MEMORANDUM

TO:

Council, SSC, and AP Members

FROM:

Jim H. Branson

Executive Direct

DATE:

March 18, 19\$2

SUBJECT: Mid-year review of administrative and programmatic funding

ACTION REQUIRED

Review of funds.

BACKGROUND

Our Grant Provisions require we submit a 6-month analysis of the Council Administrative grant to NMFS. The Finance Committee should review the budget and make recommendations for any changes at this meeting.

The following projects were approved for funding by NMFS last week, making a total of \$218,449 for programmatic funds for FY82. Our original funding request submitted in September was for \$737,000. We were later asked to reduce our request to \$200,000 level. The following projects have been approved for funding.

| Fishery Management Plan Development and Writing - ADF&G | 54,000 |
|---------------------------------------------------------|--------|
| Crab Observer Project - ADF&G | 69,489 |
| Halibut Limited Entry Study - RFP | 85,000 |
| Economic Profile of Southeast Alaska Salmon - Sea Grant | 10,000 |

The Council's contribution of \$2,000 to the Tanner Crab Workshop will be from Administrative funds.

FY83 programmatic requests are included for review by the AP and SSC at this meeting. Final approval by the Council is scheduled for the May meeting.

North Pacific Fishery Management Council

Clement V. Tillion, Chairman Jim H. Branson, Executive Director

Suite 32, 333 West 4th Avenue Post Office Mall Building



Mailing Address: P.O. Box 3136DT Anchorage, Alaska 99510

Telephone: (907) 274-4563

FTS 271-4064

FINANCIAL STATUS REPORT February 1982

| DESCRIPTION | <u>0-XXX3</u> | <u>2-XXX1</u> | 2-XXX2 | <u>1-XXX1</u> | <u>1-XXX2</u> | TOTAL |
|----------------------------------------|------------------------|--------------------|------------------------|---------------|---------------|-----------------|
| Grants Rec. as of 2/28/82: | \$ 70,414.00 | \$600,000.00 | \$ 23,960.00 | \$ 66,619.96 | \$105,500.00 | \$ 866,493.96 |
| Cash in Bank as of 2/28/82: | 2,270.23 | 9,544.78 | -0- | -0- | (2,327.89) | 9,487.12 |
| ***** | ***** | *** *** | ********* | ***** | ******* | *** |
| ************************************** | | | | | | |
| Total Grants Cudgeted: | 585,938.00 | 923,000.00 | 23,960.00 | 925,849.30 | 145,000.00 | 2,603,747.30 |
| ount Expend. to Date: | (513,253.77) | (313,455.22) | -0- | (859,229.34) | (41,827.89) | (1,727,766.22) |
| Total Funds available as of 2/28/82: | \$ 72,684.23 | \$609,544.78 | \$ 23,960.00 | \$ 66,619.96 | \$103,172.11 | \$ 875,981.08 |
| 2,20,02. | y 12,004.23 | 9000,044.70 | γ 23,700.00 | ÿ 00,013.30 | 9105,172.11 | \$ 013,901.00 |

0**-**XXX3

MONTHLY FINANCIAL STATUS REPORT - FEBRUARY 1982

Cooperative Agreement #NA80-ABH-00008 NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

| .e. | | Budgeted | Amount Expended to Date | Percent Expended to Date | Balance | Monthly Expenditure |
|--------------|-----------------------------------------------|--------------|-------------------------------|--------------------------------|--------------|------------------------|
| 80-1 | Management Plan Writing and Development | \$ 60,000.00 | \$ 60,000.00 | 100% | \$ -0- | closed |
| 80-2 | Keypunch & Analysis Halibut Fish Tickets | 10,000.00 | 10,000.00 | 100% | -0- | closed |
| 80- 3 | Feeding Habits of Walrus/Bristol Bay Clams | 97,220.00 | 87,210.16 | 90% | 10,009.84 | -0- |
| 80-4 | ADF&G Computer Program Phase II | 145,300.00 | 126,990.12 | 87% | 18,309.88 | -0- |
| 80-5 | Offshore Salmon Study- Alaska | 58,000.00 | 58,000.00 | 100% | -0- | closed |
| -6 | Halibut Limited Entry Study | 41,494.00 | 41,494.00 | 100% | -0- | closed |
| 81-1 | Management Plan Writing and Development | 70,000.00 | 49,651.29 | 71% | 20,348.71 | 1,475.87 |
| 81-2 | ADF&G Fisheries Data | 55,000.00 | 31,308.20 | 57% | 23,691.80 | 16,878.76 |
| £1- 3 | Halibut/Crab Pot Study | 48,924.00 | 48,600.00 | 99% | 324.00 | <u>closed</u> |
| | TOTALS | \$585,938.00 | \$513,253.77 | | \$ 72,684.23 | \$18,354.63 |

GRANTS RECEIVABLE

| Balance as of February 1, 1982 | \$97,414.00 |
|---------------------------------|-------------|
| Drawdown for February | (27,000.00) |
| Increases for February | -0- |
| Balance as of February 28, 1982 | \$70,414.00 |
| | |
| | |

| Balance as of February 1, 1982 | \$(6,375.14) |
|--------------------------------|--------------|
| Receipts for February | 27,000.00 |
| Disbursements for February | (18,354.63) |
| lance as of February 28, 1982 | \$ 2,270.23 |
| | |

2-XXX1

MONTHLY FINANCIAL STATUS REPORT - FEBRUARY 1982

Cooperative Agreement #82-ABH-2 NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

| • | Budgeted | Amount Expended to Date | Percent Expended to Date | Balance | Monthly Expenditures |
|---------------------|--------------|-------------------------------|--------------------------------|--------------|-------------------------|
| Personnel | \$438,000.00 | \$165,793.38 | 38% | \$272,206.62 | \$30,689.84 |
| Special Consultants | 5,000.00 | 155.50 | 3% | 4,844.50 | 143.00 |
| Fringe Benefits | 84,000.00 | 30,898.11 | 37% | 53,101.89 | 5,458.11 |
| Travel | 219,000.00 | 68,382.27 | 31% | 150,617.73 | 13,802.54 |
| Equipment | 3,000.00 | 78.36 | 3% | 2,921.64 | -0- |
| Supplies | 14,000.00 | 1,888.44 | 13% | 12,111.56 | 526.81 |
| Contractual | 17,000.00 | 6,061.35 | 36% | 10,938.65 | 664.50 |
| Liner | 143,000.00 | 40,197.81 | 28% | 102,802.19 | 12,729.77 |
| TOTALS | \$923,000.00 | \$313,455.22 | 34% | \$609,544.78 | \$64,014.57 |

