Comprehensive Socioeconomic Data Collection for Fisheries in and off Alaska: A Discussion and Suggestions

by

The Economic and Social Sciences Research Program
Alaska Fisheries Science Center
Seattle, WA

Introduction

Many of the fishery management actions taken by the North Pacific Fishery Management Council (NPFMC) require various types of socioeconomic analyses before they can be implemented. Typically these analyses must examine a range of alternatives, and the associated nature, magnitude, and distribution of the economic, welfare, and sociocultural impacts of the proposed action(s). Specifically, economic analyses, including "benefit/cost" analysis, as well as regional and/or community impact analysis of proposed fishery management policies are required by the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the Endangered Species Act, the Marine Mammal Protection Act, the National Environmental Policy Act (NEPA), and Executive Order 12866, and other applicable Federal laws.

In addition, the 2006 reauthorization of the Magnuson-Stevens Fishery Management and Conservation Act (MSA) includes heightened requirements for the analysis of socioeconomic impacts and the collection of economic and social data. These changes eliminate the previous restrictions on collecting economic data, clarify and expand the economic and social information that is required, and make it explicit that the Councils *and* the Secretary of Commerce have the authority and/or responsibility to collect the economic and social information necessary to meet requirements of the MSA (and that either the Councils or the Secretary can initiate the collection of said socioeconomic data).

For these reasons satisfactory socioeconomic analyses are integral to myriad procedural requirements that help the NPFMC achieve their fishery management goals and abide by federal laws. It is clear that without access to the information needed to support many of the aforementioned analyses the associated legal documents may fail to meet established standards. In order to better address these concerns, as well as others pertaining to community impacts, the NPFMC passed an October 2006 motion to draft a comprehensive program for collecting revenue, ownership, employment, cost, and expenditure data for fisheries in and off Alaska.

In response, the Economic and Social Sciences Research Program (ESSRP) at the Alaska Fisheries Science Center (AFSC) coordinated a working group to propose a core set of data that is currently unavailable yet important for answering many of the questions raised when evaluating past and future management decisions, and conducting regulatory and legally mandated analyses.
The working group was comprised of individuals representing the National Marine Fisheries Service (NMFS), Alaska Department of Fish and Game (ADF&G) and Commercial Fisheries Entry Commission (CFEC), NPFMC, NOAA GC, and Alaska Department of Commerce (ADOC). As with any working group, there were differences of opinion within the group. For this group, the differences were primarily over the level of detail that should be required in the data collection. However, all involved basically shared the same frustration over the lack of social and economic data and felt that we need to develop a comprehensive program. In an attempt to propose a feasible program and to decrease the perceived reporting burden, and taking into consideration what we've learned in collecting such information in the BSAI crab fisheries, the suggestions included in this paper are typically consistent with the minimum necessary level of detail/information requested by the group (some individuals or agencies requested that much more detailed information be collected). We will lay out these proposed data

collection elements suggested by the working group later in the discussion paper. For now we provide a more detailed discussion on the need for improved socioeconomic data collection for fisheries in and off Alaska.

The Need for Socioeconomic Information in Fisheries Management

Fisheries management focuses, in large part, on providing an environment that is conducive to healthy, productive fish stocks and a sustainable source of food production and income. At the same time, decision-makers have an interest in assuring resilient communities, diverse employment opportunities, and stable social structures. The first category of economic elements is defined as "economic benefits", while the second group is comprised of measures defined as "economic activity" impacts. Often times fishery managers are expected to choose among a range of policy alternatives that each lead to considerably different sizes and distributions of economic outcomes. If the distribution of economic outcomes (i.e., the division of the pie) didn't matter, one would always choose the action that produced the greatest net benefit to the Nation (i.e., the biggest pie). However, distributional considerations do matter and, in many instances, are the principal objective for a proposed action.

Unfortunately, managers of fisheries in and off Alaska consistently know neither the size of the different pies they are asked to choose among, nor the specifics of how each pie will end up being divided (i.e., at present we cannot calculate the net benefits generated within our fisheries, and we cannot accurately account for the economic and socioeconomic implications for each of the parties affected by fisheries management decisions). The same problems exist for the analysts tasked with conducting the regulatory analyses required by various laws. Thus, the repercussions of insufficient socioeconomic data have the potential to impact not only the precision, quality and equity of management decisions, but their legality as well.

To improve our decision-making capabilities, we therefore need to improve (1) our ability to account for the relevant parties whose economic well-beings are affected by fisheries in and off Alaska; and (2) our knowledge of the elements that comprise each party's net economic benefits deriving from utilization of the resource. By better encompassing the appropriate group of stakeholders for whom net effects should be considered and improving the precision of calculated benefits and impacts, analysts can provide fishery managers with a significantly heightened ability to evaluate the trade-offs associated with different policies and management actions.

Let us now discuss, in turn, the ways in which one may improve items (1) and (2) above. For item (1), the October 2006 Council motion and SSC and AP minutes clearly express a need to consider not only the harvesting sector (for both catcher vessels *and* catcher-processors), but also the shoreside processors, motherships, crewmembers, and communities. Similarly, for item (2) the Council provides specific guidance on the additional components of net benefits that will need to be collected at the operation level: data on revenue, ownership, employment, cost, and (location of) expenditure. The SSC also asked for a detailed description of social data and the types of performance studies that could be developed from such data, while the AP added a request for information on both crew and processing workers, the geographic distribution of expenditures, and how they contribute to the economic and social health and well-being of fishery dependent communities, as well as how regulations impact fishing communities.

It is important to note that one of the primary reasons we cannot currently conduct these analyses is that nearly all economic and socioeconomic surveys of fisheries in and off Alaska, to date, have been conducted (with very little success) through voluntary reporting. There has been broad industry reluctance to provide these data, purportedly because of fear that the data would somehow be used against submitters (e.g., to levy enforcement penalties based on profits, or to show how much or how little money a sector or fleet is making in allocation disputes), used incorrectly, or disclosed to competitors or the public. These are not, on their face, unreasonable concerns, but we believe there are reliable solutions to each that can be feasibly incorporated into the data collection program. In response to such concerns, a detailed analysis of federal data confidentiality requirements and disclosure penalties has recently been constructed by the AFSC and should help the public better understand the extensive safeguards that have been put in place to minimize the likelihood of accidental or intentional disclosure of confidential data.

Notwithstanding industry concerns, it is clear that voluntary economic data collection is not a viable option for the NPFMC. Numerous surveys of various lengths and level of detail have been developed by NMFS and other researchers, many with close cooperation and coordination with industry, for nearly every sector, and yet the fundamental economic and operational information we need to meet Council management objectives and legal obligations is still unavailable. For the most part, the only industry cooperation has been with private contractors who were working on behalf of the harvesters or processors (often bringing the objectivity and accuracy of the data into question, because of the 'perception' of underlying incentives). Only recently, in the BSAI crab and the Amendment 80 rationalization programs, have economic and socioeconomic data collection been mandated, and it is only in these fisheries where we may be able to conduct truly satisfactory economic analyses. It is, therefore, our professional judgment that only with a comprehensive mandatory data collection program can we provide the accurate information necessary for the analyses requested by decision makers and required by law, for the management of fish stocks, other living marine resources, commercial, recreational, and subsistence fisheries in and off Alaska, and the fishery dependent communities they support .

The task of the working group was to evaluate the existing data collection programs and to make specific recommendations for improving the information content in the aforementioned categories of interest. For some of these categories, data are almost entirely unavailable, whereas in other categories we merely will note slight or potential deficiencies in the currently available data, needed to address particular questions.

In the following section we provide an overview of the cost and earnings data collected in other federally managed fisheries, followed by a brief discussion of important ways in which the rules governing economic data collection were altered by the reauthorization of the Magnuson-Stevens Fishery Management and Conservation Act (full details of all changes pertaining to socio-economic data collection are included in the appendix of this paper). The next section presents a detailed discussion of the specific types of information that could be collected to address common management questions, along with suggestions regarding what should or could be collected. The subsequent sections discuss approaches for collecting data, identifying data collection frames (census versus sampling) and the relevant populations and reporting entities, data confidentiality, and the linkages between economic and social analyses.

Cost and Earnings Data Collections in Other Federally Managed Fisheries

The need for detailed cost, earnings, and employment data is not exclusive to Alaska and has been recognized as an important priority by fishery managers in several other regions and fisheries around the U.S. In fact, although Alaskan fisheries are recognized widely for their successful management, the economic information available for decision making pales in comparison to that available in many other federally managed fisheries.

For example, the Northeast Fisheries Science Center (NEFSC) has been collecting mandatory variable cost (and earnings) data in all of the federally managed New England fisheries since 1996 through the observer program (encompassing ten or more FMPs). More recently they have added an annual fixed cost survey that is sent out each year with permit renewal applications. This data collection is generally regarded as having the longest time series of cost data in U.S. federally managed fisheries.

The Southeast Fisheries Science Center (SEFSC) also conducts an impressive array of cost and earnings data collections for its regional fisheries. Mandatory cost and earnings data is collected within logbooks in four FMP fisheries (reef fish and coastal migratory pelagics in the Gulf, and snapper-grouper and coastal migratory pelagics in the South Atlantic). Like the NEFSC, the SEFSC also mails out a mandatory fixed cost survey each year to vessel owners. In addition, the SEFSC is conducting a mandatory survey in the Gulf shrimp fishery this year, and plans to do the same in the South Atlantic shrimp fishery in the future. These surveys were conducted on a voluntary basis in the past, but the need for mandatory collection arose because of the poor response rates. The

SEFSC also conducted a one-time mandatory cost and earnings survey in the Gulf charter boat sector in the early 2000's. Finally, note that the SEFSC is in the progress of developing a mandatory cost and earnings survey for the South Atlantic EEZ shrimp fishery (rock and penaeid) through Amendment 7 to that FMP.

The Highly Migratory Species (HMS) Division of the NMFS Office of Sustainable Fisheries manages Atlantic ocean HMS. The HMS Division has incorporated a mandatory economic data collection component to their logbook program that collects information on operating costs in the tuna, shark, swordfish, and billfish fisheries.

The Southwest Fisheries Science Center has a (voluntary) cost and earnings data collection conducted by the observer program in the albacore tuna fisheries, and they are in the process of implementing a similar program for the drift gillnet fishery. The Pacific Islands Fisheries Science Center is also employing a similar voluntary cost survey in their longline and bottom fish observer programs.

The Northwest Fisheries Science Center (NWFSC) has recently completed a voluntary cost earnings survey of the West Coast limited entry fleet. This fleet catches about 90% (by revenue) of the groundfish delivered to West Coast shoreside processors, and is also very active in other fisheries such as crab and shrimp. They anticipate fielding a follow-up survey of the limited entry fleet in 2008. The NWFSC also plans to begin fielding a voluntary cost earning survey of the open-access groundfish and salmon fleets in October 2007 (pending OMB approval). Finally, the NWFSC is planning a 2008 voluntary cost earnings survey to collect data from the West Coast crab fleet. This survey would include vessels which land crab but were not captured in the earlier limited entry or open access salmon and groundfish surveys. All of these surveys use a similar questionnaire which asks about vessel characteristics, revenue sources not covered by PacFIN (such as Alaska landings), expenditures (including geographic information on expenditure patterns), and crew compensation methods.

