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**Appendix 1: Regulatory Impact Review/ Initial Regulatory Flexibility Analysis**

- Appendix 2:**
1. Council Report to Congress on BSAI Crab Rationalization Alternatives, August 2, 2002.
  2. Council update to Congress on BSAI Crab Rationalization Program, May 6, 2003.
  3. Congressional Research Service Memorandum to Honorable Patty Murray, July 16, 2002.
  4. Council Letter to U.S. Department of Justice, Anti-Trust Division, April 29, 2003.
  5. U.S. Department of Justice, Anti-Trust Division Letter to General Counsel U.S. Department of Commerce, August 27, 2003.
  6. Consolidated Appropriations Act of 2004 (Pub. Law No. 108-199), section 801.
  7. Passage of the FY 2004 Consolidated Appropriations Conference Report Regarding Provisions Related to Alaskan Fisheries.
  8. Senator Stevens Bering Sea/ Aleutian Islands Crab Rationalization Statement.

**Appendix 3: Social Impact Assessment**

under the loan program if the magnitude of the subsidy on the loan is substantially larger than market rate available. Also, since the loan program would provide a comparative advantage (to acquire quota) to individuals who qualify for this program, and these individuals would generally not be the large scale quota holders, it is probable that QS would be distributed in a different manner than without the loan program. It is possible that an increase in these quota holding operations may result in slightly different fishing patterns.

#### **4.6.7.5 Mandatory data collection for economic performance analysis**

The Council has expressed considerable interest in assessing the economic effects of a new rationalization program because each alternative would fundamentally change the organization of crab fisheries and contain many new and unique features. The Council also understands that if a mechanism to collect economic data is not implemented along with the overall program, it is unlikely that the economic data needed to determine the impacts resulting from crab rationalization will ever be available to fisheries managers or the general public. To accomplish this assessment, provisions have been included in each rationalization program alternative to implement a mandatory data collection program that would ensure the necessary data are available to understand the impacts of the program. Each alternative rationalization program contains the same mandatory data collection program component.

The Magnuson-Stevens Act provides for collection of data that would benefit the development, implementation of, or revision of an FMP. For crab rationalization, the latter two objectives would be enhanced by the crab economic data collection program and provide data necessary to analysts and policy makers that are not typically available, despite executive orders, national standards, and other acts that encourage economic analysis of regulations.

The Magnuson-Stevens Act provides additional direction on data collection in: MSFCMA direction on data collection: 402. INFORMATION COLLECTION 7 16 U.S.C. 1881a

(a) 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.

#### ***Background on monitoring, management, and enforcement of the data collection program***

The Council and its Scientific and Statistical Committee (SSC) have discussed the need for data to be collected under a mandatory economic data collection program for crab rationalization at several Council meetings between 2002 and 2003. At the June 2002 meeting, the Council voted on a preferred alternative for the crab rationalization program that outlined elements of a mandatory economic data collection program to assist in assessing the performance of the three-pie voluntary cooperative alternative. At that meeting, the Council also appointed an industry Data Collection Committee that was charged with developing proposals for further refining the program. In reviewing these proposals, the Council made adjustments to the mandatory data collection program in action taken at the October 2002, December 2002, and February 2003 meetings. For the February 2003 Council action, the Council staff drafted an analysis of the data collection program that addresses many components of the monitoring, management and enforcement issues, and

contains a very complete effects analysis of the alternatives and implementation issues, including the monitoring, management, and enforcement of the data collection program (this analysis is in the RIR/IRFA in Appendix 1). This section provides additional monitoring, management, and enforcement implications of the data collection component.

***June 2002 Council motion on data collection for crab rationalization***

As stated in the June 2002 Council motion, point 14 states:

The NPFMC and the NMFS shall have the authority to implement a mandatory data collection program of cost, revenue, ownership and employment data upon members of the BSAI crab fishing industry harvesting or processing fish under the Council's authority. Data collected under this authority will be maintained in a confidential manner and may not be released to any party other than staffs of federal and state agencies directly involved in the management of the fisheries under the Council's authority and their contractors.

A mandatory data collection program shall be developed and implemented as part of the crab rationalization program and continued through the life of the program. Cost, revenue, ownership and employment data will be collected on a periodic basis (based on scientific requirements) to provide the information necessary to study the impacts of the crab rationalization program as well as collecting data that could be used to analyze the economic and social impacts of future FMP amendments on industry, regions, and localities. This data collection effort is also required to fulfill the Council problem statement requiring a crab rationalization program that would achieve "equity between the harvesting and processing sectors" and to monitor the "...economic stability for harvesters, processors and coastal communities." Both statutory and regulatory language shall be developed to ensure the confidentiality of these data.

Any mandatory data collection program shall include:

A comprehensive discussion of the enforcement of such a program, including enforcement actions that would be taken if inaccuracies in the data are found. The intent of this action would be to ensure that accurate data are collected without being overly burdensome on industry for unintended errors.

***February 2003 Council motion on mandatory data collection for crab rationalization***

The data collection text generated by the February 2003 Council motion states:

The mandatory data collection program shall have the following elements:

- A. Purpose. The purpose of the data program is as set out in the June 2002 motion. The Council will require the production of data needed to assess the efficacy of the crab rationalization program and to determine its relative impact on fishery participants and communities.
- B. Type of data to be collected. The data collected shall be that needed to achieve the Council's purpose, with the following general guidelines:
  - 1. The information will be specific to the crab fisheries included in the crab rationalization plan.
  - 2. The data shall include information on costs of fishing and processing, revenues for harvesters and processors, and employment data
  - 3. The general guide for information requirements will be as set out in the draft surveys prepared by NMFS dated 9/18/02, except
    - a) Non-variable costs shall be collected only as needed to explain and analyze variable cost data.

- b) Collect a unique identifier for harvesting and processing crew members to explain changes in participation patterns as requested by the AP.
- 4. Historical information will be required as recommended by the Data Collection Committee.
- C. Method of Collection. Data shall be submitted to an independent third party agent such as the Pacific States Marine Fisheries Commission.
- D. Use of data. Data will be used following these general guidelines:
  - 1. Data shall be supplied to Agency users in a blind and unaggregated form;
  - 2. The agencies will develop a protocol for the use of data, including 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;
  - 3. The agencies will revise the current Memorandum of Understanding governing the sharing of data between the State and NMFS, and will address in this MOU the role of the third party data collection agent;
  - 4. The Agency and Council will promote development of additional legislative and regulatory protection for these data as needed.
- E. Verification of Data. The third party collection agent shall verify the data in a manner that assures accuracy of the information supplied by private parties.
- F. Enforcement of the data requirements. The Council endorses the approach to enforcing the data requirements developed by the staff and the Data Collection Committee, as set out on page 3.17-20 in the February, 2003 document entitled “BSAI Crab Rationalization Program, Trailing Amendments”, which provides:

#### *Anticipated Enforcement of the Data Collection Program*

The analysts anticipate that enforcement of the data collection program will be different from enforcement programs used to ensure that accurate landings are reported. It is critical that landings data are reported in an accurate and timely manner, especially under an IFQ system, to properly monitor catch and remaining quota.

However, because it is unlikely that the economic data will be used for in-season management, it is anticipated that persons submitting the data will have an opportunity to correct omissions and errors before any enforcement action would be taken. Giving the person submitting data a chance to correct problems is considered important because of the complexities associated with generating these data. Only if the agency and the person submitting the data cannot reach a solution would the enforcement agency be contacted. The intent of this program is to ensure that accurate data are collected without being overly burdensome on industry for unintended errors.

A discussion of four scenarios will be presented to reflect the analysts understanding of how the enforcement program would function. The four scenarios are: 1) a case where no information is provided on a survey; 2) a case where partial information is provided; 3) a case where the agency has questions regarding the accuracy of the data that has been submitted; and 4) a case where a random “audit” to verify the data does not agree with data submitted in the survey.

In the first case, the person required to fill out the survey does not do so. In the second case, the person fills out some of the requested information, but the survey is incomplete. Under either case that person would be contacted by the agency collecting the data and asked to fulfill their obligation to provide the required information. If the problem is resolved and the requested data are provided, no other action would be taken. If that person does not comply with the request, the collecting agency would notify enforcement that the person is not complying with the requirement to provide the data. Enforcement would then use their

discretion regarding the best method to achieve compliance. Those methods would likely include fines or loss of quota and could include criminal prosecution.

In the third case the person fills out all of the requested information, but the agency collecting the data, or the analysts using the data, have questions regarding some of the information provided. For example, this may occur when information provided by one company is much different than that provided by similar companies. These data would only be called into question when obvious differences are encountered. Should these cases arise, the agency collecting the data would request that the person providing the data double check the information. Any reporting errors could be corrected at that time. If the person submitting the data indicates that the data are accurate and the agency still has questions regarding the data, that firm's data could be "audited". It is anticipated that the review of data would be conducted by an accounting firm selected jointly by the agency and members of industry. Only when that firm refuses to comply with the collecting agencies attempts to verify the accuracy of the data would enforcement be contacted. Once contacted, enforcement would once again use their discretion on how to achieve compliance.

The fourth case would result when the "audit" reports different information than the survey. The "audit" procedure being contemplated is a verification protocol similar to that which was envisioned for use in the pollock data collection program developed by NMFS and Pacific States Marine Fisheries Commission (PSMFC). During the design of this process, input from certified public accountants was solicited in order to develop a verification process that is less costly and cumbersome than a typical "audit" procedure. That protocol involves using an accounting firm, agreed upon by the agency and industry, to conduct a random review of certain elements of the data provided."

"Since some of the information requested in the surveys may not be maintained by companies and must be calculated, it is possible that differences between the "audited" data from financial statements and survey data may arise. In that case the person filling out the survey would be asked to show how their numbers were derived (footnote 41). If their explanation resolves the problem, there would be no further action needed. If questions remained, the agency would continue to work with the providers of the data. Only when an impasse is reached would enforcement be called upon to resolve the issue. It is hoped that this system would help to prevent abuse of the verification and enforcement authority.

In summary, members of the crab industry will be contacted and given the opportunity to explain and/or correct any problems with the data, that are not willful and intentional attempts to mislead, before enforcement actions are taken. Agency staff does not view enforcement of this program as they would a quota monitoring program. Because these data are not being collected in "real" time, there is the opportunity to resolve occasional problems as part of the data collection system. Development of a program that collects the best information possible to conduct analyses of the crab rationalization program, minimizes the burden on industry, and minimizes the need for enforcement actions are the goals of the data collection initiative."

