, and lakes; and important upland habitat) to maintain or enhance the biological, physical, and chemical characteristics of the habitat;
- o identifying areas of the coast important to national, state, or local history or prehistory;
- o identifying areas which merit special attention and recommending them to the Alaska Coastal Policy Council;
- o programs include a resource inventory which describes habitats, major cultural resources, major land and water uses and activities, land and resource ownership and

management responsibilities, and major historic, prehistoric, and archaeological resources;

- o programs include a resource analysis which describes expected changes in the resources inventoried, the environmental capability and sensitivity of resources and habitats, and present anticipated demands for habitats and resources;
- o programs describe the methods and authority which will be used to implement the district program;
- o effective and significant opportunities for public participation in program development; and
- o opportunities for coordination and review by federal, state, and local government agencies.

DIRECTIONS

The development of a successful local coastal management program requires that the Board assume an active role in its preparation. When this project was first initiated, nine issues were identified that required resolution in setting overall project direction. These included: program purpose, preliminary goals and objectives; politics; public involvement means and methods; districting; planning orientation; staff and consultant roles; environmental considerations; and data gaps. In reaching a decision of the resolution of each of these issues the Board decided the following.

Overall Program Purpose

To accomplish, through self-determination, a coastal management program that gives first priority to the maintenance and enhancement of the region's existing subsistence lifestyle. The development of the cash economy is to be given second priority as a program objective. Different alternatives that should be explored for developing the cash economy (in order of preference) include the use and development of renewable resources, the development of non-renewable resources, and work/subsistence job sharing.

Preliminary Goals and Objectives

There is a chance that oil/gas and other resource exploration and development activities could impact the Yukon-Kuskokwim Delta area before the Board completes its coastal management plan over the next two years. Accordingly, the Board has decided that the first elements that should be addressed are "Preliminary Goals

and Objectives." This preliminary statement of goals and objectives is to also include policies and standards that can be used locally to guide expected short-term development activities so that they do not conflict with the coastal management program that is eventually adopted.

Politics

The Coastal Resource Service Area Board has different responsibilities than other politically aware groups in the region (e.g., the oil industry, Calista Corporation, ANCSA Village Corporations, etc.). Therefore, it can be expected that the policies of the Board will, from time to time, conflict with policies of these other groups - Native or non-Native. In looking to the resolution of these differences, the Board has decided that it will "seek input giving equal voice to all established organizations or people within the service area in making its district plan."

Public Involvement

Two extensive and time consuming house-to-house surveys were recently completed in the region (the 1980 US Census and a Growth Policy Council/Western Arctic Alaska Transportation Study [WAATS] survey). The Board has, therefore, decided to emphasize the use of radio, TV, videotape production, and public meetings in its public involvement program. This is, of course, to be supplemented with the findings of the two surveys and other available means.

Districting

To be more responsive to local concerns and allow for priority attention in areas with immediate development pressures, the Board has decided to divide the service area into subregional planning units.

Planning Orientation

Sufficient money may not be made available to accomplish all of the community and regional planning that is desired in the study area. The Board has, therefore, decided that its work program should concentrate on resolving coastal management planning matters that are of more than local concern.

Staff and Consultant Roles

The Board's coastal management program must be completed by December 20, 1981, unless a time extension is granted by the Alaska Coastal Policy Council. This means a tremendous amount of work must be completed in a short period of time. If the Board were to carry out its planning charge entirely through the use of

in-house staff, it might have to lay off much of its staff within a couple of years. The Board would, therefore, prefer to retain in-house staff to assist in the public involvement and education work elements and retain consultants to prepare technical inventory and analysis, planning, and planning implementation elements.

Environmental Considerations

Environmental quality is high in the study area. In looking to the future, the Board has suggested development of a work program that will ensure protection of air, land, and water quality at the current high levels.

Data Gaps

The Yukon-Kuskokwim Delta is an area where comparatively little planning work has been completed. Very little inventory/analysis work exists for many subjects important to coastal planning.

There will probably not be enough money available to fill all of the discovered data gaps and to complete desired planning and implementation work. The Board has, therefore, decided that it will allocate its limited funds on the identification of data gaps and seek additional state, federal, and private support to fill the identified gaps.

PRODUCTS

The product of the proposed coastal management planning effort should be a document that contains seven technical chapters and an enlarged planning map. The technical chapters should cover the following subjects:

- o Chapter 1: Coastal Area Planning Boundaries and Subregional Planning Units;
- o Chapter 2: Coastal Issues, Goal Formulation, Program Objectives, and Policy Guidelines - The Interim Plan;
- o Chapter 3: Natural and Cultural (Man-made) Resource Inventories and Analysis;
- o Chapter 4: The People - Human Resources;
- o Chapter 5: The Regional Economy;
- o Chapter 6: The Plan; and
- o Chapter 7: Plan Implementation.