This illustration of the number of U.S. fisheries in which economic data are collected suggests that adding similar requirements in the federally managed fisheries in and off Alaska would not be disproportionately burdensome, invasive, or risky. Experience in literally dozens of other FMP fisheries has shown that such data can be collected through various means for all types of fisheries and gear groups, and that mandatory collections are the most effective means of obtaining a representative sample (or census) from the population. Mandatory programs may also be more cost-effective in fisheries where low voluntary participation rates necessitate more intensive survey techniques to achieve compliance[1]. Given the size and value of the fisheries in and off Alaska relative to the fisheries in other parts of the U.S., we believe it is prudent to make a similar investment in economic information to support future analytic and decision making capabilities. Furthermore, recent data collection activities in BSAI crab fisheries have helped us to better understand the type of data that is most readily available for reporting purposes and can support reliable analyses. We have attempted to consider these lessons in making the recommendations in this paper.

Magnuson-Stevens Fishery Management and Conservation Act (MSA)

The Magnuson-Stevens Reauthorization Act of 2006 (MSRA) authorized socioeconomic data collection and clarified the authority of either the Council or the Department of Commerce to collect such data. The MSRA eliminated previous economic data collection restrictions. Prior to reauthorization, Section 402(a) (16 U.S.C. 1881a(a)) prohibited proprietary or confidential commercial or financial information from fishing or processing operations.

With respect to whether Councils can initiate data collection, Sec. 402(a) now states:

[1] For example, the NWFSC has used in-person interviews as a means of maximizing the response rate for the voluntary limited entry surveys, but in-person interviews averaged about $800 per completed survey.

> "If a Council determines that additional information would be beneficial for developing, implementing, or revising a fishery management plan or for determining whether a fishery is in need of management, the Council may request that the Secretary implement an information collection program for the fishery which would provide the types of information specified by the Council."

The Secretary is left to determinate whether the Council's request is justified. However, like Councils, the Secretary of Commerce is authorized to unilaterally collect the economic and social information necessary to meet the requirements of the MSA, and the MSRA authorizes the Secretary authority to initiate the development of improved data collection programs:

> "If the Secretary determines that additional information is necessary for developing, implementing, revising, or monitoring a fishery management plan, or for determining whether a fishery is in need of management, the Secretary may, by regulation, implement an information collection or observer program requiring submission of such additional information for the fishery."

For certain purposes, the MSRA *requires* economic information collection and submission. Section 303(a) (16 U.S.C. 1853(a)) states that FMPs must:

> "(5) ***specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing, and fish processing in the fishery, including***, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, ***economic information necessary to meet the requirements of this Act…***"
>
> This section also states that FMPs must:
>
> "(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which ***shall assess, specify, and analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts*** of conservation and management measures…"

The MSRA also includes additional requirements for Limited Access Privilege Programs (LAPPs), saying that they must "provide for the establishment by the Secretary, in consultation with appropriate Federal agencies, for an information collection and review process to provide any additional information needed to determine whether any illegal acts of anti-competition, anti-trust, price collusion, or price fixing have occurred among regional fishery associations or persons receiving limited access privileges under the program." It is likely that the information required to meet such requirements will be necessitate the collection of economic data.

In addition, there are changes that potentially provide additional sources of funding for data collection and analysis and that extend MSA confidentiality protection to all information (including economic information) collected by observers. Much of this is covered in the appendix to this document.

Suggested Data Elements to be Collected

The following sections break socioeconomic data into various subcategories and discuss the current informational content available through state and federal data collection programs. Each section is concluded with a recommendation for overcoming potentially significant shortcomings.

1. Cost Data

The greatest deficiency in our ability to estimate net benefits for, or to understand the economic and socioeconomic impacts of, various management actions on fisheries off Alaska, is the literal absence of empirical cost data for individual fish harvesters and processors. Even in the "best case" scenario (e.g., when only one action is occurring and it is unambiguously beneficial to all parties), without an understanding of production and capital costs, we can only postulate the direction in which net benefits are *likely* to change. However, in most instances, different parties are affected in different ways. We are unable, therefore, either to weigh the costs imposed and benefits created by a particular action, or their distribution across competing users and uses.

For purposes of this discussion let us distinguish two types of economic costs: variable and fixed. Variable costs are associated with goods or services whose costs are directly affected by, in this example, the amount of fishing or processing that occurs. Three broad types of inputs that comprise variable costs are fuel/energy, labor, and materials. Although the materials used in harvesting are somewhat fishery specific, they usually include gear (such as line, nets, or pots), bait, and ice; standard processing materials may include raw fish, product packaging, and additives.

Many of the management issues that arise have potential impacts not only to revenue, but also on variable costs of harvesters and processors. For example, how might a change in the total allowable catch affect the costs, and thus net benefits, arising in a fishery? Or, what will be the cost of closing areas to fishing due to excessive bycatch, marine mammal concerns, or related issues? To address such questions, analysts must have some estimate of the variable costs associated with these changes, including costs incurred by vessels from having to travel to alternative locations, and spend additional (or fewer) days at sea. Thus, knowledge of variable input costs (e.g., fuel expenditures, a large portion of vessels' overall variable input cost) is essential to respond to these and many other related questions.

Labor costs are also quite relevant to examining such questions, as they too comprise a large portion of vessel variable operating costs. Aside from serving as an indicator of how crew expenditures may contribute to local economies (discussed in a subsequent section), knowledge of the labor costs in harvesting and processing is important for assessing changes in production efficiency afforded by management actions aimed at achieving that end. For example, if a management change encourages vessel consolidation in overcapitalized fisheries, one may expect to see a decrease in the number of vessels and crewmembers required to harvest the TAC. An ability to quantify the reduction in key variable input costs, such as fuel and labor, associated with landing that TAC would represent a large improvement over our current ability to quantify the effects generated by a management action. Similarly, if relaxed processing caps allowed a plant to achieve greater economies of scale, one could examine the way in which unit costs were reduced.

Maintaining and repairing a fishing vessel or processing plant (the "capital stock") can also be a significant expense to a fisherman or processor. It is outlays on "fixed costs" such as these (and other investments in new equipment) that individuals often struggle to recoup during the year, through the volume of their fishing and processing activities. Thus, many of the measures and models used to evaluate economic performance require some measure of the capital stock and information on how this stock has changed over time (through repairs or investments).

For vessels, the capital stock may be proxied by the value of the vessel and equipment onboard, or more commonly, by vessel characteristics (such as length, tonnage, or horsepower). However, it is unlikely that such crude measures will perfectly characterize the underlying productive capital stock – especially in an era in which technological advancements play such a large role in a vessel's ability to target and harvest fish (e.g., sonar, route tracers, global positioning systems, and onboard computers). It can be even more difficult to quantify the capital stock for plants, as the size of the plant (e.g., square footage) will rarely be an accurate representation of the processing, freezing, and storage equipment within it. Similarly, the value of the plant may reflect other assets on

site, such as worker accommodations (boarding facilities, cafeterias, etc.). Even with these interpretational difficulties, the fixed costs such as insuring, repairing, maintaining, or improving one's capital is a costly undertaking that should be tracked to adequately account for the economic returns of a fishing or processing operation.

Given all the different costs associated with operating a vessel or plant, and the burden associated with reporting the information, a natural question to ask is "for which costs does one really need to account?" In order to get a rough estimate of financial stability or economic returns of a fleet or processing sector, it is important to account for the major costs and revenues associated with harvesting or processing, respectively. In many cases, however, the financial well-being of an entity (attributable to their overall economic endeavors) will be determined by more than one vessel or plant – it is the cumulative effect of all their commercial operations, wherever they may occur.[2] We bring up this point here (and again in the ownership section of this paper) to illustrate that it may not be possible to calculate the "profit" made by an individual fishing vessel or plant, even if one accounts for all of its costs and revenues. This may be so, because individual vessels or plants are often "affiliated", through joint-ownership, contractual agreements, etc., with a broader group of operations. There are likely to be costs of doing business (offices, staff, accountants, etc.) that are spread among all the operations in a company that cannot be tied to a single vessel or plant. Thus, even if one accounts for every single variable cost associated with harvesting or processing, and requests comprehensive financial statements and data on ownership, the accuracy of measured "profits" is likely to be illusory. Thus, we believe such a goal is not realistic and the costs to all involved would likely be prohibitive.

Based on these factors and information gathered in recent data collection efforts in the BSAI crab fishery, our opinion is that the most prudent approach to a broad data collection effort may be to account for the primary costs incurred by a plant or vessel (rather than formulating an exhaustive list) and to examine how these costs and the plant or vessel revenues change over time or in response to a management action. Such analyses will in many cases allow the Council to address the questions for which they seek answers, and to get a reasonable estimate of change in net benefits generated by plants or vessels arising out of a management action. Exact estimates of the profit earned by a vessel or plant will not be possible with this approach, but for most questions such precision is not necessary, nor the cost justified.

Suggestion:
We suggest the following set of mandatory cost data (or input data that relate to costs) be collected annually, by fishery (where possible), for plants and vessels: 1) Vessels: permit and harvesting (including CDQ) quota costs and royalties paid; payments to labor, by crew category (e.g., deck crew, skipper); costs of insurance, expenditures for fishing gear, expenditures on bait, fuel, food and provisions for crew, moorage and gear storage; spending on improvements in vessel, gear (other than fishing gear listed above), and equipment; repair and maintenance costs; and vessel overhead. 2) Plants: permit and processor quota costs and royalties paid; number of processing positions; total man-hours devoted to processing; labor costs; annual sales volume and value (with species, grade details) for each processed product; and the cost of packaging materials, insurance, storage, fuel/electricity, improvements in plant, repair and maintenance, salaries to foremen and plant managers, and other plant overhead.

2. Revenue Data
In contrast to cost data, revenue data are currently available at both the ex-vessel and first-wholesale level. However, while we are concerned about potentially duplicative data requests, both sources are subject to limitations that should be noted and potentially remedied.

The ex-vessel revenue collected through fish tickets at the time of landing does not include the adjustments and bonuses that are often paid to fishermen at a later date. For this reason, fish tickets tend to underestimate the

[2] As we discuss in other parts of this paper, ownership data are required to pull together the various pieces for an "overall" view of an owner and how he/she has been affected.

revenue received by vessels. The CFEC does use data from the Commercial Operators Annual Report (COAR) to update the revenue information reported in fish tickets, but the corrections are based upon annual revenue totals, and thus may not be used to identify price differentials within the season that reflect, for example, roe bonuses or other types of post-fish ticket adjustments. Additionally, in programs with a variety of share types, shortcomings in identifying revenues by share type may exist (i.e., in BSAI crab we don't have A share/B share/C share/CDQ revenue separated). Therefore, there may be benefits from augmenting the existing data collection program to better account for seasonal price differences, or from explicitly requesting a complete revenue data profile in the new comprehensive data collection program.

One shortcoming of the first-wholesale data is that many products produced in fisheries off Alaska are differentiated by grade. Prices can differ substantially, for example, for different grades of surimi or roe. In order to differentiate price changes from changes in product quality (which often arise from changes in fishery management such as rationalization) one needs to account for the various product grades and relevant prices (this same concern exists for ex-vessel records, but to a lesser extent).

In addition, the processing revenue data are recorded at an annual level and therefore do not provide any indication of the way in which prices fluctuated within the season. Inability to observe the way in which prices fluctuate throughout the year prohibits analysis of the processors' decisions concerning species and product forms in response either to changing market conditions or to a management action that would change the temporal distribution of catch. We also should consider whether we need to distinguish sales to affiliates from non-affiliates.

