

## Western Coordinating Committee Proposal

### **Seafood Marketing and the Management of Marine and Aquacultural Resources**

#### **DESCRIPTION AND JUSTIFICATION:**

Several of the world's fisheries have recently experienced significant reductions in stock sizes and associated harvest levels. No single factor lies behind this, with explanations ranging from naturally occurring events (e.g., El Nino) to habitat degradation (e.g., pollution of rivers and estuaries). "Overfishing" is often cited as a significant contributor, although there is disagreement on both the role of this factor and its definition.

Nonetheless, it is clear that human decision-making must accept some responsibility for this state of affairs in our marine fisheries. Indeed, mankind is a major predator of many fish stocks. This suggests that policies designed to redirect decision-making may address the problem. In fact, since the implementation of the Magnuson Fisheries Conservation and Management Act in 1977, considerable attention has been directed to the development of policies that will increase the benefits of U.S. fisheries on a long-term basis. Such benefits have an economic component, a fact that is becoming increasingly realized.

For example, increases in prices can encourage harvesting effort on a stock of fish or shellfish where restrictions on such effort do not exist. A common response by management authorities is imposition of harvest restrictions. What is sometimes not appreciated, however, is that increased prices may provide social justification for some increases in harvest, even at the expense of future harvests. In addition, little information exists on what generates prices increases (or decreases) in the first place. What are the consequences, for example, of efforts to develop new product forms in an attempt to "add value" beyond that provided by current product forms? Information on the nature of markets for various seafood products could be used productively in the design of fishery policies.

This suggests that an understanding of the relationships between fisheries management and seafood markets could have significant social payoff. These relationships are not a one-way street, however. While knowledge of price changes and other market characteristics may inform fishing policy, it is also true that these characteristics are often the result of changes in fishery management policies and strategies.

A complicating factor of growing importance is the recent growth in the production of fish and shellfish from aquaculture. These products often compete directly with products of the traditional marine capture fisheries, and their role must be incorporated into any analysis of seafood markets. It is highly possible that the growth of aquaculture, may, in part, be associated with reduced harvests from traditional ocean stocks. We do not understand these

developments very well, which means that, at best, we have only a weak understanding of the implications for both fisheries management and seafood marketing of the growth of and changes in aquaculture.

The growth of international seafood trade in recent years means that events in foreign markets and fishery management practices abroad have impacts on the U.S. seafood sector. Beyond this, it is important to recognize the interdependencies between agricultural and seafood markets. Seafood and other protein sources compete with each other for the consumers' dollar, and an understanding of seafood markets requires knowledge of the nature of that competition, including consumer needs and trends. Furthermore both fish meal and seafood by-products are employed as inputs in some agricultural production.

All of this emphasizes the need for increased understanding of the interrelatedness of fisheries management and seafood markets. If management policies continue to be adopted in the absence of an appreciation of the role of markets, significant social losses will be the likely result. To this end, it is critical that seafood be seen as the product of a set of dynamic processes--both biological and economic--involving a complex group of foods from an aquatic environment. Unlike agriculture, where property rights are relatively strong and the emphasis is on farming, most fisheries are characterized by weak property rights (individuals do not own shares of the ocean). However, the growth of aquaculture may mean the emergence of a fisheries sector that is configured similarly to traditional agriculture. Moreover, where public policy in the agricultural sector is based heavily on market considerations, most fisheries policies are generated in the absence of an understanding of market impacts. It is clear that fisheries management policies affect the way in which the seafood industry pursues market opportunities, including the development of new markets and the use of "underutilized" species.

Other countries (examples are Iceland and New Zealand) have addressed these issues in the formulation of fishery and aquacultural policies and marketing strategies. It is important to conduct in-depth analyses of the U.S. policy-markets relationship. This is true for U.S. fisheries in general, and west coast fisheries in particular.