GRANTS RECEIVABLE

| Balance as of | February 1, 1982 | \$653,000.00 |
|---------------|-------------------|--------------|
| Drawdown | for February | (53,000.00) |
| Increase | for February | -0- |
| Balance as of | February 28, 1982 | \$600,000.00 |
| | | |

| Balance as of February 1, 1982 | \$ 20,559.35 |
|---------------------------------|--------------|
| Receipts for February | 54,325.06 |
| Disbursements for February | (65,339.63) |
| Balance as of February 28, 1982 | \$ 9,544.78 |
| | |

1-XXX1

MONTHLY FINANCIAL STATUS REPORT - FEBRUARY 1982

Cooperative Agreement #81-ABH-2 NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

| • | Budgeted | Amount Expended to Date | Percent Expended to Date | Balance | Monthly Expenditures |
|---------------------|--------------|-------------------------------|--------------------------------|--------------|-------------------------|
| Personnel | \$423,235.00 | \$417,655.17 | 99% | \$ 5,579.83 | -0- |
| Special Consultants | 10,000.00 | 1,257.10 | 13% | 8,742.90 | -0- |
| Fringe Benefits | 74,704.00 | 74,636.85 | 100% | 67.15 | -0- |
| Travel | 230,000.00 | 190,504.36 | 83% | 39,495.64 | -0- |
| Equipment | 7,000.00 | 3,746.92 | 54% | 3,253.08 | -0- |
| Supplies | 14,000.00** | 14,383.68 | 103% | (383.68) | -0- |
| Contractual | 25,600.30 | 25,670.88 | 100% | (70.58) | -0- |
| cher | 141,310.00** | 131,374.38 | 93% | 9,935.62 | -0- |
| TOTALS | \$925,849.30 | \$859,229.34 | 93% | \$ 66,619.96 | \$ -0- |

GRANTS RECEIVABLE

| Balance as of | February 1, 1982 | \$66,619.96 |
|---------------|-------------------|-------------|
| Drawdown | for February | -0- |
| Increase | for February | -0- |
| Balance as of | February 28, 1982 | \$66,619.96 |
| | | |

| Balance as of February 1, 1982 | \$ | -0- |
|---------------------------------|----|-----|
| Receipts for February | · | -0- |
| Disbursements for February | | -0- |
| Balance as of February 28, 1982 | \$ | -0- |
| | | |

1-XXX2

MONTHLY FINANCIAL STATUS REPORT - FEBRUARY 1982

Cooperative Agreement #81-ABH-76 NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

| • | | Budgeted | Amount Expended to Date | Percent Expended to Date | Balance | Monthly Expenditures |
|-------|------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------|--------------------------------|--------------|-------------------------|
| 81-4 | Marine Mammals Study | \$ 45,000.00 | \$40,358.00 | 90% | \$ 4,642.00 | \$18,639.95 |
| 81-5 | Incidental Salmon Catch Study | 100,000.00 | 1,469.89 | <u> 1%</u> | 98,530.11 | 1,469.89 |
| | TOTAL | \$145,000.00 | 41,827.89 | <u>29%</u> | \$103,172.11 | \$20,109.84 |
| GRANI | TS RECEIVABLE | | | | | |
| Balar | nce as of February 1, Drawdown for Februar Increases for Februa nce as of February 28 | ry ry | \$132,500.00 27,000.00 -0- \$105,500.00 | | | |
| CASH | IN BANK | | | | | |
| | oo of Fohmory 1 | 1000 | 6(0 010 ÅE) | | | |

| Balance as of February 1, 1982 | \$(9,218.05) |
|---------------------------------|--------------|
| Receipts for February | 27,000.00 |
| Disbursements for February | (20,109.84) |
| Balance as of February 28, 1982 | \$(2,327.89) |
| | |

2-XXX2

MONTHLY FINANCIAL STATUS REPORT - FEBRUARY 1982

Cooperative Agreement #82-ABH-22 NORTH PACIFIC FISHERY MANAGEMENT COUNCIL

| • | | Budgeted | Amount Expended to Date | Percent Expended to Date | Balance | Monthly Expenditure |
|------|--------------------------------------------|--------------|-------------------------------|--------------------------------|--------------|------------------------|
| 82-1 | Management Plan Writing and Development | \$ 23,960.00 | \$ -0- | <u>-0-</u> | \$ 23,960.00 | -0- |
| | TOTALS | \$ 23,960.00 | \$ -0- | <u>-0-</u> | \$ 23,960.00 | -0- |

GRANTS RECEIVABLE

| Balance as of February 1, 1982 | \$23,960.00 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Drawdown for February | -0- |
| Increases for February | -0- |
| lance as of February 28, 1982 | \$23,960.00 |
| Annual Control of the | |

| Balance as of February 1, 1982 | \$ -0- |
|---------------------------------|-----------|
| Receipts for February | -0- |
| Disbursements for February | -0- |
| Balance as of February 28, 1982 | \$ -0- |
| | |