An additional limitation on revenue data is that there are sources of income that affect an operator's ability to remain financially viable, such as chartering or tendering, for which we do not currently account. Another potentially large and important source of income is royalties associated with the sale or lease of limited access privileges (e.g., CDQ, IFQ, and IPQ). Any comprehensive data collection program that seeks to understand the impacts generated within a fishery should account for both a firm's sales revenues and royalties. Similarly, if one is seeking to compute the overall revenue stream accruing to the owner of a vessel or plant during a year, one should account for all alternative sources of income. To fully account for revenues from sales or lease of quota shares requires that all quota holders report. Since not all quota holders are vessel or plant owners, data collection efforts must include quota holders not included in vessel- or plant-level data collection.

Suggestion: The workgroup recommended that because of the shortcomings of existing revenue data collection, and the alternative sources of income other than ex-vessel sales, revenue data be included in a comprehensive data collection program. <u>For Vessels and Quota Holders:</u> Ex-vessel sales revenue should include post-season adjustments and bonuses in order to better reflect true market prices. The grade of delivered fish, where applicable, should be included in order to differentiate grade-specific prices. In fisheries with CDQs or IFQs, revenues from the sale and/or lease of quota should also be included (by share type). The Council may also wish to track revenues from tendering and chartering in fisheries where such activities are thought to comprise a significant portion of vessels' annual income and may need to be considered when analyzing the effects of other fishery management actions. <u>For processing plants:</u> First wholesale revenue should be reported by species, product, and grade or size (where applicable) to facilitate a clearer understanding of observed prices and to help analysts better understand changes in processing strategies.

3. Employment Data

Some of the most important questions pertaining to the impacts of a particular fisheries management action involve the way in which the number of jobs, jobs in a particular location, or the income received by employees, will be affected. Wage and salary data are collected from fish processors on a monthly basis, producing data that are sufficient for analyzing variations in income and employment in the processing sector. Employment data for the harvesting sector, however, is a critical data gap; because harvesting crew members are considered independent contractors, Alaska Department of Labor (ADOL) does not require employers to provide income and employment

information for these individuals. The result of this information gap is an inability to accurately quantify the number of harvesting jobs in a sector or fishery, predict how the number of jobs may change in response to a management action, and specify the communities in which the impacts will be most heavily concentrated.

Given the scale and importance of the seafood industry, generating greater than half of total employment in some communities, improving the understanding of employment effects of Council management decisions is a priority component of a comprehensive economic data collection program. The need for this information is especially acute in situations in which management changes are likely to cause considerable consolidation or contraction of the industry (e.g., BSAI crab). An understanding of both the magnitude and rate of consolidation is important for devising effective and appropriate management actions if the degree of consolidation is inconsistent with the desired program goals.

The most recent meeting by a broad set of stakeholders focused on alleviating some of these data gaps occurred in November 2006, when the Southwest Alaska Municipal Conference (SWAMC) organized a workshop of Federal, state, and local government agencies and other community stakeholders (including most of the members of the AFSC working group convened for this discussion paper). The goal of the workshop was to address the needs for harvesting sector employment information and develop potential approaches to collect these data.

In addition to analysis of income and employment impacts of fishery management decisions, the SWAMC report (Northern Economics Inc., 2007) identifies other important needs for harvesting employment data. Perhaps most notable is the lack of documented history of crew member participation in fisheries. Whereas data collected through CFEC document the historical participation of harvesting vessels and processing plants in fisheries in and off Alaska, and have provided the basis for distribution of limited access privileges to these vessel and plant owners, no such documentation exists for harvesting crews. This asymmetry presents a barrier to incorporating crew members into limited access privilege distribution programs on a similar basis with owners. Another significant concern raised by SWAMC is the effect that poor information on harvesting employment at the community level has on documenting community economic structure. This impedes the ability of communities to develop comprehensive plans and compete against communities with better employment data for important economic development resources (e.g., grants and Federal trade adjustments). In addition, recent amendments to the MSA require communities that participate in future limited access programs to submit a community sustainability plan to the Council.

Overall, the SWAMC recommendations were perceived by many to be fairly ambitious relative to the status quo. Their recommendations would require a significant amount of funding from the State of Alaska, along with additional support personnel, to develop their recommended data collection system (in which the scan cards would be created for each crew member and swiped at the time of landing to record crew participation and linked to a permanent, unique crew identifier).

At this time we are not certain whether the State is willing or able to implement such a system, but personal communications with ADF&G suggest that they recognize the need to expand the data collected on harvesting crew and are developing proposals to do so. Although the specifics of any such program need to be fleshed out, it is anticipated that ADF&G may look into the development of a stand-alone, internet-based crew employment database. In such a system, on a periodic basis employers (e.g., permit holders, vessel owners) would report the name or another unique identifier of the crewmembers that worked on their vessel during a particular period of time. This separate database could, however, be housed within the E-landings architecture and be relational to other State records such as landing files. In addition, crewmembers would also be able to create secure user accounts in order to see whether records have been created to document their participation aboard a particular vessel or in a fishery. Although such a system appears to have many appealing aspects, it may be some time before the specifics of the State's plans are finalized and/or released for public comment. For now we will turn to a discussion of the existing data collection programs pertaining to seafood employment.

Existing Employment Data Collection Programs

Information on harvesting crew members and processing employees can be divided into two principal components: 1) income and employment information associated with harvesting and processing activities, by fishery, location, and other strata, and 2) demographic information on individuals who are employed in commercial fisheries. Details regarding the data elements and the data collection frames are discussed below.

Processing Income and employment

As noted above, ADOL collects monthly employment data and uses quarterly earnings data to compute monthly earnings estimates for processor employees. However, monthly employment represents a count of *jobs*, as opposed to individual workers. It is not an unduplicated count of the number of individuals, because workers holding more than one job or who change jobs during the measuring timeframe (the pay period that includes the 12th of the month) may be reported by more than one employer. For these reasons, the data may not be representative of the number of individuals typically employed (especially if there are peaks or troughs in processing volume during the month due to seasonal fisheries). In addition, monthly earnings data may include remuneration for work done in previous time periods since date of payment rather than date of service is the determining factor.

The BSAI Crab Economic Data Reports (EDR) collect data on the average number of crab processing positions, total man-hours, and total processing labor payment reported by fishery, and total salary and number of other plant employees not included in processing labor[3]. A similar, but more narrowly focused data collection, which has not yet been formally approved, is being developed through Amendment 80 for the H&G factory trawlers. This program records costs of processing and other labor, annual average and total number of employees in processing, and average length of workday for processing employees. These figures are not broken out by fishery (as with the crab fishery).

Harvesting Income and Employment

By contrast, very little primary data are available from direct monitoring of harvesting crew income and employment (except in BSAI crab and the pending Amendment 80 fishery economic data reporting programs discussed above). Specifically, the BSAI Crab EDR for catcher vessels directly elicits the total payment to captain and crew, and total number of paid crew members, by fishery. In addition to share payment information, catcher vessel owners are also required to report expenses that are deducted or directly charged to crew members (thus allowing us to better understand the share system and how it may change with the advent of CDQ or IFQ), and are required to record the ADF&G commercial crew license number or CFEC gear operator permit number and residence for all paid crew (including captain). The draft Amendment 80 EDR collects data on average and total number of harvesting employees during the reporting year, and total cost of non-processing labor. These figures are not broken out by fishery and no crew license information is collected.

We should note that ADOL does provide useful labor and income estimates on an ongoing basis, but these are constructed using internal rules of thumb about crew size and crew shares and are not based on direct observation. The accuracy of these data could be assessed in the future for the crab fleet by comparing ADOL estimates with the data reported in the EDRs (which is verified through a random and outlier audit scheme conducted by a certified public accountant). However, such an approach does not allow one to track the unique number of individuals engaged in the fishery and as the structure of fisheries changes over time (e.g., through the introduction of IFQs) it is unclear whether the time series of ADOL estimates will be truly indicative of employment trends or markedly affected by changes in fishery duration and the scale of fishing operations.

[3] Feedback from processing sector EDR submitters indicate that they approximate by-fishery figures by converting annual hours attributed to processing catch from a given fishery into number of FTEs. While this is an approximation, it provides somewhat greater detail than the figures collected by ADOL.

Employee demographics

Demographic information about individuals employed in fisheries in and off Alaska is currently collected through a variety of state and Federal agency reporting requirements. Wage and employment data reported by processing plants includes SSN for each individual covered by unemployment insurance. Demographic information from the Permanent Fund registry is used by ADOL[4] to conduct demographic and community level analyses of processing plant income and employment changes within Alaska. These data or analyses do not address implications of processing employment of non-residents. BSAI Crab EDR reporting includes information on processing employees' residence, including city for Alaskan residents and state or country for non-Alaskan residents. It should be noted that feedback from processing sector EDR submitters indicates that the information they report in the EDRs is often incomplete – for many employees, they do not have access to complete residency information. Aside from the difficulty associated with collecting and reporting this information for potentially hundreds of employees, there are also potential accuracy problems with interpreting employees' actual residence from their reported mailing addresses.

The sources for most information currently collected on individuals employed in the harvesting sector are ADF&G commercial crew license and CFEC Commercial Fishing Permit (also known as gear operator permit) databases. These data are collected from all individuals who purchase permits to participate in the commercial harvesting of marine resources in Alaskan waters. For the purpose of commercial crew licensing, anyone who participates either directly or indirectly in harvesting is defined as harvesting crew; this includes technicians, engineers, cooks and others who may not operate fishing gear, but support the operation of the vessel for the purpose of harvesting. Individuals employed solely for on-board processing are not included in this definition. Gear operator permits are by their nature specific to a fishery, how ever ADF&G crew licenses are not and there are no analytical methods for associating the crew license data with a specific fishery. In addition, gear operator permit holders may serve as crew in any other fishery without obtaining an ADF&G crew license, further impeding the ability to analyze this data by fishery. Data collected annually from crew license and operator permit applicants include name, social security number (SSN), mailing address, physical address, Alaska residency status, U.S. Citizenship status, and birth date. With the exception of nationality, race/ethnicity, and education, the data elements collected in the license and permit databases include all demographic information identified by the working group as necessary for socioeconomic analyses.

Alternatives for comprehensive employment and demographic monitoring

A comprehensive system for monitoring employment in fisheries in and off Alaska should integrate both participation and demographic information and include both harvesting and processing sectors. In the existing data collection programs reviewed above, demographic information is self-reported by the individuals working in the industry, either through industry-specific data collection, through data-sharing with other agencies, or leveraging data collected for other purposes. In contrast, information on participation and earnings are reported through monitoring at the workplace (e.g., through plant- and vessel-based reporting). This is an effective structure that distributes reporting burden to entities most able to provide the relevant information, and one that should be preserved in a comprehensive monitoring effort. An additional objective in designing the data collection program is to minimize the total reporting burden, by avoiding duplicative data submissions. To some extent, achieving this objective will require coordinating with other agencies to modify and leverage existing data collection programs.

As the preceding discussion indicates, the principal gap in employment and income data is in the harvesting sector. The most detailed information on crew employment and earnings is currently collected only in the EDRs used by the BSAI crab and (eventually) Amendment 80 fleets. Crew counts are being collected in the fisheries covered by the new E-landings system, which is currently mandatory for the crab fisheries and will be so for groundfish in 2008. While the level of detail at which to collect harvesting labor data across the other fisheries under Council

[4] Employer wage and salary reports and the Permanent Fund registry are linked using employee social security numbers. Due to the sensitivity of SSN data, ADOL will not release disaggregated data to other agencies.

jurisdiction depends on the analytical and management questions to be addressed, experience suggests that this information will most efficiently be provided through mandatory vessel-level reporting.