#### **OBJECTIVES:**

The overall goal is to provide a forum in which researchers can bring their expertise in fishery management, seafood marketing and aquacultural development to bear on an issue of great significance to the western states and the U.S. as a whole. The specific objectives for this committee are:

1. To identify significant economic interdependencies among markets, management and aquaculture, both public and private, for species of particular interest to the western states.
2. To develop and test hypotheses about the relevant economic relationships, with particular reference to the linkages between fishing regulations and market results.

3. To collaborate in organizing and conducting workshops, meetings and conferences to identify policy issues, to consider alternative research methods and data needs, and to review approaches taken in other parts of the U.S., other countries, and with other resources.

## **SCOPE OF WORK**

1. The research, public policy, and industry experience of participants will form the basis for identifying key interdependencies. Insights will be shared at annual meetings as well as through workshops, conferences and electronic, written and telephone communication. There will, of course, be a continual updating of our understanding of the relevant interdependencies as the activities of the committee unfold.

2. The primary economic relationships will be explored from a theoretical perspective for purposes of (a) generating new insights into the nature of the linkages and (b) developing testable hypotheses about those relationships. Interaction among committee members will be critical in increasing the efficiency of this process while assuring that major issues are not overlooked. The results of the collaborative activity will be communicated via written statements, including academic, professional, and trade/policy publications, that identify the central interdependencies involving fishery/aquaculture resources and seafood markets.

3. Holding workshops, meetings and conferences is greatly facilitated by the structure provided by a regional coordinating committee. These forums serve to increase communication among interested and involved parties and should lead to increased understanding and more open and objective dialogue. By bringing together different regional and disciplinary perspectives to bear on the issue, the likely result is a greater appreciation of the impacts of regulations - on both markets and resource use - and an improved understanding of the interdependencies between decisions made by firms, the viability of fishery resources, and the activities of governments. To this end, the committee has been initially structured to include individuals with research interests and experience in the analysis of seafood markets, the modeling of bioeconomic systems, the estimation of the costs and benefits of recreational fishing, and the examination of the role of aquaculture as a food source. It also includes persons with fishery management experience, although the committee will solicit additional membership from the fishery management community, including representatives of the National Marine Fisheries Service, state management agencies, the fishery management councils, and the International Institute of Fisheries Economics and Trade.

At least one annual workshop, meeting or conference will be held to generate interest in this collaborative effort and to learn about approaches used and data available elsewhere, including other resource-based sectors. Where possible, these meetings will be held in connection with other, larger events that include participants from industry, from other countries, and from other

disciplines. The committee will make progress reports of its activities available to those participants.

## **EXPECTED OUTCOMES**

1. The overall outcome of this activity will be a focused approach to study resource management, with particular reference to the role of seafood markets. Ultimately this approach should provide information that will help facilitate the improved management of fisheries and aquacultural resources, including the activities of both the public and private sectors.
2. Insights that result from the collaborative activity will be shared via academic and industry-oriented publications, committee reports, and presentations at professional and trade meetings.
3. It is expected that individuals not on the committee, but whose interests complement those of committee members, will seek membership. Such individuals may come from other parts of the country and will likely represent both the public and private sectors.
4. The proposed committee will, throughout its life, bring together a broad cross-section of interested scientists inside and outside of the Land Grant - Sea Grant system to work on a major program involving a key food source. The arrangement will offer the opportunity to exchange ideas about research needs and methods and to develop approaches for collaborative work.

## **EDUCATIONAL PLAN**

Initial activities of the committee will focus on identifying common views and objectives. However, explicit efforts will also be made to acquaint other potential participants with the committee's interests and activities and to solicit their involvement. This includes other university researchers as well as individuals from the private and public sectors. Through this interaction and the collective identification of the relevant policy (e.g., product development, fishery management, trade regulations) and, thus, research issues, we expect to produce materials that are topical, relevant and carefully developed. The result will be the flow of ideas, information and perspectives on the key relationships between fishery management and seafood markets.