REGIONAL FISHERY MANAG Budget Summary Worksheet --

| | İ | | | | |
|---------------------------------------|-----------|----------|------------|-----------|-------|
| <u> </u> | | | 6 , | Projected | 12 mo |
| DV. ALCEDATING (ODEDATIONAL) EVERNOES | Grant | 6 mo. | % | Total (12 | % . |
| DMINISTRATIVE (OPERATIONAL) EXPENSES | FY 82 | Expenses | 6 mo. | mo)exp. | |
| nen contrat | | | | • | |
| PERSONNEL | | | | | |
| Council Member Compensation | | 33,722 | 60% | 61,800 | 109% |
| Staff Compensation | 81,500 | 168,071 | 45% | 371,800 | 97% |
| Special Consultants | 5,000 | 155 | 3% | 11,500 | 230% |
| ?. FRINGE BENEFITS | | | | | ٠. |
| staff22.04% | 84,000 | 37,043 | 44% | 81,900 | 98% |
| Members | _ | _ | _ | - | _ |
| • | | | | • | |
| 3. TRAVEL | | | | | |
| Staff | 43,000 | 27,000 | 63% | 49,750 | 116% |
| Council Members | 54,500 | 30,000 | 55% | 58,600 | 108% |
| S&S Committee Members | 39,000 | 13,210 | 34% | 32,910 | 84% |
| Advisory Panel(s) | 77,500 | 32,000 | 41% | 69,740 | 90% |
| Other | 5,000 | 4,472 | 89% | 8,000 | 160% |
| Ocher.,,. | 3,000 | 1,172 | 0,7,0 | 0,000 | |
| / POULTH COM | | | | | |
| 4. EQUIPMENT | | | | | |
| Non-Capital. | 2 000 | 070 | 008 | 2.000 | 100% |
| Capital (over \$300) | 3,000 | 978 | 33% | 3,000 | 100% |
| | <u> </u> | | | 11 000 | 7.00% |
| 5. SUPPLIES | 14,000 | 3,000 | 25% | 14,000 | 100% |
| | | | | | |
| 6. CONTRACTUAL | | | | | |
| Operational (janitorial, etc.) | 17,000 | 6,800 | 40% | 17,000 | 100% |
| [State liaison Funds] | | | | | |
| | | | | | |
| 7. <u>N/A</u> | | | | | |
| genicia, | | | | | |
| 8. OTHER | | | | | |
| Transportation of Things | 1,000 | 350 | 35% | 1,000 | 100% |
| Rent | 89,000 | 38,000 | 43% | 89,000 | 100% |
| Communications (Phone, Postage, etc. | | 9,000 | 28% | 32,000 | 100% |
| Communications (Fnone, Fostage, etc. | `{-'- | , | | - | _ |
| Utilities | 20,000 | 5,000 | 25% | 20,000 | 100% |
| Printing & Reproduction | , [0,000 | 3,000 | 23% | 20,000 | 2007 |
| Insurance & Taxes | • • | | | | |
| MANAGE . | 1 000 | 050 | 059 | 1 000 | 100% |
| Miscellaneous (specify) | 1,000 | 850 | 85% | 1,000 | TOO% |
| Training, publication, subscriptions, | | | | | 1 |
| TOTALS | 923,000 | 409,65 | 1 44% | 923,000 | 100% |
| • •• | 1 | | | | |
| FMP PROGRAMMATIC (CONTRACT) EXPENSES | | | | | |
| (Summary of attached Budget Details) | • - | | | | |
| | 1 | | | | • |
| SUB-TOTAL Contracts | . 218,449 | | | | |

1,141,449

TOTAL BUDGET

JAY S. HAMMOND. GOVERNOR

| MUCHILL | | MAR MAR | 2 1982 x |
|---------------------------------------|----------------------|-------------------------------------------|----------|
| | AUTION | ROUTE TO | NITIAL |
| OF FISH AND GAME | | Exac. D.s. | 3 |
| OFFICE OF THE COMMISSIONE | R P.O. JUN PHO | BOX 3:2000") EAU, ALASKA: 99802 NE: | -4 |
| - | | 6-30 S c. | |
| | | 36.06.02.2 | |
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| <u>}-</u> | | 500./17 let | |
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| [1 | | | |

February 26, 1982

Jim Branson **Executive Director** North Pacific Fishery Management Council P.O. Box 3136 DT Anchorage, Alaska 99510

Dear Jim:

I reviewed Natural Resources Consultants' (NRC) study proposal entitled "A Review of the Management Process, Strategies and Procedures of the King Crab Fishery." The proposal lacks the requisite detail to seriously evaluate the merits of the project. Also, I am concerned that the limited budget proposed by NRC will not permit the depth of inquiry necessary to address the issues raised. Further, the time frame (completion by June 30, 1982) is likely too short to deal with a topic of such complexity.

The proposal begs the following questions:

- What are the specific objectives and deliverables of this project?
- Which king crab species/stocks will be addressed in this study?
- What specific data sources or analyses are to be included in the project?
- Is there a literature search?
- How is new information to be incorporated in the decision making process?
- Which abiotic factors and ecological interactions will be investigated?

In summary, the proposed investigation needs significantly more detail before I can judge the value of the project. Please advise me if I can provide further assistance.

incerely

Ronald O. Skoog Commissioner

(907) 465-4100



UNITED STATES DEPARTMENT OF COMMERCE

| TO PATES OF PAIR | National Oceanic and Atmospheric Administration NATIONAL MARINE FISHERIES SERVICE Northwest and Alaska Fisheries Center Management |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | 2725 Montlake Blvd. East |
| | Seattle, WA 98112 |
| | |
| • | March 1, 1982 F/NWC2:RJM |
| | |
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| | Francis (197 10) |
| | |
| | |
| Mr. Jim H. Branson, Executive Directo | |
| North Pacific Fishery Management Cour | |
| P O Box 3136DT | Control of the second s |

Dear Jim:

P. O. Box 3136DT Anchorage, AK 99510

Enclosed is the Center's review of the MRC king crab research proposal. Please feel free to contact us if you need further assistance.

Richard J. Marasco Division Director

RJM:dms

Encls

cc: W. Aron



OPTIONAL FORM NO. 10 MAY 1982 EDITION GSA FPMR (41 CFR) 101-11.8

UNITED STATES GOVERNMENT

Memorandum

F/NWC2

Richard Marasco

DATE: March 1, 1982

FROM

F/NWC2

Jerry Reeves

SUBJECT: NRC Research Proposal on Review of King Crab Management

This research proposal stresses the study of factors determining the abundance of king crab. A thorough examination of abiotic and ecological factors pertaining to king crab abundance is needed, and this study could fill the need to a large degree. I think, however, there are some significant omissions:

Examination of the "handling mortality" effect.

The available evidence indicates handling mortality or some other fishery-related mortality may be occurring.

More specifics on the variables to be related to abundance.

It is difficult to judge how much "bang for the buck" without further information here.

More detail on how the study of various density-independent factors relates to evaluation of management strategies.

If king crab abundance is related to cod abundance, bottom temperature, number of pot lifts, other factors or some combination of these, how can this be expected to impact management strategies? More clarification is needed.