Harvesting sector employment and participation can be most accurately monitored across all fisheries if vessel-level participation for individual crew members is indexed by a unique individual crew member identifier. One alternative would be to require vessel-level reports to provide social security numbers for all individuals contributing harvesting labor to the vessel. SSN could then be used to associate participation data from multiple vessels and over multiple years to construct each individual crew member's fishing history and track patterns of employment between fisheries.

An alternative to using SSN as the common identifier for vessel-level crew participation data is commercial crew license and gear operator permit numbers. As noted, these have the advantage of being associated with a nearly-sufficient and readily available source of demographic information for analysis of harvesting employment at the regional or community level. While the CFEC process for gear operator permit registration provides a persistent, unique identifier for permit holders, the ADF&G process for issuing commercial crew licenses do not create persistent, unique identifiers and would require significant changes that are beyond Council or NMFS jurisdiction to implement.

The SWAMC report identifies a range of options for amending the administration of the crew licensing program to address the need for a permanent license number, as well as improve the accuracy and reliability of the data collected. As mentioned above, the full range of options is beyond the scope of this discussion paper, and decisions regarding "if and how" to proceed with any changes in the licensing system are within the jurisdiction of ADF&G. However, given the importance of improving harvesting employment information to local and Alaska State government, the potential benefits of limited modifications such as persistent license numbers appear to be significant. As an additional alternative, all individuals wishing to participate in Federal fisheries could be required to register with NMFS Alaska Region and receive a persistent, unique Federal crew license number. This would avoid reliance on SSN, which is problematic for reasons associated with identity theft concerns and Federal records management, and could be implemented independent of other agency cooperation.

Limiting reporting from fisheries under Federal jurisdiction will provide data largely sufficient for analysis of employment and income effects directly resulting from Council decision-making. It should be noted that omission of non-federally managed fisheries in Alaska leaves data gaps for some of the broader fisheries employment issues identified by SWAMC. Although it lies beyond Federal jurisdiction to mandate, one alternative identified in the SWAMC report is worth noting. The report proposes integrating crew member participation monitoring into the Interagency Electronic Reporting System (IERS)/e-Landings system to monitor crew participation at the fish-ticket level ("Path 4" in the SWAMC report). This would provide the highest resolution data on crew member participation in harvesting activities in both State and Federal fisheries, and would provide data directly comparable with those used to develop vessel histories. This system, however, would not provide data on the payments made to captains and crew for harvesting activities, non-harvesting labor (e.g., gear maintenance, tendering), and other labor payment details. Collection of these data would still require annual or seasonal reporting at the vessel level, across all fisheries under State and Federal jurisdiction.

Suggestions:

1. Work cooperatively with ADF&G to a) make the commercial crew licensing process more amenable to the development of an electronic database containing permanent individual identifiers; or b) develop a stand-alone electronic reporting system (outside of the commercial crew license process) to track crew participation by vessel or fishery using permanent individual identifiers.

2. Implement vessel-level reporting requirements for harvesting labor participation and income similar to that included in the BSAI Crab EDR. As described in the Cost Data section above, vessel-level reporting must include

costs of labor inputs. Employment specific variables should include individual-specific identifiers (SSN, crew license number, gear operator permits number, or other). In fisheries where the nature of compensation is likely to change as a result of rationalization, the Council may also wish to request information on share percentages and deductions. If the system described in suggestion 1 above is not implemented, the EDRs for harvesting vessels should collect data on the fisheries in which individual crew members worked to permit development of crew participation histories in individual fisheries. However, if suggestion 1 is successful, no further demographic information beyond individual crew member identifiers may be necessary at the vessel level, depending on whether crew income is included in any future system.

3. Implement plant-level reporting on processing labor income and employment. Variables to collect would include total man-hours of processing labor employed at the plant, average number of hours worked by processing line employees, and total labor payments for processing workers. Fishery-specific data are preferred to annual totals for fisheries where such information could be collected accurately. Due to the large number of processing employees at many plants and the difficulty of collecting demographic information about individual employees from plant managers, we recommend that information such as residency of processing employees not be recorded, or at most, be recorded only for "local" employees. If however, the Council wishes to track residence information or processing employees on a basis similar to that proposed above for harvesting sector employees, a significantly larger reporting burden will be imposed on processors due to the number of employees for whom they will need to account. These data could be collected by the processing plant management or provided by processing plant employees through an additional data collection instrument.

4. Expenditures in Coastal Communities

Although many of the regulations governing fisheries pertain to harvesters and processors, these entities are closely tied to the communities in which they operate and their employees reside, and to the businesses that facilitate their activities. Thus, in evaluating the impacts of an action, analysts must often look beyond the immediate impacts on harvesters and processors to gauge the likely overall impact on the local economy (direct fishing and processing, and support businesses) as a whole. In particular, National Standard 8 (MSA Section 301[a][8]) explicitly requires that, to the extent practicable, fishery management actions shall minimize economic impacts on fishing communities. To satisfy these mandates and inform policymakers and the public of the likely regional economic impacts associated with fishery management policies and actions, economists need appropriate economic models and data. Although a suite of regional economic models for analysis of fisheries exist, reliable data on fisheries-related economic sectors necessary to implement the models is either unavailable or unreliable. The absence and/or deficiencies of these data have severely limited development of viable regional economic impact models for fisheries.

Regardless of the model employed, much of the data required for regional economic analysis of fisheries reside within IMPLAN (IMpact analysis for PLANning). However, it is not advisable to use unrevised IMPLAN data for analyzing fishery industries in the U.S. for several reasons.

First, IMPLAN applies national-level production relationships to regional industries, including fisheries. While this assumption may not be problematic for many regional industries, use of average production relationships may not accurately depict regional harvesting and processing technologies. Therefore, to correctly specify industry production functions, it is necessary to obtain primary data on harvesting and processing sector expenditures through economic surveys. In addition, since many of the intermediate inputs used by harvesting vessels engaged in fishing in and off Alaska are imported or purchased from various different locations, detailed information on vessel expenditures by location is also needed. If economic impacts are calculated assuming that all these goods and services are supplied by local businesses, regional impacts will be significantly overestimated. Only those expenditures made within the study region will generate positive economic impacts for the region.

Second, the employment and earnings of many crew members in the commercial fishing sector are not included in the IMPLAN data, because IMPLAN is based on state unemployment insurance program data which excludes "uncovered" employees such as contractors, the self-employed, and casual or part-time workers (i.e., typical crew members). Thus, IMPLAN understates employment in the commercial fishing sectors. Therefore, (as discussed in the previous section) it is necessary to collect or estimate the employment and labor earnings information for the harvesting vessels. Processing sector data are also problematic stemming from the nature of the industry. Geographical separation between processing plants and company headquarters often leads to confusion as to the actual location of reported employment. In estimating the employment for harvesting and processing sectors, it is also necessary to identify the residence of crew members and processing workers, to estimate the leakage of labor income outside of local, regional, or state economies. Some labor income will stay in the region, since nonresident workers may spend some of their income there. However, most of nonresidents' labor income will likely leave the region. The Alaska Department of Labor and Workforce Development (ADOL) regularly estimates nonresident employment and labor earnings for over 100 industries and state and local governments, but the estimates of employment and labor earnings for the harvesting industry are not reliable (as the non-resident analysis definitions mandated by the U.S. Bureau of Labor Statistics include only workers covered by unemployment insurance, which will bias the numbers downward for contractors such as harvesting crew). The analogous estimates for the seafood processing (food manufacturing) sector are more reliable, although the issue of whether employment figures representing only one pay period during the month are truly representative remains open.

Finally, fishery sector data in IMPLAN are highly aggregated; there is only one harvesting sector and one processing sector in IMPLAN. Typical fishery management actions involve changes in the harvest of certain species and/or changes in catch by certain types of vessels. Therefore, models using aggregate data cannot estimate the potential impacts of fishery management actions on individual harvesting and processing sectors. To estimate these types of impacts, the IMPLAN commercial harvesting sector must be disaggregated into subsectors by species and vessel types. This requires the aforementioned expenditure (intermediate inputs), employment, and labor income data to be collected in a disaggregated manner by target species- and vessel-type.

In addition to supplementing these IMPLAN data deficiencies, other important data must be obtained. Even if the total capital income of (or the profit earned by) vessel owners could be estimated, the leakage of capital income out of local, regional, or state economies in Alaska cannot be estimated accurately with currently available ownership data. To estimate the leakage of capital income, it is necessary to identify the place of residence of the owners of harvesting vessels and processing facilities. Since many of the harvesting vessels operating off Alaska are owned by residents of Washington and Oregon, or by vertically and horizontally integrated corporate structures, and many processing facilities are owned multi-nationally, it is likely that most of the capital income earned by these entities will leave Alaska.

If the above-mentioned data are made available, it will be possible to generate the following types of impact analyses for fishery-dependent boroughs (census areas), regions, the State of Alaska, and the lower 48 states:

(a) Estimates of the contribution of each fishery to each fishery-dependent borough and census area, each region, and the State of Alaska, by examining direct, indirect, and induced effects of the seafood industry.[5]
(b) Estimates of the static and dynamic (i.e., current and future) impacts of fishery management actions on fishery-dependent boroughs and census areas, regions, and the State.[6]

[5] These types of analysis can be conducted using models such as an input-output (IO) model or a social accounting matrix (SAM) model.
[6] Specifically, it is possible to estimate the impacts on major regional economic variables including (i) employment and labor earnings (by harvesting and processing subsectors and by residency), (ii) capital income and its leakage (by harvesting and processing subsectors), (iii) similar variables in the other industries (non-fishery industries), (iv) household income by household type, (v) government expenditure and revenue, and (vi) welfare changes for households. These types of analyses can be conducted by a computable general equilibrium (CGE) model.

Unfortunately, our experience in attempting to gather information on fuel, bait, repair and maintenance, and capital improvement expenditures in the BSAI crab fisheries has shown us that significant hurdles exist in accurately accounting for the location of expenses. First, the invoices used by the individuals filling out economic data surveys to track the location of purchases often reflect the location of the business owner's billing office (e.g., Seattle), rather than the point of sale (e.g., Dutch Harbor). Problems such as these often arise because the skipper or other individuals that made purchases (and are familiar with the locations where they buy fuel or food) are not the parties that fill out the economic surveys; typically accountants or other company employees perform such duties using available financial records. Getting accurate location-specific purchase data thus requires a degree of coordination and communication that may not be feasible or likely to be undertaken by those filling out economic surveys. Second, industry members have conveyed that it is time consuming and very cumbersome to account for the location of all of their purchases. We tend to agree that it is not realistic to expect businesses to report every expenditure and the place in which it occurred. However, we recognize that of all the socioeconomic information desired by various stakeholders, the link to Alaskan communities is perhaps the most requested.