### ***Identification of the "third party" data collection entity***

For the purpose of ensuring confidentiality of the data, the mandatory data collection program requires a "third party" data collection agent. An example of such an agent, according to the motion, is Pacific State Marine Fisheries Commission (PSMFC). The PSMFC is a quasi-government agency that is funded under a grant to NOAA Fisheries, but does not report solely to a Regional Administrator. It consists of three offices: one in Portland, Oregon, one in Seattle, Washington, and one in Juneau, Alaska. The Juneau, Alaska, branch is called AKFIN. The mandatory data collection program makes the general assumption that the third-party agent will administer the collection, data capture, and dissemination of the economic data to Council, State staff, and NOAA Fisheries staff that are approved to use these data. It would be necessary to identify the

agent's responsibilities for data collection, recordkeeping, auditing, maintenance of federal and State confidentiality and reporting responsibilities to NOAA Fisheries, the Council, and the State. .

#### ***General data collection responsibilities for the third party***

The type of economic data to be collected include information on costs of fishing and processing, revenues for harvesters and processors, employment data, ownership data. The mandatory data collection program proposes restricting the collection of harvesting and processing cost data to only estimates of variable costs. Non-variable, or fixed costs, shall be collected only as needed to explain and analyze variable cost data. To the extent permitted by law, unique identifier data may be collected for harvesting and processing crew members to explain changes in participation patterns.

NOAA Fisheries anticipates that all the data collection responsibilities would be specified in regulation within a separate record keeping rule for crab rationalization.

#### ***Method of collection undertaken by the third party and collection instruments***

The AFSC would develop the surveys along with harvesters and processors participating in the industry committee on data collection. Other data useful for economic analysis, in general, and specifically for assessing the crab rationalization program performance would also be accessed from existing sources. Other sources of data include the Commercial Operator's Annual Report, crab quota share permit applications and fish tickets from ADF&G.

#### ***Verification of data including auditing and error checking***

The mandatory data collection program provides that verification of data, auditing, and error checking would be the primary responsibility of the third party agent. Consistent with procedures set forth in the motion, the agent will be obligated to develop an appropriate system for identifying outliers, incomplete data, or anomalies in the data submissions. Further, the third party agent will be obligated to retain qualified professional analysts or accountants to review data submissions and identify errors or flag possible fraudulent submissions.

#### ***Use of data by managing agencies and data confidentiality***

It is anticipated that NOAA Fisheries, the State, and Council staff would have frequent data requests for creation of custom data sets to be supplied by PSMFC. The procedure for creating custom data sets would involve considerable agency and PSMFC coordination to generate a data set with the information variables required for the reviews of the program's efficacy and environmental effects.

The data collection program would require regulations and some changes in the enforcement of these more stringent standards for federal and State staff. The analysis in the RIR/IRFA, in Appendix 1, does not discuss any examples of confidentiality standards more stringent than those found in existing regulations. Discussions within the Data Collection Committee suggest that the agencies using the data should have a formal tracking system that identifies which employees use this data, for what purposes the data are being used, and to whom the ultimate work products are released. Such a system would result in some changes to current practices and additional tracking burden on NOAA Fisheries, Council staff, and the State. This tracking could be augmented by more serious civil or criminal penalties to those that are not using the

confidential data for the intended purposes. The Council has not specified what these penalties may be, and it is assumed that there would be no new policies or regulations regarding stiffer agency action to be taken in the event of improper disclosure.

The data collection program would require regulations and some changes in the enforcement of these more stringent standards for federal and State staff. The analysis in the RIR/IRFA, in Appendix 1, does not discuss any examples of confidentiality standards more stringent than those found in existing regulations. Discussions within the Data Collection Committee suggest that the agencies using the data should have a formal tracking system that identifies which employees use this data, for what purposes the data are being used, and to whom the ultimate work products are released. Such a system would result in some changes to current practices and additional tracking burden on NOAA Fisheries, Council staff, and the State. This tracking could be augmented by more serious civil or criminal penalties to those that are not using the confidential data for the intended purposes. The Council has not specified what these penalties may be, and it is assumed that there would be no new policies or regulations regarding stiffer agency action to be taken in the event of improper disclosure.

The data collection program is considered to be a Category 1 action under the FMP may potentially cause some duplication with existing State data collection. The potential overlap, requires careful coordination with ADF&G.

#### ***Other effects related to the analysis of the performance of the crab rationalization program***

In general, it would be nearly impossible to project how the use of data collection aimed at evaluating the performance of the program could impact the prosecution of fisheries or the environment. However, it is likely that these data will be used to analyze whether certain economic objectives of the program are being achieved, and thus may indirectly provide an impetus for further modifications of the program. For example, if the data reveals that previously unanticipated distributional impacts occur or efficiency objectives are not met, such findings may be a conduit for initiating further mitigative actions. Changes to the program that are linked to findings associated with analyses of these data will likely differ according to the ways in which the fishery is affected. Therefore, the nature of these potential effects are simply impossible to predict.

#### ***Enforcement of the data requirements and confidentiality***

While blind data will be provided to NMFS, the State of Alaska and any other entities authorized to receive the economic data, identifiers for the data will be release with the corresponding data for purposes of enforcement, determinations by DOJ or FTC regarding anti-trust and establishing eligibility for quota share. The third party agent would be authorized to release data and corresponding identifiers to RAM, NOAA enforcement, NOAA GC, DOJ, and the FTC.

The mandatory data collection program provides outlines a process for enforcing the collection of data, however, this may not be included in either FMP or regulatory language. The program allows a data submitter opportunity to review and correct potential data errors before the third party would notify NOAA Fisheries of any non-compliance. In some instances, data will be audited for accuracy and the submitter would participate in the audit. This auditing function would place much of the monitoring burden on the third party agency because the third party agent will retain the auditor and control the audit process (suggested by the Council to be the PSMFC). Yet the auditing trail would need to be carefully documented for data collection if any non-response referrals were made to NOAA Fisheries or NOAA Fisheries Enforcement. This would

impose costs on the third party agent and raise issues regarding whether a third party governmental entity can be relied upon to supply compliance data that would be usable in court. To produce a highly enforceable data collection system, it would be necessary for NOAA Fisheries Enforcement to have access to all economic data collected, including individual identifiers. The assumption that all data would be subject to review, and potentially intentional misreporting of data subject to enforcement action, may impose additional reporting costs on business entities.

*Establishing the reporting period and industry burden*

While the mandatory data collection program does not specify a date for delivery of data to the third party<sup>4</sup>, it is assumed that a date certain for supplying annual data would be included in regulation. It would be difficult to enforce an open-ended period for data collection from crab harvesters and processors. Judging from draft surveys developed by the Data Collection Committee and the AFSC, the quantity of data to be collected from the crab industry is not trivial. As part of the recordkeeping and reporting regulations that would either accompany the program or follow the final rule, the probable burden imposed on businesses would be addressed. These reporting requirements may involve an annual reporting exercise that would be equivalent to completing a modest federal income tax form for a small business. Much of this economic data is anticipated to be assembled by these entities for other business purposes, yet the transcribing of the data would involve some costs.

*Resource agency costs of the data collection program*

PSMFC staff estimates that the data collection program may require three full-time staff persons, depending on many variables including the location of the office.

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<sup>4</sup>During the Committee meetings this issue was discussed at some length. It was generally agreed that because these data are not needed for in-season management of the fisheries, it would not need to be collected while the fishery takes place. Some members of the Committee felt that the data should not be required until at least three months after the close of the fishery. The three month time lag was also deemed to be acceptable by agency staff.

#### 1.8.1.8 Loan program for crab QS

A low-interest rate loan program consistent with MSA provisions, for skipper and crew purchases of QS, shall be established for QS purchases by captains and crew members using 25% of the Crab IFQ fee program funds collected. These funds can be used to purchase A, B, or C shares.

Loan funds shall be accessible by active participants only.

Any A or B shares purchased under the loan program shall be subject to any use and leasing restrictions applicable to C shares (during the period of the loan).

National Marine Fisheries Service (NOAA Fisheries) is directed to explore options for obtaining seed money for the program in the amount of \$250,000 to be available at commencement of the program to leverage additional loan funds.

#### 1.8.1.9 Captain/Crew on Board requirements

1. Holders of captain QS or qualified lease recipients are required to be onboard vessel when harvesting IFQ.
2. C QS ownership caps for each species are
  - Option 1. the same as the individual ownership caps for each species
  - Option 2. the same as the vessel use caps for each species
  - Option 3. double the vessel use caps for each species

C share ownership caps are calculated based on the C QS pool (i.e. section 1.7.4). Initial allocations shall be grandfathered.

3. Use caps on IFQs harvested on any given vessel shall not include C shares in the calculation.

#### 1.8.1.10 C/P Captains

Captains with C/P history shall receive C/P C QS at initial issuance. C/P C shares shall carry a harvest and processing privilege.

- Option 1. The same rule applies to C/P C QS if they leave the C/P sector as in section 1.7.2.4.
- Option 2. C/P C shares shall be useable only on C/Ps.
- Option 3. C/P C shares may be harvested and processed on C/Ps or harvested on catcher vessels and delivered to shore based processors.
- Option 4. If C shares are not subject to IPQ delivery requirements, C shares may be harvested and processed on C/Ps or harvested on catcher vessels and delivered to shore based processors.

#### 1.8.1.11 Cooperatives

C share holders shall be eligible to join cooperatives.

### Crab Sideboards

The Council requested staff to expand the discussion of the application of sideboards to vessels, LLP licenses and transfers, and cooperatives for assessing the effectiveness of those caps. The Council also requested staff to consider the impacts that AFA sideboards and sideboard exemptions have had on the Pacific cod fishery in the analysis.

### Data Collection

The Council directed the Data Workgroup and staff to continue working on development of a mandatory data collection program. The Council requested that the following issues be addressed at the December Council meeting:

1. the need and usefulness of allocating fixed costs across enterprises and products unrelated to crab,

2. collection of additional information on purchase and expenditure data to estimate community impacts,
3. development of an approach to collect additional data that could be used to study community and social impacts,
4. the usefulness of fish tickets and crew license identifiers to estimate number of crew days by vessel,
5. a discussion of protection of confidential data with input from NOAA GC and the State AG,
6. a discussion of the data collection under a third party system (includes a legal review of PSMFC collecting the data),
7. a discussion of whether arms length transactions are needed to determine "true" market prices, and
8. a discussion of data verification and enforcement under voluntary and mandatory data collection programs (the discussion should also include information on the potential for defense and abuse of the verification and enforcement systems).

The Council also developed three alternatives which consider various levels of fixed costs to be included in the data collection program. Under each alternative are two sub-options that request analysis on whether disaggregated expenditure and purchase data could be collected most efficiently under a mandatory or voluntary program. The alternatives and sub-options are listed below.

Alternative 1. Complete the analysis with the section on fixed costs (e.g., section 6.2 in the cost data surveys).

- Sub-option 1. Utilize disaggregated expenditure and purchase data to measure impacts to communities acquired by mandatory data collection
- Sub-option 2. Utilize disaggregated expenditure and purchase data to measure impacts to communities that are provided through a program analogous to the UAF-ADFG on-going opilio impact study.

Alternative 2. Complete the analysis without the section on fixed costs (e.g., section 6.2 in the cost data surveys).