As far as duplication of ongoing work, I see none in the short term. This is a subject that should be examined, but is not being worked on currently, and I don't see anyone in NMFS doing anything on it in the next year.

JR:dms





| | ACTION | ROUTE TO | 2 |
|---------------------------|-------------|-----------------------------------------------------|--------|
| University of A | daska | Describes Average Offs | J |
| Statewide System of Highe | r Education | | |
| | 3-Bu | A SEA GRANT PRO nnell, 303 Tana banks, Alaska | ma |
| | | 1 5. 27/8-1 | |
| March 2, | 1982 | MAR | 5 1982 |

Mr. Jim H. Branson Executive Director North Pacific Fishery Management Council P.O. Box 3136DT Anchorage, AK 99510

The International Seafood Trade Conference

Dear Jim:

Attached is a revised budget page for the subject proposal which was submitted to you for consideration by Dick Johnston.

As you will see, interest in partially supporting this effort has come from many agencies. Before we can go much further with planning the conference, we will need to have the funds definitely committed.

If you need any further information, please let us know.

Yours truly,

Brenda R. Melteff Project Coordinator

BRM: lib Attachment

BUDGET ESTIMATE

| Salaries and Wages: | |
|-------------------------------------------------|-----------|
| Workshop coordination - 2 months | No charge |
| Workshop secretary - 4 months @ \$2,204 | \$ 8,816 |
| Staff benefits (24%) | 2,116 |
| Travel | • |
| Administrative | 5,000 |
| Workshop participants (20 @ \$1,700) | 34,000 |
| Other | |
| Workshop rooms rental | 2,000 |
| Printing and photocopy | 1,000 |
| Communication | 1,000 |
| Supplies | 500 |
| Total Cost | \$54,432 |
| | |
| Expected contributions from other sources: | 25 222 |
| Alaska Dept. of Commerce & Economic Development | 25,000 |
| Alaska Fisheries Council | 2,500 |
| National Marine Fisheries Service | 3,000 |
| Alaska Fisheries Development Foundation | 5,000+ |
| North Pacific Fishery Management Council | 7,500 |
| Alaska Seafood Marketing Institute | 3,000 |
| | 46,000+ |

Other sources being approached for support:

Japan Fisheries Association
Rainier Bank
Seattle First National Bank
Sea Grant College Program (already providing services in kind)
West Coast Fisheries Development Foundation

DEPARTMENT OF FISH A ND GAME OFFICE OF THE COMMISSIONER P.O. BOX 3-2000 JUNEAU, ALASKA, 99802 PHONE:

March 15, 1982

Jim Richardson North Pacific Fisheries Mgmt. Council P.O. Box 3136 DT Anchorage, Alaska 99510

Dear Jim:

The Department wishes to submit one proposal for Council FY83 programmatic funding -- A DOMESTIC GROUNDFISH FISHERY LOGBOOK PROGRAM.

The development of a data base through such a program, which would affect the Bering Sea/Aleutian Islands and the Gulf of Alaska FMPs, could make significant contributions to management.

Although the Commercial Fisheries Division has done the initial logbook design, we have had difficulty in acquiring the funds to implement the program.

We feel it is important to begin this program for the Alaskan domestic fisheries and therefore are coming to the Council for FY83 support. The logbook program is no longer part of the Department's FY83 budget. However, we do intend to resubmit it for FY84 consideration by the State.

During its review of FY83 proposals, I hope the Council will consider both the contribution that a domestic logbook program can make to the groundfish plans and the budget situation of the Commercial Fisheries Division.

Sincerely,

Guy Thornburgh Program Manager

Extended Jurisdiction Section

Proposal to the North Pacific Fishery Management Council

for

A Domestic Groundfish Fishery Logbook Program

Period of Contract:

October 1982 to October 1983

Costs:

\$167,300

Contractor:

Alaska Department of Fish and Game Division of Commercial Fisheries Box 3-2000 Juneau, Alaska 99802

INTRODUCTION

Alaskan waters provide one of the world's largest groundfish fisheries. Foreign vessels have dominated this fishery for the past two decades, but in recent years, a domestic fishery has emerged. This fishery in Alaska has steadily increased since 1978. In 1979 the catch increased about twofold to 19 million pounds and increased fivefold in 1980 with a catch over 100 million pounds. In 1981 the total domestic catch more than doubled (240 million pounds). Although large domestic offshore trawlers associated with the joint ventures are responsible for the majority of this increase, new shore-based trawl and longline fisheries for Pacific cod, sablefish, and rockfish are also developing and in 1981 produced over 26 million pounds. With this increase in domestic effort comes the responsibility of managing a new and expanding domestic fishery and its interaction with other fisheries.

The management of the groundfish fishery in Alaska is shared by the Federal government and the State of Alaska. The Federal government through the Magnuson Fisheries Conservation and Management Act (MFCMA) has the management authority, in cooperation with the North Pacific Fisheries Management Council (NPFMC), for the Fisheries Conservation Zone (FCZ), while the State manages the resource within the territorial sea and collects data from the domestic groundfish fishery within both zones.

STATEMENT OF NEED

Although historically groundfish research has been conducted in both the Gulf of Alaska and the Bering Sea, the collection of data from the domestic fishery represents a new and extensive challenge. Both the Federal and State management regimes including the North Pacific Fisheries Management Council, the National Marine Fisheries Service, and the Alaska Board of Fisheries are in need of data on the domestic groundfish fishery. Because the vessels within the domestic groundfish fishery component often fish in areas not historically fished by the foreign vessels, it is especially important that this domestic component be monitored to obtain biological and effort data.

The measurement of catch per unit effort (CPUE) is a long established means of measuring relative changes in fish stock abundance. Long-term changes in catch per unit of time for mobile gear such as trawls and catch per unit of gear for passive gear such as pots and longline can be correlated with abundance changes. Logbooks provided by fishermen have historically been used to collect this CPUE data. Moreover, logbooks provide species composition, catch area and depth, and technological data necessary for effective fisheries management. In addition, although CPUE data used to determine abundance changes can be biased by shifts in catchability and fishing efficiency, logbooks provide information which can be used to compensate for these shifts.