The solution to this problem is not entirely clear. Perhaps an alternative approach could be undertaken in which the communities themselves help to provide such information. For example, a business could ask their customers to report the vessel ID during purchases, which could then be used in conjunction with sales data and our landings data to examine which vessels or fisheries are most closely linked to the support industries (a simpler though less precise option is for businesses to ask for the fishery in which the supplies will be used). One could then monitor the changes in sales/support revenue generated by a fishery over time. The problem with this approach is that we do not have the authority to compel businesses or communities to provide this information. Additionally, purchases often apply to multiple fisheries. While it may be in their collective interest to do so, at the individual level it may be seen as an annoyance or rejected so as to not annoy customers concerned over privacy. It is also possible that customers may appreciate efforts to document the importance of their purchases, but it is difficult to know which sentiment will generally prevail. In addition, the regional economic impacts calculated with such an approach may still mischaracterize the full impacts of a fishery without supporting information on employment, labor earnings, and residency (for the reasons given above). Because of the complicated nature of compiling this information, and the broad-based support we've observed for its collection, it may be desirable to form a group to further investigate community-based data collection and the extent to which it would be supported by local businesses or municipalities.

Suggestion: The level of reporting burden, and complications associated with recording the location of all purchases, in conjunction with the limited jurisdiction of NOAA and the NPFMC in obligating communities to report information pertaining to fishery expenditures and support services, suggests that neither harvesters and processors, nor communities will be able to shoulder the full data-reporting needs. Therefore, a collaborative approach could prove the most fruitful; the communities dependent upon or engaged in fishing or processing should work with industry and the management agencies to devise a plan for documenting the way in which fisheries and communities are interrelated. Where possible, harvesters and processors should be compelled to provide basic (but limited, fishery-specific) information on labor expenditures, as well as the city or port in which they purchased a majority of their fuel and supplies, and had major work performed on the vessel. The data elicited in the EDRs by plants and vessels could then be used in conjunction with the community data to examine fishery-specific management questions, and possibly serve as a check on the accuracy of the voluntarily submitted community data (in terms of the quantity or value of support services claimed to be provided in an area).

5. Community Data

Socioeconomic analyses of fisheries and fishery management policies include analyses of impacts on communities. Communities often participate in the public aspects of policy-making, and National Standard 8 of the MSA ensures that community impacts will be considered. There are some data available for community-level impact analyses (landings, fishing permits, vessel ownership, Census data, and infrastructure), but there are four major areas identified by the working group in which the available data are inadequate. These are industry cost structure,

fisheries labor (harvest crew and processing workers), vessel-port connections, and community services. The first three are discussed in other sections of this document. Given how important these parameters are in determining actual affects of regulatory action on individual communities, the lack of information is a real handicap to analysts.

Suggestions for the collection of cost data, labor/employment information, and vessel-port connections are included in the relevant sections, above. For community-level analyses to be accurate and useful, information collected must have reliable data on home community connections of workers and owners (residence, headquarters, etc.) and working community connections (ports of call, processing work locations, etc.).Any mandatory data collections as suggested above will likely include adequate data to apply to community-level analyses. It should be noted that, although most of these data are not collected *from* communities, by including community information they provide the basis of analysis *of* communities.

For connections between vessels and ports and support sector or community services, however, it has been suggested that communities themselves might be a better source of information. This presents an interesting possibility along with a number of concerns, discussed above. Primarily, it is not likely that the Council has the authority to compel mandatory data collection from communities (other than, perhaps, CDQ communities and Adak). However, communities may have more of an incentive to participate in data collection than industry, making voluntary surveys or reporting potentially more viable.

Whether mandatory or voluntary, it would be a large undertaking, with hundreds of communities, including many outside of Alaska that have working connections to fisheries in and off Alaska. One major problem that would need to be confronted is the issue of who represents the community and could answer the survey. In Alaska, communities are complicated multi-jurisdictional places with city and tribal governments having political representation functions, regional and village corporations having resource stewardship functions, and quasi-governmental non-profit agencies providing many social services. In a recent request for feedback from communities in Alaska by the Alaska Fisheries Science Center, 296 organizations were contacted as representatives of 136 communities. About 15% responded, representing 44 different communities (Package and Sepez 2005). Unlike vessel owners and permit holders, there is no consolidated source for the correct contact information for community entities and simply assembling the mailing list is a major undertaking. Nonetheless, it could be accomplished, especially given clear guidance on which types of communities and community representatives to contact.

Suggestions for data to be collected from communities have been offered by a number of participants (analysts, agencies, and the AP) and include the following topics:

- Number of functional slips per vessel size
- Number of vessels by type (length class, gear type) of commercial fishing vessels primarily based in the community [7]
- Number of days and vessels by type (length class, gear type) of commercial fishing vessels using slips per season
- Notable changes of harbor and slip uses from previous patterns (narrative)
- Number and types of services available in port (fuel, groceries, non-food supplies, entertainment, cleaning, shipping, etc.)
- Number of fisheries (or marine) specific support businesses (bait, net-mending, parts, boat repair, tackle)
- Fish tax dependent services (including scholarships)

[7] It should be noted that the data on "homeport", available from vessel registration files, do not reflect the vessels' actual use of ports. In fact, it does not even necessarily reflect a place the vessel has ever been, as the registrant is free to list whatever location they like. We have not found this data to be useful in community-level impact analyses.

Much of the community data regarding vessels and use of services would be collected with a finer resolution in vessel surveys, as part of the suggested mandatory program, than could be collected from communities. Of the remaining information, specific information about fisheries support businesses may be the most valuable to analysts.

Social scientists at NMFS headquarters have discussed the possibility of encouraging NMFS Science Centers to collect information about fisheries infrastructure for all fishing communities (as seen in the Gulf [of Mexico] Coast fishing community profiles available at http://sero.nmfs.noaa.gov/economics/economics.htm). The preferred method for collecting these data is direct observation. However, with the expense of traveling to Alaskan communities by air, the collection method for Alaska would likely vary by community (e.g., mostly by telephone). Alternatively, much of the information could potentially be collected or reported by harbormasters or port administrators. These individuals are typically municipal employees and responding to NMFS' requests for these data would be voluntary, but would be largely consistent with job duties.

Suggestion: Most data relevant to community-level expenditures and vessel-port connections will be more accurate and detailed if it is collected from fisheries participants, rather than from communities. The workgroup does, however, suggest that supplemental information be collected through voluntary harbormaster surveys, or field work by NMFS researchers, based on the categories listed above.

6. Ownership Data

Many of the economic performance measures that are computed using the cost, revenue, and employment data discussed in this paper focus on the production process at the level of the vessel or plant. Examples include measures of capacity utilization, productivity, and various notions of efficiency. Focusing on the production process at the level of the vessel or plant allows the analyst to identify the link between inputs used to catch or process fish, and the quantity of fish or product forms obtained, respectively. Characterizing this link, and how it may change, is a key part in assessing the impacts on economic performance that arise in response to management actions. However, because the production activities of one vessel or plant may be only one component of a firm's overall business structure, instances arise in which the firm (which may own one or more vessels, plants, or both) is the natural unit of observation. As such, understanding the ownership structure of firms and the vessel, plant, and access privilege assets they hold can be important to analysis of fixed and firm-level operating costs of participating economic entities, and distribution of revenues across elements of these entities, accruing from the use of these assets.

An additional need for ownership, contractual joint-operating agreement, and affiliation information is found in the Regulatory Flexibility Act (RFA) and the analyses it requires be conducted by Council and/or NMFS Regional staff. For any proposed regulatory action, the RFA requires that a determination be made by NMFS. If the proposed action can be *certified (*on a factual basis*),* not to have the potential to impose a substantial adverse economic impact on a substantial number of small entities (as those terms are defined by SBA), then the Secretary of Commerce (SOC) may communicate that finding, along with the factual basis upon which it was made, to SBA, at which point no further RFA analysis is required. However, if such a 'factually based' certification cannot be justified on the facts, RFA requires the preparation of an initial regulatory flexibility analysis (IRFA) and a final regulatory flexibility analysis (FRFA). Note that, whether the SOC chooses to *certify* , or prepares an IRFA, compliance with RFA mandates require analysts to determine entity 'size' status (i.e., "small" or "large") for those entities that are directly regulated by the proposed action. This assignment process requires that information on (joint- and multiple-) ownership, contractual linkages, joint-ventures, affiliations, and/or subsidiary corporate relationships among and between "entities" be systematically collected and assessed. Depending on the nature of the specific proposed action, and to whom it would directly apply, size criteria differ, both in magnitude and in character. For example, the "size" of an entity directly participating in the harvesting of fish is based upon "annual gross receipts, from all its activities, including its affiliates, worldwide." For directly regulated entities that process fish, a small entity is one that employs fewer than 500 employees, on a full-time, part-time, temporary, or any other basis, including all its affiliates, worldwide. Because these are "threshold" criteria, data need only be sufficiently

detailed to “confirm” the entity does not exceed the limits set by SBA guidelines. Therefore, in the case of, for example, a processing plant in Dutch Harbor that can be empirically verified to be a subsidiary, owned and operated by a multi-national corporation, once employee counts (as defined above) can be shown to exceed 500, no additional data on the intricate ownership, management, and interlocking relationship of the parent organization is necessary to meet RFA requirements.

As the foregoing suggests, ownership structure in the fishing industry is complex, with individual and corporate owners organized into a hierarchical system with varying degrees of vertical and horizontal integration and affiliation. Firms, vessels, and plants under common ownership can exist as independent subsidiaries or be closely associated through common management structures. Further, individuals can hold ownership shares or other controlling interests in multiple entities holding fishery assets. Given the fluidity of this “system”, with assets being bought and sold and affiliations forming and dissolving continuously, it is unlikely that a tractable, verifiable system for monitoring ownership can fully capture all of the relevant information desirable for analysis. However, some limited objectives can be achieved with existing data sources supplemented with additional information provided by vessel, plant, and permit owners in the context of comprehensive data collection.

The three most detailed sets of information currently collected on ownership include (1) Restricted Access Management (RAM) records for enforcement of use caps, which limit share holdings, in limited access fisheries that are evaluated "individually and collectively"; (2) the USCG vessel documentation system, required for vessels over five net tons; and (3) data collected under American Fisheries Act (AFA) by the U.S. Maritime Administration (MARAD) for enforcement of foreign ownership restrictions on vessels over 100 feet in length. These requirements apply to floating processors, as well as harvesting vessels. USCG Vessel documentation requires identification of all individual owners by name and SSN or tax id. MARAD documentation is more stringent, requiring individual identification and legal residence information of all shareholders in corporations owning vessels required to report under AFA. RAM requires reporting by all non-individual (i.e., corporate) owners of harvesting or processing quota, including a unique company identification number, company name, unique owner identification, owner name, effective date of share ownership, and share percent owned. In addition, for the rationalized BSAI crab fishery, affiliation information is required for all non-individual owners of harvesting or processing quota shares, identifying all individuals with 10% or greater ownership or control. Note that “individual owner”, under the definition employed by RAM, includes both individual persons and corporations. The information collected by RAM is maintained as a registry of current ownership information. It is not reported by owners on a regular basis, but is required to be up-to-date. As such, it does not currently function as a database that can be matched to historical data collected through vessel or plant level data collection.

Suggestions: The principal impediment to incorporating ownership information into socioeconomic analyses is not a lack of data, but rather limitations on data accuracy and completeness given the dynamic and complex nature of ownership structures. That is, sufficient secondary data exists to satisfy the need for ownership information, but unimpeded and systematic access to these data must be obtained by authorized analysts, and datasets constructed and organized into a useful database to support analysis. This will likely be a time-consuming and difficult task. Suggestions for proceeding are as follows:

1. Ownership information for vessels is largely complete under USCG and MARAD reporting requirements. Despite past reluctance to share this information, discussions with both agencies have indicated that data-sharing agreements either exist or can be developed subject to standard non-disclosure agreements. One suggestion is to complete data sharing agreements and obtain all available vessel ownership data from these sources, at the earliest opportunity.