Each chapter should be printed as an individual report and prepared in a manner that permits its eventual inclusion in a large loose-leaf type binder. Each chapter-individual report should also be prepared in summary form. The resource inventory and planning maps should be folded to fit in a pocket on the rear cover of the loose-leaf binder.

A total of 100 copies of the preliminary drafts of the individual reports should be printed for agency and Board review. Two hundred and fifty copies of the Chapter Summaries should be printed for distribution to the villages in the CSRA. Two hundred and fifty final reports should be produced for submission to the Alaska Coastal Policy Council.

The work to be undertaken or the methodology to be followed in preparing these technical reports and maps would be completed in several phases. Precisely how the work should be prepared is explained in the following paragraphs.

PUBLIC INVOLVEMENT

Both federal and state coastal management programs require "effective and significant opportunities for public participation in program development." It is the decision of the Board that this be accomplished through the use of radio, TV, videotape presentations, and public meetings and be supplemented with findings from two community surveys that have been recently completed on the region. Pursuant to these guidelines we suggest a public involvement program that encompasses the following:

- o A \$10,000 budget (\$5,000 annually) for media (radio, TV, videotape, and newspaper) production and placement;
- o Quarterly Board meetings to be held in a different community in the Service Area throughout the two-year project;
- o A total of 82 public hearings - 2 in each of 41 communities located in the region. Five of these public hearing will be held at the same time quarterly Board meetings are taking place. The remainder of the hearings will be conducted by the Board member who represents the district in which the community is located, and be attended by a member of the Board's immediate staff and a member of the consulting team;

- o The scheduled public hearings are to be held:
 - at the end of the first year's program after the inventory/analysis work has been completed;
 - at the end of the second year's program after the draft plan and implementation program have been completed.

As the Board's in-house staff completes assigned technical studies, it will have occasion to travel to each community in the CRSA throughout the duration of this project. This work will therefore offer opportunities for additional public involvement in the program.

STAFFING

The scope and size of the project and the remoteness of the region will require the CRSA retain "in-house" staff to carry out the recommendations of this study. We expect the staff will serve to:

- o Manage and administer the Board's anticipated coastal management grant contract with the Alaska Department of Community and Regional Affairs;
- o Assist in the retention of necessary consulting assistance;
- o Manage and administer consulting contracts;
- o Manage the public involvement/media program and arrange associated meeting and travel schedule; and
- o Complete designated technical work elements.

Given the scope and diversity of the work, it is difficult and inefficient to assign any one, two, or three people full-time to the coastal management program. From time to time people knowledgeable about regional subsistence and land use patterns will be needed. Assistance will be needed to manage and administer project contracts. And, people knowledgeable in local culture and resource distribution will be of help. We have, therefore, suggested and budgeted for two-person years of "in-house" staff assistance. Presuming the Board will again retain Nunam Kitlutsisti as its staff, Nunam Kitlutsisti can then charge off different staff time to the project as circumstances require.

COSTING

Estimated cost/budgetary figures supplied on the following pages were developed in a number of ways. Consulting fees in Alaska currently range between \$25/hour for non-professional technical assistance and \$65/hour for highly trained and experienced assistance. We estimate project consulting fees average about \$47.50/hour. Total costs estimated for consulting tasks thus represent our estimated level of effort (time) to complete the task multiplied by an estimated average consulting fee of \$47.50/hour.

Current air travel fares were inflated slightly in calculating travel costs. Current state rates were used in calculating per diem costs. Nunam Kitlutsisti's experience with past Board meetings were used to estimate future costs associated with this activity.

Associated travel, per diem and public involvement funds are budgeted separately. These funds are to be used in support of the technical work that is to be done and must, therefore, be factored in when considering the estimated costs for completing the individual elements.

SCHEDULING

The schedule for completing the work suggested herein is estimated for each task. This information is summarized in graphic form on page 28. This schedule represents time allocations for the preparation of initial draft materials for Board, in-house staff, and public review. The time it takes to refine these technical drafts into approved printed documents through Board/in-house staff review, and the public involvement process will, of course, take longer.

GETTING STARTED

Before necessary inventory, analysis, planning, and plan implementation elements can be initiated, certain working tools and support materials have to be prepared. This includes: delineation of the coastal area boundary, division of the region into planning units, and preparation of necessary aerial photos and base maps. Each of these tasks is described below.

