significantly affects 43% of west coast estuarian water (Leonard, D.L. and Slaughter, E.A. 1990). In the northwestern United States, as much as 30% of the Puget Sound oyster growing waters are banded from harvest because of pollution (Egan 1991). But in all this gloom, the Alaskan shellfish farming industry stands to benefit because of the availability of clean water and strict sanitary standards for cultured shellfish (Alaskan Grown Oyster: Some Specific on Quality, Marine Advisory Program 1992).

The Alaska economy is changing. Oil revenue, which has been the main source of income to the state, is beginning to decrease and is expected to decline 50% by the year 2000 (Institute of Social and Economic Research October 1989; Richardson 1992). In addition coastal communities are struggling to stay economically viable with declines in income from tradition fisheries and timber harvest (Fried N. 1992; Boucher et.al. 1992; Gay 1992; Richardson 1991)) Alaska native communities are also looking towards economic expansion to maintain their rural lifestyle and provide employment for village residents (Painter, R and Kaill M 1991).

One area providing economic opportunity for the changing Alaska economy, especially to small coastal communities, is shellfish aquaculture. Historically, shellfish farming was the first aquatic farming activity to occur in Alaska, starting in the early 1900's with farming of oysters (Yancey 1966). Oyster farming continued for a short period, then disappeared. Reemerging late in the 1970's oyster farming was pursued by a few farmers in southeastern Alaska. These small farms provided a small quantity of half shell oysters for raw oyster consumption, but the industry was not able to expand because of difficulties in permitting, and lack of capital for expansion.

In 1988 aquaculture legislation was passed by the Alaska legislature that lead of development of a more systematic permitting process. In 1990 the aquaculture law was

modified to allow only shellfish and seaweeds to be grown on aquatic farms in Alaska. The changes in permit processing allowed more entry into shellfish farming and as a result 56 farmers are permitted to operate (Alaska Department of Fish and Game 1991). Even with increased growth in the aquaculture field, several issues are still constraining the success of shellfish aquaculture. One of these constraining factors is availability of high quality oyster spat for the shellfish farms.

Shellfish aquaculture starts with acquisition and growth of spat which are small shellfish of the appropriate species. For oysters, spat range from 4-6 mm to 30 mm in shell length with the larger size preferred by the farmer. In Alaska, however, oyster spat are available only from shellfish hatcheries located outside the state and imported spat size is restricted to 20 mm or less in length. These small spat must then be rearing in stacking trays, transfered to 1/2" lantern nets, then to 1" lantern nets for final growout year until they reach market size. Use of two or three types of culture gear is expensive, but cost of an operation can be reduced by supplying larger spat to the farmer. Specifically, if 30 mm spat can be delivered to the farm, two type of gear (about 30% of the equipment cost of the farm) no longer becomes necessary.

An additional problem faced by shellfish farmers is the time of year spat are available. In Alaska, growth of shellfish often accelerates in the spring and fall with increase in diatom plankton abundance. For most farms at least three growing seasons are needed to enable oysters to grow to market size. In most instances a spring, fall, and another spring growout will make oysters available for market in the summer of their second year.

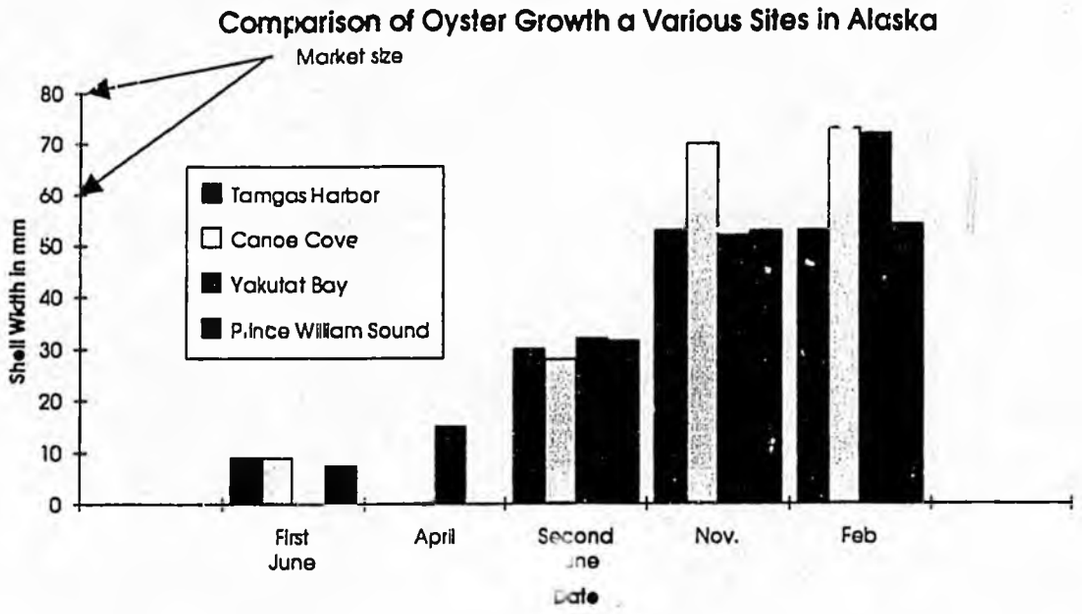

Figure 1. Expected average growth of oysters.

Having oysters available for marketing during the summer availability has an additional advantage for Alaska grown oyster because oysters growing at a warmer, more southern latitude become sexually mature in the summer of their second year and the gametes are milky in texture. These milky oysters are not marketable. Alaskan oysters oysters grown in cold water do not become sexually mature and thus are available for marketing during the summer.

Thus, the time spat are initially placed in the water is critical to the time oysters are available to market. The fear of many Alaska shellfish farmers is that a season of growth can be misses if spat are not available at the required time. An example of this problem happened this summer (1992) when Kyper Mariculture in Humbolt Bay, California delayed their shipment of spat to Alaska until August which resulted in a missed spring growth period. Another problem happens to farmers as a result of trying to get the largest spat possible. To get large spat an oyster grower may wait as long as possible to

ship the spat into the state and in the process runs the risk of waiting too long. During the waiting period the oyster spat may grow to over the 20 mm size limit, and the spat cannot be allowed into the state.

Insecure sources of oyster spat have repercussions that go beyond the culturing aspects of the aquatic farm. Financial institutions certainly will require that a secure spat source be available, and efforts for farmers to form working associations such as cooperatives are impaired because of the lack of reliability of the members to obtain spat. In summary the spat availability problem is serious and needs to be addressed if shellfish aquaculture is to be successful in the state of Alaska.

A possible answer to the spat availability problem is to import small spat during the fall or early spring, culture them in an upwelling nursery system to 30 mm in size. then delivery these larger spat to the farms for growout to market size. An upwelling nursery station is one where small oyster spat are placed in plastic tote bin culture chambers with a plastic small mesh screen bottom. (Figure 2). The culture chambers are attached vertically to a floating raft and surface saltwater pumped vertically through the chambers. The pumping of sea water through the chambers concentrates the plankton, thus making more food available for the shellfish.

These systems have been found to be extremely effective in increasing growth of small shellfish (Bellington 1991), but have not be utilized for colder water conditions in Alaska. In addition flow rates and stocking densities have not been established for oysters grown in colder waters. In the literature there is ample documentation that indicates Pacific oysters can grow well in cool waters providing that adequate feed is available (Mann 1979). It is expected that if an supplemental diatom plankton are

available to oyster spat, they can grow well and fulfill the needs of shellfish farmers for larger oyster spat at the optimum time.

The purpose of this proposal is to request funding to support a feasibility project to test use of a foating upwelling nursery system for accelerated growth of Pacific Oyster spat.

Materials and Methods

A prototype upwelling nursery system will be constructed (Figure 2).

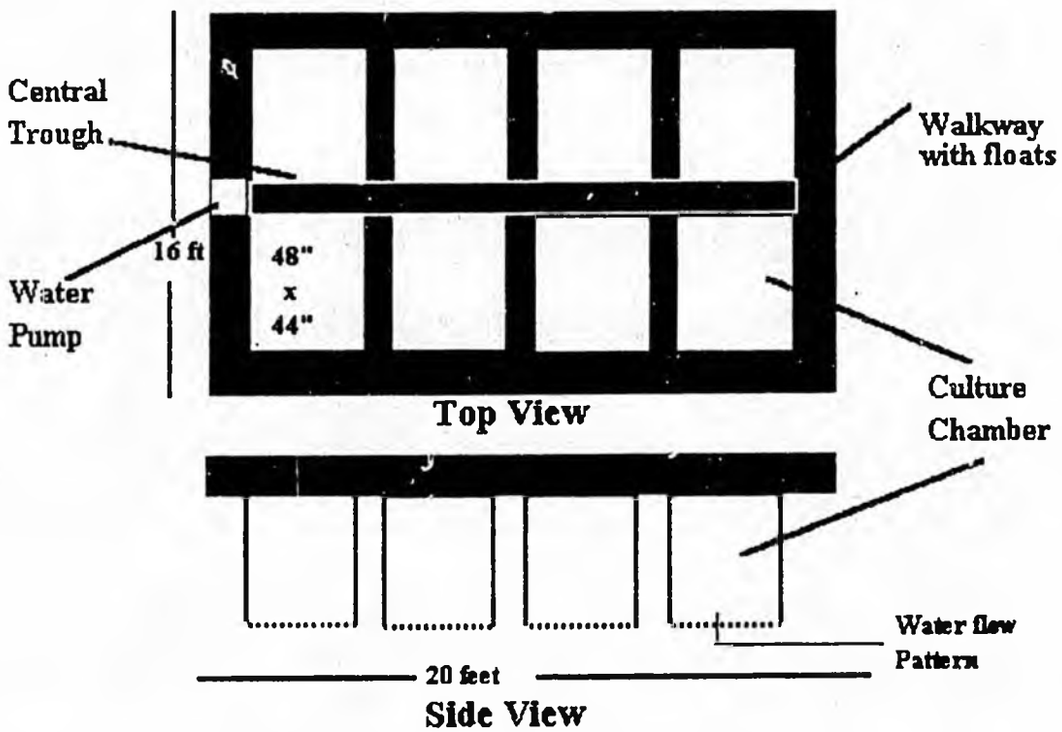

Figure 2. Diagram of prototype upwelling oyster nursery system.

Such a system is available through Sound Sea Farms. Each chamber will be stocked with 4-6 mm spat. Two stocking times will be tested September and April. These two times were selected because spat of the required size are available, and since we do not know if a single spring growth period will result in the spat reaching the target 30 mm size by June 1, a fall stocking is necessary to determine if the small spat need the additional

growing time during the fall. To reach this size one stocking is planned for the fall to take advantage of the fall bloom period. The optimum water flow rate to be used in the nursery system must be determined. To arrive at the optimum flow rate need for the culture chambers, three water flow rates will be tested: low - 100 gpm, medium - 150 gpm, and high - 200 gpm (Table 1).

Table 1. Experimental Design of treatments for oyster spat in the prototype spat nursery.

September stocking	April stocking
Low Flow	Low Flow-
Medium Flow	Medium Flow
High Flow	High Flow

On a weekly basis, a 100 spat will be removed from each chamber and checked for mortality, from the 100 spat 15 will be randomly selected and measured for the shell height, width, and length. Spat will be returned to the culture chambers once data are taken. At the end of each 5 week period, condition of the spat will be measured using volumetric and dry weight/ash weight ratio which is an indication of tissue growth. General oceanographic information will also be collected during the project which includes temperature recorded by a continuous temperature recording device, weekly measurements of salinity, plankton identification, and secchi disk readings as an index of plankton abundance.

Analysis of variance F test will be performed to test the significance of flow rate, and stocking time on growth and condition of spat. Upon completion of the project a manual describing construction and operation of the nursery system will be published by the University of Alaska Marine Advisory Program for general distribution.

Principal Investigators

Raymond RaLonde
Aquaculture Specialist
Marine Advisory Program
University of Alaska Fairbanks

Mr. Mark Bradley
Kachemak Bay Aquaculture Association President, Shellfish Farmer
Homer, Alaska

Anthony Bess, Alaska Shellfish Growers Association Board Member
Shellfish Farmer
Homer, Alaska

Dick Poole
Sound Sea Farms
Lummi Island, Washington

Location of the Project

The project will be located on the oyster farm site of Mark Bradley, Kachemak Bay, Alaska.

Time line for project

December 1992 - Amend Mark Bradley aquatic farm permit to allow upwelling unit

June -1993 - Construction of prototype nursery upwelling unit

September - 1993 First stocking

April 1994 Second stocking

June - Completion of data collection

August - 1994 Completion of manual for general distribution

Budget for the project

Oyster upwelling nursery system	$16,000.00
Includes	
Materials to build 20' x 16' raft	
Culture containers	
2 hp water pump	
Shipping	
Assembly	
Testing	
Oyster spat 50,000 @ $11.00/1,000	$550.00
Oceanographic Equipment	
Recording Thermometer	$650.00
Secchi disk	$35.00
Water sampling bottle	$55.00
Salinity refractometer	$285.00
Water sampling bottles	$28.50
Measuring calipers	$35.00
Brushes and equipment to maintain raft	$50.00
TOTAL	$17,138.50

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ALASKA DEPARTMENT OF FISH AND GAME
F.R.E.D. DIVISION

RECENT GROWTH OF THE AQUATIC FARM INDUSTRY IN ALASKA

1988 Seven farms operating under permit to ADF&G (Shellfish Farm Act of 1987)

Aquatic farm legislation (SB 514) became law creating a permit/lease system

1989 Fifteen farms operating under permit to ADF&G (Shellfish Farm Act of 1987)

First aquatic farm site opening held under provisions of the 1988 legislation. For sites in SE Alaska -- 54 applications received. 26 permits issued.

1990 Second aquatic farm site opening held -- for sites in SC Alaska. 36 applications received. 22 permits issued.

Kachemak Bay State Park farming legalized for existing farms. 9 permits issued, 1 withdrawn.

1991 Third aquatic farm site opening held -- statewide. 42 applications received. 16 new + 2 major amendments proposed for final approvals (May, 1992)

1992 72 farms permitted statewide. Significant increase in marketing.

Fourth aquatic farm site opening -- 22 applications received

AQUATIC FARM SALES

1990 $77,255 (primarily oysters) -- from 5 farms

End of year inventory -- $1,330,380 (available 1992 .. 1994)

1991 $99,848 (primarily oysters, some blue mussels) -- from 13 farms

End of year inventory -- $2,794,105 (available 1992 .. 1995)

1992 Production increasing significantly as new farm's oysters and blue mussels reach marketable size -- 19 farms marketing product to date

Alaska Shellfish Development Corp.

P.O. Box 2643
Seward, Alaska 99664
(907) 288-3667

MARICULTURE TECHNICAL CENTER / SHELLFISH HATCHERY UPDATE

On March 18th a meeting was held at the Chamber Office of the City of Seward to discuss recent developments with funding of a shellfish hatchery and the Mariculture Technical Center.

A review was presented outlining the history of the projects and a brief outline of what has happened this past year. An overriding concern was the confusion of the goals of the two projects and the potential funding sources. An attempt was made to clarify these issues, and develop a framework for promoting both facilities as an integral part of the expansion of Alaska's aquatic farm industry.

BACKGROUND

In the fall of 1991 the Alaska Department of Fish and Game's (ADFG) Fisheries Rehabilitation Enhancement and Development (FRED) Division developed the concept of a Mariculture Technical Center (MTC). This research facility was envisioned as a crucial component of ADFG's commitment to the aquatic farm industry. The facility would provide the opportunity for public and private research to assist the aquatic farm industry in developing new species for culture, oyster broodstock selection and conducting research for further enhance the industry. FRED sought funding from both the general fund and from the Exxon Valdez Civil Settlement through the Trustees. That funding did not occur.

At the same time, the Chugach Regional Resource Commission (CRRC) began seeking funding for development of a hatchery to provide oyster seed for its nine farms under development in Prince William Sound and for other growers throughout the state CRRC is promoting the project on behalf of the Mount Marathon Native Association (MMNA) of Seward which would own and operate the hatchery.

The hatchery would provide stability and control over its oyster seed requirements eliminating the uncertainty of out of state seed sources.

CRRC sought funding through HB411 which attempted to distribute the Exxon Valdez oil spill $50 million criminal settlement. The bill passed the legislature but was ultimately vetoed by the governor.

In many circles these two projects were confused as one in the same, in conflict or redundant. Despite efforts by the industry and its supporters this confusion was never cleared up.