As indicated earlier, reports on the committee's activities will be distributed via various trade and academic reports and through presentations at professional and industry-oriented meetings. These reports should be particularly valuable to extension personnel whose clients include members of the coastal, aquacultural, fishing, processing, and marketing communities. By sharing the committee's perspectives on the links between the harvest activity (fishing and aquaculture) and the market, extension programs can be enriched and, perhaps as important, the unintended - and unwanted - consequences of failing to look at the broad picture can be minimized.

## INITIAL PARTICIPANTS

Alaska: M. Hermann (Associate Professor of Economics. PhD Agricultural Economics, 1990, Washington State University. Fields: Fishery Marketing and International Trade.)

K. Criddle (Associate Professor of Economics and Director of the School of Management. PhD Agricultural Economics, 1989, University of California at Davis. Fields: Natural Resource Economics, Operations Research, Time Series Analysis.)

J. Greenberg (Associate Professor of Resource Economics. PhD Agricultural Economics, 1990, Washington State University. Fields: Natural Resource Economics, Applied Microeconomics, Policy Analysis, Econometrics.)

T. Lee (Assistant Professor of Economics. PhD Economics, 1996, University of Washington. Fields: Non-market Valuation, Recreation Economics)

Washington: S. Matulich (Professor of Agricultural Economics. PhD Agricultural Economics, 1976, University of California at Davis. Fields: Natural Resource/Environmental Economics, Fishery Economics.)

R. Mittelhammer (Professor of Agricultural Economics. PhD Agricultural Economics, 1978, Washington State University. Fields: Commodity Supply/Demand Analysis, Econometrics Methods.)

Oregon: G. Sylvia (Associate Professor of Agricultural and Resource Economics. PhD Marine Resource Economics, 1989, University of Rhode Island. Fields: Marine Resource Economics, Bioeconomic Modeling, Aquacultural Economics, Seafood Marketing.)

R. Johnston (Professor of Agricultural and Resource Economics. PhD Agricultural Economics, 1970, University of California at Berkeley. Fields: International Agricultural Trade, Fishery Economics.)

California: J. Wilen (Professor of Agricultural Economics. PhD Economics, 1974, University of California at Riverside. Fields: Natural Resource/Environmental Economics, General Economics.)

Hawaii: P. Leung (Professor of Agricultural and Resource Economics. PhD Agricultural Economics, 1977, University of Hawaii. Fields: Production Economics, Research Methods)

National Marine Fisheries Service: L. Queirolo (Regional Economist. PhD Agricultural and Resource Economics, 1986, Oregon State University. Fields: Fishery Management, Fishery Policy, Marine Resource Economics.)

Fishery economists from universities in eight non-western states have also expressed interest in participation. The committee will also solicit input from and encourage participation by individuals in the public and private sectors who are actively involved in fishery management and/or seafood marketing. In addition the committee will interact with economists in the USDA's Economic Research Service, other government organizations and several state agencies.

### **OPERATIONAL STRUCTURE:**

The committee will work in concert with its Administrative Advisor. Annually, it will elect: (1) a chair, who will be responsible for coordinating each meeting of the committee and for assuring that an annual report on the committee's activities is prepared for the Administrative Advisor; (2) a chair-elect, who will assume those duties the following year; and (3) a secretary-treasurer. The individual who holds the third office will be responsible for any financial activities of the committee and for recording the minutes of each meeting.

Between meetings members of the committee will communicate with each other via e-mail. Indeed, a mail list will be established to facilitate this and a web page will be set up to make information on the committee's activities available to other interested parties. Committee members will be expected to use these electronic mail arrangements to share information with each other on developments in their own regions, news about unfolding management-markets links in other areas of the world, and theoretical developments that treat these interdependencies. Collaborative reports and other manuscripts will also be prepared from activities undertaken between annual meetings.

As suggested earlier, the committee expects to grow over time. To that end economists from other regions, public employees involved in fishery management or the regulation of markets, and members of the private sector will be encouraged to join the effort.

National Marine Fisheries Service: L. Queirolo (Regional Economist. PhD Agricultural and Resource Economics, 1986, Oregon State University. Fields: Fishery Management, Fishery Policy, Marine Resource Economics.)

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