APPENDIX A

Program:	RENEWABLE MARINE RESOURCES
Project:	R/14-01
Title:	Market Structure of Alaska Seafood Processing Industries
Principal Investigator:	F. L. Orth
Unit:	School of Management

Funding Information:

Present level:	SG: $0 UA: $0	Proposed level:	SG: $70,500 UA: $35,900
Date Initiated:	1 Nov. 76	Est. Comp. Date:	31 Oct. 79

BACKGROUND AND NEED

Alaska ranks among the leading producers of food-fish products in the United States. The processing of its harvests occurs in Alaska and the Pacific Northwest and the resulting products are distributed nationwide. Given the prominence of Alaska as a fisheries state, and considering the importance of the fisheries to Alaska's economy, one would expect that policy makers, both public and private, would have at their disposal a wealth of pertinent economic data and analyses. Such is not the case presently, nor has it ever been. In recent years, however, progress has been made toward the accumulation of an economic information base pertaining to the harvesting sector of Alaska's fisheries (Alaska Commercial Fisheries Entry Commission, 1974; Kresge, 1974; Ness, 1975; Ness and Liao, 1976; Rogers, 1972; Smith, et al., 1975), although the aggregate of these studies represent only a modest encroachment on the informational needs for management. Additionally, some attention has been paid in recent years to the marketing of seafood (consumer characteristics, product forms, export markets, etc.) and some of these studies have direct or indirect relevance to Alaska's fisheries (Anderson, et al., 1975; Langmo, et al., 1975; Schary, 1972).

In contrast with the progress research has made in these areas, there is a dearth of information on the structure of Alaska seafood processing industries. The only exception is the canned salmon industry, and even here the studies are over a decade old (DeLoach, 1939; Rubinstein, 1966). Market structure studies are underway at Oregon State University, Texas A & M University, and the University of Rhode Island and a study of the Florida shrimp processing industry has already resulted in two research reports (Alvarez, 1976; Anderson, 1975; Jensen, 1975; and Manaseo, 1975). The significance of the structure of food processing industries has long been recognized by the U. S. Department of Agriculture and the Federal Trade Commission (see for example: FTC, 1966 and FTC, 1975). These agencies have committed significant resources to studies of market structure and performance related to land-based food processing industries.

A general statement concerning the need for the research being proposed is as follows: Public policy actions are essentially an attempt to convert *what is* into a society-perceived *what ought to be*. To know what policy actions (direction and magnitude of change in instrument variables) are appropriate, one must first have an accurate perception of the entity which is to be affected directly or used to effect changes elsewhere. In the present context, the entity in question is the processing level of the fisheries sector of the Alaska economy. Research is needed that will significantly reduce the lack of knowledge about the processing entity; that is, we need to know more about what exists and why before we can obtain desired changes at a minimal or even reasonable cost. The general failure of fisheries management policies from an economic standpoint (in terms of the private and social costs imposed, and in some cases the failure even to derive benefits) testifies to the unmet informational needs of public policy formulation. It has also been reported to me that salmon canning firms made extensive use of the Rubinstein study (1966) as a reference document; this suggests that there are unmet informational needs relating to market structure in the private sector as well.

There is a potentially long list of specific uses for basic information on seafood processing market structure, including:

- Provide a description of structural change within the processing sector.
- Assist in understanding the underlying economic reasons for structural change.
- Assist in evaluation of public policy designed to alter the allocation of resources and/or the distribution of benefits arising from the fishing industries, e.g., limited entry and extended jurisdiction.
- Assist private firms in understanding the competitive environment in which they operate.
- Assist private firms in evaluating their past performance in an industry-wide and historical context, and assist in planning future action with respect to new investment, pricing and product forms.
- Provide factual and objective economic information for fisheries management in a form that can be readily updated.
- Assist in understanding the determination, and distributional implications, of ex-vessel and wholesale prices.

ACCOMPLISHMENTS

Project development money of the Alaska Sea Grant Program was utilized to support the time and travel necessary to develop this

project. This money has been used to conduct a literature search, identify published data sources, acquire some of the needed data, make contact with interested members of the Alaska legislature, make contact with Alaska Department of Fish and Game which holds some of the needed data, make preliminary contact with industry whose cooperation is necessary to obtain some of the desired information, and develop coordination with other projects through attendance at the National Sea Grant Seafood Marketing Workshop and through meetings with Oregon State University economists. In general, accomplishments resulting from Sea Grant support of the development of this project are implicitly evident in the content of this proposal.

OBJECTIVES

To develop for use by industry and public resource management agencies a background document or series of background documents which will present a systematic, comprehensive, and objective picture of the structure of Alaska's major seafood processing industries -- salmon, crab, shrimp and halibut. The specific objectives of this proposed research project are as follows:

1. Provide a data and information base related to seafood processing market structure; the following informational components need to be built up, organized, analyzed, and reported:

    - The biological environment and its effects on the supply conditions in each market.
    - The technological environment and its effects on the supply conditions in each market.
    - Description and quantification of vertical market channels in each market.
    - Seller concentration at the processing level of each market for the latest time period for which information is available.
    - Changes in seller concentration through time at the processing level, i.e., develop information on market concentration for one or more past time periods for comparison with the above.
    - Describe ownership interties, including the degree of foreign involvement, in each market at the processing level to include ties with other levels of marketing channel.
    - Assess the sources and significance of barriers to entry in each market.