Coastal Area Boundary Determination

One of the first steps to be taken in developing the coastal management program is the definition and adoption of the boundary of the "coastal area" within the resource service area. The state has set an initial coastal area boundary of the 200' contour level in its map folio entitled: INTERIM COASTAL BOUNDARIES OF ALASKA. This boundary was developed from both topographic considerations and information contained in BIOPHYSICAL BOUNDARIES FOR ALASKA'S COASTAL ZONE.

The Board may find it desirable to adjust this "coastal area" boundary. This can be done if it can be shown that the new boundary extends as far as needed to plan for and manage uses and activities that have or are likely to have a direct and major effect on coastal waters; and includes all transitional and intertidal areas, salt marshes, salt water wetlands, islands, and beaches.

The resolution of this boundary question requires further analysis of the two publications cited above, as well as other resource information. In deciding on the boundary it should be ensured that the "coastal area" includes the zone of "direct interaction" (that portion of the coastal area where physical and biological processes are a function of the direct contact between land and sea) the zone of "direct influence" (that portion of the coastal area which is next to the zone of direct interaction and is therefore influenced by that interaction).

ESTIMATED COST: \$1,200.00

SCHEDULE: 1st year - 1st through 4th months

Definition of Planning Sub-Unit Areas

This large area encompassed by the Yukon-Kuskokwim Delta CRSA is home to between 10,000 and 15,000 Yupik Eskimo residents and a few hundred non-Natives who reside in the following 43 scattered and isolated communities:

Alakanuk	Mountain Village
Akiachak	Napakiak
Akiak	Napaskiak
Atmautluak	Newtok
Bill Moores	Nightmute
Chefornak	Nunapitchuk
Chevak	Ohogamiut
Chuloonawick	Oscarville
Eek	Pilot Station
Emmonak	Pitkas Point
Goodnews Bay	Platinum
Hamilton	Quinhagak

Hooper Bay
Kasigluk
Kipnuk
Kongiganak
Kwethluk
Kwigillingok
Marshall
Mekoryuk

Saint Mary's
Scammon Bay
Sheldon Point
Toksook Bay
Tuluksak
Tuntutuliak
Tununak
Umkumiut

Three large federal wildlife refuges (Bering Sea, Nunivak, and Clarence Rhode) cover a large part of the service area. Several potential petroleum basins exist both on and off shore. The area has also been divided into seven sections for purposes of electing the seven member Coastal Resource Service Area Board.

The Board has decided the CRSA should be divided into a series of subregional planning districts. The Board feels this would allow them to be more responsive to local concerns and permit priority attention to specific areas should certain areas be faced with development pressures before the coastal management program is completed.

The second step in the program, therefore, should be the identification and delineation of service area subregional planning units. To do this, the following should be accomplished:

- o A USGS 1:250,000 base map of the service area should be prepared;
- o The "coastal area" boundary should be recorded on the base map as well as the following:
 - The CRSA boundary - including the election sections;
 - The boundaries of any regional corporations covering the area;
 - All federal lands, including d-1 and d-2 lands;
 - Major drainages;
 - The location of any major surface transportation routes or utility corridors;
 - Communities.

This information should then be reviewed and recommendations developed on proposed subregional planning units. In turn, this information should be submitted to the Board for its review/amendment/adoption.

ESTIMATED COST: \$1,200.00

SCHEDULE: 1st year - 1st through 4th months

Base Mapping

With the delineation of the coastal area and subregional planning units, the next step in the program should be the preparation of necessary aerial photos and base maps. These tools are needed for three purposes. First, they provide a clear picture of the overall physiographic character of the area and its coastline. Secondly, they provide important drainage, vegetation, soils and slope information. Finally, they are important graphic tools for the layout, display, and communication of resource inventory/analysis work and planning recommendations.

Given the enormous size of the service area we suggest the purchase and preparation of several photo/mapping tools. These include:

- o Two sets of 1:63,360 USGS quads (about 325) for the entire region. These are to be used for reference and detailed field resource inventory recordation and evaluation;
- o One set of mylar or equivalent 1:250,000 USGS quads for subregional planning unit resource inventory display - about 15 maps;
- o Color Landsat aerial imagery at a scale of 1:250,000. This imagery is sensitive to four different types of information - growing vegetation, rocks and soils, water, and cultural features (towns and roads). Approximately 17 scenes will be required to cover the area;
- o Two 1:1,000,000 black and white mylar photo composites of the region for graphic production/publication requirements.
- o Blue/black line prints for draft field work sheets.