Because of the critical management need, the collection of CPUE data is required by both the Gulf of Alaska and Bering Sea groundfish management plans. Presently, however, accurate effort data is not being collected. Within the joint venture fisheries, catch data by individual fishing vessel is not recorded; and for those vessels delivering onshore, fish tickets, which provide catch information only by very general fishing area, document the catch. Although observers provide catch and effort information, coverage in limited and expensive when compared to logbook programs. The proposed project will collect and analyze CPUE and associated data provided by the domestic fleet, including the joint venture fishery, fulfilling fishery management needs and will provide U.S. fishing captains with summaries of their own fishing activities. All individual records will remain confidential.

OBJECTIVES

The domestic logbook program will collect and analyze catch and effort information contributing to the management of the groundfish fishery, while providing the fishermen with a standardized record of their own groundfish catches.

STATEMENT OF WORK

The above objective will be accomplished for the trawl fishery by the:

- 1. Development, distribution, and collection of an accepted standardized logbook for U.S. groundfish fishermen;
- 2. Development of computer software to enter and analyze logbook data;
- 3. Analysis and reporting of overall catch and effort summaries and presentation of summaries of individual records to each participating captain.

PROCEDURES

With the hope of future funding and after soliciting industry input, the Department of Fish and Game developed a standardized trawl logbook and distributed copies to groundfish fishermen. However, the limitation of funding during the present fiscal year has prevented the Department from actively pursuing the logbook project. As proposed the logbook will provide a means of recording fishing time, location, depth, catch by species, and other pertinent information for each tow. Characteristics such as vessel length, horsepower, and net dimensions will also be collected and later used to standardize catches from different vessels. Logbook data will be recorded in duplicate so that the original copy of the data will remain on the vessel. Port samplers will be hired to collect the duplicate copies of the logbook pages at fish processing locations. These samplers will also interview vessel captains to ensure accurate data collection. From prior logbook projects the Department has found that interviews are essential to a successful logbook program, and that the quality of data is directly related to the amount of personal contact with the fishermen. The data will be entered on a micro-computer

so that timely in-season catch reports can be generated. A biometrician will be hired to coordinate data collection, data entry, computer software development, and analysis of the logbook data.

At the end of the fishing season, each participating vessel will receive a computer report summarizing the vessel's catch for the season. This report will summarize CPUE by depth, fishing area, and target species so that fishermen can more easily analyze fishing performance. All data submitted by individual vessels will remain confidential and will be released only in summarized form. Reports summarizing catch rates from all vessels by general area will also be distributed to participating vessels. In addition a logbook format for passive gear (longline and pots) will be developed and initially distributed to interested fishermen.

In the future the domestic logbook data can then be combined with data collected from foreign vessels providing a comprehensive data base for the entire groundfish fishery.

PROGRAM COSTS

| | | Cost (thousands \$'s) |
|------------------------------------------------------------|----------------|---------------------------|
| Biometrician/Programmer Fisheries Biologists | 12 mm 26 mm | 41.3 |
| | Subtotal | 119.3 |
| Travel and per diem | | 8.1 |
| Computer Rental/Lease Air Charter Printing and other | | 11.0 4.5 <u>5.5</u> |
| | Subtotal | 21.0 |
| Sampling Materials Computer and Office Suppl | 1 es | 0.8 1.4 |
| | Subtotal | 2.2 |
| | TOTAL | 150.6 |
| Overhead | | <u>16.7</u> |
| | PROGRAM TOTAL | 167.3 |

North Pacific Fishery Management Council

Clement V. Tillion, Chairman
Jim H. Branson, Executive Director

Suite 32, 333 West 4th Avenue
Post Office Mall Building

March 12, 1982

MEMORANDUM

TO:

Jim Richardson

Staff Economist

FROM:

Donald H. Rosenberg

SUBJECT:

Research Proposal

Enclosed is a research proposal for consideration for possible Council funding under the FY83 programmatic research funding.

DHR:jp Enclosure Short Title: Symposium on Biology and Management of Sablefish

Relevant Fishery Management Plans:

- 1) Groundfish in the Bering Sea/Aleutian Area
- 2) Groundfish in the Gulf of Alaska
- 3) Pacific Groundfish

OBJECTIVE AND NEED

The objective is to hold a scientific symposium where the current status of the biology and the management practices will be received and future research needs identified. This resource is currently under heavy fishing pressure (both domestic and foreign). Future management plans must be developed based upon the best available data and management techniques. Results from this symposium will be that of information exchange between symposium participants and from the symposium proceedings.

EXPECTED BENEFITS

It is expected that this symposium will provide information which can be used to develop appropriate management techniques.

WORK TO BE PERFORM

The symposium will be coordinated by the University of Alaska Sea Grant Program. Ms. Brenda Melteff will be responsible for coordinating programs and facilities. A program committee with scientist from the NPFMC, ADF&G, NMFS, University of Washington and the Pacific Council will be established. Current plans call for holding the symposium in March 1983 in Anchorage, Alaska.

URGENCY AND DURATION

This information is needed immediately. Major cost of the symposium will be covered under the Conference and Institutes project of the Alaska Sea Grant Program. Each participating agency will be expected to cover the cost of their scientific participation. Funds are requested to assist in travel and per diem costs for invited United States or foreign participants. Funds to support this travel will also be requested from ADF&G, the Pacific Council and the NMFS.

BUDGET ESTIMATE

Travel \$4,000.00

DATE AND ORIGINATOR OF PROPOSAL

Donald H. Rosenberg Alaska Sea Grant Program University of Alaska (907) 474-7086

March 12, 1982

MAR 8 1987

March-3,

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Center for Quantitative Science in Forestry, Fisheries, and Wildlife

NORFISH—A Sea Grant Marine Resource Project

Jim Richardson
North Pacific Fishery
Management Council
P.O. Box 3136DT
Anchorage, AK 99510

Dear Mr. Richardson;

After receiving your memorandum announcing that the Council was accepting proposals for programmatic research funding, I had a chance to discuss with Clarence Pautzke some ideas I had about a project concerning golden king crab in the Bering Sea. Clarence suggested that I submit a proposal.