- Sub-option 1. Utilize disaggregated expenditure and purchase data to measure impacts to communities acquired by mandatory data collection
- Sub-option 2. Utilize disaggregated expenditure and purchase data to measure impacts to communities that are provided through a program analogous to the UAF-ADFG on-going opilio impact study.

Alternative 3. Complete the analysis with a subset of the fixed cost data in section 6.2 in the cost data surveys.

- Sub-option 1. Utilize disaggregated expenditure and purchase data to measure impacts to communities acquired by mandatory data collection
- Sub-option 2. Utilize disaggregated expenditure and purchase data to measure impacts to communities that are provided through a program analogous to the UAF-ADFG on-going opilio impact study.

#### Additional Issues

The Council also included the following items for analysis.

##### Adak allocation clarification

Goals of Allocation: The 10% community allocation of Golden King Crab was developed to provide the community of Adak with a sustainable allocation of crab to aid in the development of seafood harvesting and processing activities within that community. Adak is a community that has similar attributes to the communities that have already been awarded community development quotas (CDQ). It is a very small second class city with a year-round population of over 110 residents, with commercial fishing as the only source of private sector income. As a Bering Sea community, the transportation alternatives are highly constrained without road, ferry, limited air service, or barge service. While the

the efficiency gains permitted by rationalization. Unfortunately, these efficient vessels cannot be identified at present, because of the lack of available cost data and the vessels' historic participation in only status quo managed crab fisheries. If vessel length is important to the efficiency of harvests, the class of vessels that is most efficient should be most active, with less efficient vessels being removed from the fishery.

### **3.17 Data collection program**

In June 2001, the Council expressed its interest in receiving input regarding ways to objectively measure the success of the crab rationalization program, and asked the Scientific and Statistical Committee (SSC) to identify objective measures. In October, the SSC presented a tentative list of such measures, identified the types of data that would need to be collected to construct those measures, stated the need to have mandatory reporting requirements, and briefly addressed the current data collection programs.

In February 2002, the SSC restated the need for mandatory data reporting as follows:

A critical part of the Council's ability to understand the social and economic consequences of implementation of rationalization measures is mandatory reporting of socioeconomic data. For example, harvest and production costs, expenditure patterns, vessel ownership data including identifiers (name and address files), employment, and earnings data are absolutely necessary to determine the magnitude and distribution of net benefits that arise from the granting of an entitlement to a public resource. If these data had been required as a component of the plan amendments authorizing IFQs in the halibut/sablefish fisheries and co-operatives in the pollock fishery, analysts would be in a much better position to identify the likely economic consequences of the rationalization alternatives currently under consideration for the crab fishery. The SSC recommends that provision of the data listed above be made mandatory. This action is necessary to fulfill the Council's stated desire to have the economic performance of the rationalized crab fishery evaluated.

The draft report prepared by the Inter-Agency Economic Data Collection Workgroup includes a detailed discussion of the need for mandatory data collection programs. That report was presented to the Council in February 2002, and appears as section 1 in Appendix 3-6. A discussion paper that identifies objective measures that can be used to monitor the success of the crab rationalization program, identifies the data required to support those objective measures, and briefly discuss several issues associated with implementing mandatory reporting requirements for these data was prepared for the Council in March. The information prepared by the SSC in October 2001, and additional information provided by SSC economists in March 2002, are used extensively in the discussion paper. The discussion paper was revised in August to focus on the objective measures and the data needed to use them. The revised discussion paper appears as section 2 in Appendix 3-6. The part of the initial discussion paper that addressed several issues associated with implementing mandatory reporting requirements is in section 3 of Appendix 3-6.

The types of measures identified in the discussion paper are intended to allow the Council to monitor the success of the crab rationalization program in terms of addressing the five problems currently facing the fishery. Those problems are identified in the BSAI crab rationalization problem statement, as amended by the Council in June 2002. Those five problems and the summary of the problems facing the Council are as follows:

Problems facing the fishery include:

- i. Resource conservation, utilization and management problems;
- ii. Bycatch and its associated mortalities, and potential landing deadloss;

- iii. Excess harvesting and processing capacity, as well as low economic returns;
- iv. Lack of economic stability for harvesters, processors, and coastal communities; and
- v. High levels of occupational loss of life and injury.

The problem facing the Council, in the continuing process of comprehensive rationalization, is to develop a management program which slows the race for fish, reduces bycatch and its associated mortalities, provides for conservation to increase the efficacy of crab rebuilding strategies, addresses the social and economic concerns of communities, maintains healthy harvesting and processing sectors and promotes efficiency and safety in the harvesting sector. Any such system should seek to achieve equity between the harvesting and processing sectors, including healthy, stable, and competitive markets.

Between the April and June 2002 Council meetings, informal discussions were held with members of the agencies involved in crab management and the fishing industry regarding the collection of economic data. While these meetings did not define a complete program to collect economic data for the BSAI crab fisheries, they did provide insights into the types of data that would be required and some of the concerns members of industry have with providing the data. These issues are discussed in more detail in section 4 of Appendix 3-6.

The following Council motion, made in June 2002, is a response to the SSC's recommendation, the information in the draft report and discussion paper, and comments from the fishing industry and other participants in the Council process.

14. The North Pacific Fishery Management Council and the National Marine Fisheries Service shall have the authority to implement a mandatory data collection program of cost, revenue, ownership and employment data upon members of the BSAI crab fishing industry harvesting or processing fish under the Council's authority. Data collected under this authority will be maintained in a confidential manner and may not be released to any party other than staffs of federal and state agencies directly involved in the management of the fisheries under the Council's authority and their contractors.

A mandatory data collection program shall be developed and implemented as part of the crab rationalization program and continued through the life of the program. Cost, revenue, ownership and employment data will be collected on a periodic basis (based on scientific requirements) to provide the information necessary to study the impacts of the crab rationalization program as well as collecting data that could be used to analyze the economic and social impacts of future FMP amendments on industry, regions, and localities. This data collection effort is also required to fulfill the Council problem statement requiring a crab rationalization program that would achieve "equity between the harvesting and processing sectors" and to monitor the "...economic stability for harvesters, processors and coastal communities". Both statutory and regulatory language shall be developed to ensure the confidentiality of these data.

Any mandatory data collection program shall include: A comprehensive discussion of the enforcement of such a program, including enforcement actions that would be taken if inaccuracies in the data are found. The intent of this action would be to ensure that accurate data are collected without being overly burdensome on industry for unintended errors.

### 3.17.1 Data collection developments since the June Council meeting

Before the June Council meeting, the Council appointed a workgroup comprised of members of the crab harvesting and processing sectors to develop a proposal for collecting economic data. That workgroup has met five times with agency staff present and at least three times on their own since the June Council meeting and a sixth joint meeting is scheduled before the December Council meeting. The workgroup focused on what data should be collected, how it should be collected, the rules regarding access the data, and how the data will be used after it is collected. Minutes from each of the meetings where agency staff was present are attached as Section 5 of Appendix 3-6.

The purpose of forming the crab data collection committee was to bring together representatives from industry and the state and federal agencies to develop the structure of a mandatory data collection program. Given that existing data collection mechanisms compile very limited economic data, an expanded data collection program will provide the additional data required to analyze the effects of any crab rationalization program that is implemented and of future FMP amendments. The benefit of a collaborative approach between industry and agency staff is that it allows the committee to exploit the specific areas of expertise possessed by both groups.

The analysts are well aware of the measures that are best suited to address the questions posed by the Council and the data required to support such measures. The industry is best informed about the way in which records are typically kept, the frequency with which they are recorded, the difficulty involved in providing these records, and the likelihood of inaccuracies and reporting errors associated with certain types of information. Input by both parties is essential to developing a successful data collection program. For example, the data that economists perceive as the most desirable for constructing accurate and robust measures may be too burdensome for industry to provide. Similarly, the data that industry finds most convenient to provide may not allow the analysts to address the questions posed by the Council, or do so with a sufficient degree of confidence. Therefore, a mutual concerted effort should result in an ability to construct the most sound and informative measures at the least cost and inconvenience to fishery participants.

Before the initial committee meeting, representatives from the state and federal agencies met to discuss the Council's problem statement, objective measures to assess the effects of rationalization on those problems, and the data required to construct the measures. In drafting the specific data elements that would be needed, the agency participants began by first examining two "worksheets" developed by crab processing and harvesting industry members, respectively. These forms were thought to reflect the data that industry would prefer to have collected.<sup>10</sup> Because the data offered in the worksheets was significantly less detailed than that necessary to address many of the Council's questions, state and federal analysts expanded the industry surveys to facilitate construction of the objective measures. The level of detail requested in the initial agency draft surveys would allow analysts to 1) summarize any changes in revenues and costs that occurred after rationalization; 2) explain the sources and causes of changes in revenues and costs, and separate the effects of rationalization from other sources (such as market or stock effects); and 3) predict how changes in regulations or market factors may affect the revenues, costs, and harvesting/processing decisions of industry participants.

This initial agency draft survey was presented to industry representatives at the first joint meeting of the crab data collection workgroup and agency staff<sup>11</sup>. Agency representatives asked for feedback regarding data

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<sup>10</sup> The processor worksheet was part of a document prepared by Moss-Adams for the Council. The harvesting vessel worksheet was of a similar format, though less detailed.

<sup>11</sup>See section 6 of Appendix 3-6 for the most recent versions of those surveys.

requests that were 1) too burdensome; 2) asked for at a frequency that differed from the way in which records are typically kept; 3) phrased unclearly; or 4) based upon costs that would be difficult to allocate solely to BSAI crab operations, or to the particular vessel or plant. Issues were identified by industry in all four categories, and all suggestions were noted and incorporated into the surveys. The March 2002 discussion paper was also distributed at the meeting. The focus of the paper was the objective measures that would likely need to be constructed to address the Council's stated issues of concern and the basic data requirements for doing so. An additional aim of the paper was to explain why the data elements included in the initial draft survey were being requested.

At the second joint meeting, the revised agency draft surveys were presented and discussed, and additional industry feedback was requested. Industry provided verbal suggestions on ways to improve the surveys and gave handouts detailing how their records are often kept.<sup>12</sup> Industry also requested more detail regarding how each requested data element would be used, and the specific measure that would be constructed. In preparation for the following meeting, all specific suggestions from the last meeting were incorporated, the changes were noted, and an additional discussion paper was prepared. The goal of this paper was to present each objective measure that could be constructed to address the Council's problem statement (and their five issues of greatest concern), and the specific data required for each. An appendix that attempted to explain the role of statistical inference, biases and problems that arise when aggregating over vessels or plants, and the need for a sufficient number of observations in economic models, was also included.