2. Vessel level reporting requirements should include USCG Documentation number.

3. The number of processing plants is sufficiently small that the processing sector data could be surveyed through a mandatory requirement to provide ownership information, with minimal effort.

4. Collection of data on ownership of access privilege assets by RAM should be reorganized as a historical database, with regular reporting and the potential to identify ownership changes over a period of time. This could be achieved by periodic (annually or quarterly) archiving of the registry database.

7. Data for Social Impact Analyses

As with community impact analysis data, social impact information is probably best collected using the other mandatory data collection programs suggested in this document, rather than as a separate endeavor. Information useful for social impact analysis is most often demographic data (describing individual characteristics such as age, gender, race/ethnicity, nationality (citizenship), residency, income, and education) or community data (describing community characteristics such as electricity, water, sewer, garbage, housing, harbors, airports, schools, health care, public safety, governance, and local economic activities). When available, demographic information can be used to understand the distributional impacts of policies in terms of these socially salient characteristics, or to refine predictions about how sub-groups may be affected by or react to changes, based on other known characteristics of the sub-group. Community information can be used to understand the impacts of change on community services, infrastructure, and economics. More detailed social information (e.g., cultural attributes, local and traditional knowledge, community social dynamics) necessary for social impact analysis is best obtained ethnographically and it should be noted that mandatory social data collection will not be able to replace the *in-situ* research that takes place in preparation for specific policy decisions.

The Alaska Department of Commerce, Community, and Economic Development (DCCED) maintains an extensive online database of community characteristics at http://www.commerce.state.ak.us/dca/commdb/CF_COMDB.htm. Information available to the public in these DCCED Community Profiles is updated frequently. Extensive demographic information is available in the United States Census. Data from the 2000 and 1990 Censuses are available online at http://factfinder.census.gov/ and may be queried in terms of geographic units, including state, county, place, tract, etc. Often demographic data for social impact assessment is needed according to non-geographic identity groups, such as gear groups, crew license holders, processing workers, etc. This grouping of the data cannot be achieved from the Census and must be collected independently. The United States Census Bureau has specific guidelines on how to collect information on race/ethnicity that must be followed by Federal agencies. Census methods should also be followed for other data categories to make the information comparable (see http://www.census.gov/population/www/socdemo/race/Ombdir15.html).

Suggestion: The following demographic characteristics are those typically utilized to conduct satisfactory social impact analyses: age, gender, race/ethnicity, nationality (citizenship), residency, income, and education. Such information is most easily collected through licensing processes that require individuals to describe themselves in order to be eligible to work or receive other benefits. The information can also be obtained from individuals' employers, although industry has expressed concern over the time requirements and sensitive nature of providing these data.

Information on community characteristics is maintained by the State of Alaska. Assurances should be sought from the State that access to current data (online) will continue and access to historic (time series) data will be available by request.

Confidentiality of Data Collected Under the Proposed Program

This paper has recommended mandatory reporting of detailed personal and proprietary information by a variety of entities operating in fisheries in and off Alaska. These data meet the definition of confidential information under a number of Federal statutes as summarized in NOAA Administrative Order (NAO) 216-100. This NAO provides the principal guidance to NOAA personnel on protection of confidential data, including definitions, policies, operational responsibilities and procedures, penalties, and statutory authorities. The NAO specifies conditions for authorization for access to confidential data by Federal, Council, and state employees, and contractors. Any

individual who receives access to confidential data must sign an agreement of nondisclosure, violation of which is punishable by dismissal, fines, and imprisonment as set forth in the NAO.

Although NAO 216-100 provides managers with working-level guidance, it falls under the umbrella of NOAA's regulatory provisions. Regulatory provisions controlling NOAA data confidentiality are found at 50 CFR Sec. 600.405 et seq. These provisions direct how NOAA collects, maintains, and provides access to proprietary and confidential commercial or financial fisheries data. In addition to describing data storage safeguards, these regulations establish the process and standards data managers use in determining whether to grant a request for access. The regulations also describe the government agencies and individuals to whom access is authorized.

Collection, maintenance, and protection of confidential data are routinely conducted by NMFS, and procedures for preventing disclosure are well-established. However, due to the highly detailed nature of the personal and financial data proposed for this collection, additional concerns have been raised by the Council and members of the industry. In particular, the Council motion directing the economic data collection for BSAI crab fisheries included specific direction to staff to develop controls on access to the data, rules for aggregation of data for release to the public, penalties for release of confidential data, and penalties for unauthorized use in addition to those set forth in Federal law. In addition, congressional authorization for the BSAI crab EDR included provisions requiring collection and custody of the data by a third party (Pacific States Marine Fisheries Commission) and removal of any personal or business identifying information from data records prior to conveyance to NMFS. At the December 2006 meeting, the Council issued an additional motion, directing staff to develop protocols for Council review to address rules for aggregation to maintain data confidentiality and assess the quality of the data to ensure accuracy of data collected in the crab EDR. A discussion paper outlining the process for developing these standards was developed and presented to the Council at the March/April 2007 meeting, and has since been updated for presentation at the October 2007 meeting.

Suggestion: Since the data collection discussed above is similar in nature and subject to the same concerns as the crab EDR data, it is expected that the data handling protocols to be developed for crab data would also apply to these new data, in addition to the requirements under NAO 216-100. It should be noted, however, that NOA 216-100 is in the process of being updated and the provisions of a revised NAO may supersede any recommendations made herein.

Linkage Between Economic Analysis and Social Analysis

Obviously, the economic impacts associated with a management action are going to have social repercussions as well. A change in income or jobs will affect the standard of living of affected parties and impact their mental and physical well-being. Such changes may affect the ability of a family to acquire adequate levels of food, shelter, or medical care. Different types of impacts will affect different segments of the community in different ways, such as lower income families, non-citizen fishermen, or Native Alaskans. The degree and duration of these impacts on the community, or sub-group, will depend in part upon the number of alternative employment opportunities. It is important to note, however, that changes in fishery management can also impact the social structure of a community in ways unrelated to economic impacts, such as with subsistence opportunities, cultural practices, migration, etc.

The close relationship between social and economic analysis can be seen in the data collection recommendations, which often use the same vehicles (e.g., vessel owner surveys). The differences are in the questions asked and the units observed. Economic analyses will tend to focus on the vessel or plant as the unit of analysis, although in some instances the unit of analysis may be a "non-profit" organization (e.g., CDQ groups), or a government jurisdiction (e.g., the Port of Dutch Harbor), while social analyses will tend to focus on communities or socially recognized sub-groups of individuals (e.g., young fishers or female processing workers). Economic surveys ask questions that shed light on the net benefits or distribution of economic impacts among industry sub-sectors, CDQ groups, taxing authorities, etc., typically measured in monetary terms. Social analyses will ask questions to focus

on social groups and non-economic impacts, as well as the distribution of economic impacts among socially salient groups.

Approaches to Data Collection: Reporting Entities and Collection Frames

One issue that must be considered when designing a data collection program is whether to collect information from all fishery participants, including vessel owners, quota holders, processors, community representatives, and others, or limit collection to one or more of these populations. All of these populations would be included in one or more component of the comprehensive data collection program outlined above. A second fundamental issue to resolve is whether to collect data from all entities within a population (i.e. census), or to sample a subset of the population. The choice over the approach depends in part on the type of questions one wishes to examine, the nature of the distributions describing the relevant populations to be surveys, the precision required, and the desired limit on the cost and public burden of collecting the data.

When the goal is to examine the average or a "representative" vessel or plant, a sampling approach may be preferred, because it may be more cost effective than a census. If the number of plants or vessels in the fishery of interest is large enough, one can use random sampling to develop a data set with a mean and variance that is representative of the underlying population with a known margin of error. This type of data collection is particularly well-suited to situations where one's goal is to estimate parameters such as the average daily costs of fuel, labor, or bait for a fishery. One can then conduct analyses based on the average vessel and, depending on the degree of homogeneity in the fleet, get ballpark estimates for the impact of a management action.
There may also be populations of interest (e.g., onshore processors, offshore catcher-processors) that are too small to "randomly" sample in order to get a desired level of precision, thus eliminating sampling as a viable option.

For some particular questions, however, a census may be preferable to a sampling approach. For example, a census allows one to examine the way in which all parties (not just the average entity) have been affected by a management action. In situations where different parties may be affected differentially it may be particularly important to account for the entire range of impacts. Retrospective policy analyses, in which one examines the economic performance of an entity over time and attempts to isolate the effect of a policy action, are much more difficult to conduct with sample data and the results may be suspect. For these reasons, the data obtained through a census are likely to have a greater number of potential applications and support more information-intensive inquiries (assuming the data are of high quality). Although the overall cost and time burden of a census is greater, one avoids making people or fleets feel "singled out" and may contribute to a sense of fairness (or shared vulnerability) in that all parties have the same responsibilities and requirements, and thus could contribute further (aside from increased observations) to the quality of the data.

One other way to frame the decision over a sample versus a census is in terms of the potential benefits of the information obtained relative to costs of collecting data. In smaller, lower value fisheries the potential benefits and costs of management actions are likely to be less than larger, more valuable fisheries. Accordingly, the benefits obtained from additional socioeconomic information to improve such decisions are likely to be greater when more is at stake. Therefore, it may be prudent to make the amount of resources that go into data collection, beyond a minimum baseline level, commensurate with the size or value of the fishery, much like what is done with the stock assessment efforts.

REFERENCES CITED

Package, Christina and Sepez, Jennifer. 2005. Community Feedback: Who Represents a Community? Paper presented at the Society for Applied Anthropology Meetings, April 9, 2005, Santa Fe, New Mexico.

Northern Economics, Inc. 2007. "Improving Seafood Harvesting Labor." Report prepared for the Southwest Alaska Municipal Conference (SWAMC).

APPENDIX:

MSA Changes That Promote Economic and Social Data Collection

The reauthorization of the MSA includes several changes that are important with respect to collecting economic and social data. Theses changes eliminate the previous restrictions on collecting economic data, clarify and expand the economic and social information that is required, and make it explicit that the Councils and the Secretary have the responsibility and authority to collect the economic and social information necessary to meet the requirements of the MSA, where either a Council or the Secretary can initiate the development of improved data collection programs. In addition, there are changes that potentially provide additional sources of funding for data collection and analysis and that extend MSA confidentiality protection to all information (including economic information) collected by observers; however, the specifics of those changes are not presented below.

SEC. 101. CUMULATIVE IMPACTS.

Nat Standards 301(a)(8)

Note: The following changes clarify/expand the econ/soc analyses required.

(8) Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities by utilizing economic and social data that meet the requirements of paragraph (2) in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

Note: Paragraph (2) is: Conservation and management measures shall be based upon the best scientific information available

CONTENTS OF PLANS- Section 303(a)(9)

Note: The following changes expand/clarify the econ/soc analyses required.

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and ~~describe the likely effects, if any, of the conservation and management measures on~~ analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for –

****

b) SCIENTIFIC AND STATISTICAL COMMITTEES- Section 302(g) (16 U.S.C. 1852(g))

Note: The following changes were made and make it explicit that a SSC's roles include more than biology.