In 1992, CRRC financed and acquired with cooperation of Mt. Marathon Native Association the permits necessary to operate a pilot upwelling study to evaluate the use of the Institute of Marine Science facility in Seward for culturing juvenile oysters. Small oysters were placed in nets in the upweller. Growth, temperature and plankton samples were collected throughout the summer and fall. Results were promising. This pilot study should provide important information to assist in the design of a hatchery/nursery complex. The nursery component of the hatchery will be the primary determinant of its production capabilities and potential.

PRESENT STATUS

Mariculculture Technical Center-Funding for the MTC is currently being sought from the state through a bill appropriating 1.8 million, submitted by Representative Johnny Ellis (D) of Anchorage. When successfully funded the state will hope to receive $1.0 million match from the Economic Development Administration. Funding for the MTC is also being sought through HB10/SB98 which allocates the $50 million criminal settlement money.

The scope of projects and operating funding for the MTC was discussed. FRED Division has committed to reallocate funds to operate the facility. Its modular design would allow for numerous projects of various durations to be conducted simultaneously. It is envisioned that both public and private research will occur. Some priority projects such as oyster broodstock selection, clam broodstock development, aquatic plant seed sources and king crab enhancement were discussed.

Potential project funding sources includes Alaska Science and Technology Foundation (ASTF), Alaska Fisheries Development Foundation (AFDF), Western Regional Aquaculture Consortium (WRAC), United States Department of Agriculture (USDA) and the Forest Service. The general consensus was there are numerous important projects and funding sources available.

SHELLFISH HATCHERY

Mount Marathon Native Association has identified the shellfish hatchery/nursery as one of its major priorities and has begun seeking funding as part of a comprehensive economic development plan. This plan identifies economic stability, creation of jobs and ties to the marine environment as major priorities. MMNA staff has submitted an application with the American Native Administration (ANA) for a two year pilot project with operational funding to work out production scenarios. In addition the US Forest Service through its economic recovery program is scheduled to award $2800 for some preliminary work.

CRRC is assisting in seeking funding for the hatchery through the EDD. One of the major concerns brought out at the meeting was the amount EDD was willing to fund (match) and if the EDD/EDA would be able to assist both the MTC and the hatchery. Another concern was which entity would be the applicant for EDA/BIA funding MMNA, CRRC or the City of Seward. EDD was unable to participate in the meeting. It was agreed that EDD would be approached for funding with both facilities presented as a package.

CRRC is also considering seeking funding through a Community Development Block Grant (CDBG) under Housing and Urban Development (HUD). Other potential sources include Bureau of Indian Affairs (BIA) and Native Americans Fish and Wildlife Service.

ALASKA SHELLFISH DEVELOPMENT CORPORATION (ASDC)

The participants in the meeting were unanimous in their agreement that the funding of a shellfish hatchery and MTC were imperative and their ultimate success will be interdependent. The group unanimously endorsed that a concerted campaign was necessary and that an organization was needed to unify this effort. With this in mind and ad-hoc group was formed as ASDC and a set of goals developed:

1) Form a consortium of interested parties to promote both the hatchery and the MTC and amass a public education campaign describing the interdependence of both. The Alaska Shellfish Development Corporation was formed for this purpose.

2) Provide a network and forum for promoting these projects and insure that redundancies and conflicts for funding sources would not occur and provide a central communication point. It was agreed this group would be open to all interested parties.

The following entities volunteered to act as supporters and advisors:

City of Seward
Alaskan Shellfish Growers Association
Mount Marathon Native Association
Chugach Regional Resource Commission
Alaska Department of Fish and Game
University of Alaska School of Fisheries and Ocean Sciences

Jeanne Galvano and Jeff Hetrick agreed to coordinate activities for the next meeting. CRRC has volunteered clerical and administrative time and funding for the mailings.

The next meeting is scheduled for **Thursday April 8th at 11:00 a.m. via teleconference.** We hope to link the CRRC office in Anchorage with the Mt. Marathon Office in Seward. Contact number for questions Mt. Marathon 224-3118 or CRRC 562-6647.

Meeting Participants:

Esther Ronne	Mt. Marathon Native Assoc. Board Member
Brian Stanley	Mt. Marathon Native Assoc Board Member
Ken Blatchford	Mt. Marathon Native Assoc. Board Member
Tyler Jones	City Manager, Seward
A.J. Paul	UAF School of Fisheries and Ocean Science
Jeff Hetrick	Alaska Aquafarms
Tasha Chmielewski	Chugach Regional Resource Commission
Michelle Zerbetz	Grant Writer (CRRC)
Jim Cochran	Mariculture Coordinator FRED Division
Jeanne Galvans	MMNA Staff
Marianna Keil	MMNA Staff

ALASKAN SHELLFISH GROWERS ASSOCIATION

GENERIC MARKETING/COOPERATIVE FEASIBILITY PROJECT

TO: ASGA BOARD OF DIRECTORS

FROM: MARICULTURE TECHNICAL CENTER SITING COMMITTEE

DATE: DECEMBER 3, 1991

RE: SITE EVALUATION REPORT

The Alaskan Shellfish Growers Association (ASGA) appointed a committee to evaluate designated sites for the Alaska Department of Fish and Game's proposed Mariculture Technical Center. The committee consisted of two board members from each of ASGA's regional chapters: (Southeast) Rodger Painter and Marvin George; and (Southcentral) James Hemming and Mark Bradley.

This is a report of the committee following a November 27, 1991, teleconference including all four members.

Sites Evaluated

The committee decided to focus its evaluation on five sites initially identified by the Alaska Department of Fish and Game as candidates: Juneau, Kodiak, Seldovia, Seward and Sitka. Petersburg was the sixth site on the list, but it was dropped from the committee's evaluation because of the lack of adequate water quality data.

Two other candidates sites (Yakutat and Unalaska) identified by ASGA members during the November 24, 1991, ADFG workshop in Anchorage also were dropped from consideration because of the lack of water quality data. All three sites (Petersburg, Yakutat and Unalaska) had other shortcomings, such as distance from proposed sites to deep marine waters (Petersburg), remoteness (Unalaska), and lack of support infrastructure (Yakutat).

Information Sources

The primary source of technical information was a report prepared by: James Cochran, ADFG mariculture coordinator; Ray RaLonde, Marine Advisory Program aquaculture specialist; and Dr. Michael Stekoll (PhD) University of Alaska School of Fisheries and Ocean Sciences. This report made the following rankings of six sites: Seward and Juneau (highest potential); Kodiak and Yakutat (potential unknown); and Sitka and Seldovia (unacceptable problems).

The committee also considered comments by experts and ASGA members during the Nov. 24 workshop concerning the pros and cons of candidate sites.

Rating System

The committee developed a ten-point rating system to score sites according to the following criteria:

Biological Attributes
surface water quality
turbidity
temperature
salinity
productivity

Available Infrastructure
buildings
deep water intake
staff housing
local allweather airport
road system to interior
value of existing infrastructure
is land available for purchase
power and fuel
parts and supplies
proximity to deep marine intake site

Community Support

Technical Support

Diversity of Use Potential

Number of Seafarms in Nearby Areas

Conclusions

The committee determined that three of the five sites evaluated would be acceptable from a biological perspective: Seward, Juneau and Kodiak. While little hard data was available, the committee felt that Kodiak probably would fare very well during a more lengthy data gathering process.

When the other criteria was applied, the committee ranked the sites in this order:

1. Seward. This is a very good site from a biological perspective and it would enjoy good technical support because of the proximity to the University facilities. Existing infrastructure and support services is good. The university site is large enough to provide for private sector expansion. The site is accessible because of the road system. There is easy access to nursery areas in Kachemak Bay and Prince William Sound. The only major drawbacks are a freshwater lens on Resurrection Bay and the potential for long-term surface water quality degradation from uplands residential and industrial development.

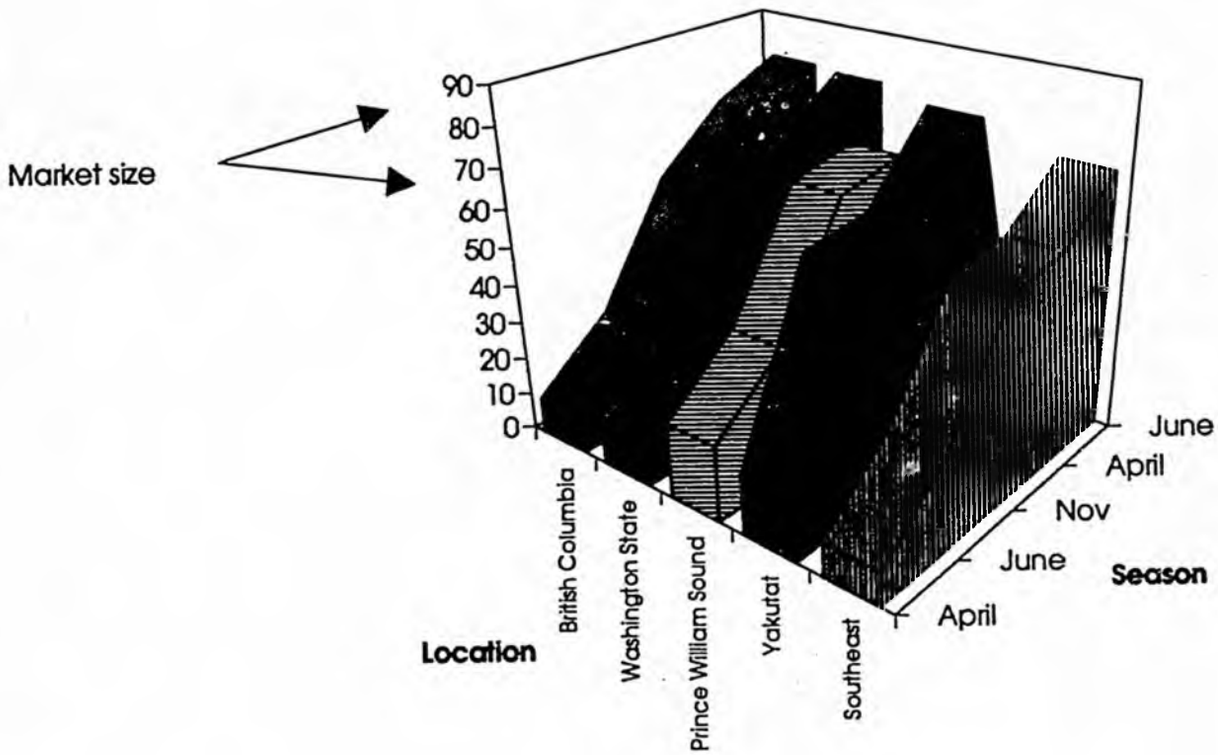
2. Juneau. Rates well biologically and offers strong technical support from the university, ADFG and National Marine Fisheries Service. This site also has surface water quality problems and proximity to alternative nursery areas is limited. Excellent existing infrastructure and support services, but the building site is small. Limited accessibility is a concern.

3. Kodiak. Undoubtedly a good site biologically, including good surface water quality. While Kodiak offers good technical support and support services, the proposed site lacks existing infrastructure. A major concern about Kodiak was its limited accessibility.

4. Seldovia. The high productivity in the area was a major drawback biologically. The distance from a deep water intake site is a problem. While the Kasitsna Bay site has existing infrastructure, local support services and technical support are lacking. Limited accessibility was a concern.

5. Sitka. Major biological drawbacks were high productivity and potential for low salinities. Surface water quality also is a problem. Distance for intake line to deep water was a concern.