ESTIMATED COST:

Personal Services	\$ 700.00
Supplies	
325 1:63,360 USGS Quads @ \$1.25 ea. x 2	800.00
15 1:250,000 USGS Quads @ mylar ea.	450.00
17 Color Landsat Photographs @ \$50/scene	850.00
2 Black and White Photo Composites	400.00
Blue/black line map printing	400.00

	\$3,600.00

SCHEDULE: 1st year - 1st through 2nd months

COASTAL ISSUES, GOAL FORMULATION, PROGRAM OBJECTIVES AND POLICY GUIDELINES

Planning, by definition, is the process of developing a course of action to accomplish a predetermined set of wants and needs. Therefore, one of the first things to be done in developing a coastal management program is to identify coastal matters of local and regional concern (issues); the wants and needs of the people (goals) of the region; determine how these goals might be met (set program objectives); and set forth the means to implement the program goals and objectives (establish policy).

Throughout the early phases of the Yukon-Kuskokwim Coastal Management Program, emphasis has been on development of a program that provides for local self-determination in improving the quality of life and protecting traditional subsistence lifestyles. These general "goals" must, however, be expanded, and supported through a more thorough identification of local coastal issues and development of appropriate objectives and policies. This segment of the work program describes how this should be accomplished.

The first task to be completed is an examination of the area's history and the identification of current coastal management matters of concern (issues). Items to be examined in completing this work are:

- o culture and lifestyle;
- o land, water, air, biota, and other resources - their preservation, conservation, use and development;
- o the local economy and regional economic development;
- o land ownership and status;
- o transportation and other public facilities; and
- o governance.

This information can be compiled from a review of local publications (e.g., newspapers, Native corporation materials and reports, nonprofit corporation releases, etc.) and supplemented with information gathered from discussions with the Nunam Kitlutsisti staff, leaders, the Board, and others knowledgeable about local resources.

With issues identified, one can then proceed to measure citizen attitudes (goals and objectives) for resolving each issue. This information can be obtained from an analysis of the Western and Arctic Alaska Transportation Study (WAATS) and AVCP community

surveys that were recently completed. It should be supplemented with ideas and opinions gained from discussions with local leaders and the Board. Suggested goals and objectives should then be drafted and submitted to the Board for review, amendment, and adoption.

The next task is to draft a series of policies that will implement adopted goals and objectives. This is mostly technical work, but must also be reviewed, heard, amended and adopted by the Board.

When goals, objectives, and policies have been adopted by the Board, the results should be published as a separate report. This report will become Chapter 2 of the finished coastal management program and will form the cornerstone for the development of later planning elements. It will also assist the Board in evaluating development activities proposed prior to the adoption of its final coastal management program.

ESTIMATED COST: \$16,000.00

SCHEDULE: 1st Year - 1st through 6th months.

INVENTORIES AND ANALYSES

The next step in formulating coastal resource development/planning needs is the measurement and analysis of existing physical, resource, environmental, cultural, and socioeconomic characteristics. This work is required by the Standards of the Alaska Coastal Management Program where they state coastal management programs must:

- o include a resource inventory which describes habitats, major cultural resources, major land and water uses and activities, land and resource ownership and management responsibilities, and major historic, prehistoric, and archaeological resources; and
- o include a resource analysis which describes expected changes in the resources inventoried, the environmental capability and sensitivity of resources and habitats, and present and anticipated demands for habitats and resources.

This portion of the program will, therefore, be devoted to the quantification and qualification of the natural, human, and cultural resources that are required by law and sound planning.

Comparatively little planning has been done on the Yukon-Kuskokwim Delta. Therefore, very little inventory/analysis work

has been completed on many important resource matters. There will probably not be enough money available to both fill data gaps and complete other important planning and implementation work. The Board has, therefore, decided that its work program should emphasize the use of existing information in the development of its coastal management program. Should certain new information be required, however, provisions should be made to obtain it.

Physiography and Natural Resource Inventory/Analysis

The physical characteristics of a region and the natural resources in it play important roles in determining man's presence in and use of the area. Man should not settle on land characterized by steep slopes, floodplains, and other geological hazards. Rather, he should choose areas characterized by adequate supplies of potable water, well-drained and comparatively flat lands, suitable soils, and available supplies of food, fuel, or other natural resources. This element of the inventory and analysis provides for measurement of this important information.

Physiography/Oceanography. The following information should be mapped on clear plastic overlays of the sub-regional and regional planning maps.

- o generalized geology;
- o topography/slope;
- o hydrology/drainage basins;
- o soils/permafrost;
- o habitats:
 - offshore areas
 - estuaries
 - wetlands and tidelands
 - rocky islands and seacliffs
 - barrier islands and lagoons
 - exposed high energy coasts
 - rivers, streams and lakes
 - uplands.