This document and the newly revised agency draft surveys were discussed in detail at the third joint meeting. All specific industry suggestions regarding the surveys were itemized for inclusion in the revised surveys.<sup>13</sup> The remaining industry concerns that were voiced in the meeting essentially revolved around collecting data on four firm-level "fixed cost" elements that industry felt would be difficult to allocate or prorate to a single vessel or plant. In addition, harvesting vessel representatives posed an objection to requests for trip-level detail on landings, crew payments, pot losses, and average soak time. On this issue the agency staff requested additional time to consider the effects of dropping the items, and later agreed to do so. At the end of this meeting, it was suggested that industry get together in the absence of agency in order to discuss their specific concerns and desires regarding the data collection program.

After the first industry-only meeting, industry representatives distributed documents outlining the results of the meeting. The documents contained each industry group's<sup>14</sup> proposal for the specific data that should be collected. Their proposals varied in the level of detail they indicated they would like to provide, but were much less detailed than the existing draft surveys.

The industry proposals were discussed at the fourth joint meeting. At that point in time, members of industry in general agreed to provide additional information on employment, revenue, variable costs and ownership<sup>15</sup>.

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<sup>12</sup> Suggestions were also received via e-mail after the meeting. These suggestions were incorporated into the current draft surveys.

<sup>13</sup> It is worth noting that up to this point in time, nearly every specific industry suggestion or request had been accommodated by agency personnel. This includes both altering the survey instruments and creating papers and documents to explain the role and needs of each type of data requested.

<sup>14</sup> Three proposals were submitted at that meeting. One came from the processor sector. Two other proposals were provided by members of the catcher vessel sector. The catcher/processor sector provided oral comments on their position at the meeting, and those ideas are reflected in the minutes from that meeting. The three written comments are appended to the minutes.

<sup>15</sup> See the position papers attached to the September 5 minutes of the workgroup (in section 5 of Appendix 3-6).

That information can be used by analysts to provide information for some of the Council's areas of interest. The information on costs that industry proposed to provide basically covered variable costs. These estimates of total expenditures can be used in conjunction with revenue data to monitor the quasi-rents generated in BSAI crab fisheries only, but do not allow one to discern whether cost changes are due to changes in the quantities of inputs used (due to, say, increased efficiency/productivity) or changes in input prices. Information on the input quantities used (or their prices) must also be provided with the cost data if analysts are to understand the reason for the cost change. Furthermore, the data proposed by industry at that time did not provide analysts with the information necessary to estimate profits or conduct community impact analyses.

In sum, the level of detail proposed by the industry prior to the October Council meeting would have allowed analysts to calculate a portion of the objective measures identified in the discussion papers mentioned earlier in this document, and to compare those measures in the pre- and post-rationalization periods. However, analysts would generally be unable to determine why costs have changed and if such changes were principally the result of the crab rationalization program. These limitations also make it unlikely that analysts would be able to make predictions regarding the effects of the program or effects of changes in the program design. Some fixed cost information will also be required to understand changes in variable costs (fixed costs related to capital equipment and salaried employees) or conduct community impact analyses. See Section 7 of Appendix 3-6 for a detailed list of objective measures of the effects of the crab rationalization program and the analysts' ability to construct those measures given the September proposals.

At the fifth joint meeting, the workgroup reviewed a staff paper describing the actions taken by the Council at their October meeting and focused on issues identified in the Council's October motion. The issues are: 1) the need and usefulness of fixed cost data; 2) the need and best way to collect information on location of purchases; 3) the usefulness of a third party data collection system and how it would function; 4) the costs of the program; 4) the need for arms length transaction data on prices; 5) the need for additional community data; 6) crew day estimates; 7) data verification and enforcement; and 8) providing additional protection for confidential data.

The sixth joint meeting of the workgroup was held in November. Committee members were provide a draft of the document that was being prepared for the December Council meeting. However, since they received the document just prior to the meeting they were unable to comment on its contents. The workgroup also received presentations from staff of the PSMFC, NOAA GC, and NMFS Enforcement. A major issue at this meeting was the aggregation of data before it is released to the analysts. This issue was not resolved and will be discussed at future meetings.

The seventh and final meeting was held on January 14, 2003. During that meeting members of the Workgroup finalized their positions on various issues. A position paper which defines the Workgroup's position on various data collection issues will be developed and presented to the Council in February. Consensus was not reached on all issues.

### **3.17.2 Analysis of the Council's October motion**

Given concerns over the depth of analyses that could be performed with the data collection elements proposed by industry, prior to the October Council meeting, the Council identified three alternatives that would provide more complete information for analyzing the effects of rationalization and future FMP amendments. Each alternative essentially involves collecting varying degrees of the elements contained in the surveys developed by staff members at the Alaska Fisheries Science Center, other agencies staff, and the data collection workgroup appointed by the Council. Specifically, each alternative proposes mandatory collection of the variable cost data included in the surveys, but differs in the amount of fixed cost data that would be provided.

Each alternative also contains two sub-options that represent different methods of collecting disaggregated data on the location of various expenditures (which could be used to assess community impacts associated with rationalization and future FMP amendments). Both the alternatives and sub-options were developed to provide a broad range of options for the Council to consider in December. The language of the alternatives refer to the draft surveys dated 9/18/2001 in the Council's October notebook. The alternatives and sub-options, as included in the Council's motion, are presented below:

**Alternative 1.** Complete the analysis **with** the section on fixed costs (e.g., section 6.2 in the cost data surveys).

**Alternative 2.** Complete the analysis **without** the section on fixed costs (e.g., section 6.2 in the cost data surveys).

**Alternative 3.** Complete the analysis with a **subset** of the fixed cost data in section 6.2 in the cost data surveys.

Each alternative included the following two sub-options:

**Sub-option 1.** Utilize disaggregated expenditure and purchase data to measure impacts to communities acquired by mandatory data collection

**Sub-option 2.** Utilize disaggregated expenditure and purchase data to measure impacts to communities that are provided through a program analogous to the UAF-ADFG on-going opilio impact study.

Alternatives 1 through 3 will be addressed first in this discussion. The sub-options will be addressed later in the document. The paper is structured this way because the three primary alternatives focus on issues related to the collection of fixed cost data, while the sub-option address methods that could be used to collect data on the location of expenditures for use in community impact analyses.

The Council motion indicated that they preferred to focus on costs related to a firm's crab production. Given that understanding, the focus of this analysis will be on data elements related to the BSAI crab fisheries. However, the Council also indicated that they may consider expanding the scope of the program if it were needed to explain impacts of crab rationalization. It should be emphasized that the current alternatives (and draft surveys) do not elicit cost information for non-crab activities and therefore, would not allow analysts to evaluate the overall effect of crab rationalization on a firm's economic performance (i.e., quasi-rents and other measures of interest) if they participate in fisheries other than BSAI crab. Objective measures could simply be computed for the BSAI crab component of a firm's overall operation, and not for the firm as a whole. This means that the Council would continue to have a limited ability to monitor the overall economic performance of those participants in the BSAI crab fisheries that engage in other fisheries.

Therefore, if the Council wishes to facilitate a broader analysis, it will need to specify an alternative in which the variable cost data to be collected would be expanded to include non-crab activities. The fixed costs elements to be collected would be the same as those being considered in Alternatives 1 through 3, and would no longer need to be prorated between crab and non-crab activities.

Before discussing each alternative and the various fixed costs that would be collected within it, we will present a summary of the fixed cost variables contained in the draft surveys. Table 3.17.1 lists the categories of fixed cost variables under consideration and indicates the general type(s) of analysis for which each category of fixed costs is useful or necessary.

### *Alternative 1*

Alternative 1 would mandate the collection of all the fixed costs listed in the 9/18/2002 surveys associated with the crab portion of a firm's operation. These categories are presented in Table 3.17.2 for each of the four sectors. The table reports a "YES" if the sector is asked to report the fixed cost, a "VC" if the cost is already included in the variable cost section of the survey<sup>16</sup>, an "N/A" if the cost is not relevant to that sector, and a "NO" if the information is not going to be collected. A similar table will be presented for alternative 3 (the "some fixed costs" alternative).

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<sup>16</sup>The classification of insurance costs (fixed vs. variable) differs between vessels and plants because industry representatives indicated that vessel insurance costs can be quite variable depending on activity levels, while plant insurance costs are not as dependent on activity levels.

**Table 3.17-1 Fixed cost data and its role in analyses**

Fixed Cost Category	Types of Analysis for Which Data is Useful		
	Quasi-Rents	Community Impact Analyses	Assess Changes in Economic Health/ Profits
Insurance	No	Can be <sup>17</sup>	Yes
Property Taxes	No	Yes	Yes
Principal Payments	No	Can be	Yes
Interest Payments	No	Can be	Yes
Capital Improvements	Yes	Can be	Yes
Repair and Maintenance	Yes	Can be	Yes
Salaries for Foremen, Managers, and Other Plant or Vessel Level Employees	Yes	Yes	Yes
Other Plant/Vessel Specific Costs	Can be	Can be	Can be

**Table 3.17-2 Fixed data to be collected under Alternative 1.**

Fixed Cost Category	Sectors for which Surveys are Being Developed			
	Processors	Catcher Vessels	Catcher/ Processors	Floating Processors
Insurance	Yes	VC	VC	VC
Property Taxes	Yes	N/A	N/A	N/A
Principal Payments	Yes	Yes	Yes	Yes
Interest Payments	Yes	Yes	Yes	Yes
Capital Improvements	Yes	Yes	Yes	Yes
Repair and Maintenance	Yes	Yes	Yes	Yes
Salaries for Foremen, Managers, and Other Plant/Vessel Level Employees	Yes	Yes	Yes	Yes
Other Plant/Vessel Specific Costs	Yes	Yes	Yes	Yes

More detailed descriptions of the fixed cost categories are presented below. Those descriptions provide information on the data that would be collected, a discussion of ways in which the data are useful, and concerns that have been raised by industry representatives over the collection and use of specific categories of fixed cost data. These summaries attempt to convey the discussions that have occurred within the data collection committee meanings, and therefore reflect the minutes from Section 5 in Appendix 3-6.

<sup>17</sup> The fixed cost elements that “Can be” useful in community impact analyses are useful in situations where the expenditure occurs in a community under study. Property taxes and salaries were categorized as useful since there is little ambiguity that these expenditures serve as a flow of income to community inhabitants. For all other fixed cost elements, it is possible that such expenditures flow elsewhere and may not be used in community impact studies.

Insurance: This information would be used to track changes in insurance costs within a plant, and perhaps track the contribution of insurance payments to communities (if the money is spent in the communities that are being analyzed). Changes in insurance costs are particularly important if they are a result of the crab rationalization program. For example, heightened safety in rationalized fisheries may decrease the likelihood of an accident and bring about lower insurance costs for vessels. Insurance costs are required to estimate profits.

Members of industry have indicated that changes in the cost of insurance may arise for reasons other than crab rationalization. For example, a plant or vessel may change the level of insurance coverage they carry, change the deductible, or access different rates by changing the provider. Any of those changes could impact the amount a plant would pay for insurance, and attributing those factors to crab rationalization would yield misleading results. While it is true that analysts will be generally unable to identify the exact cause of changing insurance costs, ignoring the role of insurance costs altogether may present a more significant problem.