Growth of Pacific Oysters in Alaska and the Northwest



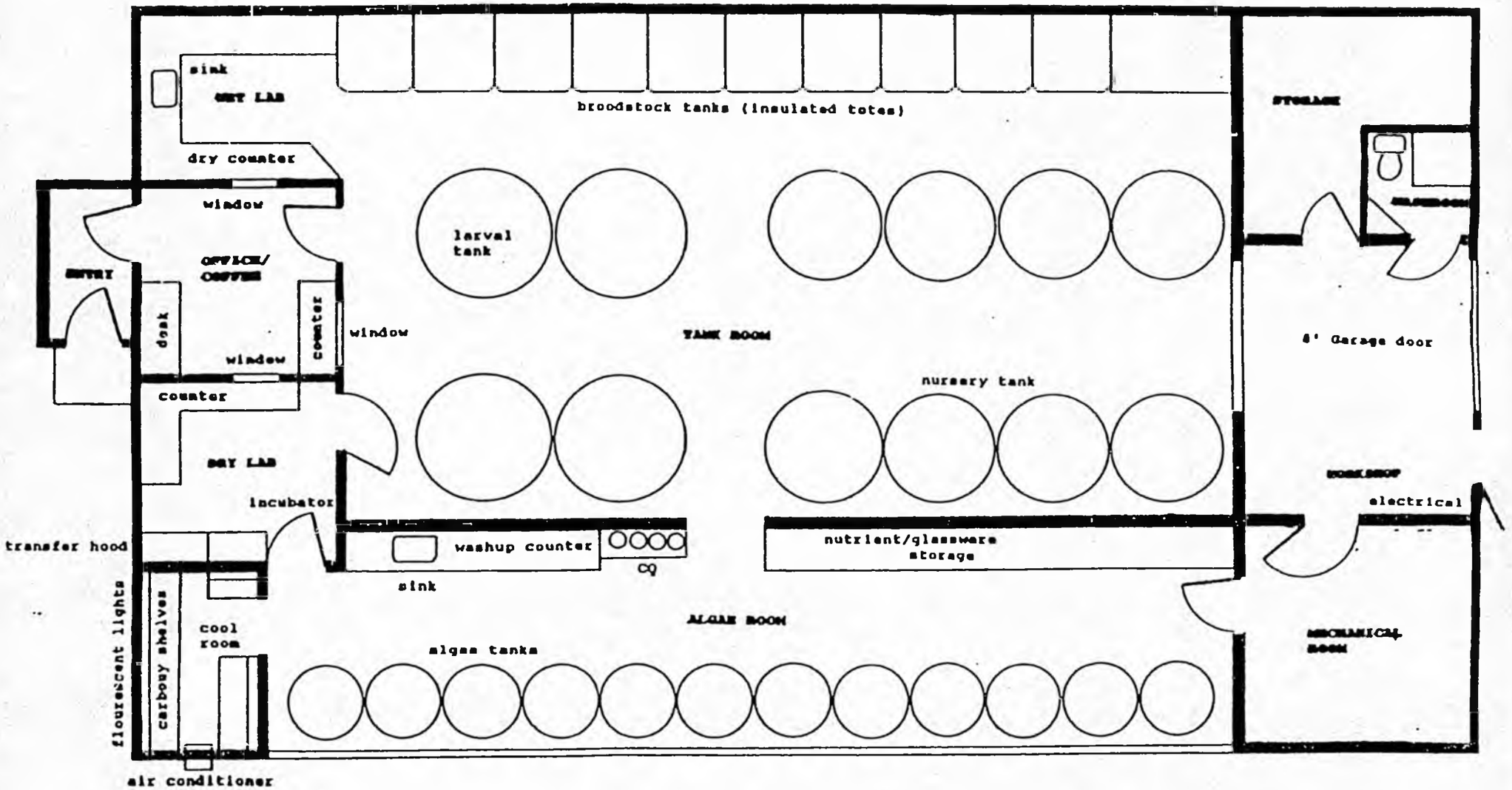


FIGURE 1. FLOOR PLAN OF HATCHERY

Permitted Aquatic Farms as of 3-31-93

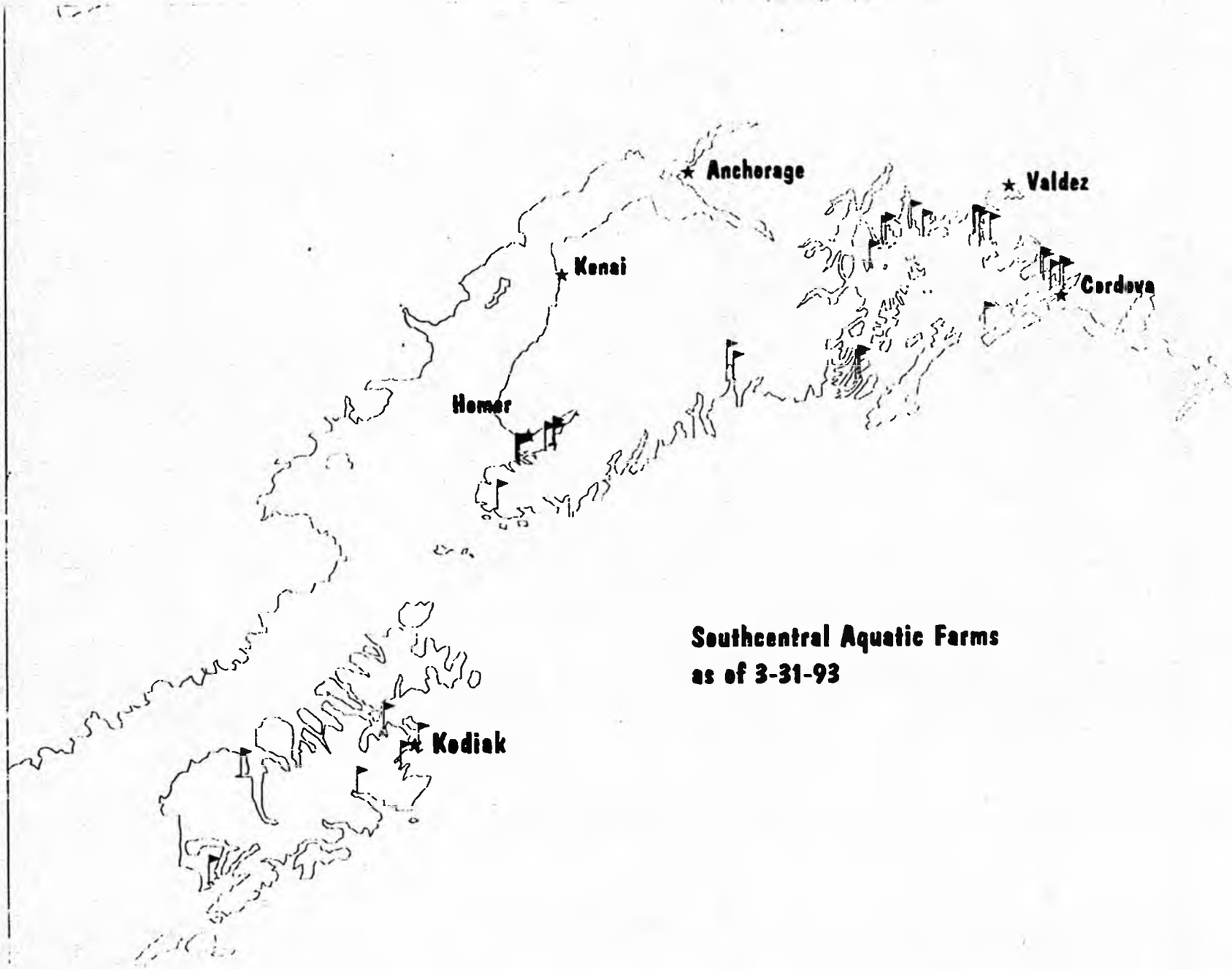
Southeast -- 22 farms

Prince William Sound -- 18 farms

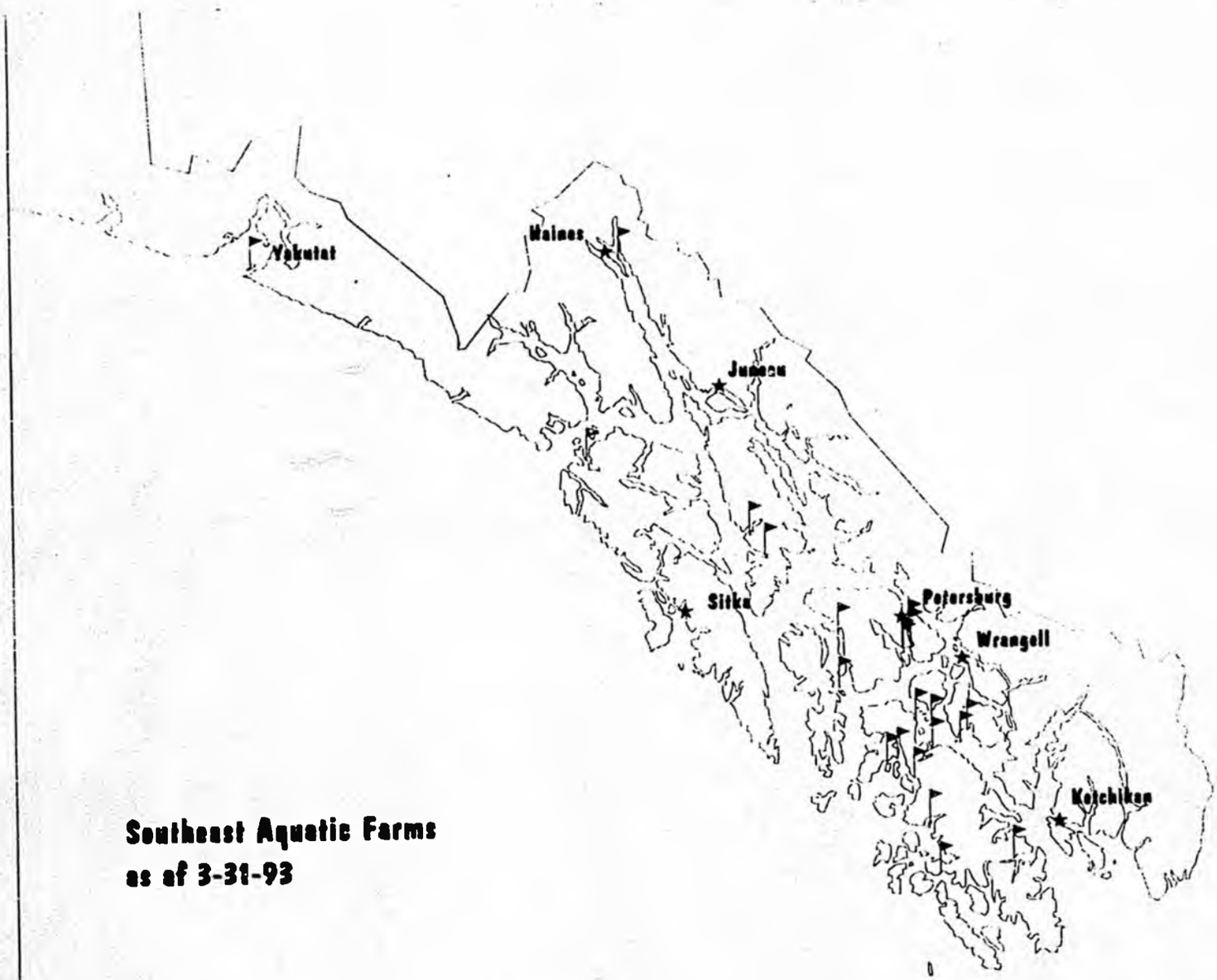
Kachemak/Resurrection Bays -- 23 farms

Kodiak -- 6 farms

James O. Cochran
Mariculture Coordinator
Commercial Fisheries Management and
Development Division
Alaska Department of Fish and Game



Southcentral Aquatic Farms
as of 3-31-93



Southeast Aquatic Farms
as of 3-31-93

Seward Marine Center
Saltwater System
Description

Pumps:

Four Fybroc 1503 non-toxic saltwater pumps (rated at 200 gpm, 10 psi each), are installed to support the sea water system. These are extremely reliable pumps. Three have been used for over 6 years with virtually no failures. A spare pump is also on hand.

Saltwater Deliver System:

(a) The east most intake line is 8 inch diameter FRP Bondstrand pipe. It feeds directly through the sea wall to a pit then to two Fybroc pumps. The pipe inlet is at 270 feet of water depth and 800 feet from the sea wall. Either of the two pumps can draw from this pipe.

(b) The west most intake lines deliver water over the dock wall. They are both, 6 inch diameter, DRISCOLL plastic pipe. One is in 195 feet of water and 900 feet long while the second is in 40 feet of water. The shallower pipe is primarily an emergency back up, but is also used to fill the aquaculture pond if mammals are held there, or if surface water is required. These pipes also feed into two Fybroc pumps, either of which can be used to pump saltwater from either line.

General Comments:

Bondstrand is the better, but more expensive pipe. The DRISCOLL brand pipe is subject to thermal expansion and contraction that has caused some problems. BONDSTRAND pipe is strong and flexible.

Distribution System:

PVC pipe is used to distribute the saltwater from the pumps to the labs. Two wet labs, a set of outdoor tanks, and an aquaculture pond are supported by the saltwater delivery system. The water requirements of IMS can be support easily by a single pump since the saltwater requirements of IMS are about 100 gpm. The intake lines were install by IMS staff with little difficulty. The water is unfiltered, but a silt problem does happen 2 or 3 days a year. The siltation problem has never been severe enough to disrupt IMS activities. Salinity of the saltwater is 32-34 o/oo and has a temperature of 4-7 ^{o} C year around. The effluent is monitored and chlorinated.

If you have any question contact Tom Smith or Leonard Weimar at 224-5261.

ALASKA SeaLife CENTER

UNIQUE FEATURES OF THE ALASKA SeaLife CENTER

- This will be the first facility of its kind that was designed from its beginning to blend marine mammal and seabird rehabilitation, research and public education into a cohesive and self supporting program.
- The income from the public education portion of the SeaLife Center will support the research and rehabilitation sections so the core program will not be dependent on state or federal funds or foundation grants.
- The research and rehabilitation facility will be open to researchers from any accredited institution or agency.
- There are no other facilities north of Santa Cruz California designed to hold live marine mammals for study.
- There are 22 sea mammal and sea bird rookeries close to the Seward site which makes combined laboratory and field studies feasible.

Research

The SeaLife Center will have research facilities for scientists from any accredited agency interested in the general biology of marine mammals and sea birds. Staff researchers will interact with colleagues from a number of organizations throughout the world. Issues such as declining numbers of sea lions, seals and marine birds, effects of oil pollution and interactions between fisheries and sea life will be the type of material explored. The first laboratory based projects by the SeaLife Center's research team will focus on nutritional needs, diseases, parasitism and causes of mortality in sea lion and murres both of which are common near Seward. Laboratory studies will cooperate with field studies on population fluctuation and causes of mortality. As the sea lion and murres studies progress, they will be expanded to include harbor seal and kittiwake biology.

Support for the Research portion of the SeaLife Center will be from overhead charges to scientist using the facility, Tank and laboratory use fees, and animal maintenance fees are examples of these type charges. Grants will also be obtained from various state, federal and private sources to study specific scientific problems. Except for the use fees, these funds will be strictly applied to their specific study area.

Rehabilitation

The main objective of the rehabilitation effort is to provide a permanent and adequate place where injured or oiled marine mammals and sea birds can be cared for until they are fit for release. Currently there are about 100 marine mammals delivered to Anchorage's Alpine Veterinary clinic annually for rehabilitation. An additional 300 to 600 injured marine mammals are reported each year but not brought in for rehabilitation because there isn't a facility in which to hold them. Animals that can not be rehabilitated for release will be placed in public education portion of SeaLife Center where they can be well cared for. Several foundations exist that would provide funding support to a proper rehabilitation facility.

Education

The live animal exhibits of sea lions, sea otters, seals, alcids and other marine birds, fishes and invertebrates will create a distinctive attraction to encourage a large number of visitors to the Center annually. The Center will use this opportunity to convey its message of environmental stewardship through dramatic encounters with animals in habitat settings. Interpretive and interactive displays will reinforce this message.

The Center will also foster an interest in science by conducting specialized tours for school children. Videos, lectures and "hands on" type classes, geared to specific age groups, will promote a "science is fun and interesting" philosophy. There are over 60,000 secondary and grade school student within a three hour drive of the Center.

Seward Association for the Advancement of Marine Science (SAAMS)

PO Box 1329, Seward, Alaska 99664 Telephone (907) 224-3080 Fax (907) 224-3292

ALASKA *SeaLife* CENTER

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ALASKA *SeaLife* CENTER

Executive Summary

The Alaska SeaLife Center will be a financially self supporting facility dedicated to marine science research, rehabilitation and public education. The public education portion of the Center's mission will provide the funds to support the core research and rehabilitation programs. To meet this self supporting goal, 300,000 visitors per year are required. The initial feasibility into this project indicates that an annual attendance in excess of 400,000 can be reasonably expected.

The Center will operate year round under a Director who will be responsible to a Board of Directors. The Center will be a not for profit corporation that returns all excess revenues back into the operation. The City of Seward has donated 10.5 acres of waterfront property for use of the Center. A nonprofit organization called the Seward Association for the Advancement of Marine Science (SAAMS) is the facilitator of this project. Once the project is complete, SAAMS only input to the operations is via a single seat on the Board of Directors.

SAAMS has hired an internationally recognized aquarium design firm, Cambridge Seven Associates, to head this project. This firm has built several successful such attractions throughout the world. Based on the initial design, construction costs for the Center is $46.3 million. Operating costs for an attendance of 450,000 per year is $4.6 million per annum. If funding plans materialize, the Center could open in May 1996.

Alaska's abundant marine resources demand such a Center. Rapidly declining populations of certain marine mammals and seabirds have resulted in several being placed on the threatened species list. Should these become endangered species, a severe impact on our fishing and tourist industries will result. Despite this threat, there is no facility where these animals can be held in their natural environment for long term studies that will help explain why these populations are declining. In fact no facility exists to even hold them north of Santa Cruz, California. Additionally, Alaska lacks any facility to hold and treat large marine mammals that are injured, stranded or stressed by some other means. Approximately 300 to 600 such animals are reported each year. Because of a lack of holding facilities, these animals remain untreated and invariably die. The Alaska SeaLife Center will correct these shortcomings. It offers a unique opportunity for the State to become a leader in marine research and rehabilitation.

ALASKA *SeaLife* Center

I. INTRODUCTION

A. Statement of Purpose: The Alaska SeaLife Center will be a financially self supporting facility. It will provide a balanced union between marine research, marine mammal and sea-bird rehabilitation, and educational exhibits of live Alaskan marine animals. It will be dedicated to understanding and preserving the Alaska marine ecosystem, and to conveying to the public, through dramatic encounters of animals in their natural habitat and educational programs, its responsibility for environmental stewardship.

B. Scope of the Plan: The Alaska SeaLife Center will be a world class research, rehabilitation and public education facility. It will resolve several short falls that currently exist in the protection and understanding of Alaska's rich marine environment. Specifically the Center will address;

Research

The Center will have research facilities for scientists from any accredited agency interested in the general biology of marine mammals and sea birds. Currently there are no other facilities in the north Pacific region built to do research on large marine mammals. Funds from the Center public education program will support a permanent staff including a marine veterinary, marine mammal and sea bird specialists and a marine ecologist. These staff researchers will interact with colleagues from a number of organizations throughout the world. Issues such as declining numbers of sea lions, seals and marine birds, effects of oil pollution and interactions between fisheries and sea life will be the type of material explored. The first laboratory based projects by the Center research team will focus on nutritional needs, diseases, parasitism and causes of mortality in sea lion and murres both of which are common near Seward. Laboratory studies will cooperate with field studies on population fluctuation and causes of mortality. As the sea lion and murres studies progress they will be expanded to include harbor seal and kittiwake biology.

Rehabilitation

The main objective of the rehabilitation effort is to provide a permanent and adequate place where injured or oiled marine mammals and sea birds can be cared for until they are fit for release. Currently there are about 100 marine mammals delivered to the Alpine Veterinary clinic annual for rehabilitation. An additional 300 to 600 injured marine mammals are reported each year but not brought in for rehabilitation because there isn't a facility in which to hold them. Animals that can not be rehabilitated for release will be placed in public education portion of Center where they can be well cared for. Several foundations exist that would provide funding to support a proper rehabilitation facility.

Education. The live animal exhibits of sea lions, sea otters, seals, alcids and other marine birds, fishes and invertebrates will create a distinctive attraction to encourage a large number of visitors to the Center annually. The animals in these exhibits will be those from the rehabilitation program that would not survive if released. The Center will use this opportunity to convey its message of environmental stewardship through dramatic encounters with animals in habitat settings. Interpretive and interactive displays will reinforce this message.

The Center will also foster an interest in science by conducting specialized tours for school children. Videos, lectures and "hands on" type classes, geared to specific age groups will promote a "science is fun and interesting" philosophy. There are over 60,000 secondary and grade school students within a three hour drive of the Center.

ALASKA *SeaLife* CENTER

II. INITIAL FEASIBILITY

A. Opportunity: The State of Alaska with its enormous sea coast and rich marine resources is highly dependent on its marine environment for its economic well being. Its fishery industry and, to a large extent, its tourist industry rely on this environment for their livelihood. Despite its dependency on this resource, research and understanding of this environment is sorely lacking. Today several marine mammal and seabird populations are drastically declining and are now on the threatened species list. Despite this alarming trend, there is no facility in the Pacific Northwest where these species can be held for long term studies. In fact no facility exists where these animals can be held in their natural environment. As a result research into the reason for the population decline is lacking. Should this trend continue and these species become endangered, both the fishing and tourist industry will be greatly curtailed by subsequent protective legislation.