According to federal law, the U.S. Army Corps of Engineers must issue dredge and fill permits for development activities occurring on "wetlands." Unfortunately, "wetlands" is defined differently under different federal and state legislative acts and agency programs. This is creating problems on a statewide basis, and the state is therefore moving to give attention to the matter. It will be important that the Board monitor the state's

actions with regard to this issue and assure its plan addresses the matter thoroughly.

o Physical hazards:

- floodplains (coastal and river)
- tsunami
- faults/earthquakes
- erosion
- earth slumps and slides
- avalanche;

o oceanography:

- currents/flows
- tides
- bathymetry
- waves.

The soils/permafrost, geology, hydrology/drainage, and topography information is available from a number of sources (e.g., ALASKA REGIONAL PROFILES - YUKON REGION, ALASKA REGIONAL PROFILES - SOUTHWEST REGION, and sources cited in COMPREHENSIVE BIBLIOGRAPHY AND INDEX OF ENVIRONMENTAL INFORMATION FOR THE NORTHWEST AND LOWER YUKON KUSKOKWIM AREAS OF ALASKA).

Limited information on physical hazards is available in sources referenced in the above bibliography. Current information on oceanographic data is available from the Outer Continental Shelf Environmental Assessment Program (OCSEAP). This information should be supplemented with the knowledge of local residents as well as additional state studies that are or soon will be underway.

Required habitat information does not exist. It will, therefore, have to be developed through photo imagery/base map analysis.

It is to be emphasized that this information is to be developed from information that has been previously prepared or is being prepared. Further, as this information is compiled and analyzed important data gaps are to be identified for future work.

After this mapping has been completed, necessary analysis and narrative production should be completed. This analysis must include: a description of expected changes in the resources inventoried; the environmental capability and sensitivity of resources and habitats; and an examination of expected demands for resources and habitats.

ESTIMATED COST: \$17,000.00

SCHEDULE: 1st Year - 2nd through 7th months.

Natural Resources. Existing natural resource information should also be mapped. This should likewise be done on clear plastic overlays of the regional and planning area maps and include, but not necessarily be limited to, information on:

- o mineralization, including oil and gas basins;
- o timber;
- o terrestrial animal distributions and migration patterns;
- o fish, waterfowl, and marine mammal habitats and migration patterns; and
- o vegetation types and distribution.

Much of this information is available from the REGIONAL PROFILES cited above. Accordingly, this work will entail the transformation of existing data onto appropriate planning maps. The remaining work will consist of analysis and write up.

ESTIMATED COST: \$ 7,500.00

SCHEDULE: 1st Year - 2nd through 7th months.

Historic, Prehistoric, Archaeologic, Recreation/Tourist, and Scenic Resources. This unique information is the remaining natural resource information that must be inventoried and mapped. Subjects appropriate for consideration should be identified by the following methods:

- o reviewing publications by, and consulting with, the state offices of Historic Preservation, Tourism, and Parks;
- o requests for recommendations from the University of Alaska and other academic institutions;
- o public meetings; and
- o requests for ideas/nominations via radio, TV, or other media.

When a list of nominations has been compiled, each should be mapped on a clear plastic overlay of the subregional and regional planning maps. Further, a case file should be put together for each nomination that includes the following information:

- o name or title;
- o location;
- o general description of the character or uniqueness of the resource;
- o source of recommendation; and
- o photo - if possible.

A report should then be prepared which analyzes the merits of each nomination. This information should be reviewed and evaluated by the Board and an official list of such resources adopted.

ESTIMATED COST: \$ 8,000.00

SCHEDULE: 1st Year - 2nd through 7th months.

Environmental Quality

Environmental quality is high in the study area. In looking to the future, the Board has requested its coastal management program ensure protection of air, land, and water quality at current levels. To this end, environmental quality information should be gathered and analyzed as follows:

- o the Alaska Department of Environmental Conservation should be requested to submit relevant data or reports available or under preparation;
- o existing data gaps should then be identified;
- o the state should be requested to initiate an air/water sampling/testing program to fill these data gaps; and
- o the data obtained from the state's efforts should be analyzed.

ESTIMATED COST: \$ 1,000.00

SCHEDULE: 1st Year - 3rd through 7th months.

Cultural Resource Inventory/Analysis

When man settles a region, he institutes a series of building, social, and economic activities. Eventually, these structures and systems support man's continued presence in that area. The quantity and quality of these cultural resources become

considerations important to the future growth, development and use of that area. This segment of the program provides for the inventory/analysis of this important information.

Historic Land Use Inventory. This information is to be gathered and mapped through a series of organized workshops with the people of each community. The information to be gathered and displayed and should include, but not necessarily be limited to:

- o sites or locations of known historic places of shelter, refuge, or settlement;
- o sites of old graves/cemeteries;
- o known locations of ruins or unused/delapidated sod or other types of traditional houses;
- o areas of historical import to the following food-gathering activities:
 - hunting
 - fishing
 - whaling
 - sealing, walrusing, and harvesting of other marine mammals
 - trapping
 - berry picking
 - root gathering
 - grass gathering
 - egg gathering
 - other (specify)
- o sites or locations of ice cellars;
- o sites of historic resource extraction activities (e.g., coal);
- o historic transportation routes;
- o sites or areas of significant religious, ceremonial, or similar import.