Property taxes: Property taxes are only relevant for plants that operate on shore. Vessels operating at-sea do not pay property taxes, so this category of fixed cost does not apply to them.

Property taxes may be important in understanding community impacts that result from structural changes in the crab fisheries. Taxes paid by seafood processors are likely an important component of some rural Alaskan communities' operating budgets. Property tax data are required to estimate profits. Note however, that if property taxes are not collected as part of the survey, they are part of the public record and could likely be obtained from other sources.

Members of industry workgroup did not raise specific concerns over the collection and use of property tax data.

Principal payments: Principal payments on loans are included for all sectors surveyed. Although these payments do not affect profits or quasi-rents, they can represent a substantial financial commitment for a firm. Therefore, these payments can be used in generating measures of economic health. One example is the ratio of principal payments to revenue. Boat payments are included in the annual cost data collected in the two mandatory economic data collection programs that NMFS implemented on the east coast.

Members of industry have expressed concern over how these data would be used. They indicated that debt load is only one of many indicators of economic health, that the value of principal payments made may not accurately reflect the underlying debt load, and even if it did, debt load could be misconstrued without information related to the equity of the firm. For example, a firm allocated IFQs may be in a better position to borrow money using their IFQs as collateral, or may make larger principal payments if it undertook more debt. Furthermore, it may also be difficult to allocate debt to the crab production of a firm if the firm is involved in other species.

Interest payments: Interest payments reflect the cost a firm incurs to borrow money. Members of each sector utilize short or long term loans to finance their operations. The cost of borrowing that money is reflected by the interest payments.

Interest payments provide information in two important areas. First, interest payments, in many cases, represent a significant portion of a firm's costs. Second, the interest payments provide an indication of the underlying debt load, which is an indicator of the well-being of the firm. Because interest payments can represent a significant cost to firms, this information is also useful for conducting net benefit analyses (such

costs are included in the producer surplus calculations<sup>18</sup>). Interest payments could also be included in community impact analysis, depending on the location of the institution granting the loan.

Members of industry noted that it would be difficult to attribute interest payments to the crab portion of a firm's business. In some cases, banks will ask for collateral that is not related to where the loan is being used. For example, a firm may use an asset for collateral that is part of their crab operation, but the money obtained from the loan would be used for another fishery. Situations such as this will be difficult to reconcile and could be subject to misinterpretation if the loan is not tied directly to crab operations. For this reason, analysts request that data on interest expenditures be provided only when it is actually crab related.

Capital improvements: Capital improvements are the annual costs associated with purchasing new equipment or upgrading the plants and vessels involved in the crab fishery. Capital expenditures often have effects on the quantity of variable inputs one must use in harvesting or processing, and thus they help analysts understand changes that have occurred in variable input costs. For example, if a firm reduces labor costs by purchasing new equipment, without information for those fixed costs the analyst would overstate the cost efficiencies afforded by crab rationalization. If the post-rationalization gains in quasi-rents (or decreases in variable costs) are to be analyzed, analysts will need to be cognizant of the primary factors that affect them.

In general, members of industry agreed that collecting information on these costs that are related to crab fisheries are necessary for the analysts to understand changes in variable costs. Because the Council's current focus appears to be only those costs associated with crab production, only capital expenditures related to crab would be collected. Capital improvement costs that are only related to the production of other species would not be collected, and any that relate to both crab and other species would be prorated.

Repair and maintenance: Repair and maintenance (R&M) costs are the annual costs associated with keeping existing plants, vessels, and equipment in proper working order. These costs do not include any improvements made to the facilities/vessels.

As with capital improvement costs, only the costs related to crab fisheries would be collected. Costs that are incurred in the production of other species would not be collected, while costs that are incurred in the production of crab and other species would be collected and prorated.

R&M costs are an important element of a crab operation, and changes in those costs may occur post-rationalization due to consolidation. For example, if a crab harvester purchases quota he is likely to expend more time and effort fishing with his boat, which would result in higher R&M costs. In addition, R&M expenditures represent an essential part of community impact analyses.

Members of industry have cautioned the analysts that there are normal fluctuations in R&M costs that should be considered when analyzing the effects of crab rationalization. For example, some repairs are on a one year cycle and some are on a two year cycle (or longer). Care must be taken when looking at variation from year to year, so that cyclical costs are accurately represented. In general, members of industry agreed with the need to collect R&M costs.

Members of industry have also noted that the distinction between capital improvements and R&M costs is not always clear. Therefore, it is important to collect *both* of these fixed cost categories.

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<sup>18</sup>Total costs would exclude transfer payments (payments made where no goods or services are purchased) such as taxes.

Salaries for foremen, managers, and other plant or vessel level employees: These are the wages/salaries paid to persons who oversee or support the crab operations, but are not physically involved in the harvesting or direct processing of crab.

Agency staff requested this information to better understand the overall employment needed (and costs incurred) to conduct the BSAI crab fisheries. Estimating changes in the overall level of employment and the cost of employing these individuals would not be possible if these data on support staff were not collected. Furthermore, this information is useful in understanding changes in variable costs (and thus, quasi-rents) that may occur after rationalization. Industry has indicated that substitution is possible between direct processing labor (a “variable” cost) and salaried labor (a “fixed” cost), and the structure of employment may change after rationalization. Therefore, if expenditures for salaried employees are not accounted for, estimates of labor cost savings afforded by rationalization may be biased.

Members of industry are concerned that accurately assigning the time these people spend overseeing the crab operation will be difficult for processors. For example, some plant managers may have more than one operation underway simultaneously. In such cases, analysts would be required to allocate the cost of these employees among the activities being undertaken.

Other plant-specific costs: The workgroup did not identify any other major fixed cost categories, but included an “other” category just in case a firm has fixed costs that were overlooked.

***Additional elements to be added to 9/18/2002 surveys:***

***Assessed Plant Value, Insured Plant or Vessel Value:*** While these values are not “fixed costs”, agency staff request that information on both the assessed and insured value for plants, and insured value for vessels (as they are not assessed regularly), be provided. Plant information could be used as an indicator of the value of the plant, and thus, help to determine the “sunk costs” of a crab plant. It has been argued in the past that these facilities have no (or very limited) other use(s). Information on the plant value could therefore help members of the public understand the level of unrecoverable investment if processing was no longer viable at a specific location. Furthermore, the value of the plant can be used as an indicator of the capital stock when measuring capacity and capacity utilization. Currently, analysts have no other means of quantifying the capital stock, which will make it difficult to determine whether any substantial differences in variable costs (and thus, quasi-rents) among plants are due to advantages in efficiency or productivity, or due to unaccounted differences in the amount of capital equipment they employ.

Insured vessel value could be used for similar purposes, although basing value estimates solely on insured values could be problematic. The insured value of a vessel reflects not only the underlying value of that vessel (or a replacement vessel), but other factors related to the risk preferences of the vessel owner.

Industry has indicated that assessed values would be much more reliable than insured values, which they consider to be too confounded to convey an accurate representation of the value of the vessel. Therefore, in cases where a recent survey has been conducted (for use in a loan or vessel assistance program), such information would be preferred. However, analysts should be aware that assessed plant values often reflect more than just the processing facilities, and therefore may not be comparable across plants. Furthermore, there may also be difficulties in prorating the value of the plant and equipment to crab when a firm engages in multiple processing activities.

Alternative 1 conclusions: Collecting information on all of the fixed cost categories listed in the surveys would allow analysts to compute estimates of the profits earned solely in the crab portions of their operations.

This would require analysts to prorate<sup>19</sup> any fixed costs that are not solely crab-related expenditures, which would likely vary according to the method used to prorate the costs. However, ignoring these fixed costs (i.e., assuming that they are zero, or do not differ among firms or over time) would probably introduce larger inaccuracies. Given that crab processors typically engage in multiple operations, and harvesters tend to focus primarily on crab, the prorating problems are likely to be a more significant concern when analyzing processing operations.

Information on all of the fixed cost categories is not necessary to conduct an analysis of quasi-rents. However, three components (capital improvements, repair and maintenance, and payments to salaried employees) are important factors in the determination of quasi-rents, and would markedly improve analysts' understanding and assessment of changes in quasi-rents (and capacity utilization) for both harvesters and processors.

All of the fixed costs, except property taxes and principal payments, would be needed to conduct a net benefit analysis. Conducting a net-benefit analysis of the BSAI crab fisheries would require prorating any fixed costs that are shared between crab and non-crab operations. Given the potential problems associated with allocating the fixed costs that are not solely crab related, industry representatives have indicated that they would be suspect of such numbers. As evidence, some industry members claimed that they do not allocate such costs in their internal calculations due to these concerns.

Community impact analyses would likely utilize all of the fixed cost data (except principal payments), in cases where the expenditures occurred in the region of interest. Although it is possible to collect the property tax information from other sources, that would increase the cost of collecting that data.

Alternative 2: With Alternative 2, none of the fixed cost data (listed in the tables shown under Alternatives 1 and 3) would be collected. The only cost data to be collected would be the variable costs listed in the other sections of the surveys.

Alternative 2 conclusions: This alternative would not allow the analysts to have access to data that would help explain the source of observed changes in variable costs. Without accounting for expenditures on the capital inputs (new purchases and repairs) used in crab operations, analysts will be unable to understand if changes in variable costs occur due to rationalization or due to increased investment in capital. Without accounting for both the variable and fixed (salaried) costs of labor used in crab harvesting and processing, biased estimates of labor cost savings may be generated. Omission of these fixed cost elements will likely lead to less than satisfactory quasi-rent analyses. This alternative would limit the ability of analysts to estimate community impacts and prevent them from estimating profits (even in the BSAI crab portion of their operations). A majority of the objectives for the crab data collection program would not be met with this alternative.

Most members of the industry workgroup have indicated that they understand the importance of collecting data that would help explain changes in variable costs (and thus, quasi-rents) and that would allow a more complete assessment of community impacts. Members of industry have often said that they want staff to be able to conduct accurate and meaningful analyses, and support the collection of data are useful to achieving that goal.

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<sup>19</sup>The need to allocate fixed costs is not unique to the crab fisheries. Fixed costs are typically prorated using one of several methods, including purchased pounds, finished pounds, days of operation, or gross revenue. Because the prorated costs can differ according to the method selected, it is preferable to record the total expenditures and have the analysts prorate with more than one method. The extent to which the fixed costs differ by prorating method gives an indication of the reliability of the prorated costs.

Alternative 3: Alternative 3 would collect some of the fixed costs listed in the survey. Given that the surveys will allow calculation of quasi-rents in crab operations, in this discussion we will assume that “some” fixed costs refer to those needed to conduct a quasi-rent analysis.