The continuing growth of the tourist industry in Alaska is a direct result of the Alaskan rich scenic and wildlife environment. This interest presents a unique opportunity to construct a marine center that is dedicated to marine research, rehabilitation and public education. The establishment of a world class center that will attract a large annual visitor population can become self sustaining. The public portion of the facility can recover the full operating costs of the center, thereby eliminating the need for state, federal or other sources for operating funds. The public interest in these type centers is growing. Those currently in existence are attracting visitors at over 50% of their initial estimate. All are profit making ventures.

Seward is the ideal location for such an attraction. It is located within easy driving distance of Anchorage, the State's major population and transportation center. It is connected to Anchorage by road and rail both of which offer a dramatic scenic route. Seward already has a research facility that is operated by the University of Alaska Fairbanks oceanographic research arm, the Institute of Marine Science. This Institute is one of the top ten oceanographic institutes in the United States. Therefore, a resident pool of scientist already exist who would use the SeaLife Center's capabilities. Seward is within a four hour boat ride of 22 sea mammal and seabird rookeries that would allow both field and laboratory studies to easily coexist. Seward lies on the habitat boundary for north Pacific and sub-Arctic mammals, therefore both can exist at this locale. Seward's fjord type bay also allows the high quality sea water needed by a sea life center to be easily obtained. The current research center located in Seward draws its sea water form over 270 feet in depth. This provides clean, unpolluted and year round cold water that can support not only north Pacific and sub-Arctic sea life but also some Arctic sea life and fauna. This is an extremely rare capability. Additionally, Seward the major port of call for tourist ships visiting the south central Alaska area.

All these factors contribute to a unique opportunity that will allow a successful, self supporting marine attraction to be operated that will produce sufficient revenue to support the core programs of marine research, rehabilitation and public education.

B. Methodology

The Seward Association for the Advancement of Marine Sciences (SAAMS) was formed to act as the project facilitator. This non-profit corporation, licensed under State of Alaska law, consists of prominent Alaska citizens who have an interest in furthering the scientific study and understanding of the marine environment. SAAMS outlined its plan to the Seward city council and received not only its support for this project but also a donation of 10.5 acres of water front property for the Center's location.

ALASKA *SeaLife* CENTER

In conducting the initial feasibility study for the SeaLife Center, Cambridge Seven Associates was contracted by SAAMS to develop an overall plan, architectural concept, project identity, and estimated construction and operating costs. This firm is one of the foremost designers and consultants for this type facility. They have constructed the New England Aquarium in Boston, the National Aquarium in Baltimore, the Osaka Aquarium in Japan and the Tennessee Aquarium in Chattanooga. They have built several others in Europe. Their experience and insight into the operations and cost of this type facility was a critically needed expertise. Other aquariums were contacted and visited to identify their problems, revenue sources and success. These included the Tennessee Aquarium, the Seattle Aquarium, the Osaka Aquarium, the Baltimore Aquarium and the Monterey Aquarium.

Various tourist marketing firms were interviewed to determine if such an attraction in Seward could become a tourist destination. Various business bureaus, national parks, city chamber of commerce were polled to determine their visitor counts. The Department of Education in Kenai, Anchorage and Matsu districts were polled to determine the kindergarten through grade 12 enrollment and interest in such a Center as an educational tool. These sources provided information concerning the potential visitor population that the Center would draw upon.

From these sources, the following information was obtained;

158,700 people visited the Kenai Fjords National Park in 1992. Visitors to this park have been growing at over 23% per annum over the past three years.

Over 1.5 million visitors passed through Anchorage in 1992. Portage Glacier National Park received over 500,000 visitors in 1992. The City of Seward's Chamber of Commerce received 210,000 visitors in 1992.

Cruise ship passengers visiting Seward will reach 196,000 in 1996. 72 percent of the Anchorage area residents visit the Kenai Peninsula once a year and 53 percent of them visit the Peninsula four or five times each year.

Based on predictions from the tourist industry and tourist marketing researchers, the Center can expect to draw over 400,000 visitors annually.

Over 60,000 kindergarten through high school students live within three hours drive from Seward.

Operating aquariums report that the profits from their retail store pays 30% of their operating costs.

All aquariums surveyed are operating at a profit.

All aquariums surveyed underestimated attendance by approximately 50% in their original feasibility study.

ALASKA *SeaLife* CENTER

C. *ASSUMPTIONS*

The formal economic, geotechnical and demographic study is currently being done and will be completed by 1 August 1993. Its purpose is to validate the initial findings and assumptions outlined above. This study will determine the Center's resident area population, the current and projected tourist population and the Center's penetration into this market. An operation analysis will then be performed to determine the economic feasibility of the Center.

Until the formal feasibility is completed the following assumptions remain invalidated;

-The Center will operate year round and will attract the following visitor profile.

Anchorage Visitor Population Attracted (20%)	300,000
Resident School Population Attracted (20%)	12,000
Cruise Ship Visitors Attracted (40%)	78,400
Resident Population Attracted (20%)	76,000
TOTAL ANNUAL VISITORS	466,000

-The Center's retail store will generate at least 20% of the revenue needed to operate.
-The public revenue sector of the Center must support all facility operating cost. Funds received form the research and rehabilitation programs will not be relied upon to meet annual operating costs.
-Ticket prices should not exceed $10.00 per person.

D. *ECONOMIC FEASIBILITY*

Cambridge Seven Associates has developed operating costs from similar sized aquariums. These costs were adjusted for the Alaska market and projected to support an attendance of 300,000 and 450,000 per annum. See section III for details. The figures below tests the Center's economic feasibility based on the assumptions outlined above.

	Annual Attendance	
	300,000	450,000
Total Operating Costs	$3,981,985	$4,635,040
Less Retail Store Revenue (20%)	<796,397>	<927,008>
Gate Receipts Required	$3,185,588	$3,708,035
Ticket Price Required Per Person	**$10.62**	**$8.25**

To maintain a ticket price of $10.00 per person an annual gate attendance of at least 318,559 is required. This assumes no funds are received to support the research and rehabilitation programs associated with the SeaLife Center. If the assumptions are correct, the Alaska SeaLife Center is economically feasible. The formal feasibility currently being performed will validate these assumptions. A conservative approach was taken in conducting this initial feasibility study.

E. Market Analysis

Discussions with the cruise line industry indicates that it would welcome an attraction such as the Alaska SeaLife Center as part of their tour offering to Seward visitors. It would ensure passengers would see many of animals that they anticipate seeing in Alaska regardless of the weather. The shore based tour industry indicates that Seward is the ideal one day tour from Anchorage and a destination like the SeaLife Center would be a very salable package. They also state that the Seward, Kenai Peninsula and Prince William Sound area provides an excellent several day tour package because it offers several transportation alternatives that eliminates backtracking over the same route when returning to Anchorage.

The Alaska Railroad also sees the Center providing an attractive tour package for their rail system. The tourist industry felt a 400,000 plus annual attendance at the Center was very reasonable.

F. Competitive Analysis

While there is no attraction similar to the Alaska SeaLife Center in Alaska or British Columbia, Canada, there are competitors for the tourist market. The Imaginarium and zoo in Anchorage are the most similar facilities now operating near Seward. The former is very small and lacks salt water holding capacity. The zoo stresses land mammals. The major tourist competitor to the Center is believed to be Denali National Park. This attraction is a major tourist draw that provides scenic beauty and land animals in their natural habitat. The SeaLife Center will attract those tourist interested in sea life and will be the major such attraction in the State. While Denali Park and the Center will partially be competitors, each stresses a different ecology. Additionally, the Kenai Peninsula now draws sufficient visitors annually to support the Center. Other then its excellent fishing and camping attraction, the Peninsula lacks a definite destination point for tourists. The Center will fill this void and become a focal point for both current Peninsula visitors and draw additional visitors. Appropriately packaged tours will increase tourism throughout the area.

Experience at established aquariums shows they easily attract the visitation population needed to be self supporting. Each has underestimated its annual attendance by an approximate 50% average. See appendix B for a recent article from Science Technology that discusses the success of these facilities. All indications show that these facilities attract a large crowd and have a high rate of repeat visitors. The current Alaska visitor population can support such a Center if the facility has good access to Anchorage, the State's major population and tourist arrival center. Seward's road and rail connection, and its close proximity to Anchorage meets this criteria.

ALASKA *SeaLife* CENTER

III. FINANCIAL and IMPLEMENTATION PLAN

A. ***Project Phases and Costs:***

Planned Phases	Cost/Phase (Total Cost)
Phase I: Project Identity, Master Plan and Economic Evaluation	**$205,000** *($205,000)*
-Graphics Identity Package (Completed) -Poster Development and Printing (Completed) -Project Description Booklet (Completed) -Master Plan & Economic Evaluation Study (*In Progress*)	
Phase II: Preconstruction & Fund Raising	**$2,072,000** *($2,277,000)*
-Programming & Schematic Design ($600K) -Design Development (Building & Exhibits-$1,345.5K) -Fund Raising Phase I- Staff(1.5), Membership Drive($76.5K) -Miscellaneous Expenses - Legal/Acct. Fees, Advertising, Postage,etc. ($50.0K)	
Phase III: Site Development and Fund Raising	**$10,207,000** *($12,484,000)*
-Design Development (continued)- ($1,840.5K) -Site Preparation Construction- ($3,469.5K) -Fund Raising Phase II- Staff(2.5), Grant Writing, etc.($92.0K) -Aquarium Acrylic Panels & Rookery Concrete Work Startup($4,700.5K) -Miscellaneous Expenses- Travel, Legal Fees, Advertising, Postage, etc. ($104.5K)	
Phase IV: Construction	**$33,800,500** *($46,284,500)*
-Architectural and Structural ($19,300.5K) -Life Support System ($4,000K) -Exhibit Preparation ($5,000K) -MEP, FP, Security ($2,850K) -Start Up Costs ($2,650K)	
TOTAL PROJECT COSTS	**$46,284,500**
Less Funds Already Expended	<$205,000>
Total Funds Required	**$46,079,500**

See Appendix C for a detailed Project Schedule, Plan and Cash Flow

Alaska *SeaLife* Center

B. Estimated Operating Costs

Item	Annual Attendance 300,000	450,000
Personnel	$1,193,350	$1,193,350
Utilities	896,075	918,950
Professional Services(Legal, Acc't, Ins.,Advert.)	823,925	1,084,300
Supplies, Printing, Postage, Publication, etc.	413,900	711,850
Equipment	60,000	60,000
Specimen Maintenance	508,500	508,500
Travel	37,000	64,300
Discretionary Funds	49,235	93,790
Total Operating Costs per Year	**$3,981,985**	**$4,635,040**

C. Funding Status as of 1 March 1993: To date fund raising has been limited to the local area and several small grant applications. SAAMS volunteers have performed all work tasks without the aid of any full or part time tasks. Upon completion of the formal feasibility study in August 1993 a part time secretary and full time project coordinator will be hired. This staffs prime function will be to initiate a membership campaign for the Center, promote a formal advertising campaign, initiate the fund raising campaign, formally organize the Alaska SeaLife Center as a legal entity and administer the Center's development. The current funding level is as follows;

Cash Donations from Private Sources: $185,176
Cash from Approved Grants (US Forest Service): $32,000

Total Cash to Date: *$217,176*

In Kind Donations
- Waterfront Property (10.5 acres) $2,044,600
- Legal Services
  - Birch, Horton, Bittner & Cherot 4,500
- Design Assistance $27,500
  - Burns and Peterson
  - Peratrovich, Nottingham & Drage
  - Cambridge Seven Associates
- Scientific Advice and Assistance $33,110
- Business and Professional Management $27,079

TOTAL IN KIND DONATIONS *$2,136,789*

ALASKA *SeaLife* CENTER

D. Funding Plan: To fund the construction of the Alaska SeaLife Center, state, federal, and private foundations and organizations will be approached for assistance. To date proposals have been submitted for funding assistance from the State's portion of the EXXON Valdez criminal settlement fund and also to the EXXON Valdez trustee council. Other funding sources that will be applied to are;

Private Corporations
- British Petroleum Corp.
- ARCO Corp.
- EXXON Corp.
- Alaska Native Corporations
- Fred Meyer Inc.
- Alaska Airlines
- Princess Tour Lines
- Various Other Alaska Corporations

Rehabilitation Funding Sources
- World Wildlife Fund
- Scripps Foundation
- Morris Animal Foundation
- Jacques Cousteau Foundation
- Greenpeace
- Cedam International

Science & Philanthropic Foundations
- Rockefeller Foundation
- Pratt Foundation
- Kellogg Foundation
- Hewlett Packard Foundation
- National Science Foundation
- Shuman Foundation
- Mott Foundation
- Merdock Foundation
- Fred Meyer Foundation
- Pew Charitable Trust
- Charles Engelhard Foundation
- American Conservation Association
- Needmor Fund
- MacArthur Foundation

E. Funding Strategy Current plans are to obtain construction funds from the below sources. This strategy will be modified based on actual funding receipts.

State of Alaska EXXON Valdez Criminal Settlement	$12,500,000
EXXON Valdez Trustee Council	25,000,000
Scientific/Philanthropic Foundations	7,000,000
Rehabilitation Foundations	2,000,000
Private Industry	1,500,000
Total Funding Goal	*$48,000,000*

IV. BUSINESS ORGANIZATION

A. Business Form. The Alaska SeaLife Center will be a not for profit corporation. A Board of Directors will oversee the operation of the Center and establish policy. The Board will consist of business leaders, university scientists, a municipality representative, and State and Federal officials who have an interest in the marine environment. The Seward Association for the Advancement of Marine Science (SAAMS) will retain a single seat on the board. This nonprofit, unincorporated association, which acted as the project facilitator, will have no control over the Center other then through its single seat on the Board.

As a not for profit organization, all excess revenues collected by the Center will be used to maintain and support the Center's three objectives of marine research, rehabilitation and public education. Ownership of the facility will be retained by the corporation and ownership of the land on which the Center is located will be retained by the City of Seward.

Daily operations of the Center will be turned over to a Director, who is responsible to the Board of Directors. The director will oversee the management of the Center, its staff and animals. He will be responsible to run the Center in a cost effective, profitable manner. He will be supported by a medical, scientific and maintenance staff of initially 31 people and a maximum of 45 persons when the Center reaches maximum utilization. See the appendix D for the Center's organizational chart.

V. MARKETING

A. Objectives:

The Center's marketing strategy has two objectives. The first is to attract sufficient visitors each year to insure its financial soundness. To insure this success, a goal of 400,000 to 425,000 visitors per year has been established. The second and equally important objective is to create a world class rehabilitation and research facility specializing in marine mammals and birds.

B. Strategies and Tactics:

Public Attendance To reach its attendance goal, the Center will advertise nationally and State wide. A ticket pricing strategy will be implemented that will attract the resident and resident school populations during the non-tourist season. Special programs aimed at specific age groups will be implemented to deliver the Center's environmental message and also foster an interest in science among the young. Cruise lines, tour groups and the railroad will be approached to provide packaged tours.

A membership drive will be instituted for annual and lifetime members that will allow unlimited visits to the Center. A monthly news publication will be issued to members that will advise them of the Center's activity and maintain their interest. Special interest groups such as "Friends of the Sea Otter" will also be established for those interested in specific species or rehabilitation efforts.

The Center in conjunction with local businesses will host small seminars for businesses and associations which will include tours of the Center during free periods.

Research and Rehabilitation. The Center will create three endowed chairs to insure a stable scientific core. These chairs will be filled by a marine mammal veterinary, a marine biologist specializing in marine mammals, and an ornithologist specializing in seabirds. These together with the Center's trained medical staff will be solid foundation upon which to build the research and rehabilitation programs. The Center will also have a visiting science program. These scientist will be supported by research grants and be charged minimal fees for facility use. The resident core scientists plus the Center's unique location and ability to hold large mammals will attract other scientists. Grant money to study specific marine topics will be applied for from foundations dedicated marine and mammal science. The successes and progress associated with these areas will be published in the Center's monthly journal. Since the public attraction portion of the Center will support the daily operating costs for research and rehabilitation, revenues derived from these sources will be used insure the Center progressively changes and remains modern.

APPENDIX A
SAAMS Organization

Organizational Information

Mailing Address:	*Seward Association for the Advancement of Marine Science* *PO Box 1329* *Seward, AK 99664-1329*
Telephone Number:	*(907) 224-3080*
Facsimile Number:	*(907) 224-3392*
IRS Tax Exempt No.:	*92-0123479*
Contacts:	*Mr. Willard E. Dunham* *(907) 224-5623*
	Ms. Sharon Anderson *(907) 224-5506*
	Dr. A. J. Paul (Scientific Advisor) *(907) 224-5261*
	Mr. Thomas D. Smith *(907) 224-5261*

Seward Association for the Advancement of Marine Science (SAAMS)

Purpose:

To undertake projects that will enhance the understanding of the Alaska marine ecology, its fishes, mammals and sea birds and to support other scientific studies, organizations and projects whose goal is to also further our understanding of the Alaska marine ecology.