ESTIMATED COST: \$40,000.00

SCHEDULE: 1st Year - 4th through 11th months.

Existing Land Use Survey. Existing land use activities carried on in the study area should also be inventoried, mapped, and analyzed. This information should include:

- o community settlements;
- o other residential, commercial, and industrial land uses;
- o regional transportation, utility corridors, and other easements; and
- o parks, military uses, and other public and quasi-public land uses.

ESTIMATED COST: \$10,000.00

SCHEDULE: 1st Year - 4th through 11th months.

Land Ownership and Status

Land ownership and status relating to federal, state, regional corporation, and village corporation lands are the next items that should be examined. This information is available from several sources (e.g., BLM, Calista, etc.) and will entail the transfer of existing information to subregional and regional planning maps.

Lands to be inventoried and mapped should include, at a minimum:

- o federal holdings including the three national wildlife refuges, ANCSA lands, regional and village corporation withdrawals, d-1 and d-2 lands, and other withdrawals;
- o native allotments;
- o state lands tentatively approved, pending, or patented;
- o regional and village corporation lands; and
- o privately owned lands.

The foregoing eight resource inventory/analyses should then be combined into a single report and comprise Chapter 3 of the final coastal management program document.

ESTIMATED COST: \$ 3,500.00

SCHEDULE: 1st Year - 9th through 12th months.

HUMAN RESOURCES

This element of the study program will inventory and analyze the human resources of the study area. This should include an analysis of socioeconomic characteristics, culture, and lifestyle of study area inhabitants.

Current population and socioeconomic data will be available in early 1981 through the recently completed 1980 U.S. Census. The evaluation of regional cultural/lifestyle characteristics should include an analysis of the history of the area as it affects present lifestyles, pressures for change that will occur with future development, and a means of supporting and preserving those aspects of culture/lifestyle that residents find of most import. These findings should be written up as Chapter 4 of the coastal management program.

ESTIMATED COST: \$10,000.00

SCHEDULE: 2nd Year - 1st through 6th months.

ECONOMIC ANALYSIS/FORECAST

An area's economy is the engine that creates change in growth and development patterns. Whether an area's economy grows or declines, this change creates a chain reaction affecting all aspects of man's economic, physical, environmental, and social existence. One only need look at the effects economic change has brought to Alaska in the past dozen years to see evidence of this chain reaction.

Since the economy is such a major force on resource consumption and environmental and community change, plans for their management must be founded on a thorough understanding of the local economy. Further, if such plans are to be kept up to date with changing economic circumstances, the analytical approach must permit the constant and continued measurement of potential impacts associated with economic change.

Economic modeling and analysis has long been recognized as a useful tool to meet these planning requirements. Accordingly, this phase of the program will be devoted to the development of an economic model for the region. When completed, this model will provide information on:

- o the existing regional economy that shows levels of income and employment; seasonal changes in income and employment; the key markets which are responsible for

driving the local economy; the multiplier effects of each industry; regional indicators of labor migration; and

- o the region's future income, employment, occupational skill requirements, and population trends.

Once this model is up and running it will have continuous use. Since the model is automated (instead of in someone's head or files) one can continue to easily and inexpensively use it to test expected impacts from anticipated developments - without the need for a complete new study.

This element is to be published separately as Chapter 5 of the final report.

ESTIMATED COST: \$50,000.00

SCHEDULE: 2nd year - 1st through 5th months

THE PLAN

At this point, all basic planning tools should have been prepared; necessary background information gathered, mapped, and analyzed; and regional goals and objectives transformed into an interim policy plan for the region. Having completed these tasks, the next step is to combine this information into a series of long-range plans for the region.

These plans will not be "local" plans. Local plans emphasize specific facilities and special service needs for communities. These "regional" plans will emphasize overall planning and management systems to be followed to satisfy goals, objectives, and policies on matters of more than local concern. That is, the plans will address regional land and water uses, transportation and utilities, land management, and areas meriting special attention.

As time passes, it will be necessary that local plans for each of the individual communities be prepared. It is expected that these needs will be identified as part of this plan effort and be programmed for part of the continuing planning work that will be required.

Land and Water Use Plan

A multitude of federal, state, and private development decisions are being made regarding future resource use and the disposition of millions of acres of onshore and offshore areas within the region. It is, therefore, imperative that the region set forth its own plan for the settlement, development, and use of lands

and waters. While federal ownership of lands and the federal consistency issue may challenge the implementation authority of some of the plan, a well-thought-out and justified regional coastal management land and water use plan will have a major influence on federal and state decisions.