- Assess the sources and significance of product differentiation in each market.

- Assess the extent and significance of vertical integration and diversification.

2. Explain changes in market concentration at the processing level in terms of its basic economic determinants, e.g., technology, biological supply constraints, supply instability, seasonality, etc.

3. Analyze the economic implications of the observed market structure, including the following:

   - Impact of structure on processing firms.

   - Impact of structure on fishing firms.

   - Impact of structure on consumers.

   - Impact of structure on static and dynamic efficiency.

   - Impact of structure on the incentive and ability to develop new resources.

APPROACH

It is proposed that the work leading to the accomplishment of the above objectives be organized into Phase I (objectives 1 and 2 above) and Phase II (objective 3 above). Phase I will be organized into groups, one for each seafood processing market identified for analysis and subgroups, by research tasks (see below) that must be accomplished for each market. Phase I is expected to be completed within two funding periods. Phase II, the organization of which will be determined after Phase I is near completion, can probably be completed within one (the third) funding period.

The research tasks which need to be completed are the following:

1. Develop conceptual framework: This involves the definition and selection of *relevant markets* (theoretical industries) to be studied (Bain, 1968).

   The selection criteria will be:

   A. Significance of market (species) as judged by amount of harvest and/or value.

   B. Product forms -- to determine the relevant product market.

C. Geographic boudries -- to determine relevant geographic market.

D. Data availability and possibilities for primary data collection.

2. Collect data: concurrently determine for each relevant market:

A. Market channels (describe and measure) -- survey.

B. Ownership interties -- survey and secondary sources.

C. Basic conditions (biology, technology, demand, etc.) -- secondary sources and survey.

D. Market concentration -- secondary sources.

3. Orgainze and analyze data: integrate 2A through 2D for each market.

4. Write report(s) on Phase I.

5. Define future (Phase II) research needs and objectives.

INTERACTION

The basis for the coordination of this proposed research with other seafood market structure studies has been established through the Seafood Marketing Workshop sponsored by the National Sea Grant Office, March, 1976, and by a subsequent meeting with Fred Smith and Dick Johnston at Oregon State University. The researchers at the University of Alaska and Oregon State University are presently evaluating the need for and the feasibility of a Memorandum of Agreement. It is hoped that the studies can be made sufficiently consistent to allow their respective research outputs to be aggregated, where appropriate, to form a more comprehensive regional description.

During the project development stage, the principal investigator has worked closely with personnel from the NMFS office at Juneau, particularly with Walt Jones and Howard Ness. It is anticipated that these individuals will assist in the market survey work pertaining to ownership interties and marketing channels. Funds are being requested in the budget for this study to place a research associate to work with them in Juneau and to assist the principal investigator with coordination and with data extraction at ADF&G.

EQUIPMENT REQUESTED

None.

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UNIVERSITY OF ALASKA

SEA GRANT BUDGET

PROJECT TITLE	GRANT/PROJECT NUMBER
MARKET STRUCTURE OF ALASKA SEAFOOD PROCESSING INDUSTRY	Program 76-77 R/14-01
PRINCIPAL INVESTIGATORS	**DURATION (months)**
F. L. Orth, School of Management	12 months

	MAN-MONTHS		SEA GRANT FUNDS	GRANTEE SHARE
A. SALARIES AND WAGES				
1. SENIOR PERSONNEL				
a. (Co) Principal Investigator	6		11,169	5,501
b. Associates (Faculty or staff)	1		2,100	1,050
Sub Total			13,269	6,551
2. OTHER PERSONNEL				
a. Professionals				
b. Research associates	24		23,573	11,787
c. Research asst.. grad. students				
d. Prof. school students				
e. Pre–Bac. students				
f. Secretarial–clerical				
g. Technical–shop				
h.				
Total Salaries and Wages			36,842	18,338
B. FRINGE BENEFITS (When charged as direct cost)			6,816	3,394
Total Salaries, Wages, and Fringe Benefits (A and B)			43,658	21,732
C. PERMANENT EQUIPMENT				
D. EXPENDABLE SUPPLIES AND EQUIPMENT				
E. TRAVEL				
1. Domestic – U. S. and its Possessions (Inc. Puerto Rico) 1.		7,120		
2. International 2.				
Total Travel			4,187	2,933
F. PUBLICATION AND DOCUMENTATION COSTS				
G. OTHER COSTS				
1. Computer Costs			1,400	700
2. Xerox and drafting			200	100
3. Communications			200	100
4.				
5.				
6.				
7.				
8.				
9.				
10.				
Total Other Costs			1,800	900
TOTAL DIRECT COSTS (A through G)			49,645	25,565
INDIRECT COSTS (On Campus 56.54 % of S & W)			20,830	10,368
(Off Campus % of)				
Total Indirect Costs			20,830	10,368
TOTAL COSTS			70,475	35,933
ROUNDED TO			70,500	35,900