Organization:

SAAMS is a private, non-profit organization composed of private individuals whose goal is to advance marine science knowledge in the state of Alaska. SAAMS projects are intended to assist non-profit, public service science organizations such as the Institute of Marine Science and the School of Fisheries and Ocean Sciences of the University of Alaska Fairbanks. It is important to understand that SAAMS does not engage directly in research but undertakes projects that facilitate marine science.

Current Project:

SAAMS has undertaken the development of a marine mammal facility to be located in Seward, Alaska. This facility, the Alaska Sea Life Center, will provide mammal exhibits for public viewing, provide public education on the Alaskan marine ecosystem, support scientific research of marine mammals, and provide support to rehabilitate stranded and stressed marine mammals and birds.

Organizational Relationship:

SAAMS is the project director and fund raising arm of the Alaska Sea Life Center. It will steer the project through completion with the technical assistance of design and management consultants. SAAMS will maintain oversight of the Center through an appointed Board of Directors who represent the business, academic, scientific, Alaska Native and rehabilitation communities. The Center's Board will be charged with insuring that three missions - education, science and rehabilitation - are being met and that scientific findings are presented to the public in a balanced manner. Daily operations of the Center will be through a facilities director who will be advised by a scientific and technical committee comprised of experts in each of the Center's three missions.

Board of Directors

Chairman - Willard E. Dunham
Willard E. Dunham, retired manager of the Seward Job Services Office in Seward. Dunham is active in various local civic activities and is currently serving as Chairman of the Seward Trade Board. He is a member of the Alaska State Chamber of Commerce, served as co-chairman of the Spring Creek Prison Location Task Force, is Chairman of the Seward Fish and Game Advisory Board and a member of the Kenai Peninsula Borough Vocational Education Committee. Mr. Dunham is the owner of the Print Shop and Seward Secretarial Service and a partner in DLK Enterprises.

Vice Chairman - Karen Swartz
Karen Swartz, retired Managing Editor of the Seward Phoenix Log and a member of the Seward City Council. Swartz previously served on the City Council for a total of six years. She was formerly the Director of the Mount Marathon Outreach Office, a member of Alaska Presswomen Association and a member of the Seward Harbor Commission.

Secretary - Carol Ann Lindsey
Carol Ann Lindsey, secretary/treasurer of Harbor Enterprises.

Treasurer - Sharon Anderson
Sharon Anderson, secretary/treasurer of Anderson Tug and Barge Company. Anderson is active in many local and civic organizations and is a former member of the Seward Trade Board. She is currently a member of the Seward Port Development Committee, a member of the Resource Development Council of Alaska, the Director of the Defense Orientation Conference Association, a life member of the Navy League and is the current chairman of Seward United Way.

Boardmembers: **John C. (Andy) Anderson**
President, Anderson Tug and Barge
Life Member, Navy League

Michael Brown
Chairman, Chugach Alaska Corporation Board of Directors

Board Members (Continued)

William C. (Bill) Noll
Former Deputy Commissioner, Alaska Department of Commerce, Office of International Trade
Former Vice President, Suneel Alaska Corporation
Former Mayor, City of Seward

Tyler Jones
City Manager, City of Seward
Former Transportation Projects Director, Anchorage Economic Development Corporation
Former Port Director, Port of Anchorage

Darryl Schaefermeyer
Former City Manager, City of Seward
Former Staff Assistant, U. S. Senator Ted Stevens
Former member, Kenai Peninsula Borough Assembly
Member, International City Managers Association
Founding Member, Seward Rotary Club, Club President, 1986-87

Jack Scoby
Member, Seward Port Development Committee
Principal, Kenai Fjords Tours, Inc.

Ex-Officio Board Members

Lee McAnerney, Board Member Emeritus
Founding Charter Member, Seward Association for the Advancement of Marine Science
Former Councilmember and Mayor, City of Seward
Board Member, Resource Development Council of Alaska
Board Member, Alaska Industrial Development Authority
Board Member, Alaska Municipal Bond Bank

Dr. Michael Castellini
Professor, University of Alaska Fairbanks

Joan K. Wadlow
Chancellor, University of Alaska Fairbanks

Donald F. Behrend
Chancellor, University of Alaska Anchorage

Jerome Komisar
President, University of Alaska

Dr. Michael Castellini
Professor, University of Alaska Fairbanks
Scientific Advisor

The Honorable Jay Hammond
Former Governor, State of Alaska

Dr. Joyce Murphy
Animal Rehabilitation Advisor

Ex-Officio Board Members (Continued)

Ms. Linda Murphy, CMC/AAE
City Clerk, City of Seward
Board of Directors, International Institute of Municipal Clerks
Administrative Advisor

Dr. A. J. Paul
Professor, University of Alaska Fairbanks
Scientific Advisor

Captain Thomas D. Smith, U. S. Coast Guard (Ret.)
Assistant Director for Coastal and Marine Operations, University of Alaska Fairbanks
Facilities Advisor

Mr. Everett P. Diener
Manager of Engineering & Utilities, City of Seward
Technical Planning Advisor

Mr. David Cline
Audobon Society, Anchorage

Mr. Richard Barnes
President, ENSTAR Commonwealth North

Seward Association for Advancement of Marine Science

Articles of Incorporation and Bylaws

The corporation shall have perpetual duration.

III.

The corporation is organized for any lawful purpose, including, but not limited to, educational, social, cultural purposes including marine research, public education, and providing educational and scientific programs, and any other lawful purpose or endeavor permitted under the laws of the State of Alaska to non-profit corporations incorporated under Alaska Statute 10.20.

IV.

The address of the initial registered office shall be 1127 West 7th Avenue, Anchorage, AK 99501, and the name of its initial registered agent shall be Suzanne Cherot.

William C. Noll
P. O. Box 1789
Seward, Alaska 99664

We, the incorporators, sign our names and verify the contents hereof this 6th day of February, 1990.

Sharon E. Anderson
SHARON E. ANDERSON

Lee McAnerney
LEE McANERNEY

William C. Noll
WILLIAM C. NOLL

STATE OF ALASKA)
)ss.
THIRD JUDICIAL DISTRICT)

THIS IS TO CERTIFY that on this 6th day of February, 1990, before me, the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn as such, personally appeared Sharon E. Anderson, Lee McAnerney and William C. Noll, to me known to be incorporators of SEWARD ASSOCIATION FOR THE ADVANCEMENT OF MARINE SCIENCE, and known to me to be the individuals whose names are subscribed to the above Articles of Incorporation, and they verified and acknowledged to me that they have read the foregoing document, understand the contents thereof, and believe all statement made in the document are true.

WITNESS my hand and notarial seal on the day and year first above written

Michelle Knoxek
Notary Public for Alaska
My commission expires: 10/13/93

SECTION 4. Ex-officio Members. The Board of Directors shall have the authority to appoint honorary members to the Board of Directors, which shall be ex-officio members of the Board.

SECTION 5. Dues. Each member of the Board shall be required to pay the sum of $100.00 annually to the corporation.

SECTION 6. Regular Meetings. A regular meeting of the Board of Directors shall be held without other notice than these Bylaws immediately after, and at the same place as, the annual meeting of members. The Board of Directors may provide, by resolution, the time and place, either within or without the State of Alaska, for the holding of additional regular meetings without other notice than such resolution.

SECTION 7. Special Meetings. Special meetings of the Board of Directors may be called by or at the request of the President or any two directors. The person or persons authorized to call special meetings of the Board may fix any place, either within or without the State of Alaska, as the place for holding any special meeting of the Board called by them.

SECTION 8. Notice. Notice of any special meeting of the Board of Directors shall be given at least two days previously thereto by written notice delivered personally or sent by mail or telegram to each director at his address as shown by the records of the Corporation. If mailed, such notice shall be deemed to be delivered when deposited in the United States mail in a sealed envelope so addressed, with postage thereon prepaid. If notice be given by telegram, such notice shall be deemed to be delivered when the telegram is delivered to the telegraph company. Any director may waive notice of any meeting. The attendance of a director at any meeting shall constitute a waiver of notice of such meeting, except where a director attends a meeting for the express purpose of objecting to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, not the purpose of, any regular or special meeting of the Board need be specified in the notice or waiver of notice of such meeting, unless specifically required by law or by these Bylaws.

SECTION 9. Quorum. A majority of the Board of Directors shall constitute a quorum for the transaction of business at any meeting of the Board; but if less than a majority of the directors are present at said meeting, a majority of the directors present may adjourn the meeting from time to time without further notice.

SECTION 10. Manner of Acting. The act of a majority of the directors present at meeting at which a quorum is present shall be

SECTION 3. Removal. Any officer elected or appointed by the Board of Directors may be removed by the Board of Directors whenever in its judgment the best interest of the Corporation would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the officer so removed.

SECTION 4. Vacancies. A vacancy in any office because of death, resignation, removal, disqualification or otherwise, may be filled by the Board of Directors for the unexpired portion of the term.

SECTION 5. President. The President shall be the principal executive officer of the Corporation and shall in general supervise and control all of the business and affairs of the Corporation. The President shall preside at all meetings of the members and of the Board of Directors. The President may sign, with the Secretary or any other proper officer of the Corporation authorized by the Board of Directors, any deeds, mortgages, bonds, contracts or other instruments which the Board of Directors has authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board of Directors or by these By-Laws or by statute to some other officer or agent of the corporation; and in general the President shall perform all duties incident to the office of President and such other duties as may be prescribed by the Board of Directors from time to time.

SECTION 6. Vice President. In the absence of the President or in event of the President's inability or refusal to act, the Vice President (or in the event there be more than one Vice President, the Vice Presidents in the order of their election) shall perform the duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. Any Vice President shall perform such other duties as from time to time may be assigned to the Vice President by the President or by the Board of Directors.

SECTION 7. Secretary. The Secretary shall keep the minutes of the meetings of the members and of the Board of Directors in one or more books provided for that purpose; see that all notices are duly given in accordance with the provisions of these By-Laws or as required by law; be custodian of the corporate records and of the seal of the Corporation and see that the seal of the Corporation is affixed to all documents, the execution of which on behalf of the Corporation under its seal is duly authorized; keep a register of the post office address of each member which shall be furnished to the Secretary by such member; and in general perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned to the Secretary by the President or by the Board of Directors.

SECTION 2. Other Committees. Other committees not having and exercising the authority of the Board of Directors in the management of the corporation may be designated by a resolution adopted by a majority of the directors present at a meeting at which a quorum is present. Except as otherwise provided in such resolution, members of each such committee shall be members of the corporation, and the president of the corporation shall appoint the members thereof. Any member thereof may be removed by the person or persons authorized to appoint such member whenever in their judgment the best interest of the corporation shall be served by such removal.

SECTION 3. Term of Office. Each member of a committee shall continue as such until the next annual meeting of the members of the corporation and until the member's successor is appointed, unless the committee shall be sooner terminated, or unless such member be removed from such committee, or unless such member shall cease to qualify as a member thereof.

SECTION 4. Chairman. One member of each committee shall be appointed chairman by the person or persons authorized to appoint the members thereof.

SECTION 5. Vacancies. Vacancies in the membership of any committee may be filled by appointments made in the same manner as provided in the case of the original appointments.

SECTION 6. Quorum. Unless otherwise provided in the resolution of the Board of Directors designating a committee, a majority of the whole committee shall constitute a quorum and the act of a majority of the members present at a meeting at which a quorum is present shall be the act of the committee.

SECTION 7. Rules. Each committee may adopt rules for its own government not inconsistent with these Bylaws or with rules adopted by the Board of Directors.

ARTICLE V.
CONTRACTS, LOANS, CHECKS AND DEPOSITS

SECTION 1. Contracts. The Board of Directors may authorize any officer or officers, agent or agents of the Corporation, in addition to the officers so authorized by these Bylaws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the Corporation, and such authority may be general or confined to specific instances.

SECTION 2. Checks, Drafts, Etc. All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the Corporation, shall be signed by such officer or officers, agent or agents of the Corporation and

INTERNAL REVENUE SERVI_
DISTRICT DIRECTOR
2 CUPANIA CIRCLE
MONTEREY PARK, CA 91754

DEPARTMENT OF THE TREASURY

Date: JUL. 25, 1991

SEWARD ASSOCIATION FOR THE
ADVANCEMENT OF MARINE SCIENCE
P O BOX 730
SEWARD, AK 99664

Employer Identification Number:
92-0132479
Case Number:
951114007
Contact Person:
TYRONE THOMAS
Contact Telephone Number:
(213) 725-6753

Accounting Period Ending:
December 31
Foundation Status Classification:
See Attached
Advance Ruling Period Begins:
Feb, 9, 1990
Advance Ruling Period Ends:
Dec. 31, 1994
Addendum Applies:
NO

Dear Applicant:

Based on information supplied, and assuming your operations will be as stated in your application for recognition of exemption, we have determined you are exempt from Federal income tax under section 501(a) of the Internal Revenue Code as an organization described in section 501(c)(3).

Because you are a newly created organization, we are not now making a final determination of your foundation status under section 509(a) of the Code. However, we have determined that you can reasonably be expected to be a publicly supported organization described in sections 509(a)(1) and 170(b)(1)(A)(vi).

Accordingly, you will be treated as a publicly supported organization, and not as a private foundation, during an advance ruling period. This advance ruling period begins and ends on the dates shown above.

Within 90 days after the end of your advance ruling period, you must submit to us information needed to determine whether you have met the requirements of the applicable support test during the advance ruling period. If you establish that you have been a publicly supported organization, you will be classified as a section 509(a)(1) or 509(a)(2) organization as long as you continue to meet the requirements of the applicable support test. If you do not meet the public support requirements during the advance ruling period, you will be classified as a private foundation for future periods. Also, if you are classified as a private foundation, you will be treated as a private foundation from the date of your inception for purposes of sections 507(d) and 4940.

Grantors and contributors may rely on the determination that you are not a private foundation until 90 days after the end of your advance ruling period. If you submit the required information within the 90 days, grantors and contributors may continue to rely on the advance determination until the Service

Letter 1045(CG)

SEWARD ASSOCIATION FOR THE

required to file, simply attach the label provided, check the box in the heading to indicate that your annual gross receipts are normally $25,000 or less, and sign the return.

If a return is required, it must be filed by the 15th day of the fifth month after the end of your annual accounting period. A penalty of $10 a day is charged when a return is filed late, unless there is reasonable cause for the delay. However, the maximum penalty charged cannot exceed $5,000 or 5 percent of your gross receipts for the year, whichever is less. This penalty may also be charged if a return is not complete, so please be sure your return is complete before you file it.

You are not required to file Federal income tax returns unless you are subject to the tax on unrelated business income under section 511 of the Code. If you are subject to this tax, you must file an income tax return on Form 990-T, Exempt Organization Business Income Tax Return. In this letter we are not determining whether any of your present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

You need an employer identification number even if you have no employees. If an employer identification number was not entered on your application, a number will be assigned to you and you will be advised of it. Please use that number on all returns you file and in all correspondence with the Internal Revenue Service.

If we have indicated in the heading of this letter that an addendum applies, the addendum enclosed is an integral part of this letter.

Because this letter could help resolve any questions about your exempt status and foundation status, you should keep it in your permanent records.

If you have any questions, please contact the person whose name and telephone number are shown in the heading of this letter.

Sincerely yours,

Michael J. Quinn

Michael J. Quinn
District Director

APPENDIX B
Science Tehnology Report

Sea Technology Magazine, February 1993
ST Special Report

The Emerging Undersea Leisure Industry

Resurgent Interest in the Marine Environment has Led to More Public Aquariums, Successful Ventures with Tourist Submarines

By L. Bruce Jones
President
L. Bruce Jones & Associates Ltd.

As Americans find themselves with more available leisure time, we are seeing a substantial increase in interest in the subsea environment. One of the principal manifestations of this heightened interest is the number of new public aquariums in the planning and construction stages, as well as the elevated attendance noted at most aquatic and marine science exhibit facilities.