(g) Committees and Advisory Panels-

(1)(A) Each Council shall establish, maintain, and appoint the members of a scientific and statistical committee to assist it in the development, collection, evaluation, and peer review of such statistical, biological, economic, social, and other scientific information as is relevant to such Council's development and amendment of any fishery management plan.

`(B) Each scientific and statistical committee shall provide its Council ongoing scientific advice for fishery management decisions, including recommendations for acceptable biological catch, preventing overfishing, maximum sustainable yield, and achieving rebuilding targets, and reports on stock status and health, bycatch, habitat status, social and economic impacts of management measures, and sustainability of fishing practices.

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SCIENTIFIC RESEARCH PRIORITIES- Section 302(h) (16 U.S.C. 1852(h))

Note: The following addition was made. Implicit in the highlighted text is the notion that econ/soc research should be included in the priorities set by the Councils.

(7) develop, in conjunction with the scientific and statistical committee, multi-year research priorities for fisheries, fisheries interactions, habitats, and other areas of research that are necessary for management purposes, that shall--

****

(g) TRAINING- Section 302 (16 U.S.C. 1852)

Note: The following was added and could result in additional assignments for HQ and field economists and other social scientists.

(k) Council Training Program-

(1) TRAINING COURSE- Within 6 months after the date of enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, the Secretary, in consultation with the Councils and the National Sea Grant College Program, shall develop a training course for newly appointed Council members. The course may cover a variety of topics relevant to matters before the Councils, including--

(A) fishery science and basic stock assessment methods;

(B) fishery management techniques, data needs, and Council procedures;

(C) social science and fishery economics;

(D) tribal treaty rights and native customs, access, and other rights related to Western Pacific indigenous communities;

(E) legal requirements of this Act, including conflict of interest and disclosure provisions of this section and related policies;

(F) other relevant legal and regulatory requirements, including the National Environmental Policy Act (42 U.S.C. 4321 et seq.);

(G) public process for development of fishery management plans;

(H) other topics suggested by the Council; and

(I) recreational and commercial fishing information, including fish harvesting techniques, gear types, fishing vessel types, and economics for the fisheries within each Council's jurisdiction.

****

SEC. 104. FISHERY MANAGEMENT PLAN REQUIREMENTS.

IN GENERAL- Section 303(a) (16 U.S.C. 1853(a))

Note: The following changes were made. They make it explicit that the data required in FMPs includes economic data and data for processors, and they clarify the economic impact information that is required.

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing, and fish processing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, economic information necessary to meet the requirements of this Act, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and ~~describe the likely effects, if any, of the conservation and management measures on~~ analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for –

(A) participants in the fisheries and fishing communities affected by the plan or amendment; ~~and~~

(B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants; and

(C) the safety of human life at sea, including whether and to what extent such measures may affect the safety of participants in the fishery;

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery, including its economic impact, and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors; ~~and~~

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate, taking into consideration the economic impact of the harvest restrictions or recovery benefits on the fishery participants in each sector any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery.

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SEC. 105. FISHERY MANAGEMENT PLAN DISCRETIONARY PROVISIONS.

Section 303(b) (16 U.S.C. 1853(b))

Note: The changes included the following that expand/clarify the econ/soc analyses required and eliminate the prohibition on collecting economic data from fish processors.

(5) incorporate (consistent with the national standards, the other provisions of this Act, and any other applicable law) the relevant fishery conservation and management measures of the coastal States nearest to the fishery and take into account the different circumstances affecting fisheries from different States and ports,

including distances to fishing grounds and proximity to time and area closures, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

~~(6) establish a limited access system for the fishery in order to achieve optimum yield if, in developing such system, the Council and the Secretary take into account-- (A) present participation in the fishery, (B) historical fishing practices in, and dependence on, the fishery, (C) the economics of the fishery, (D) the capability of fishing vessels used in the fishery to engage in other fisheries, (E) the cultural and social framework relevant to the fishery and any affected fishing communities, and (F) any other relevant considerations;~~

(6) establish a limited access system for the fishery in order to achieve optimum yield if, in developing such system, the Council and the Secretary take into account--

(A) present participation in the fishery;

(B) historical fishing practices in, and dependence on, the fishery;

(C) the economics of the fishery;

(D) the capability of fishing vessels used in the fishery to engage in other fisheries;

(E) the cultural and social framework relevant to the fishery and any affected fishing communities;

(F) the fair and equitable distribution of access privileges in the fishery; and

(G) any other relevant considerations;';

(7) require fish processors who first receive fish that are subject to the plan to submit data ~~(other than economic data)~~ which are necessary for the conservation and management of the fishery;

****

SEC. 106. LIMITED ACCESS PRIVILEGE PROGRAMS.

Note: The following are some of the new requirements for any limited access privilege program to harvest fish submitted by a Council or approved by the Secretary. They expand/clarify the econ/soc analyses required for a LAPP and include additional data collection requirements for a LAPP.

(A) if established in a fishery that is overfished or subject to a rebuilding plan, assist in its rebuilding; and

(B) if established in a fishery that is determined by the Secretary or the Council to have over-capacity, contribute to reducing capacity;

(C) promote--

(i) fishing safety; and

(ii) fishery conservation and management; and

(iii) social and economic benefits;

….

(G) include provisions for the regular monitoring and review by the Council and the Secretary of the operations of the program, including determining progress in meeting the goals of the program and this Act, and any necessary modification of the program to meet those goals, with a formal and detailed review 5 years after the implementation of the program and thereafter to coincide with scheduled Council review of the relevant fishery management plan (but no less frequently than once every 7 years);

….

(J) provide for the establishment by the Secretary, in consultation with appropriate Federal agencies, for an information collection and review process to provide any additional information needed to determine whether any illegal acts of anti-competition, anti-trust, price collusion, or price fixing have occurred among regional fishery associations or persons receiving limited access privileges under the program; and [Note: This is a data collection requirement similar to that in the legislation for the Alaska BSAI Crab Rationalization Program.]

....

(B) PARTICIPATION CRITERIA (for communities to participate in a LAPP) - In developing participation criteria for eligible communities under this paragraph, a Council shall consider--

(i) traditional fishing or processing practices in, and dependence on, the fishery;

(ii) the cultural and social framework relevant to the fishery;

(iii) economic barriers to access to fishery;

(iv) the existence and severity of projected economic and social impacts associated with implementation of limited access privilege programs on harvesters, captains, crew, processors, and other businesses substantially dependent upon the fishery in the region or subregion;

(v) the expected effectiveness, operational transparency, and equitability of the community sustainability plan; and

(vi) the potential for improving economic conditions in remote coastal communities lacking resources to participate in harvesting or processing activities in the fishery.

….

(C) PARTICIPATION CRITERIA- In developing participation criteria for eligible regional fishery associations under this paragraph, a Council shall consider--

(i) traditional fishing or processing practices in, and dependence on, the fishery;

(ii) the cultural and social framework relevant to the fishery;

(iii) economic barriers to access to fishery;

(iv) the existence and severity of projected economic and social impacts associated with implementation of limited access privilege programs on harvesters, captains, crew, processors, and other businesses substantially dependent upon the fishery in the region or subregion;

(v) the administrative and fiduciary soundness of the association; and

(vi) the expected effectiveness, operational transparency, and equitability of the fishery association plan.

….

(5) ALLOCATION- In developing a limited access privilege program to harvest fish a Council or the Secretary shall--

(A) establish procedures to ensure fair and equitable initial allocations, including consideration of--

(i) current and historical harvests;

(ii) employment in the harvesting and processing sectors;

(iii) investments in, and dependence upon, the fishery; and

(iv) the current and historical participation of fishing communities;

(B) consider the basic cultural and social framework of the fishery, especially through--

(i) the development of policies to promote the sustained participation of small owner-operated fishing vessels and fishing communities that depend on the fisheries, including regional or port-specific landing or delivery requirements; and

(ii) procedures to address concerns over excessive geographic or other consolidation in the harvesting or processing sectors of the fishery;

….

(D) ensure that limited access privilege holders do not acquire an excessive share of the total limited access privileges in the program by--

(i) establishing a maximum share, expressed as a percentage of the total limited access privileges, that a limited access privilege holder is permitted to hold, acquire, or use; and

(ii) establishing any other limitations or measures necessary to prevent an inequitable concentration of limited access privileges;

….

(7) TRANSFERABILITY- In establishing a limited access privilege program, a Council shall--

(A) establish a policy and criteria for the transferability of limited access privileges (through sale or lease), that is consistent with the policies adopted by the Council for the fishery under paragraph (5); and

(B) establish, in coordination with the Secretary, a process for monitoring of transfers (including sales and leases) of limited access privileges.

….

(e) COST RECOVERY- In establishing a limited access privilege program, a Council shall--

(1) develop a methodology and the means to identify and assess the management, data collection and analysis, and enforcement programs that are directly related to and in support of the program; and

(2) provide, under section 304(d)(2), for a program of fees paid by limited access privilege holders that will cover the costs of management, data collection and analysis, and enforcement activities.

….

FEES- Section 304(d)(2)(A) (16 U.S.C. 1854(d)(2)(A))

Note: The following changes are made. They expand the LAPP recoverable cost to data collection and probably analysis.

> (2)(A) Notwithstanding paragraph (1), the Secretary is authorized and shall collect a fee to recover the actual costs directly related to the management, data collection, and enforcement of any--
>
> (i) ~~individual fishing quota~~ limited access privilege program; and
>
> (ii) community development quota program that allocates a percentage of the total allowable catch of a fishery to such program.
>
> (B) Such fee shall not exceed 3 percent of the ex-vessel value of fish harvested under any such program, and shall be collected at either the time of the landing, filing of a landing report, or sale of such fish during a fishing season or in the last quarter of the calendar year in which the fish is harvested.

Note: The list of recoverable costs here is "management, data collection, and enforcement" and not "management, data collection and analysis, and enforcement activities". The latter list is used twice above and probably "and analysis" was inadvertently left out here. In addition, the 3% cap and the collection schedules that were not changed will limit the cost recovery program.

….

Note: The following is new and may require an assessment of processing capacity.

(c) INVESTMENT IN UNITED STATES SEAFOOD PROCESSING FACILITIES- The Secretary of Commerce shall work with the Small Business Administration and other Federal agencies to develop financial and other mechanisms to encourage United States investment in seafood processing facilities in the United States for fisheries that lack capacity needed to process fish harvested by United States vessels in compliance with the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).

****

SEC. 107. ENVIRONMENTAL REVIEW PROCESS.

Note: The addition of the following will require econ/soc staff time to revise the agency procedures. It is not clear how the new procedures will affect the staff time required to perform the environmental reviews.

(i) Environmental Review Process-

(1) PROCEDURES- The Secretary shall, in consultation with the Councils and the Council on Environmental Quality, revise and update agency procedures for compliance with the National Environmental Policy Act (42 U.S.C. 4231 et seq.). The procedures shall--

(A) conform to the time lines for review and approval of fishery management plans and plan amendments under this section; and

(B) integrate applicable environmental analytical procedures, including the time frames for public input, with the procedure for the preparation and dissemination of fishery management plans, plan amendments, and other actions taken or approved pursuant to this Act in order to provide for timely, clear and concise analysis that is useful to decision makers and the public, reduce extraneous paperwork, and effectively involve the public.

****

SEC. 109. WESTERN PACIFIC AND NORTH PACIFIC COMMUNITY DEVELOPMENT.