The product of this planning element should be a series of maps and planning recommendations which carries forward the land and water goals, objectives, and policies. The plan should take into account the resource, environmental, and cultural inventories and analyses which have been completed, as well as applicable state law and regulation, and provide for the following:

- o Geophysical hazard areas. The plan should show areas which are unsafe for use and development due to hazards such as flooding, erosion, earthquakes, tsunamis, etc. Where possible, development should be kept away from such areas. If not possible, developments sited in known or suspected hazard areas, must be constructed and maintained to certain safe standards.
- o Subsistence areas. The plan should show and map lands most valued for traditional and subsistence resource uses. Subsistence can be given priority in these areas, thus assuring protection for these important traditional uses.
- o Multiuse areas. Lands which are important, but not essential, to the maintenance of subsistence activities should be mapped. Given the adoption of proper standards, these areas can be used for both subsistence uses and other compatible activities.
- o Development areas. Areas important for resource and other development projects should also be identified and mapped. These lands should include coastal sites suited for major energy-related facilities, sites for uses of state concern, and potentially valuable mineral and settlement lands.

The ultimate and precise land use designations recommended by the plan will, of course, be developed as the plan element is prepared. The land use categories finally suggested, however, will have to designate proper and improper uses of lands and waters for each and specify the land and water uses subject to the program.

Transportation and Utilities

State and federal agencies are preparing long-range transportation plans for western Alaska. These plans may not

entirely reflect the goals and objectives of the residents of the region. This element should strive to determine the regional transportation and utility needs as seen by the residents, and serve to ensure that outside plans are compatible with local desires.

Land Management Plan

A successful coastal management program will require the cooperation of all landowners in the region. Ownership patterns will be mapped in the inventory and analysis section of the program. The objective here is to understand the complex relationship existing between the different landowners, and to develop cooperative management recommendations that will serve to effectuate plan implementation.

Areas Meriting Special Attention. The district plan should include a section on the identification and designation of areas which merit special attention. These areas would include unique historic sites, critical wildlife or fisheries habitat areas, or one-of-a-kind scenic or natural areas. They might also include areas of high development potential; e.g., marine service base. In each case, a special and detailed management plan that provides for the protection of the meritorious characteristics should be developed.

The findings and recommendations of this project component should be presented in both narrative and map form. The narrative portion will become Chapter 6 of the finished product. The supplemental planning map is to be folded and fit into a pouch in the rear cover of the completed document.

ESTIMATED COST: \$30,000.00

SCHEDULE: 2nd year - 5th through 10th months

PLAN IMPLEMENTATION

The preliminary goals and objectives should help safeguard the region's interests until this element of the coastal management program is enacted. Several detailed implementation strategies will have to be prepared that enable all elements of the plan to be carried out. Among the activities which must take place at this point are the following:

Governmental Organization, Powers, and Feasibility

The Yukon-Kuskokwim Delta region is served by a complex and overlapping mix of traditional governments, municipalities, REAA's, election districts, and numerous state and federal

service area divisions. This mix of governmental jurisdictions discourages sound decision making, rational planning, and effective plan implementation.

This part of the study will inventory and analyze existing governmental entities in terms of their adequacy and relationship towards meeting the goals and objectives identified by the planning components. The relationship of the City of Bethel and its coastal planning effort should also be examined.

ESTIMATED COST: \$5,000.00

SCHEDULE: 2nd Year - 5th through 9th months.

Current and Recommended Regulatory Controls and Standards

In addition to a web of governmental jurisdictions, the region is covered by a complex set of controls and standards imposed by a multitude of state and federal agencies. These agencies include the U.S. Corps of Engineers, Economic Development Administration, U.S. Fish & Wildlife Service, BLM, and Alaska Departments of Fish & Game, Natural Resources, and Environmental Conservation. Each agency has its own set of permitting rules and regulations guiding the use and development of land and waters. These rules and regulations need to be evaluated and contrasted with the plan's goals, objectives and policies. If found inadequate or inappropriate, rules and regulations should be suggested which are more appropriate to the plan. We envision a series of meetings will be required with the numerous state and federal regulatory agencies to seek harmony between existing and the recommended set of regulations.

ESTIMATED COST: \$16,000.00

SCHEDULE: 2nd Year - 3rd through 10th months.

Land Acquisition, Transfers, and Management

This component will evaluate present and projected land ownership patterns and suggest specific land exchanges, acquisitions, and transfers which would best follow the planning recommendations.