To conduct a quasi-rent analysis, the three categories that would help explain changes in variable costs are “capital improvements”, “repair and maintenance”, and “salaries for foremen, managers, and other plant/vessel employees.” Those three categories were discussed under Alternative 1, and are shown as “YES” in Table 3.17.3. Both agency staff and industry representatives have, in general, agreed that data should be collected for those data elements that provide a basis for understanding changes in variable costs. Furthermore, these three “fixed” costs represent important elements for conducting community impact analyses.

Alternative 3 conclusions: Alternative 3 provides analysts the ability to compute quasi-rent estimates, investigate whether any observed changes should be attributed to the crab rationalization program, and account for many of the expenditures that affect fishing communities. However, if the Council wishes to conduct a formal community impact analysis, or assess changes in profits from crab activities, additional information will need to be collected. The former could be done on periodic mandatory surveys that focus on the detail location of all expenditures. A further discussion is provided in the analysis of the sub-options.

**Table 3.17-3 Fixed data to be collected under Alternative 3.**

Fixed Cost Category	Sectors for which Surveys are Being Developed			
	Processors	Catcher Vessels	Catcher/Processors	Floating Processors
Insurance	No	VC	VC	VC
Property Taxes	No	N/A	N/A	N/A
Principal Payments	No	No	No	No
Interest Payments	No	No	No	No
Capital Improvements	Yes	Yes	Yes	Yes
Repair and Maintenance	Yes	Yes	Yes	Yes
Salaries for Foremen, Managers, and Other Plant or Vessel Level Employees	Yes	Yes	Yes	Yes
Other Plant or Vessel Specific Costs	Yes	Yes	Yes	Yes

In summary, the three alternatives discussed above provide various levels of detail on “fixed” costs incurred in the harvesting and processing of crab. In an attempt to show more specifically the objective measures that can be computed to address the issues the Council has expressed interest in, we provide Table 3.17.4. This table lists each of the objective measures identified by the SSC and agency economists (to assess the effects of crab rationalization) along with the corresponding confidence in the measures that could be obtained under each of the alternatives:

**Table 3.17-4 Objective measures and confidence of estimates under each alternative<sup>20</sup>**

Measures	Confidence in Estimate Under Alternative 1	Confidence in Estimate Under Alternative 2	Confidence in Estimate Under Alternative 3
<i>Issue: Excess Harvesting and Processing Capacity and Low Economic Returns</i>			
Harvesting capacity and capacity utilization (CU)	Good estimates can be made.	Standard CU measures cannot be adequately constructed.	Good estimates can be made.
Processing capacity and capacity utilization	Good estimates can be made.	Standard CU measures cannot be adequately constructed.	Good estimates can be made.
Harvesting sector profit for BSAI crab only (total revenue - total cost)	Estimates can be made; confidence depends on the number of fixed costs prorated between crab and other activities.	No estimates can be made.	No estimates can be made.
Harvesting sector quasi rent for BSAI crab only (total revenue - total variable cost)	Good estimates can be made.	Estimates can be made, but the source of changes cannot be adequately explained.	Good estimates can be made.
Processing sector profit for BSAI crab only	Estimates can be made; confidence depends on the number of fixed costs prorated between crab and other activities.	No estimates can be made.	No estimates can be made.
Processing sector quasi rent for BSAI crab only	Good estimates can be made.	Estimates can be made, but the source of changes cannot be adequately explained.	Good estimates can be made.
Harvesting sector productivity and efficiency	Good estimates can be made.	Estimates will be biased without data on capital inputs and salaried employees (when applicable).	Good estimates can be made.
Processing sector productivity and efficiency	Good estimates can be made.	Estimates will be biased without data on capital inputs and salaried employees.	Good estimates can be made.
Management costs	Good estimates can be provided by agencies.	Good estimates can be provided by agencies.	Good estimates can be provided by agencies.
<i>Issue: Lack of Economic Stability for Harvesters, Processors and Coastal Communities</i>			

<sup>20</sup>Because alternative 3 specifies “some fixed costs”, and all permutations could not be included in this table, it is assumed that the fixed costs to be collected under that alternative would be those that would allow analysts to understand the source of changes in variable costs. Specifically, “capital purchases”, “repair and maintenance”, and “salaries for plant or vessel employees” are included.

Measures	Confidence in Estimate Under Alternative 1	Confidence in Estimate Under Alternative 2	Confidence in Estimate Under Alternative 3
Distribution of catch and ex-vessel revenue by vessel class (e.g., length class and type), port of landing, and residence	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Distribution of processed product revenue by community and processor or processor category (size, ownership, location)	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Distribution of profits and quasi rents within and between the harvesting and processing sectors	Confidence of profit estimates (for BSAI crab <i>only</i> ) depends on the number of fixed costs prorated between crab and other activities. Good estimates of quasi rents (for BSAI crab <i>only</i> ) can be made.	Estimates of profit cannot be made. Estimates of quasi rents (for BSAI crab <i>only</i> ) can be made, but the source of changes cannot be adequately explained.	Estimates of profits cannot be made. Good estimates of quasi rents (for BSAI crab <i>only</i> ) can be made.
Distribution of harvester use rights by vessel class	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Distributions of harvester and processor use rights by processor or processor category	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Seasonality of catch and ex-vessel revenue by vessel class, port of landing, and residence	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Processor ownership interest in BSAI crab catcher vessels and harvester QS/catch history	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Catcher vessel ownership interest in BSAI crab processors and processing QS/catch history	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Concentration of domestic and foreign ownership in the BSAI crab harvesting and processing sectors	Good estimates can be made if sufficient ownership data is collected (which is not affected by the choice of alternatives).	Good estimates can be made if sufficient ownership data is collected (which is not affected by the choice of alternatives).	Good estimates can be made if sufficient ownership data is collected (which is not affected by the choice of alternatives).

**Table 3.17-4(Cont.) Objective measures and confidence of estimates under each alternative**

Measures	Confidence in Estimate Under Alternative 1	Confidence in Estimate Under Alternative 2	Confidence in Estimate Under Alternative 3
Level and distribution of harvesting and processing sector employment and payments to labor (number of individuals, hours/days worked, and income)	Good estimates can be made.	Partial estimates can be made, but employees other than crew and direct processing labor (e.g., salaried employees, foremen, managers, other plant employees) would not be accounted for.	Good estimates can be made.
Degree of involvement of BSAI crab harvesters and processors in other AK fisheries	Good estimates can be made.	Good estimates can be made.	Good estimates can be made.
Value of use right	Reasonable estimates could be made if RAM tracks the value of transfers.	Reasonable estimates could be made if RAM tracks the value of transfers.	Reasonable estimates could be made if RAM tracks the value of transfers.
Regional economic impacts (employment and income) of the BSAI crab fisheries	Under sub-option 1, good estimates can be made. Under sub-option 2, the necessary data is unlikely to be available.	Under sub-option 1, rough estimates can be made (as none of the "fixed" expenditures would be accounted for). Under sub-option 2, the necessary data is unlikely to be available.	Under sub-option 1, estimates can be made (as some "fixed" expenditures would be accounted for). Under sub-option 2, the necessary data is unlikely to be available.
<i>Issue: High Levels of Loss of Life and Injury</i>			
Number of days at sea by weather risk level	Difficult to estimate because we cannot determine the specific days at sea.	Difficult to estimate because we cannot determine the specific days at sea.	Difficult to estimate because we cannot determine the specific days at sea.
Pots carried or fished per trip by vessel class	Cannot estimate the number of pots fished.	Cannot estimate the number of pots fished.	Cannot estimate the number of pots fished.

Analysis of sub-options: Two sub-options were included under each of the three alternatives discussed above. The sub-options identify two alternative methods of collecting data on the location of purchase for expenditures related to the crab industry. The purpose of these sub-options is to identify the best method to collect the economic data needed to conduct community impact analyses.

**Sub-option 1:** The first sub-option would acquire disaggregated expenditure and purchase data through the mandatory data collection program in order to measure community impacts. To collect the information necessary for a satisfactory community impact analysis, the Council would need to select Alternative 1 from the three fixed cost collection alternatives above. Agency staff would then be allowed to collect all fixed cost data that are needed to conduct community impact analyses. Note that the current surveys would then need to be expanded to collect information on the purchase location for the fixed costs (as they presently elicit the location of expenditure for variable costs only).

The additional information could be collected from all harvesters and processors as part of the overall annual crab survey. Alternatively, it could be collected less frequently and perhaps from a sample of harvesters and processors. With the latter approach, additional questions would be added to the overall annual crab survey, but not every year and perhaps not for all of the participants in the BSAI crab fisheries. The latter approach would decrease the reporting burden for industry, but provide less complete and less timely information. With either approach, staff would rely on small focus groups to provide contextual information that would be difficult to elicit in a more general, annual survey.

***Sub-option 2:*** The second sub-option would utilize disaggregated expenditure and purchase data to measure impacts to communities that are provided through a program analogous to the UAF-ADFG on-going opilio impact study. That study is a voluntary program designed to collect information specific to the community impacts that result from the BSAI *C. opilio* fishery.

If the Council wishes to collect this information, it would be better to do so under a mandatory program. A mandatory program would help ensure compliance by the entire industry and would allow for the collection of consistent time series data. Given the lack of success of voluntary data collection programs in the past, collection of these data could only be guaranteed under a mandatory program. Furthermore, the MSA provides additional protection for confidential data collected under mandatory programs.

Should the Council select Sub-option 2, they are indicating their intent to see these data collected in the future. However, this choice would not involve the implementation of any regulations at this time.

***Other issues raised in the Council motion:***

**Confidentiality:** Keeping these data confidential is a very important issue to industry members and agency staff. Several methods are being considered to ensure that the data collected under this program will be held in confidence. The methods being explored to keep the data confidential include:

1. Legislation could be requested that provides strict protections for these data when the MSA is amended or when Congress amends the current laws that conflict with the Council's preferred alternative;
2. Regulations could be implemented as part of the program that protect these data and define the penalties for misuse of the data;
3. Data sharing agreements<sup>21</sup> between agencies with access to these data could spell out the terms and conditions under which these data may be used; and
4. Data use agreements within agencies could be developed that outline how an agency's staff are allowed to use the data.

It has been discussed that legislation and regulations may help protect the data from Freedom of Information Act (FOIA) requests. However, a method of protecting the data from court orders has yet to be identified, and may not be possible. Simply put, the best method of protecting the data cannot be determined until Congress acts. Once Congress does act, the agencies will be aware of the legislative confidentiality protections, and can design additional measures if they are needed.

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<sup>21</sup>NOAA GC and State AG staff are aware of this need. Staff from both agencies are collecting background information and when the program is more fully developed will be ready address this issue. They have indicated that they feel the agreement can be in place as soon as the agencies are ready to begin collecting data.

Third party data collection: An option the Council may wish to considered is employing a third party to collect the economic data. The costs associated with using a third party, as well as the efficiencies of using a third party, need to be analyzed relative to other options. To simplify the following discussion, it is assumed that third party collecting the data will be the Pacific States Marine Fisheries Commission (PSMFC). Identifying the PSMFC as the third party allows for a more precise discussion of how the third party system would work and the costs that it would impose.