Based on U.S. observer reports, golden king crab are known to occur on the eastern Bering Sea and north Aleutian continental slopes. Considering the precipitous drop in red king abundance in the Bering Sea, it is timely to ask: "Can golden king crab support a limited fishery in the Bering Sea?" The major objective of the enclosed proposal is to examine the incidental catch rates of golden king crab in the Japanese deep water flounder fishery with the objective of determining abundance, size distribution and seasonal migrations. I have been thinking about such a study for some time and have worked with Janet Wall of the U.S. observer program in developing a special sampling program for golden king crab. The first phase of this program, which is now proceeding well, is the collection of data which will allow estimation of the size at maturity. Size at maturity is used to set the minimum size limits for king and tanner crabs. Two other king crab PDT members, Jerry Reeves and Bob Otto, are also interested in golden king crab, but, like me, they have other, more pressing, work and have not proceeded much beyond preliminary examination of some data. The purpose of the proposal is basically to free some of my time so that I can analyze what data is now available and coordinate the collection of other types of data.

Sincerely

David A. Somerton King Crab PDT Member

DAS/ag encl.

Title: Distribution, abundance and some aspects of the life history of golden king crab, Lithodes aequispina, in the eastern Bering Sea.

Principal Investigator:

David A. Somerton
Center for Quantitative Science in Forestry, Fisheries and Wildlife
University of Washington HR-20
Seattle, WA 98195
tele: (206) 543-2016

Fishery Management Plan: Western Alaska king crab

Objectives and Need:

The abundance of red king crab (<u>Paralithodes camtschatica</u>) in the eastern Bering Sea decreased dramatically in 1981, and, according to NMFS forecasts, will probably continue to remain at low levels for the next few years. Since other commercial crab species in the Bering Sea, such as tanner crab (<u>Chionoecetes bairdi</u>, <u>C. opilio</u>) and blue king crab (<u>P. platypus</u>), are either fully exploited or also declining in abundance, crab fishermen must seek alternative species. One potential alternative is the golden king crab (<u>Lithodes aequispina</u>). Although the golden king crab is presently harvested in southeast Alaska and occasionally harvested near Adak, it has not been exploited in the eastern Bering Sea.

Golden king crab occur in deeper water than red or blue king crab. Because of this, they are rarely caught by the Bering Sea crab stock assessment surveys conducted by the National Marine Fisheries Service. Golden king crab are, however, incidentally caught by foreign, especially Japanese, stern trawlers fishing for deep water flounders. U.S. observers aboard these vessels record the catch per unit effort of golden king crab as well as the size and sex of individuals sampled from the catch. Recently, at my request, the observers began collecting morphometric and egg data which can be used to estimate the size at maturity.

The proposed study consists of analyzing the U.S. observer data with two primary objectives:

1) Determine the size distribution and sex ratio of golden king crab by area, depth and season on the Bering Sea and north Aleutian continental slopes. Possible seasonal migrations, similar to those of red and blue king crabs, will also be examined.

2) Determine the size at maturity of male and female golden king crab. Size at maturity can be used, as it is for red and blue king crab, to set appropriate minimum size limits.

So that Bering Sea fishermen will have quick access to the results of this study, summary articles will be written for either Fishermen's News or Alaskan Fishermen's Journal.

Expected Benefits:

Although golden king crab will never support a fishery on the scale of the Bering Sea red king crab fishery, it may provide a source of supplemental income to some Bering Sea crab vessels that cannot be modified for other uses such as ground fishing.

Desired Period: 1/1/83 - 6/30/83

Budget Estimate:

| Salaries: D.A. Somerton, Fish Biologist 6 mos. @ 100% | 12,348 |
|-------------------------------------------------------|----------|
| Employee Benefits: | 2,223 |
| Misc. Services: | 190 |
| Misc. Supplies: | 175 |
| Total Direct Costs: | 14,936 |
| Indirect Costs (33.9% of TDC): | 5,064 |
| TOTAL BUDGET: | \$20,000 |



UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration NATIONAL MARINE FISHERIES SERVICE

Northwest and Alaska Fisheries Center 2725 Montlake Boulevard East Seattle, WA 98112

F/NWC2:JT

JAN 29 1983

TO:

NPFMC - Jim Richardson

FROM:

F/NWC2 - William Aron

F/AKR - Robert McVey

SUBJECT:

Marine Economic Data Sheets (MEDS) proposal for FY 83 funding

The usefulness of the proposed Marine Economic Data Sheet (MEDS) program to the NPFMC and NMFS would be increased by: 1) changing the list of vessel types for which MEDS are to be provided to include more vessels which participate in fisheries managed by the NPFMC, 2) assuring that the MEDS include sufficient information that they can be updated using CPI and/or PPI indexes, and 3) including information that will provide a basis for allocating a proportion of fixed costs to other fisheries. With respect to the responsibilities of the NPFMC, a more appropriate list of vessels would include a Bering Sea crabber, a joint venture trawler, an independent groundfish trawler, and a blackcod longliner as well as a Petersburg trawler which is currently included in the proposal.

Although it is recognized that the interests of local Marine Extension agents and the cooperation of fishermen will affect the ability of the principal investigator to generate the MEDS listed above, it would be desirable to have the principal investigator determine the feasibility of generating specific MEDS prior to approving the proposed study.

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Department of Agricultural and Resource Economics

Oregon State University

Corvallis, Oregon 97331 (503) 754-2942

February 23, 1982

Mr. Jim Richardson North Pacific Fishery Management Council P.O. Box 3136 DT Anchorage, AK 99510

Dear Jim:

I enjoyed visiting with you on the phone the other day and learning of your plans and activities. Thanks very much for offering to deliver the attached to Jim Branson. I was pleased to have the opportunity to meet him during my recent trip to Anchorage and appreciate his willingness to consider our proposal.

In preparing this proposal I have tried to adhere to the format used in the document <u>Process for Identifying and Requesting Funding for Needed</u> Fisheries Research.

Thanks again for your help and best wishes.

Sincerely,

Richard S. Johnston

Prof essor

RSJ:mb

Attachment

cc: Abby Gorham

THE INTERNATIONAL SEAFOOD TRADE CONFERENCE ANCHORAGE, ALASKA

Proposal to the North Pacific Fishery Management Council

RELEVANT FISHERY MANAGEMENT PLANS

The International Seafood Trade conference will be relevant to all fishery management plans. It will provide information on seafood market channels in a number of countries, identify demand and supply characteristics of selected seafoods in these countries and lead to a system of data exchange among participating countries. Such information will help improve the social and economic components of fishery management plans for those species entering international markets.