Section 305 (16 U.S.C. 1855) is amended by adding at the end thereof the following:

`(j) Western Pacific and Northern Pacific Regional Marine Education and Training-

`(1) IN GENERAL- The Secretary shall establish a pilot program for regionally-based marine education and training programs in the Western Pacific and the Northern Pacific to foster understanding, practical use of knowledge (including native Hawaiian, Alaskan Native, and other Pacific Islander-based knowledge), and technical expertise relevant to stewardship of living marine resources. The Secretary shall, in cooperation with the Western Pacific and the North Pacific Regional Fishery Management Councils, regional educational institutions, and local Western Pacific and Northern Pacific community training entities, establish programs or projects that will improve communication, education, and training on marine resource issues throughout the region and increase scientific education for marine-related professions among coastal community residents, including indigenous Pacific islanders, Native Hawaiians, Alaskan Natives, and other underrepresented groups in the region.

Note: The following two requirements address improvements to data collection and the use of traditional knowledge, respectively:

D) include programs to identify, with the fishing industry, methods and technologies that will improve the data collection, quality, and reporting and increase the sustainability of fishing practices, and to transfer such methods and technologies among fisheries sectors and to other nations in the Western, Northern, and Central Pacific;

(E) develop means by which local and traditional knowledge (including Pacific islander, Native Hawaiian, and Alaskan Native knowledge) can enhance science-based management of fishery resources of the region; and

****

SEC. 111. JOINT ENFORCEMENT AGREEMENTS.

(a) IN GENERAL- Section 311 (16 U.S.C. 1861) is amended—

Note: The following may provide for improved data collection.

(b) REPORT- Within 15 months after the date of enactment of this Act, the National Marine Fisheries Service and the United States Coast Guard shall transmit a joint report to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Resources containing--

(1) a cost-to-benefit analysis of the feasibility, value, and cost of using vessel monitoring systems, satellite-based maritime distress and safety systems, or similar systems for fishery management, conservation, enforcement, and safety purposes with the Federal government bearing the capital costs of any such system;

****

SEC. 112. TRANSITION TO SUSTAINABLE FISHERIES.

(a) IN GENERAL- Section 312 (16 U.S.C. 1861a) is amended--

Note: The following will require an assessment of excess harvesting capacity and methods for reducing it.

(6) Report-

`(A) IN GENERAL- Subject to the availability of funds, the Secretary shall, within 12 months after the date of the enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 submit to the Congress a report--

`(i) identifying and describing the 20 fisheries in United States waters with the most severe examples of excess harvesting capacity in the fisheries, based on value of each fishery and the amount of excess harvesting capacity as determined by the Secretary;

`(ii) recommending measures for reducing such excess harvesting capacity, including the retirement of any latent fishing permits that could contribute to further excess harvesting capacity in those fisheries; and

`(iii) potential sources of funding for such measures.

`(B) BASIS FOR RECOMMENDATIONS- The Secretary shall base the recommendations made with respect to a fishery on--

`(i) the most cost effective means of achieving voluntary reduction in capacity for the fishery using the potential for industry financing; and

`(ii) including measures to prevent the capacity that is being removed from the fishery from moving to other fisheries in the United States, in the waters of a foreign nation, or on the high seas.';
…..

Note: The following additions may require a “fair market-value assessment” and an assessment of the “productivity factor” of individual fishing vessels, respectively.

(B) proposes procedures for program participation (such as submission of owner bids under an auction system or fair market-value assessment), including any terms and conditions for participation, that the harvester proponents deem to be reasonably necessary to meet the program's proposed objectives.

(5) REDUCTION AUCTIONS- Each program not involving fair market assessment shall involve a reduction auction that scores the reduction price of each bid offer by the data relevant to each bidder under an appropriate

fisheries productivity factor. If the Secretary accepts bids, the Secretary shall accept responsive bids in the rank order of their bid scores, starting with the bid whose reduction price is the lowest percentage of the productivity factor, and successively accepting each additional responsive bid in rank order until either there are no more responsive bids or acceptance of the next bid would cause the total value of bids accepted to exceed the amount of funds available for the program.

Note: Having such explicit instructions on how an auction for a buyback program would work, could prevent the use of more effective auction systems.

****

SEC. 113. REGIONAL COASTAL DISASTER ASSISTANCE, TRANSITION, AND RECOVERY PROGRAM.

Note: The following required report will be very difficult to produce on schedule even if substantial assessments are conducted before a disaster.

(c) REGIONAL IMPACT EVALUATION- Within 2 months after a catastrophic regional fishery disaster the Secretary shall provide the Governor of each State participating in the program a comprehensive economic and socio-economic evaluation of the affected region's fisheries to assist the Governor in assessing the current and future economic viability of affected fisheries, including the economic impact of foreign fish imports and the direct, indirect, or environmental impact of the disaster on the fishery and coastal communities.

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TITLE II--INFORMATION AND RESEARCH

SEC. 201. RECREATIONAL FISHERIES INFORMATION.

Note: The following seems to provide an opportunity to improve all of the data collected with MRFSS, including the econ and soc add-ons.

(A) IMPROVEMENT OF THE MARINE RECREATIONAL FISHERY STATISTICS SURVEY- Within 24 months after the date of enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, the Secretary, in consultation with representatives of the recreational fishing industry and experts in statistics, technology, and other appropriate fields, shall establish a program to improve the quality and accuracy of information generated by the Marine Recreational Fishery Statistics Survey, with a goal of achieving acceptable accuracy and utility for each individual fishery.

`(B) NRC REPORT RECOMMENDATIONS- The program shall take into consideration and, to the extent feasible, implement the recommendations of the National Research Council in its report Review of Recreational Fisheries Survey Methods (2006), including--

`(i) redesigning the Survey to improve the effectiveness and appropriateness of sampling and estimation procedures, its applicability to various kinds of management decisions, and its usefulness for social and economic analyses; and

`(ii) providing for ongoing technical evaluation and modification as needed to meet emerging management needs.

SEC. 202. COLLECTION OF INFORMATION.

Section 402(a) (16 U.S.C. 1881a(a))

Note: The following changes: (1) eliminate the prohibition on collecting "information that would disclose proprietary or confidential commercial or financial information regarding fishing operations or fish processing operations" and (2) provides the Secretary with explicit authority to establish additional information collection or observer programs as needed.

(a) COLLECTION PROGRAMS~~**COUNCIL REQUESTS.**~~

(1) COUNCIL REQUESTS - If a Council determines that additional information ~~(other than information that would disclose proprietary or confidential commercial or financial information regarding fishing operations or fish processing operations)~~ would be beneficial for developing, implementing, or revising a fishery management plan or for determining whether a fishery is in need of management, the Council may request that the Secretary implement an information collection program for the fishery which would provide the types of information ~~(other than information that would disclose proprietary or confidential commercial or financial information regarding fishing operations or fish processing operations)~~ specified by the Council. The Secretary shall undertake such an information collection program if he determines that the need is justified, and shall promulgate regulations to implement the program within 60 days after such determination is made. If the Secretary determines that the need for an information collection program is not justified, the Secretary shall inform the Council of the reasons for such determination in writing. The determinations of the Secretary under this ~~subsection~~ paragraph regarding a Council request shall be made within a reasonable period of time after receipt of that request.

(2) SECRETARIAL INITIATION- If the Secretary determines that additional information is necessary for developing, implementing, revising, or monitoring a fishery management plan, or for determining whether a fishery is in need of management, the Secretary may, by regulation, implement an information collection or observer program requiring submission of such additional information for the fishery.

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SEC. 204. COOPERATIVE RESEARCH AND MANAGEMENT PROGRAM.

Title III (16 U.S.C. 1851 et seq.)

Note: The following excerpts from this section suggest that the addition of this section provides opportunities to improve economic and sociocultural data access and collection programs.

(a) IN GENERAL- The Secretary of Commerce, in consultation with the Councils, shall establish a cooperative research and management program to address needs identified under this Act and under any other marine resource laws enforced by the Secretary. The program shall be implemented on a regional basis and shall be developed and conducted through partnerships among Federal, State, and Tribal managers and scientists (including interstate fishery commissions), fishing industry participants (including use of commercial charter or recreational vessels for gathering data), and educational institutions.

(b) ELIGIBLE PROJECTS- The Secretary shall make funds available under the program for the support of projects to address critical needs identified by the Councils in consultation with the Secretary. The program shall promote and encourage efforts to utilize sources of data maintained by other Federal agencies, State agencies, or academia for use in such projects.

(c) FUNDING- In making funds available the Secretary shall award funding on a competitive basis and based on regional fishery management needs, select programs that form part of a coherent program of research focused on solving priority issues identified by the Councils, and shall give priority to the following projects:
….

(5) Projects designed to collect and compile economic and social data.

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SEC. 208. FISHERIES CONSERVATION AND MANAGEMENT FUND.

Note: Although the following excerpts from this section do not explicitly discuss economic and sociocultural data collection programs, this section may provide opportunities to improve those programs.

(a) IN GENERAL- The Secretary shall establish and maintain a fund, to be known as the `Fisheries Conservation and Management Fund', which shall consist of amounts retained and deposited into the Fund under subsection (c).

(b) PURPOSES- Subject to the allocation of funds described in subsection (d), amounts in the Fund shall be available to the Secretary of Commerce, without appropriation or fiscal year limitation, to disburse as described in subsection (e) for--

(1) efforts to improve fishery harvest data collection including--

(A) expanding the use of electronic catch reporting programs and technology; and

(B) improvement of monitoring and observer coverage through the expanded use of electronic monitoring devices and satellite tracking systems such as VMS on small vessels;

(2) cooperative fishery research and analysis, in collaboration with fishery participants, academic institutions, community residents, and other interested parties;

….

(5) marketing of sustainable United States fishery products, including consumer education regarding the health or other benefits of wild fishery products harvested by vessels of the United States;

(6) improving data collection under the Marine Recreational Fishery Statistics Survey in accordance with section 401(g)(3) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1881(g)(3)); and

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SEC. 209. USE OF FISHERY FINANCE PROGRAM FOR SUSTAINABLE PURPOSES.

Section 53706(a)(7) of title 46, United States Code

Note: Although the following excerpts from this section do not explicitly discuss economic and sociocultural data collection programs, this section may provide opportunities to improve those programs.

(7) Financing or refinancing--

….

(C) technologies or upgrades designed to improve collection and reporting of fishery-dependent data, to reduce bycatch, to improve selectivity or reduce adverse impacts of fishing gear, or to improve safety.

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SEC. 210. REGIONAL ECOSYSTEM RESEARCH.

Note: Given that people are an important part of the ecosystem, the following excerpts from this section suggest that: (1) this section may provide opportunities to improve economic and sociocultural data and analyses and (2) economists and other social scientists should contribute to the study.

(f) REGIONAL ECOSYSTEM RESEARCH-

(1) STUDY- Within 180 days after the date of enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, the Secretary, in consultation with the Councils, shall undertake and complete a study on the state of the science for advancing the concepts and integration of ecosystem considerations in regional fishery management. The study should build upon the recommendations of the advisory panel and include--

(A) recommendations for scientific data, information and technology requirements for understanding ecosystem processes, and methods for integrating such information from a variety of federal, state, and regional sources;

(B) recommendations for processes for incorporating broad stake holder participation;

(C) recommendations for processes to account for effects of environmental variation on fish stocks and fisheries; and ….