The cost of using PSMFC to collect the data is likely to be no greater than if NMFS collected the data. NMFS would likely need to add at least one more person to their staff to oversee collection, computer entry, and distribution of the data (to the appropriate analysts). Some of the tasks, such as data entry, may be done more cost effectively and efficiently by staff hired (and trained) specifically for that purpose. The PSMFC may be in a better position to hire staff to complete those tasks. The PSMFC hiring procedure is likely to be less cumbersome because they are not bound by Federal hiring guidelines that can limit the number of permanent and temporary positions. Freedom to hire employees as needed would ensure that sufficient staff are available to support the data collection program.

The Council's workgroup indicated that they would expect the third party to develop "blind" data sets that combine the mandatory data collection elements with existing sources such as fish tickets, COAR reports, and CFEC vessel files. Those complete files would contain a unique numerical identifier for each plant or vessel, and would not contain the name of the underlying entities. Structuring the database in such a way would allow the approved state and federal analysts to conduct analyses without having to request PSMFC to combine and deliver specific data sets each time an analysis is undertaken (or different variables are included in a particular analysis). That would greatly reduce staff concerns about timely access to the data sets. PSMFC is also in a very good position to link these data sets, because their AKFIN project has all the data and expertise required to successfully complete such a task.

It should be noted that the use of a "blind" identifier does not provide complete protection for anonymity, in that an analyst could purposely determine the identity of a firm, if they so desired. They would simply need to match other fields on the original fish ticket file, for example, with the modified file to determine the identity of the plant or vessel. Therefore, this system will not conceal the identity of a firm from an analyst who undertakes such efforts – an exercise we hope would not occur and that could be prohibited by policy or regulations.

The use of "blind" data sets would require an analyst to go through PSMFC if they have questions regarding the data. This would likely help protect industry from superfluous data inquiries and would help ensure that changes/corrections to the data are directly incorporated into the master data set. However, separating the analysts from industry would reduce an analysts' ability to ask questions that would help them to better understand an issue. It would also place a greater burden on PSMFC, since they would need to track all of these issues to ensure they are resolved.

Finally, even if a third party is used to collect data and provide it to analysts in a "blind" format, NOAA GC and NMFS enforcement have indicated they would need access to the raw data with the company identified. Without access to the raw data, those agencies have indicated that it is unlikely the program could be enforced. Under such conditions, it is unlikely the program would be approved by the SOC.

Agency staff believe that having PSMFC run the data collection program would be a logical choice, regardless of whether the development of "blind" data is selected as the preferred alternative. PSMFC's access to all other data sets, knowledge of relational data base design, and role as a "neutral" party could all benefit the process.

Crew days: The Council asked the workgroup to consider whether good estimates of crew days can be developed using fish tickets combined with crew license identifiers collected under this mandatory program. The workgroup felt that fairly reliable estimates could be made under an open access system using the season start date and the landing date on the fish ticket. However, under a rationalized fishery with extended seasons, additional information would be needed to estimate the number of crew days by vessel. This information could be collected on the survey along with the other crew information that is requested.

Ownership data: Ownership data will be collected at a level necessary to determine whether a company is within the ownership and use caps included in the program. This information will be collected from harvesters, processors and others who own QSSs. Ownership data will also be broad enough in scope to allow changes in vertical integration to be studied.

Arm's length transaction data: There has been some interest in collecting revenue information separately for sales made to firms owned by the same company and those made to a completely unrelated entity. The current surveys ask for revenue information broken out in this manner. However, the usefulness of that data breakdown is still a matter of debate between the members of the data collection workgroup.

Data verification: Regulations need to be developed in order to ensure the accuracy of data being provided and protect the suppliers of the data from fines or other penalties when good faith efforts are made to supply accurate data (even though errors may be found). To help protect both the providers of the data and the agency collecting the information, a review process could be established to ensure the data being submitted is accurate.

A verification protocol similar to that developed for the Pollock surveys would be used as the primary review process. Input from certified public accountants was solicited when NMFS and PSMFC were developing the pollock data collection program. That protocol involves using an accounting firm, agreed upon by the agency and industry, to conduct random review of the data provided. In addition to the random review, a survey may be selected for verification if the data in the survey appears to be incorrect. Such a process would provide industry with an incentive to supply accurate data, it would tend to increase the confidence that industry, management agencies, and other stakeholders would have in assessments based on that data; and it would help to prevent the abuse of the verification and enforcement authority.

Data for non-crab portion of operation: The Council requested that staff focus on collecting data for the firm's crab operations. However, they noted that if data from other aspects of a firm's operation are needed to explain the impacts of the crab rationalization program, they may consider including them in the mandatory data collection program. A brief discussion of the potential uses of also collecting data for non-crab activities was presented above, prior to the discussion of Alternative 1.

Aggregation of economic data: Although the Council did not request staff to evaluate the potential impacts of having access to only aggregated data for performing analyses, some industry members have suggested that they may ask the Council to consider this action. Those members of industry seeking to develop a system that would aggregate the data before being provided to the analysts are doing so to provide more protection for their confidential business information. They feel that it may be possible to develop a system that would allow analysts to adequately do their job while providing more protection for their data.

It is clear that aggregating the *results* of any analysis is a prudent and necessary step, and would in no way compromise the quality or types of analyses that could be performed. However, aggregating the *records* prior to analysis would give rise to several problems that would limit analysts' ability to conduct statistical analysis, verify the accuracy of the records, isolate various groups of interest for the Council, analyze the distribution of gains or losses within the predetermined groups, and in general, to understand the effects of

rationalization. Section 8 of Appendix 3-6 provides a thorough discussion of the effects of aggregation in economic analyses, cites over twenty books and papers that discuss aggregation bias, and presents an empirical example of how estimates of fishing capacity for the crab fleet differ when computed with aggregated versus disaggregated data.

Furthermore, aggregating economic data prior to analysis would provide no additional protection from FOIA requests or lawsuits, and would thus, only serve to limit the information made available to analysts and the way in which groups could be constructed and/or compared. Given that the primary purpose of collecting the data is to allow analysts to study the effects of rationalization, aggregating the data for the sole purpose of masking information or precluding comparisons that may be of interest to the Council appears to go against the purpose of the mandatory data collection program.

Anticipated enforcement of the data collection program The analysts anticipate that enforcement of the data collection program will be different from enforcement programs used to ensure that accurate landings are reported. It is critical that landings data are reported in an accurate and timely manner, especially under an IFQ system, to properly monitor catch and remaining quota. However, because it is unlikely that the economic data will be used for in-season management, it is anticipated that persons submitting the data will have an opportunity to correct omissions and errors<sup>22</sup> before any enforcement action would be taken. Giving the person submitting data a chance to correct problems is considered important because of the complexities associated with generating these data. Only if the agency and the person submitting the data cannot reach a solution would the enforcement agency<sup>23</sup> be contacted. The intent of this program is to ensure that accurate data are collected without being overly burdensome on industry for unintended errors.

A discussion of four scenarios will be presented to reflect the analysts understanding of how the enforcement program would function. The four scenarios are 1) a case where no information is provided on a survey; 2) a case where partial information is provided; 3) a case where the agency has questions regarding the accuracy of the data that has been submitted; and 4) a case where a random “audit” to verify the data does not agree with data submitted in the survey.

In the first case, the person required to fill out the survey does not do so. In the second case, the person fills out some of the requested information, but the survey is incomplete. Under either case that person would be contacted by the agency collecting the data and asked to fulfill their obligation to provide the required information. If the problem is resolved and the requested data are provided, no other action would be taken. If that person does not comply with the request, the collecting agency would notify enforcement that the person is not complying with the requirement to provide the data. Enforcement would then use their discretion regarding the best method to achieve compliance. Those methods would likely include fines or loss of quota and could include criminal prosecution.

In the third case the person fills out all of the requested information, but the agency collecting the data, or the analysts using the data, have questions regarding some of the information provided. For example, this may occur when information provided by one company is much different than that provided by similar companies. These data would only be called into question when obvious differences are encountered. Should these cases arise, the agency collecting the data would request that the person providing the data double check the information. Any reporting errors could be corrected at that time. If the person submitting the data indicates

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<sup>22</sup>The intent of the program is to have enforcement actions triggered by the willful and intentional submission of incorrect data or noncompliance with the requirements to submit data.

<sup>23</sup>The term enforcement agency in this case may or may not include the RAM Division and the Office of Administrative Appeals (in addition to NMFS Enforcement). Those details are still under discussion within NOAA.

that the data are accurate and the agency still has questions regarding the data, that firm's data could be "audited". It is anticipated that the review of data would be conducted by an accounting firm selected jointly by the agency and members of industry. Only when that firm refuses to comply with the collecting agencies attempts to verify the accuracy of the data would enforcement be contacted. Once contacted, enforcement would once again use their discretion on how to achieve compliance.

The fourth case would result when the "audit"<sup>24</sup> reports different information than the survey. The "audit" procedure being contemplated is a verification protocol similar to that which was envisioned for use in the pollock data collection program developed by NMFS and PSMFC. During the design of this process, input from certified public accountants was solicited in order to develop a verification process that is less costly and cumbersome than a typical "audit" procedure. That protocol involves using an accounting firm, agreed upon by the agency and industry, to conduct a random review of certain elements of the data provided<sup>25</sup>.

Since some of the information requested in the surveys may not be maintained by companies and must be calculated, it is possible that differences between the "audited" data from financial statements and survey data may arise. In that case the person filling out the survey would be asked to show how their numbers were derived<sup>26</sup>. If their explanation resolves the problem, there would be no further action needed. If questions remained, the agency would continue to work with the providers of the data. Only when an impasse is reached would enforcement be called upon to resolve the issue. It is hoped that this system would help to prevent abuse of the verification and enforcement authority.

In summary, members of the crab industry will be contacted and given the opportunity to explain and/or correct any problems with the data, that are not willful and intentional attempts to mislead, before enforcement actions are taken. Agency staff does not view enforcement of this program as they would a quota monitoring program. Because these data are not being collected in "real" time, there is the opportunity to resolve occasional problems as part of the data collection system. Development of a program that collects the best information possible to conduct analyses of the crab rationalization program, minimizes the burden on industry, and minimizes the need for enforcement actions are the goals of the data collection initiative.

Issues from the December 2002 Council meeting: The Council directed the Data Collection Workgroup to address several issues at the February Council meeting. Issues to be addressed were included in the Council's motion and are excerpted in the following italicized section.

*"...In particular, the Council recommends that the Committee be directed to provide recommendations at the February Council meeting on the aggregation of data and its importance in protecting industry proprietary and confidential information. Recommendations should cover both data analyses that are presented to the Council and the public, and industry raw data that is provided to staff for purposes of analysis. The Committee should review Section 8 of Appendix 3-6, prepared by staff and presented to the public at this meeting, and provide recommendations on the issues raised by staff.*

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<sup>24</sup>This "audit" could be the result of either the random review process that is contemplated or an "audit" triggered under scenario three.