ESTIMATED COST: \$2,000.00

SCHEDULE: 2nd Year - 10th and 11th months.

Staffing and Monitoring

The coastal management program should be viewed as a continuing process that does not end with program adoption. The Board must consider the kind of long-range organization and staffing requirements that will sustain an effective ongoing program.

This section will, therefore, suggest organization, staffing, and budgeting requirements best suited to maintain a strong and effective coastal management program into the future.

ESTIMATED COST: \$2,000.00

SCHEDULE: 2nd Year - 11th month.

These four plan implementation components should be combined into a final report and comprise the concluding Chapter 7 of the finished product.

YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA
COASTAL MANAGEMENT PLANNING
BUDGET - SCHEDULE SUMMARY
TWO YEARS (JULY 1, 1980 - JUNE 30, 1982)

WORK ELEMENT	COST			
	Element	Cumulative	1st Year	2nd Year
GETTING STARTED				
Boundary Determination	\$ 1,200	\$ -	\$ 1,200	
Planning Areas	1,200	2,400	1,200	
Base Mapping	3,600	6,000	3,600	
COASTAL ISSUES, GOALS, OBJECTIVES AND POLICIES	16,000	22,000	16,000	
INVENTORIES/ANALYSES				
Physiography/Oceanography	17,000	37,000	17,000	
Natural Resources	7,500	46,500	7,500	
History/Prehistory	8,000	54,500	8,000	
Environmental Quality	1,000	55,500	1,000	
Cultural Resources				
Historic Land Use	40,000	95,500	40,000	
Existing Land Use	10,000	105,500	10,000	
Land Ownership/Status	3,500	109,000	3,500	
SUBTOTAL:			\$109,000	
HUMAN RESOURCES/CULTURE	\$ 10,000	\$119,000		\$ 10,000
ECONOMIC ANALYSIS/FORECAST	50,000	169,000		50,000
PLAN	30,000	199,000		30,000
IMPLEMENTATION				
Regional Gov't Study	5,000	204,000		5,000
Regulations and Controls	16,000	220,000		16,000
Land Acquisition/Transfer	2,000	222,000		2,000
Staffing/Monitoring	2,000	224,000		2,000
SUBTOTAL:				\$115,000
IN-HOUSE STAFFING	\$140,000	\$364,000	\$ 70,000	\$ 70,000
PROCESS/PUBLIC INVOLVEMENT				
Media	10,000	374,000	5,000	5,000
Board Meetings (8) - Time Travel, and Per Diem				
Bd./Staff @ \$8,000 ea.	32,000	406,000	16,000	16,000
Consultant	10,000	416,000	5,000	5,000
Public Hearings (76) Time Travel and Per Diem				
Bd./Staff	30,000	446,000	15,000	15,000
Consultant	15,000	461,000	7,500	7,500
Miscellaneous Meetings Time, Travel and Per Diem				
Bd./Staff	51,400	512,400	25,700	25,700
Consultant	10,000	522,400	5,000	5,000
PRINTING	17,000	539,400	5,000	12,000
MISCELLANEOUS (PHONE, REPRODUCTION, ETC.)	8,000	547,400	4,000	4,000
SUBTOTAL:			\$158,200	\$165,200
TOTAL:			\$267,200	\$280,200
GRAND TOTAL:				\$547,400

YUKON-KUSKOKWIM DELTA COASTAL RESOURCE SERVICE AREA
COASTAL MANAGEMENT PLANNING SCHEDULE
TWO YEARS (JULY 1, 1980 - JUNE 30, 1982)

WORK ELEMENT

SCHEDULE

(1980)

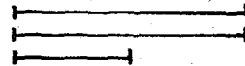
(1981)

(1982)

Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

GETTING STARTED

Boundary Determination
Planning Areas
Base Mapping

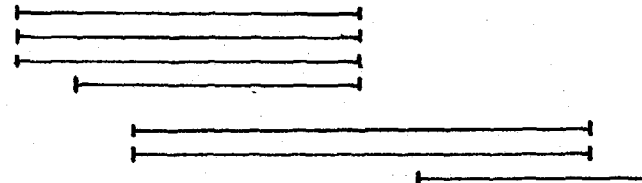


COASTAL ISSUES, GOALS, OBJECTIVES AND POLICIES



INVENTORIES/ANALYSES

Physiography/Oceanography
Natural Resources
History/Prehistory
Environmental Quality
Cultural Resources
 Historic Land Use
 Existing Land Use
Land Ownership/Status



HUMAN RESOURCES/CULTURE



ECONOMIC ANALYSIS/FORECAST



PLAN



IMPLEMENTATION

Regional Gov't Study
Regulations and Controls
Land Acquisition/Transfer
Staffing/Monitoring