The success of the tourist submarine industry also bears mute testimony to our resurgent interest in the marine environment. Add the success of semisubmersible tourist vessels and the emerging manufacture and sales of personal and leisure submarines to the design work being done on

(Continued on page 38)

Major Operational North American Public Aquariums: Pertinent Statistics

Attraction Name Location - Year opened	Annual Attendance	Cost ($mil)	Bldg Size (sq. ft.)	Adult Adm ($)	Site Size (acres)	Member #'s	Volunt. #'s	Volunt. (hrs/yr)	Employee #'s (f t/m)
Aquarium of the Americas New Orleans, LA - 1990	Rec 1,000,000 Hi 2,310,000	$42	115,000	$8.00	17	30,000			
Monterey Bay Aquarium Monterey, CA - 1984	1,777,000 2,100,000	$45 - $50	210,000 +?	$10.50	2.2	80,000	600	60,000	249
National Aquarium Baltimore, MD - 1981	1,420,000	$30 - $35	115,000 - 94,000	$11.50	5.8	60,000	600	75,000	150
New England Aquarium Boston, MA - 1969	1,300,000	$6	75,000	$7.50	2.5	10,000	500	50,000	148
John G. Shedd Aquarium Chicago, IL - 1930	2,100,000	$3.25 - $43	225,000 - 170,000	$7.00		17,000	300	31,000	220
Vancouver Aquarium Vancouver, B.C. - 1956	Rec 810,000 High 960,000	$0.3	76,000	$7.50	2.0	40,000	294	30,000	118
Mystic Marinelife Aquarium Mystic, CT - 1973	740,000		57,000	$6.50	16	16,000	185	15,000	85
Texas State Aquarium Corpus Christi, TX - 1990	750,000	$31.6	43,000	$7.00	7.3	4,200	578	36,869	56
New York Aquarium Brooklyn, NY - 1986	736,000	$12 - $22	75,000	$5.75	14	45,000	130	8,000	60
Seattle Aquarium Seattle, WA - 1977	Rec 640,000 High 690,000	$5.0	72,725	$6.50	3.73	5,000	298	25,000	45
Oregon Coast Aquarium Newport, OR - 1992	*800,000	$24	40,000	$7.00	20				
New Jersey State Aquarium Camden, NJ - 1992	*1,200,000	$52	120,000	$8.50	4.5	20,000	377	26,000	105
Tennessee Aquarium Chattanooga, TN - 1992	*1,000,000	$45	130,000						

underwater hotels and hybrid structures, and it appears clear that an entirely new undersea leisure industry is emerging.

Aquariums: Public & Private

Last year, more than 100 million people visited America's public zoos and aquariums. U.S. marine theme parks such as SeaWorld and our larger public aquariums are some of the most heavily visited attractions in the world.

Some experts indicate that there may be as many as 70 new aquarium projects undergoing evaluation in the U.S. this year. Two dozen are in the advanced planning stage.

This increase in interest is fueled by a better educated public, a public that is rapidly developing an almost insatiable curiosity about the wonders of the sea.

New capital-intensive aquarium projects costing in excess of $50 million are underway in Florida and Tennessee, with slightly less expensive projects in Charleston, South Carolina; Cleveland, Ohio; Albuquerque, New Mexico; and Duluth, Minnesota. The Monterey Bay Aquarium is planning a major $50 million expansion as is Chicago's Shedd Aquarium, and expansion programs are being implemented at no less than ten other public aquarium facilities nationwide.

In addition to large aquarium projects, there are a number of smaller facilities currently under construction. These include the Dauphin Island Science Center, the Pier 39 Aquarium, the recently completed Stephen Birch Aquarium Museum at the Scripps Institution of Oceanography, and the St. Lawrence Aquarium & Ecological Center.

"Some experts indicate that there may be as many as 70 new aquarium projects undergoing evaluation in the U.S. this year. Two dozen are in the advanced planning stage."

Recently completed projects include the newly opened $24 million Oregon Coast Aquarium located in the small coastal city of Newport, Oregon (population 9,500). This 45,000-square-foot facility was designed to play host to an estimated 400,000 visitors in its first year but will actually receive 1.2 million.

In 1990, the larger Texas State Aquarium opened its doors, expecting to entertain some 250,000 visitors in year one. At the end of that year, some 732,000 people had visited the facility. New Orleans had a similar experience; the facility anticipated 850,000 first-year visitors but actually received 2.3 million, making that city's Aquarium of the Americas the most popular public aquarium in the U.S.

The reason is profitability.

Last year the Monterey Bay Aquarium showed a net profit of more than $5 million on total revenues of $25 million. Not bad in anyone's book.

Operating in the Black

Most aquariums are not as profitable as Monterey's; however, virtually all of America's public aquariums operate in the black, and as architects, exhibit designers, and engineers have refined the areas of aquarium construction, life support technology, and visitor throughput, profit ratios have increased such that the newest aquariums are typically the most lucrative. In many cases aquariums form the cornerstone for a waterfront urban renewal project as

"New aquariums differ from their older counterparts by providing displays intended to accurately depict marine creatures in their natural environments, allowing people to learn not only about the animals but also about the specific worlds they inhabit."

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well. For instance, Baltimore's National Aquarium attracts 1.5 million people a year who spend an estimated $128 million in the immediate vicinity.

New aquariums differ from their older counterparts by providing displays intended to accurately depict marine creatures in their natural environments, allowing people to learn not only about the animals but also about the specific worlds they inhabit. This new trend has supplanted the older aquarium philosophy where animals were put on display in a row of tanks.

Also new is the opportunity to interact with creatures through touch tanks and to better understand technology by actually operating various scientific devices. Now more than ever, aquarium visitors have a chance to really gain some insight into man's fragile relationship with the marine environment.

New aquariums seek not only to educate but to entertain as well, and to that end many new facilities have exhibits that are truly awe-inspiring. The advent of monolithic acrylic sheet has allowed for the creation of huge tanks that when viewed through crystal-clear walls tends to create the effective illusion of being immersed in the marine environment.

San Francisco's new Pier 39 aquarium will take that concept one step further, moving visitors through a clear acrylic tube surrounded by 770,000 gallons of water filled with the sea creatures of San Francisco Bay.

Tourist Submarines

The tourist submarine industry has allowed more than 3 million people to experience the wonders of the subsea world first-hand. The industry, which had its contemporary beginnings in 1985, has expanded from one 28-passenger submarine to an international fleet of nearly 40 vehicles plying the waters of the Atlantic, the Pacific, and the Mediterranean.

With ticket prices in the $70 range, this rapidly growing industry has proven profitable for a number of operators and has allowed interested individuals to view the undersea environment in a way that had been limited solely to divers.

Related to tourist submarines are the relatively new semi-submersibles. Essentially a cross between a tourist sub and a glass-bottom boat, semi subs look like a submarine from the surface but do not submerge. Passengers sit inside a heavily ballasted deep hull that is internally configured to look like the inside of a submarine. Large viewports provide excellent viewing for the passengers.

L. Bruce Jones is an independent business development and technical consultant specializing in the marine leisure industry. He has been responsible for the design and implementation of various tourist submarine operations and is currently the chairman of the Manned submersibles Committee of the Marine Technology Society. Jones is also chairman of the Board of Trustees of the proposed $24 million San Juan Aquarium.

APPENDIX C
Project Schedule & Plan

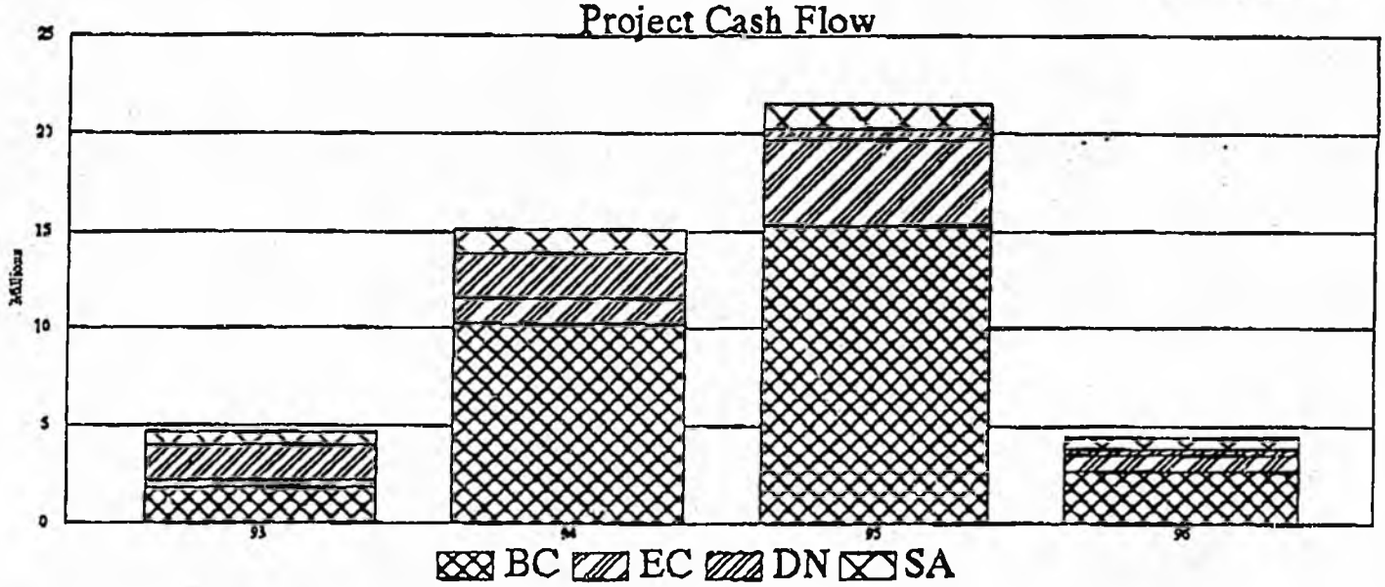
ALASKA SEA LIFE CENTER
IDEA, INC. 23 MAR 93
ALASFLOW.WK3

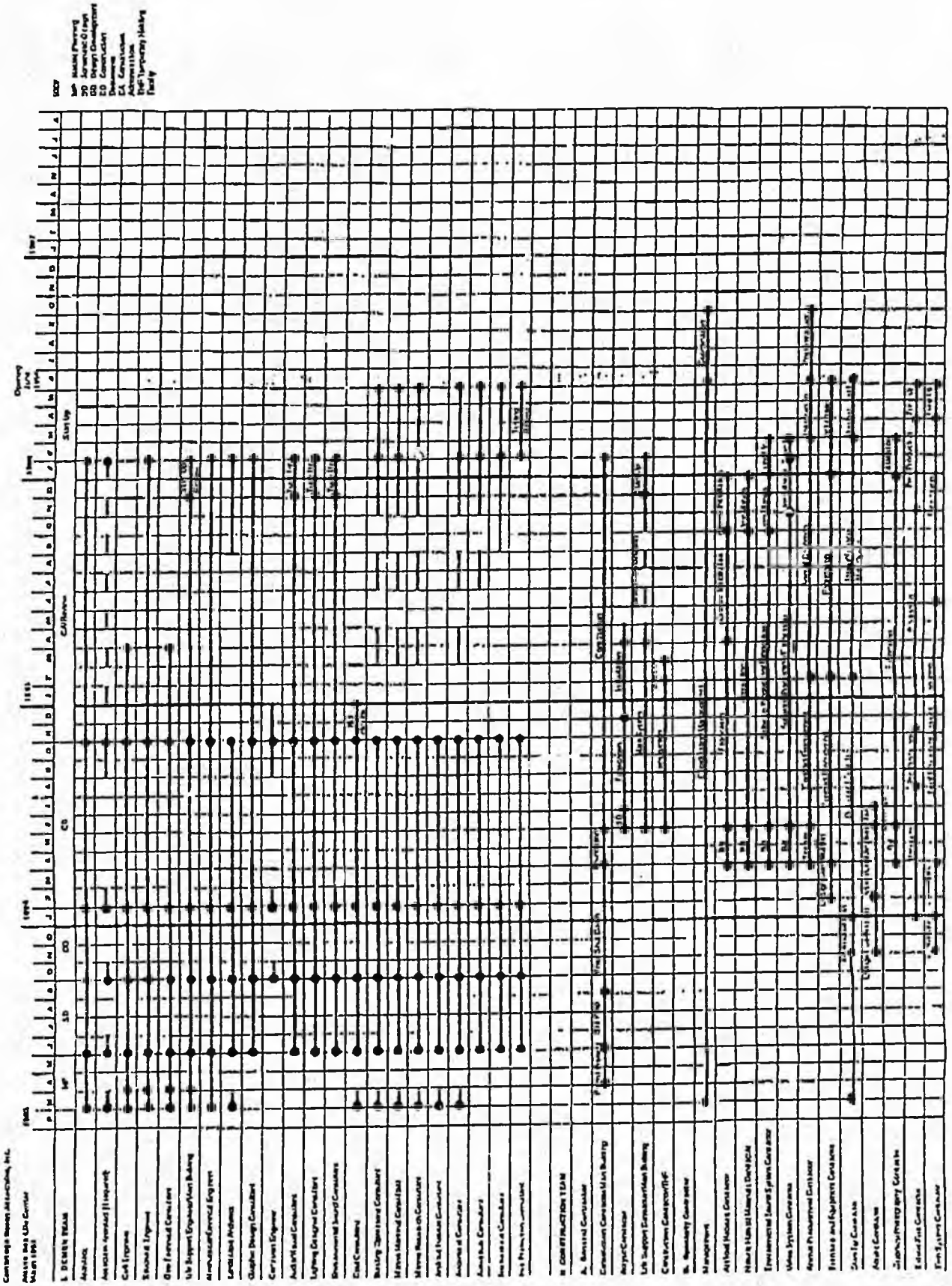
PROJECT CASH FLOW ESTIMATE IN DOLLARS

Budget Item	Budget Estimate		92	DEC 93	DEC 94	DEC 95	JUN 96
Building Construction	30,000,000		0	1,800,000	10,200,000	15,300,000	2,700,000
Exhibit Construction	7,000,000		0	420,000	1,330,000	4,410,000	840,000
Design	5,100,000		0	1,836,000	2,346,000	612,000	306,000
Mgmt, Admin, Startup	3,700,000		0	629,000	1,221,000	1,221,000	629,000
Total Budget	45,800,000	Yearly	0	4,685,000	15,097,000	21,543,000	4,475,000
		Cumulative	0	4,685,000	19,782,000	41,325,000	45,800,000

ALASKA SEA LIFE CENTER

Project Cash Flow

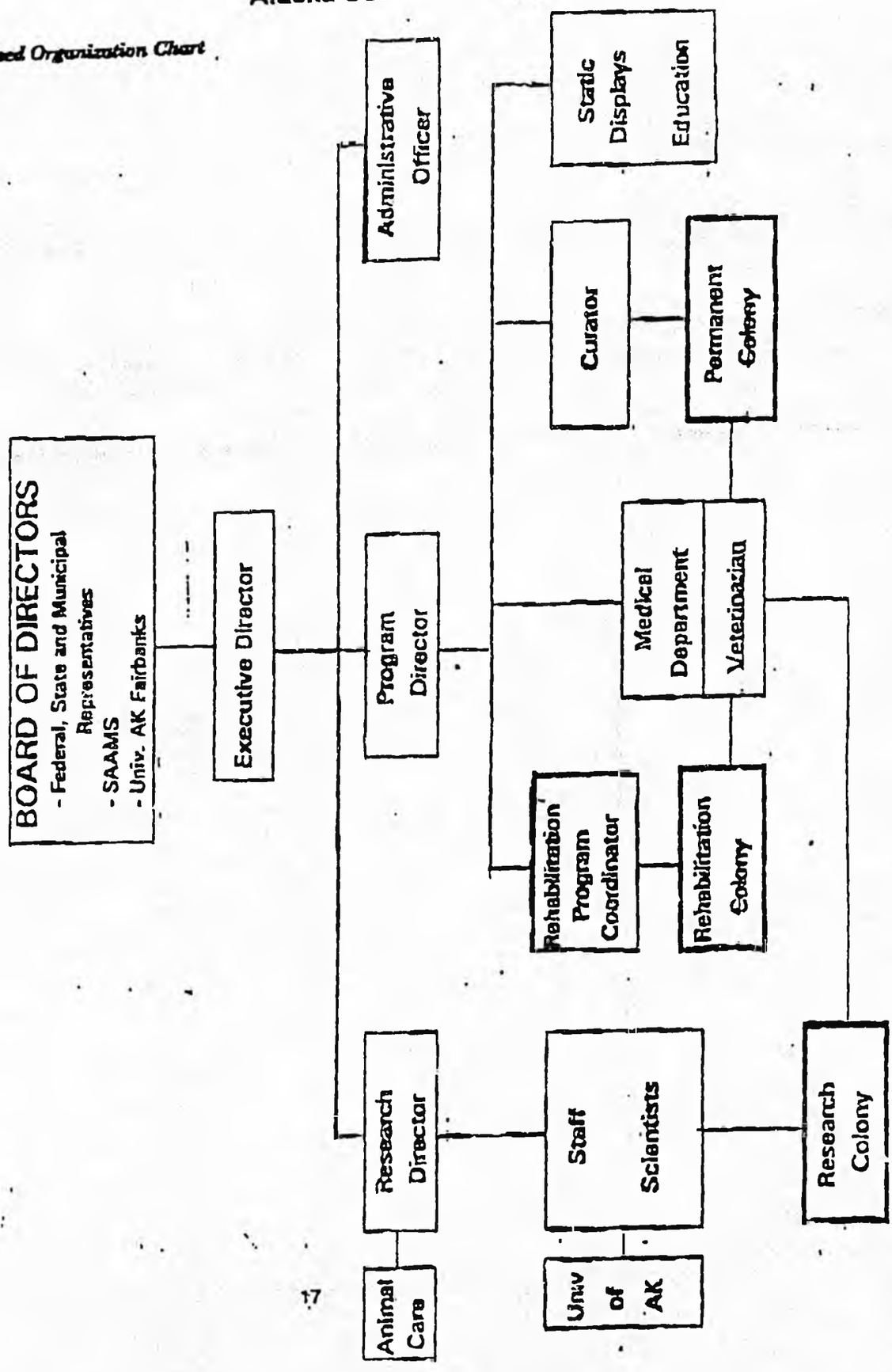




APPENDIX D
Organization Chart

Alaska Sea Life Center

Proposed Organization Chart



APPENDIX E
Letters of Support

WALTER J. HICKEL
GOVERNOR

P. O. Box 110001
Juneau, Alaska 99811-0001
(907) 465-3500

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

February 11, 1993

Mr. Willard E. Dunham, Chairman
Seward Association for the Advancement
of Marine Science
P.O. Box 27
Seward, AK 99664

Dear Bill,

It was good to meet with you and discuss the proposed Alaska Sealife Center in Seward. As you know, I am very supportive and interested in this project. Intellectual and informative visions like these keep our great state ahead of all the rest.