OBJECTIVES AND NEED

It is the objective of this proposal to plan and conduct a five-day international seafood trade conference. Representatives from industry, government, and universities and from 15 countries will participate.

Papers will be presented and discussed, and a proceedings publication will be prepared for later distribution.

The United States is an active participant in international seafoods trade, as both an exporter and an importer. International seafood trade is more critical to Alaskan fisheries than that of any other state. With changes in market conditions, transportation costs, exchange rates, and world-wide supply conditions and policies, there is an increasing need for understanding what roles these factors play in affecting trade.

Historically, for example, Alaska's seafood industry has exported a large percentage of its product to Japan. In recent years the industry

has become aware of the economic dangers of overdependence on a single foreign buyer as well as the potential opportunities of exporting its products to other countries. Alaska's tremendous potential for competing in the international groundfish block market will push Alaska's fisheries further into the international trade arena.

This large and increasing awareness of the opportunities present in international seafood product trade creates a large and growing demand for information on these markets. To compete effectively, a company must be aware of prices, exchange rates, tariff and non-tariff trade barriers, incomes and tastes in seafood products, market structure and seafood distribution patterns, regulations affecting domestic marketing, and public policy on fishery management and trade in seafood, for each country in the trading pattern.

In order to meet this tremendous demand for information on international seafood markets, the University of Alaska Sea Grant College Program and the Oregon State University Department of Agricultural and Resource Economics have undertaken a joint research effort to understand the factors which influence international trade in seafood products. The first phase of this effort has resulted in collaboration and communication with 21 researchers in 15 countries. These researchers have excellent knowledge of seafood marketing in their respective countries (see Attachment 1 for a list of participants). They have an interest in pooling data on international seafood trade and establishing joint research programs (see Attachment 2 for an overview statement which appeared in a recent issue of the U.K.'s Fisheries Economic Newsletter).

The International Seafood Trade conference will bring these and other seafoods people toegether in Anchorage, Alaska. This conference will provide a forum where researchers, industry members, and government representatives from at least 15 nations can collaborate on projects, discuss mutual interests, and share information.

One of the major objectives of the conference is to establish an International Seafood Market Research and Data Exchange which in turn would:

- 1. Serve as a clearing house and data bank for data on the international trade of seafood products. Data would be computerized for easy retrieval and updating.
- 2. Be a coordinating body for international joint research projects which seek to understand international markets, marketing, and distribution systems for seafood products.
- 3. Serve as an administrative entity to provide publication services for research and newsletter activities, and help plan periodic international conferences on trade in seafood products.

EXPECTED BENEFITS

With increased understanding of international seafood markets, and factors affecting them, participants should be in a better position to make informed decisions, whether private (e.g., industry members), public (e.g., management agencies), or research (e.g., university analysts). With participants present from so many countries and so many sectors of the seafood economy, valuable contacts should be made which will lead to improved future communication and exchange of seafood marketing data and information.

Since the conference will be held in Anchorage, interested Alaskans will be able to hear the presented papers and discussions on research problems in international seafood product trade, and offer direct comments through discussion with other participants.

The data bank would not only be an invaluable aid to ongoing academic research, but also provide industry, state and federal agencies, and the general public with the most complete and easily accessible information possible on various factors affecting the international flow of seafood products. The international data set would include such information as exports and imports of various products, tariff and non-tariff barriers, exchange rates, market conditions and prices, and any other pertinent data necessary for decision making in an international marketplace.

URGENCY AND DURATION

In response to a questionnaire, researchers from 15 countries have expressed an interest in participating in a conference during late summer or early fall. Additional participation is anticipated. To minimize potential conflicts with the Alaska salmon and crab seasons it is proposed that a five-day conference be held in Anchorage during early September. With the momentum for this cooperative undertaking at its peak it is crucial that the conference be held soon in order to share views, data, and results, and to establish a structure for further cooperation.

A tentative agenda is enclosed. Many of the papers to be presented are based on work undertaken since the inception of this cooperative undertaking. It is expected that all such papers would be available prior to the conference, thereby maximizing time for discussion and exchange of views.

The Conference Planning Committee presently consists of:

Clinton E. Atkinson, special consultant to the director of the Alaska Sea Grant College Program.

Mary A. Brock, Department of Agricultural and Resource Economics, Oregon State University.

Abby H. Gorham, Assistant Professor of Marine Resource Economics, University of Alaska.

Richard S. Johnston, Professor, Department of Agricultural and Resource Economics, Oregon State University.

Brenda R. Melteff, project coordinator, Alaska Sea Grant College Program.

Frederick J. Smith, Professor, Department of Agricultural and Resource Economics, Oregon State University.

This committee is being expanded to include both industry and agency representation.

ATTACHMENT 1

Participants:

Mr. Van Roose Conseil Professionnel De La Peche Avenue Leopold II Hotel De Ville 8400 Ostende Belgium

Mr. Blaine McEachern
Marketing Division
Department of Fisheries and Oceans
1090 West Pender Street
Vancouver, B.C.
Canada V6E 2P1

Mr. Hans Lassen
The Danish Institute for Fisheries and Marine Research
Charlottenlund Slot
DK-2920
Denmark

Mr. Jørgen Lokkegaard Fiskeriministeriet Borgergade 16 1300 København K Denmark

Dr. John Butlin and Dr. Trevor Young Department of Agricultural Economics University of Manchester Manchester M13 9PL England

Dr. Denez L'Hostis INRA au College de France Laboratoire de Biologie Marine 29110 Concarneau France

Mr. Rolf Lasch and Dr. U. Sommer Institut Fur Landwirtschaftliche Marktforschung 3301 Braunschweig Bundesalle 50 Federal Republic of Germany Mr. Alex Heskin
Bord Iascaigh Mhara
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Dublin 4
Ireland

Professor Robert O'Connor
The Economic and Social Research Institute
4 Burlington Road
Dublin 4
Ireland

Professor Yutaka Hirasawa Tokyo University of Fisheries 4-5-7, Konan, Minato-ku Tokyo Japan

Mr. Wil Smit and Mr. Jos Smit Landbouw-Economisch Institut Conradkade 175 2517 CL Den Haag The Netherlands

Professor Gerhard M. Gerhardsen
Institute of Fisheries Economics
Norwegian School of Economics and Business Administration
5000 Bergen
Norway

Professor Terje Hansen
Institute of Business Administration
Norwegian School of Economics and Business Administration
N. 5000 Bergen
Norway

Mr. Neil B. McKellar
Fishery Economics Research Unit
Sea Fish Industry Authority
10 Young Street
Edinburgh EH2 4JQ
Scotland

Mr. Rainis Cedrins
Department of Economics and Statistics
The Swedish University of Agricultural Sciences
S - 750 07 Uppsala
Sweden

Dr. Abby Gorham Alaska Sea Grant Program University of Alaska Fairbanks, Alaska 99701 USA Dr. Frederick Smith and Dr. Bruce Rettig
Department of Agricultural and Resource Economics
Oregon State University
Corvallis, Oregon 97331
USA

Dr. James Crutchfield Department of Economics University of Washington Seattle, Washington 98195 USA

Dr. Richard S. Johnston
Department of Agricultural and Resource Economics
Oregon State University
Corvallis, Oregon 97331
USA

Professor Yu ChungYul National University of Fisheries of Busan Haewundae Busan, 60704 Korea

Masato Ikematsu, Professor Faculty of Marine Science & Technology Tokai University Orido, Shimizu, Shizuoka Japan

Tsune Kusakawa, Assistant Professor Faculty of Marine Science & Technology Tokai University Orido, Shimizu, Shizuoka Japan

Vladamir Kaczynski Center for Quantitative Science in Forestry Fisheries and Wildlife, College of Fisheries University of Washington Seattle, Washington 98195 USA

ATTACHMENT 2

COOPERATIVE RESEARCH ON INTERNATIONAL TRADE IN SEAFOODS

What are the impacts of changes in fisheries jurisdictions, ownership patterns, transportation costs, and government trade policies on international trade in seafoods? Attempts to answer this and related questions have been made in the past and some successes have been realized. However, most of these attempts have been made by economists operating somewhat in isolation, with limited access to data and with little feel for market relationships in foreign countries. An effort is currently under way to explore trade issues through the cooperative efforts of economists from several seafood-trading countries.

Coming from universities, government bodies, and private industry, the researchers are brought together by a common interest in fisheries issues and a willingness to try a team approach to research. Currently, participants come from several European countries, Canada, the U.S., and Japan. Each is responsible for obtaining his or her own funding. Membership is growing and it is hoped that the undertaking will become a vehicle through which trade issues can be addressed and data shared among many countries.

The overall objective of the undertaking is to improve understanding of the way in which international seafood markets work and of factors which influence trade flows and prices. More specific objectives include the following:

1. to provide a forum for exchange of ideas on how to study traderelated issues in fisheries; e.g., generation of testable hypotheses and consideration of alternative analytical models;

ATTACHMENT 3A

PROPOSED TRADE CONFERENCE September 7-11, 1982 Anchorage, Alaska

Tentative Agenda

| Day 1 | A.M. | Registration Plenary session Welcome Introductions |
|-------|--------------|-----------------------------------------------------------------------------------------|
| | P.M. | "Overview" papers by participant countries |
| Day 2 | A.M. P.M. | |
| Day 3 | A.M. P.M. | "Technical" papers by participant countries "Technical" papers by participant countries |
| Day 4 | A.M. P.M. | Workshops Final plenary session and wrap-up |
| Day 5 | | Optional tours |

ATTACHMENT 3B

PROPOSED TRADE CONFERENCE

Suggested Papers

- A. Overview papers; results papers
 - 1. Extent, role, and growth of multinational corporations in seafoods
 - 2. Effects of extended fisheries zones on future supplies and international trade
 - 3. Interrelationships in demand among various species: degrees of substitution in the marketplace among seafoods and between seafoods and other protein sources
 - 4. Trade between Canada and Japan in herring roe
 - 5. Seafood trade among Pacific Rim countries in seafoods, including the role of changes in transportation costs, extended fisheries zones, exchange rates, and tariff, non-tariff trade barriers
 - 6. An analysis of international markets for salmon
 - 7. An analysis of international markets for groundfish blocks
 - 8. Non-tariff trade barriers
 - 9. Market channels for seafoods in various countries
 - 10. A common fishery policy for the European Community: effects on trade
 - 11. The role of aquaculture products in seafood trade

B. Technical Papers

- 1. Disequilibrium models for seafoods
- 2. Theoretical issues surrounding the treatment of exchange rates in international trade analysis
- 3. The theoretical treatment of multinational corporations in trade models
- 4. Theoretical issues in trade models where the basic resource has open access characteristics

BUDGET ESTIMATE

| Salaries and Wages: | | |
|--------------------------------------------------------|--------------------|--|
| Workshop coordination - 2 months | No charge 8,816 | |
| Workshop secretary - 4 months @ 2,204 | | |
| Staff benefits (24%) | 2,116 | |
| Travel | | |
| Administrative | 5,000 | |
| Workshop participants (20 @ 1,700) | 34,000 | |
| Other | | |
| Workshop rooms rental | 2,000 | |
| Printing and Photocopy | 1,000 | |
| Communication | 1,000 | |
| Supplies | 500 | |
| Total Cost | 54,432 | |
| Expected contributions from other sources: | | |
| Alaska Department of Commerce and Economic Development | 25,000 | |
| Alaska Fisheries Council | 2,500 | |
| National Marine Fisheries Service | 3,000 5,000+ | |
| Alaska Fisheries Development Foundation | | |
| | 35,500+ | |

Other sources being approached for support:

Japan Fisheries Association

Rainier Bank

Seattle First National Bank

Sea Grant College Program (already providing services in kind) West Coast Fisheries Development Foundation

DATE AND ORIGINATOR OF PROPOSAL

Clinton E. Atkinson Alaska Sea Grant College Program (206) 524-4242

Abby H. Gorham Alaska Sea Grant College Program (907) 474-7961

Richard S. Johnston

Department of Agricultural and Resource Economics
Oregon State University
(503) 754-2942

Date: February 23, 1982