The State of Alaska is very fortunate to have professional, caring people like Dr. Joyce Murphy to provide rehabilitation for these animals.

I commend you and your organization on the excellent presentation that you provided. Keep up the good work, and I look forward to hearing about further progress of the project.

With best regards.

Sincerely,

Walter J. Hickel

Walter J. Hickel
Governor

WALTER J. HICKEL
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

January 13, 1992

Mr. Willard E. Dunham
Chairman, Board of Directors
Seward Association for Advancement
of Marine Science
P. O. Box 1329
Seward, AK 99664

Dear Mr. Dunham:

I appreciate your invitation to serve as an honorary board member of the Seward Association for the Advancement of Marine Sciences. I gladly accept.

I am concerned about our environment, particularly that area impacted by the oil spill from the Exxon Valdez. I believe that the proposed Seward project can go a long way in proving that mankind can live in harmony with nature and all that surrounds it. Because of my personal concern, I have asked Commissioner Harold Heinze of the Department of Natural Resources, and Commissioner Edgar Blatchford of the Department of Community and Regional Affairs to closely follow the board's proceedings. Though I will not be able to attend the meetings, the commissioners, through their representatives, will closely monitor the board's proceedings.

On a more personal note, please extend my appreciation to the many who attended the reception at the Marine Science Institute. Ermalee and I thoroughly enjoyed the hospitality of the fine people of Seward.

With best regards.

Sincerely,

Walter J. Hickel

Walter J. Hickel
Governor

cc: Commissioner Harold Heinze
Commissioner Edgar Blatchford

STATE OF ALASKA

OFFICE OF THE GOVERNOR

OFFICE OF INTERNATIONAL TRADE

WALTER J. HICKEL, GOVERNOR

7TH FLOOR FRONTIER BUILDING
3601 C STREET, SUITE 798
ANCHORAGE, ALASKA 99503-5934
PHONE: (907) 561-5585

March 10, 1991

Dr. A.J. Paul
Institute of Marine Science
Seward Marine Center
Box 730
Seward, Alaska 99664

Dear Dr. Paul:

I write to convey the support of the Office of International Trade for your special appropriation request for the school of fisheries and ocean science. In particular, the office fully endorses the creation of the Alaska Marine Mammal Center in Seward. The School of Fisheries and Ocean Science can contribute substantially to the groundwork necessary to develop the center.

International tourism development is a priority for the Office of International Trade. Our Strategic Plan calls for locating foreign capital to develop Alaska's infrastructure and to establish Alaska as a destination tourist spot. The Alaska Marine Mammal Center's focus -- research, rehabilitation and public education -- can render Alaska a prime location for scientific research, environmental management and a destination for international visitors to Alaska.

We are eager to work together with you to support your funding request and to marshall support for the establishment of the Alaska Marine Mammal Center. Please let me know how else our office can demonstrate enthusiasm for the project. I look forward to working together to bring an exciting internationally renowned project to Alaska.

Sincerely,

Ginna Brelsford

Ginna Brelsford
Trade Specialist

cc: Senator Kertulla
Senator Menard
Representative Kubina
Chief of Staff Hodel
Commissioner Olds
OMB Director Stasny
OMB Budget Review Director Frasca
Municipal Liaison Overstreet
Commissioner Blatchford

UNIVERSITY OF ALASKA ANCHORAGE

3211 Providence Drive
Anchorage, Alaska 99508

July 26, 1990

OFFICE OF THE CHANCELLOR

Mayor Bill Noll
City of Seward
PO Box 1789
Seward AK 99664

Dear Mayor Noll:

I was pleased to learn of your proposal to establish a marine mammal study center in Seward. Such a center, incorporating research and public education, would be of great value to Alaska and to other parts of the circumpolar north.

The future of our ecosystems which support our natural resources is dependent upon an accurately informed citizenry. This requires education based upon up-to-date information generated by scientists on the cutting edge of their fields. Marine ecosystems will be under increasing pressure as oceans are increasingly utilized for food, minerals and sources of transport. Due to the positions they occupy in food webs, marine mammals are important indicator species for the health of these ecosystems. Thus the importance of increased knowledge of these animals is clear.

A marine mammal center in Seward would attract productive scientists from other states and nations, as well as Alaska. It would be of great value to the University of Alaska in pursuing research and public service activities. From the standpoint of the University of Alaska Anchorage (UAA), such a center would provide opportunities for faculty and graduate student research in physiology, morphology, ecology, etc. Basic research opportunities would transcend the interests of marine scientists, and include those focused on human health. This would include UAA and UAF scientists in the Washington-Alaska-Montana-Idaho (WAMI) medical program and in the Alaska-Siberia Medical Research Program. All of these endeavors should combine to bring increased federal and private foundation funding to Alaska for high priority needs.

The educational value of a marine mammal center would range from formal college course work for credit to a broad array of short courses, seminars, conferences, and other programs for a variety of publics. The UAA College of Continuing Education could be invaluable in helping to plan and implement a broad program of public education for the proposed center.

UNIVERSITY OF ALASKA ANCHORAGE
Office of the Chancellor

In summary, I envision many significant advances in research and education that could flow from a marine mammal study center in Seward. These advances would be of great value to Alaska, the nation, the northern Pacific Rim nations, and the circumpolar north. Accordingly, I commend you for your vision and initiative in proposing this center, and pledge the support of UAA in assisting you to make it a reality.

Sincerely,

Donald F. Behrend
Chancellor

DFB:sr

Joan K. Wadlow, Chancellor
907 474-7112
FAX 907 474-7225

UNIVERSITY OF ALASKA FAIRBANKS

Office of the Chancellor
320 Signers' Hall
Fairbanks, Alaska 99775-0500

February 25, 1993

Mr. Willard Dunham
Chairman of the Board SAAMS
P.O. Box 730
Seward, Alaska 99664

Dear Willard:

What a valuable asset the Seward Sea Life Center will be to Seward, the University of Alaska Fairbanks, and the entire state! Everyone should applaud the many people involved in this vision and now the planning, because it links from the start three critical functions: (1) the public education exhibits, (2) rehabilitation, and (3) marine mammal research. The combination is what makes the facility neat and especially valuable to Alaska.

The University of Alaska Fairbanks is pleased to be a part of this venture. Our marine mammal scientists can contribute important knowledge to the understanding of current concerns about marine mammals, including sea lions. With this facility, unique in the Pacific Northwest, scientists from everywhere will be able to collaborate and give us answers to critical questions sooner. The University of Alaska Fairbanks, in its Strategic Plan, has committed to help solve the practical problems of Alaska. The research facilities at the Center will help them accomplish this even more.

Please let me know if I may be of assistance (907) 474-7112.

Sincerely,

Joan.

Joan K. Wadlow, Chancellor
University of Alaska Fairbanks

JKW/smw

Office of the Dean

UNIVERSITY OF ALASKA FAIRBANKS
School of Fisheries and Ocean Sciences
200 O'Neill, Fairbanks, Alaska 99775-1090 (907) 474-7531 FAX (907) 474-7204

January 27, 1993

Willard Dunham
Seward Assn. for the Advancement of Marine Sciences
City of Seward
P. O. Box 1009
Seward, AK 99664

Dear Willard:

We are greatly encourged by your progress in developing the Sea Life Center at Seward. As you know, we have selected Seward as our primary coastal location and have worked for many years to develop a comprehensive marine facility there. The new center will be a tremendous boost to Alaska's capabilities.

We have no intention of establishing additional coastal facilities for UAF at any other location, including Valdez. Although we do contract research out of Valdez, a permanent facility is not needed for our work there. We have facilities at Juneau and Kodiak, but these are fisheries and technological programs and not marine research and educators. We continue to be committed to the development of Seward as a world class coastal marine center.

Yours sincerely,

Vera Alexander
Dean, School of Fisheries and Ocean Sciences
Director, Institute of Marine Science

VA/lmb

3/11

T Board CB 6/12/92

School of Fisheries and Ocean Sciences

T 3-

UNIVERSITY OF ALASKA FAIRBANKS
Fairbanks, Alaska 99775-1080

June 9, 1992

RECEIVED
JUN 12 1992
OFFICE OF THE
CITY CLERK

Mr. Darryl Schaefermeyer
City Manager
City of Seward
P. O. Box 167
Seward, Alaska 99664

Dear Darryl,

I am glad you wrote, since it gives me the opportunity to do something I have been meaning to for some time, and that it to write and congratulate you and SAAMS for the excellent progress on the Alaskan Sea Life Center. The University is 100% behind this venture, and I have discussed it both with President Komisar and Chancellor Wadlow. I sent word to the legislature and governor through Jim Hasselberger, the Governor's representative in Fairbanks, that not only was the Center not in competition with the University, but that the University was supporting it wholeheartedly and wanted the capital money to survive. I don't know whether it helped in any way, but we did want to make it clear that this was a priority for us, too.

I am also glad that the IMS Seward Marine Center, especially A.J. Paul, has been working effectively with you on the project. Our marine mammal group is very excited about the prospect of working with the Center. We now have five marine mammal professionals in IMS - Mike Castellini, Bud Fay, Ward Testa and Brendan Kelly, and Bob Elsner, although technically retired, is still active. We also have just appointed Charles Monet as a research associate, and he will be working out of Seward. Ironically, he recently abandoned Cordova, where he had worked previously.

With respect to the Marine Mammal Specialist, unfortunately we did not get the position funded. However, the Alaska Sea Grant College Program has found the money for a half-time position, and w re preparing to advertise

on this basis. Hopefully we will be able to fund additional "soft" money to make the position whole. The position is not to be at the Prince William Sound Science Center. No such decision has been made. The advertisement actually doesn't mention location at all, and I have specified that it can only be located at a coastal site where we have a permanent facility, and I am confident that Seward is the best such site. Cordova does not qualify. The Sea Grant Program Director has something to say about it, of course, since he is providing the money, whereas if it had been funded from state appropriation moneys, I could simply dictate, and was clearly slated for Seward. I think we can get the position for Seward, especially in view of the tremendous progress being made towards the Sea Life Center. It is important to realize, however, that this is not the permanent fully-funded position that we had hoped for.

Yours sincerely,

Vera Alexander
Dean, SFOS
Director, IMS

cc. Willard Dunham, Chairman
Seward Association for the Advancement of Sciences

Office of the De
CB-11/30/92
cy: S. Adams

UNIVERSITY OF ALASKA FAIRBANKS
School of Fisheries and Ocean Sciences
200 O'Neill, Fairbanks, Alaska 99775-1090 (907) 474-7531 FAX (907) 474-7204

November 24, 1992

RECEIVED
NOV 30 1992
OFFICE OF THE
CITY CLERK

Darryl Schaefermeyer
City Manager
City of Seward
P. O. Box 167
Seward, Alaska

Dear Darryl:

Thank-you for your letter of November 4, 1992. I am very aware of your concerns regarding the MAP marine mammal specialist position, and I share your interest in seeing the position located in Seward. To date, the situation with respect to the position has not changed, in that we have not found any state appropriation moneys to support it, and the present position is only half-time funded with NOAA moneys through the Alaska Sea Grant College Program. Because of this, it moves wherever the Sea Grant project needs the expertise. Once again, this is controlled ultimately by the director of the Sea Grant Program, Ron Dearborn. Kate Wynne is occupying the position, but this is not a permanent tenure-track faculty position at this point. When SFOS acquires a real faculty/MAP specialist position, this will change, and we will be able to designate Seward as the home base.

Meanwhile, if there is anything I can do to support the Sea Life Center by explaining the total lack of marine mammal research facilities in Alaska, and the need for the Seward facility, please let me know. Dr. John French, Director of FITC and a member of the Trustee's advisory group, has publicly supported the Alaska Sea Life Center's request for funds from the oil spill settlement. We are all solidly behind the project.

One area in which we have been able to enhance the Seward operation is in the area of public education, and we are working towards markedly improving the program at the K. M. Rae building, with the full cooperation of Sea Grant and MAP. The UAF museum will be working with us also. Meanwhile, I hope that our marine mammal faculty, especially Michael Castellini, will continue to work with you in developing the Alaska Sea Life Center. There is a great need for marine mammal research facilities. We simply don't have any now that we have given up on the inadequate ones which we had shared with the Institute of Arctic Biology here. I think you will find Drs. Castellini, Testa, Elsner, Fay, and Kelly all becoming Seward faculty, as has Sven Ebbesson, once the facilities are there.

Yours sincerely,

Vera Alexander
Dean

7/11/90

UNIVERSITY OF ALASKA FAIRBANKS

Alaska Sea Grant College Program
School of Fisheries and Ocean Sciences
138 Irving II
Fairbanks, Alaska 99775-5040
(907) 474-7086 FAX (907) 474-6285

July 6, 1990

Mayor William C. Noll
City of Seward
P.O. Box 167
Seward, AK 99664

Dear Mr. Noll:

We recently learned of tentative plans to develop an international class marine mammal research and public education facility in Seward. We believe this is an excellent idea for Seward and the State of Alaska, and offer our unreserved encouragement.

The National Sea Grant Program, a division of the National Oceanic and Atmospheric Administration in the U.S Department of Commerce, has for twenty-five years supported university research, education, and public outreach on marine resources, particularly efforts that yield economic benefits to coastal communities. The Alaska Sea Grant College Program has traditionally focused research and outreach on issues important to commercial fishing and processing. We also have produced a national award-winning and widely used grade school curriculum package, called Alaska Sea Week. The series includes a volume on marine mammals.

Presently we are supporting research on marine mammals, and a new focus on coastal tourism development. One research project examines vocalizations in killer whales in Prince William Sound, another assesses interactions between marine mammals and commercial fishermen. A technical report and public education booklet are forthcoming on the latter project. We also are organizing a scientific workshop on sea lions and other marine mammals, slated for next spring. As for coastal tourism, we have begun a pilot project for waterfront interpretation and promotion in three Alaska coastal communities.

As you further develop your concept, we would welcome any opportunity to participate. We have been thinking about ways to more publicly highlight the Seward Marine Science Center and more fully utilize the Ray Building as a public attraction. Our projects could complement each other's ideas and greatly expand both the scientific importance and public impact of our respective efforts. Please contact us if we can help. Good luck.

Cordially,

Ron Dearborn
Director

Kurt Byers
Communications Manager

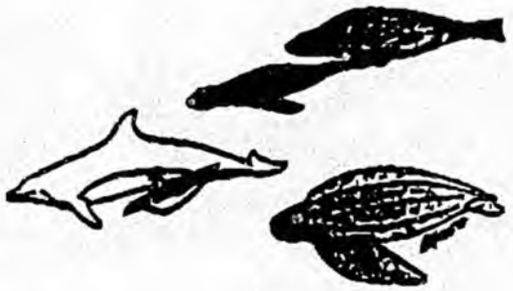
UNIVERSITY OF CALIFORNIA, SAN DIEGO

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

SCRIPPS INSTITUTION OF OCEANOGRAPHY
PHYSIOLOGICAL RESEARCH LABORATORY
SCHOLANDER HALL A-004

LA JOLLA, CALIFORNIA 92093-0204

July 24, 1990



Mayor William Noll
Seward Association for the Advancement
of Marine Science
P.O. Box 730
Seward, Alaska 99664

Dear Mayor Noel:

On my recent visit to Seward and your offices with Dr. M. Castellini, I was very impressed with the potential facilities there. I hope your plans for establishing a marine mammal center are realized. There is no doubt in my mind that if such a facility, in its key location, were available that myself and my colleagues would be anxious to use it in the course of our ongoing research on the behavior and physiology of birds and mammals. Therefore, if there is any assistance I can give you or Dr. Castellini in this endeavor, please feel free to contact me.

Sincerely,

G. L. Kooyman

Gerald L. Kooyman, Ph.D.

GLK:pf

cc: M. Castellini

MARK O. HATFIELD
MARINE SCIENCE CENTER

4-Council, Staff
CB 9/12/90

OREGON STATE UNIVERSITY
2030 S. Marine Science Drive · Newport, Oregon 97365·5296
Telephone 503·867·0100 Fax 503·867·0138
Bitnet HMSC@ORSTATE.BITNET

September 5, 1990

Mayor William Noll
Seward Assoc. for the Advancement
of Marine Science
P.O. Box 730
Seward, AK 99664

Dear Mayor Noll:

I am writing you at the request of Dr. Michael Castellini of the University of Alaska, Fairbanks who advised me that you are endeavoring to obtain information from the scientific community of interest in the proposed construction of a marine mammal center in Seward.

There are few opportunities where people can view marine mammals endemic to the Alaska region and even less where scientists might have access to these animals for non-lethal studies. I would personally favor seeing such a facility available to University of Alaska and researchers throughout the world to conduct studies of importance for a better understanding of these animals. Many such studies are important for continued conservation of these animals.

I have been active in marine mammal research for over 20 years and can assure you that such a facility would be used by many responsible scientists.

Sincerely,

Bruce R. Mate, Ph. D.
Associate Professor
Oceanography

BRM:vb

TEXAS A&M UNIVERSITY AT GALVESTON

Marine Mammal Research Program
Department of Marine Biology
P.O. Box 1675
Galveston, TX 77553-1675

Director: (409)740-4413
Technician: 740-4420
Students: 740-4425
FAX: 762-8276

July 24, 1990

Mayor William Nall
Seward Association for the Advancement of Marine Science
P.O. Box 730
Seward, AK
99664

Dear Mr Mayor

I am an Assistant Professor of Marine Mammalogy at Texas A&M University at Galveston and have been active in marine mammal research for 11 years. I am writing in support of the proposal to build a marine research facility in your city. I think that such a facility would be incredibly useful from both the research perspective and public education. I have only recently moved to Texas from California, where I was located at the University of California at Santa Cruz, and previous to that was at the University of Guelph, in Canada. Both of these facilities had the capability of holding captive marine mammals and I am now in the position of attempting to create a research program without that capability for the first time. I dearly miss it. The capability to hold marine mammals in captivity, even for short periods of time, allows us to learn things about their biology that we could never learn in the wild state. This knowledge will expand our capabilities for the better protection of endangered species as well as possibly preventing other species from becoming threatened. I enthusiastically support the development of a facility in Seward and would very much like the opportunity to make use of those facilities at some time in the future.

Sincerely yours

Graham Worthy

Graham A.J. Worthy
Assistant Professor of Marine Mammalogy

Tennessee Aquarium

701 Broad Street • Tivoli Center • Lower Lobby • Chattanooga, TN 37402 • (615) 266-3467

1/28/91

Dr. A. J. Paul
P.O. Box 1197
Seward, Alaska 99664

Dear Dr. Paul:

It was a pleasure to hear from you. I did speak to Mayor Noll and was told of your ambitious plans to create a Marine Mammal complex. If anyone should have the type of facility we discussed, it should be Alaska.

I can tell you that I would be happy to assist in any way I can. I would most likely be restricted to reviewing and advising at this stage because of my commitment to opening the new Tennessee Aquarium over the next year and a half.

Please keep me informed of your progress and I wish you the best of luck in your efforts to gain support.

Sincerely,

William S. Flynn
President
Tennessee Aquarium

United States Department of the Interior

NATIONAL PARK SERVICE

ALASKA REGIONAL OFFICE
2525 Gambell Street, Room 107
Anchorage, Alaska 99503-2892

IN REPLY REFER TO

N2219(KEFJ)

05 JUN 1990

Dr. A. J. Paul
P.O. Box 1197
Seward, Alaska 99664

Dear Dr. Paul:

Thank you for your letter of May 1 requesting our support for the proposed Marine Mammal Center in Seward. We agree that Seward seems to be an ideal place for such a center and that the time for a project of this nature is ripe. Such a center could add vital dimensions to the knowledge and protection of sea mammals and benefit many parties, especially our sister agency, the Fish and Wildlife Service. They have the primary responsibility for the protection and management of sea mammals.

I have enclosed a copy of a letter to Mayor Bill Noll from Kenai Fjords Superintendent Anne Castellina regarding the center. I have also asked Ms. Castellina to contact her counterpart at Alaska Maritime National Wildlife Refuge and let him know of this project. She will contact you as events progress.

Good luck with your efforts to establish this important scientific and educational facility.

Sincerely,

Paul F. Haertel
Acting Regional Director

Enclosure

United States Department of the Interior

NATIONAL PARK SERVICE

Kenai Fjords National Park
1212 Fourth Avenue
Post Office Box 1727
Seward, Alaska 99664

IN REPLY REFER TO:

N2219

May 23, 1990

William C. Noll
Mayor, City of Seward
P.O. Box 167
Seward, AK 99664

Dear Mayor Noll,

Kenai Fjords National Park would like to take this opportunity to offer its support for the proposed Seward Marine Mammal Center outlined in your May 10, 1990 letter. The goals of scientific research, public education, and rehabilitative services for distressed or injured mammals are consistent with Kenai Fjords' Congressional mandate to:

> "...maintain unimpaired the scenic and environmental integrity of the...coastal fjords and islands in their natural state; and to protect seals, sea lions, other marine mammals, and marine and other birds, and to maintain their hauling and breeding areas in their natural state..."

Recognition by Congress of this area's outstanding natural environment, diverse ecosystems, and abundant wildlife led to the establishment of the park in 1980. Since then the park has worked to study, protect and interpret the living laboratory of change characterized by the 580,000 acres within the park boundaries.

Over the past ten years we have become increasingly concerned by the as yet unexplained decline in seal and sea lion populations, the long term effects on marine mammals of oil spills and other pollution, and the possible adverse effects of increasing numbers of visitors and commercial operators in the fjords. These, and other areas of concern, deserve study. The National Park Service in Alaska is currently engaged in strengthening and expanding its efforts in resource management. The "Alaska Science Initiative" was endorsed by Congress and partially funded in 1990 and shows promise of receiving additional funding in 1991 and beyond. Kenai Fjords will benefit from this initiative with the addition of several resource management specialists. Their ability to interact with scientists at a Marine Mammal Center such as the one proposed would greatly enhance their work. Park interpreters involved in environmental education programs would also reap the benefits from the Center as would the community of Seward and the larger worldwide scientific community .

The City of Seward, Kenai Fjords National Park, the Alaska Maritime National Wildlife Refuge, and the Institute of Marine Science, Seward Marine Center would all gain from the establishment of a Marine Mammal Center in Seward as would the growing number of visitors and schoolchildren to this area. Seward offers a unique location for this facility. The study subjects are here in abundance and easily accessible. Federal and State agencies concerned and mandated to protect the marine mammals are already based in Seward. There cannot be many other areas in Alaska (if any) where all of these factors mesh as well as they do here.

We look forward to working with you and the Seward Association for the Advancement of Marine Science (SAAMS) as your objectives and plans continue to expand and clarify.

Sincerely,

Anne D. Castellina

Anne D. Castellina
Superintendent

Sponsored by: Swartz

CITY OF SEWARD, ALASKA
RESOLUTION NO. 93-008

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SEWARD, ALASKA, SUPPORTING THE SEWARD ASSOCIATION FOR THE ADVANCEMENT OF MARINE SCIENCE'S ALASKA SEA LIFE CENTER PROJECT

WHEREAS, the Seward Association for the Advancement of Marine Science (SAAMS) has contracted with Cambridge Seven Associates, Inc., to develop a conceptual plan for the proposed Alaska Sea Life Center and to prepare project promotional materials; and

WHEREAS, this project has been funded primarily from private monetary contributions and donations of time and services from various individuals and businesses in Seward and throughout the state; and

WHEREAS, the city of Seward has long considered this project to be a viable and highly desirable one as evidenced by both the dedication of valuable waterfront property to house the facility and a $50,000 appropriation made to SAAMS under the provisions of Resolution No. 91-135; and

WHEREAS, the Alaska Sea Life Center will provide much needed research and rehabilitation services and will become a major tourist attraction for Seward, thus benefiting all of southcentral Alaska through the influx of visitors to the state while providing public education through its exhibits, displays and aquarium; and

WHEREAS, the project will be a major urban renewal effort and will considerably enhance the attractiveness of the downtown area for residents and visitors alike; and

WHEREAS, the Alaska Sea Life Center will provide more than 30 direct jobs and will account for many more employment opportunities in needed support and ancillary facilities such as a new hotel, a convention center, gift shops, restaurants and other visitor dependent businesses; and

WHEREAS, upon the opening of the Alaska Sea Life Center, Seward will become a major port of call for cruise ships and will play an indirect role in providing the revenues to support proposed new docks in Resurrection Bay; and

WHEREAS, the research facility has the potential to bring in millions of federal and foreign dollars in grants to scientists and to address and solve many of the issues threatening Alaska's fishing industry;

Robert Clarke
3121 Nowell Avenue • Juneau, Alaska 99801 • (907) 586-2031 • FAX 586-5998 Communication • Public Affairs

FOR IMMEDIATE RELEASE

Former Alaska Governor Jay Hammond today commended Governor Hickel's proposal to use oil spill fines for a Seward marine research center, and for re-purchasing timber leases n Kachemak Bay.

Hammond also announced he has joined the Seward Association for the Advancement of Marine Sciences as an honorary trustee of the proposed research, rehabilitation and education facility.

Statement of Jay S. Hammond:

"In 1989, in a special television Report From Valdez, I referred to a marine science research, rehabilitation and education facility as perhaps the most positive and lasting benefit that could come from the Exxon-Valdez tragedy.

"In 1991, using a privilege granted to former Alaska Governors, I addressed the State House and Senate to endorse the buy back of Kachemak Bay timber leases, as my administration had re-purchased oil leases in this area, in 1975.

"Governor Hickel's request to use oil spill fines and settlement monies for a world class marine research, education and rehabilitation facility on the North Pacific Ocean at Seward, and for the Kachemak Bay timber buy-back, may indeed represent the best assurance we have for something permanent and positive from the tragedy of 1989.

"I commend Governor Hickel and I commend his proposal to the Alaska Legislature as well."

##

Seward SeaLife Center Endorsements

"The Exxon-Valdez oil spill was an alarm clock going off -- a rude awakening for the Pacific Basic generally but most critically for the North Pacific Ocean Mo marine research, education and rehabilitation facility of the kind planned at Seward, exists; not in Japan, Korea or Russia. So far, the facility at Santa Cruz, California is the closest to the sub-arctic waters of the North Pacific.

"The Seward SeaLife Center will fill "a gaping hole" in that regard for the Pacific Century now dawning. If the Exxon Valdez oil spill helps in any way to fill this great void, then history may say something positive and lasting resul ted from the 1989 trageduy.

"The Seward facility as conceived is something more than merely a critically needed research, education and rehabilitation center. I predict its positive economic impacts on the community and the region will be enormous and self sustaining.

"There is no doubt in my mind that if such a facility, in its key [Seward] location were available, that myself and my colleagues would be anxious to use it in the course of our on-going research of the behavior and physiology of birds and mammals. If there is any assistance I can give.. this endeavor. please feel free to contact me.

Gerald L. Kooyman, Ph.D
Scripps Institution of Oceanography, La Jolla, CA

"Over the past ten years we have become increasingly concerned by the as yet unexplained decline in seal and sea lion populations, the long term effects on marine mammals of oil spills and other pollution, and the possible adverse effects of increasing numbrs of visitors and commerical operators in the [Kenai] fjords. These, and other areas of concern, deserve study. [We] support for the proposed Seward Marine Mammal Center. The goals of scientific research, public education and rehabilitative services for distressed or injured mammals are consistent with Kenai Fjords' Congressional mandate.. There cannot be many other areas in Alaska (if any) where all [research, education and rehabilitation] factors mesh as well as they do [in Seward]."

Anna Castellini, Kenai Fjords Superintendent
U.S. Department of Interior/National Parks

"[The marine mammal research facility planned for Seward] would be incredibly useful from both the research perspective [and for] public education...I am now...attempting to create a research program without the capability [of holding live marine mammals for study] for the first time and sorely miss it. I...would very much like the opportunity to make use of [the Seward SeaLife Center's research] facilities in the future."

Graham A.J. Worthy, Marine Mammal Research Program
University of Texas, Galveston

"There are few opportunities where people can view marine mammals endemic to the Alaska region, and even less where scientists might have access to these animals for non-lethal studies. I would personally favor seeing such a facility available... for researchers throughout the world to conduct studies of importance for better understanding of these animals...[A]ctive in marine mammal research for over 20 years, [I] can assure you the [Seward] facility would be used by many responsible scientists."

Bruce R. Mate, Ph.D, Oceanography Professor
Oregon State University

"...If anyone should have [this Marine Mammal facility], it should be Alaska

William S. Flynn, President
Tennessee Aquarium

"[I]n addition to our many other research, education and out reach activities] we are supporting...a new focus on coast tourism development [in] three coastal communities. As you develop your project we would welcome any opportunity to participate... Our projects [complement one another] and greatly expand both the scientific inportance and public impact of our respective efforts."

Kurt Byers, Sea Grant College
School of Fisheries/Ocean Science

"Alaska's Institute of Marine Science [already] conducts valuable marine mammal research at its Seward Marine Center, and Seward may be the appropriate location to conduct long-term studies on resident [marine mammal] populations."

William W. Fox, Director
NOAH/ U.S. Department of Commerce

"Seward seems to be the ideal place for [marine mammal research, education and rehabilitation] and the time for a project of this nature is ripe. Such a center could add vital dimensions to the knowledge and protection of sea mammals and benefit many parties. Good luck with your efforts to establish this important scientific and educational facility."

Paul Haertel, Acting Regional Director
National Park Service/ Dept of Interior

"On behalf of the International North Pacific Ocean Climate Program, all my U.S., Canadian and Russian colleagues were very impressed. As a result of their visit, the Soviets now plan to use Seward as a staging area for their scientific work in the Northeast Pacific. It was also suggested that we have another meeting in Seward in a few years to discuss the results of our joint efforts."

Thomas C. Royer, Marine Science Professor
University of Alaska, Fairbanks

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The Anchorage Times

"Putting Alaska first"

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Robert B. Atwood, Publisher Emeritus

BIG PLANS FOR SEA LIFE CENTER

Seward's dream, not folly

SEWARD'S MOVERS and shakers have a dream — a dream that would make Southcentral Alaska an even more exciting tourist destination.

Tom Smith, executive director of the Institute of Marine Science, and Willard Dunham, chairman of the Seward Association for the Advancement of Marine Science, told the state chamber of commerce last week of plans for a $40-million Alaska SeaLife Center.

A small group of dedicated people have been working on this idea for several years — long before the 1989 Exxon Valdez oil spill cast an international spotlight on Alaska's marine life.

The year-round center — a collaboration of the University of Alaska's Institute of Marine Sciences and the city of Seward — would be self-supporting and non-profit. It would include marine research, rehabilitation of stranded marine animals, and educational exhibits of live marine animals.

PRELIMINARY plans call for aquariums, open-air rookeries, hotel, restaurant and gift shops in addition to the research facilities. They envision Steller sea lions, otters and birds in underwater and outdoor habitats.

It sounds grand.

So far, more than $100,000 has been raised by volunteers to do preliminary studies and publish an enticing brochure. The next step — find the big money.

The steering committee will be turning to major corporations and foundations looking for grants this year. If all goes as hoped, the doors will open by fall of 1996. Mr. Dunham said they "don't want state dollars" because they don't want to be subject to the vagaries of Legislative appropriations. That's smart.

However, he added that oil spill settlement money might be a good source of funds. We agree. What better way to spend some of the settlement money than to invest in a center that would attract scientists and tourists from around the world. And create jobs to boot.

Now that's an investment in the future.