<sup>25</sup>However, in cases of non-compliance in which enforcement has to be notified, the data verification process is likely be more comprehensive.

<sup>26</sup>Any time a number must be derived, the survey will provide direction on how the calculate the information requested. This direction should help minimize differences. However, when discrepancies do arise, the firm will be given an opportunity to show how they derived their figures, and correct the information if necessary.

*The Council recommends:*

- *both the binding arbitration committee and the data collection committee identify data needs associated with the binding arbitration process and the integration of these needs.*
- *the Committee consider the SSC recommendations concerning data aggregation.*
- *the Committee include C shares in the data collection program.”*

Members of the Workgroup have met and drafted a report for the Council’s February that is intended to address those issues.

### **3.18 Community and social impacts**

This section presents two types of information on community and social impacts of the range of alternatives and options. First, in Section 3.18.1, general level community and social impact issues associated with the different features of the range of proposed alternatives and options is presented. This section draws from experience of earlier rationalization programs in the potentially impacted communities. Second, in Section 3.18.2, community impacts driven by specific sector allocation changes under the range of alternatives and options are discussed. These sections include quantitative output tables showing the range of outcomes by sector and area, where applicable. Detailed tables that capture existing trends of change over the period 1991-2000, as well as output tables showing specific allocations under the rationalization alternatives may be found in an attachment to the SIA Appendix. Community and social impacts likely to be associated with the specific features and combination of attributes of the preferred alternative are presented in Section 4.9.

#### **3.18.1 Community experience with other contemporary fisheries rationalization programs**

The communities that would potentially experience social impacts from the BSAI crab fishery proposed management alternatives have experienced impacts related to rationalization efforts in other commercial fisheries in recent years. While some of the experience will be useful in anticipating impacts of crab rationalization, there are distinct differences between existing fishery rationalization programs and the components of the BSAI crab rationalization alternatives in terms of likely social impacts. The applicability of the existing programs to the proposed program is presented in overview in this section. The crab rationalization program component approaches and their analogs are as follows:

- **IFQ approach.** IFQ management is now in place for area halibut and sablefish fisheries. The relevant parts of that experience are summarized below.
- **IFQ Plus Individual Processor Quota (IPQ) approach.** Assignment of processor quota shares alone or in combination with IFQs as proposed in the “two-pie” or the “three-pie” system is without precedent in local fisheries, so there is no analog experience from which to draw.
- **Cooperatives.** Co-ops are now used in the Bering Sea pollock fishery. The relevant parts of that experience are summarized below.
- **Regionalization.** Regionalization, or the third part of the three-pie system, is not a rationalization approach in and of itself, but it functions as part of a rationalization alternative in conjunction with what are effectively harvester and processor allocations (and co-op provisions). There is no good analog experience in local fisheries for looking at likely social impacts as a result of regionalization. There are, of course, programs in other fisheries that are intended to localize fisheries, through assigning quota to particular geographic areas and then restricting access or movement between areas, with the most restrictive of these being “super exclusive” areas where access is completely restricted to a set of harvesters committed to that area only for a particular fishery (with the typical goal of

#### 4.1.10 Crew loan program

To aid captains and crew, a low interest loan program (similar to the loan program under the halibut and sablefish IFQ program) would be created. This program would be funded by 25 percent of the funds collected under the fee program applied to IFQ holders in the BSAI crab fisheries. Loan money would be accessible only by active participants in crab fisheries, regulated under the rationalization program, and could be used to purchase either C shares or general harvest shares, in one or more of these same fisheries. Any general harvest shares purchased with loan money would be subject to all use and leasing restrictions applicable to C shares for the term of the lease.

#### 4.1.11 Sideboards to protect participants in other fisheries

A three-pie voluntary cooperative program for the BSAI crab fisheries will affect the fishing patterns of current participants. Some participants may sell or lease their shares. Other participants could change the timing of their fishing. In either case, rationalization could allow BSAI crab fishermen to increase participation in other fisheries. To protect participants in these other fisheries, sideboards would apply to all vessels that receive an allocation in the *C. opilio* fishery. The sideboards would restrict these vessels to their historic harvests in all Gulf of Alaska groundfish fisheries (except the IFQ sablefish fishery, which is subject to program harvest limitations). Vessels with less than 100,000 pounds of total *C. opilio* harvests and more than 500 metric tons of total cod harvests during the qualifying years would be exempt from the sideboard caps. In addition, vessels with less than 50 metric tons of total groundfish landings in the qualifying period would be prohibited from harvesting cod from the Gulf of Alaska. Sideboards will be applied to vessels, but will also restrict harvests on the accompanying groundfish license, if that license is used on another vessel.

Crab harvests, by vessels that participate in the Bering Sea pollock fisheries, are currently limited by sideboard restrictions established under the American Fisheries Act. Likewise, the quantity of crab processed by entities that participate in the Bering Sea pollock fisheries, are also limited by sideboards established under the AFA. Since the crab fisheries would be rationalized, these sideboard restrictions would be removed.

#### 4.1.12 Additional program elements

*Annual Reports:* Under the program, NMFS Restricted Access Management, in conjunction with the State of Alaska, would be directed to produce annual reports concerning the program and a preliminary report on the program after three years. A full review of the program would be undertaken at the first Council meeting in the fifth year after implementation of the program. The review would be intended to objectively measure the success of the program in addressing the concerns, and achieving the goals and objectives specified in the Council's problem statement and the Magnuson-Stevens Act standards. Impacts of the program on vessel owners, captains, crew, processors, and communities would be examined. The review would include an assessment of options to mitigate negative impacts of the program. Additional reviews would be conducted every five years.

*Data Collection:* A mandatory data collection program would be developed and implemented under the rationalization program. Cost, revenue, ownership, and employment data would be collected regularly from the harvest and processing sectors. The data would be used to study the economic and social impacts of the program on harvesters, processors, and communities and assess the success of the program. Participation in the data collection program will be mandatory for all participants in the fisheries. The program will require adequate regulatory and statutory protection of confidentiality. The novelty of the data collection program and the lack of uniformity in accounting practices could lead to some compliance errors, notwithstanding good faith efforts to comply with the requirements of the program. Data collection enforcement and penalties would be structured to avoid over penalizing honest mistakes of those attempting to comply with its requirements.

# **Appendix 3-6**

## **Sections 1 through 4**

## ***Section 1: Inter-agency economic data collection workgroup draft report***

The following draft report, prepared by the Inter-Agency Economic Data Collection Workgroup, includes a detailed discussion of the need for mandatory data collection programs:

### **DRAFT FOR AGENCY REVIEW (February, 2002)**

#### **A Proposal to Develop an Inter-Agency Economic Data Collection Protocol And Data Sharing Agreement for FMP Fisheries in Alaska and Other Fisheries for Which the North Pacific Fishery Management Council Makes Recommendations to the U.S. Secretary of Commerce (SOC)**

##### 1. Summary

Economists from four State and Federal agencies have met to discuss methods of collecting economic data that are necessary for the preparation of FMP amendments but are currently not available. After review of past experiences and agency problems associated with voluntary data collection, participants in the meeting have concluded that it is necessary to develop a mandatory data collection program. Participants in the meeting also felt that it was necessary to ensure that the data collected under such a program would be available only to authorized staff from each of the represented agencies.

Economists from these agencies are charged with conducting net benefit and distributional analyses. A mandatory data collection system is believed to be the best way to meet these objectives. Voluntary data collection programs, with rare exceptions, are not timely, have low response rates, do not result in adequate time series, and can be subject to strategic bias. Moreover, several recent attempts by NMFS, ADF&G and the Council to collect economic data have not been successful despite multiyear efforts and working very closely with industry members.

Many important issues, including property rights, closed areas, Improved Retention/Improved Utilization, and endangered species, have been brought to the forefront recently, but economists do not have adequate data to conduct complete and thorough analyses of these issues. New emphases on regulatory completeness, such as was the case in the shark FMP amendment, have also highlighted the need for better economic data.

Economists attending the meeting believe that successful economic data collection will require the State and Federal agencies to continue to work together on the program. To facilitate development of the proposed economic data collection program the economists also concluded that the agencies should provide the staff time and resources necessary to develop a draft document that would outline some alternatives for a mandatory data collection program.

##### 2. Background Information

Economists from four State and Federal management agencies are currently involved in developing a proposal for an inter-agency agreement to collect economic data for Alaskan fisheries. Combined, those agencies<sup>1</sup> have the responsibility of managing both the

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<sup>1</sup>Dave Colpo, Pacific States Marine Fishery Commission (PSMFC) economist, also attended the meeting in an advisory capacity.

commercial and recreational fisheries off the coast of Alaska. The agencies involved in developing the proposal are the:

- Alaska Department of Fish and Game (ADF&G) represented by Jeff Hartman;
- Commercial Fisheries Entry Commission (CFEC) represented by Kurt Schelle;
- National Marine Fisheries Service (NMFS) represented by Todd Lee;
- North Pacific Fishery Management Council (NPFMC) represented by Darrell Brannan.

The economists held a meeting during September 2001 to discuss the current status of economic data collection and the future outlook. The economists from each agency unanimously agreed that a mandatory data collection program should be explored and that inter-agency coordination is needed. The need for mandatory economic data collection is evident since several attempts to collect these data under voluntary programs have only had very limited success. It is important that a mandatory data collection program has the support of each of the management agencies involved in overseeing FMP fisheries and other fisheries for which the NPFMC makes recommendations to the SOC. Cooperation will ensure that the necessary data are collected while minimizing the burden on industry members. Cooperation will also help to ensure that once the data are collected they will be available only to the analysts within each agency.

The present need for economic data is quite high. Currently there are many important policy issues that affect commercial fisheries in Alaska. These include property rights, closed areas, Improved Retention/Improved Utilization, and endangered species. These policy issues may lead to economic and structural change in the fishing industry and result in distributional effects that rival or exceed those associated with the initial Americanization of North Pacific fisheries. Economic analyses are also coming under increased scrutiny to ensure that agencies are living up to their statutory requirements. New emphases on regulatory completeness, such as was the case in the Atlantic shark FMP amendment, have continued to highlight the need for better economic information.

In light of the increased scrutiny and threat of litigation, there has been a national and regional commitment by NMFS to supply more resources to improve the collection and analysis of economic data. If these regulatory requirements are to be addressed, the economists participating in this meeting are not aware of any viable alternatives to mandatory economic data collection for the FMP fisheries of the North Pacific. Thus, we recommend that the participating agencies work toward a unified data collection system. The data to be collected would include cost, employment and earnings data at the vessel or plant level.

### 3. Voluntary Economic Data Collection

Over the past several years, as the stakes have increased in fisheries management decisions, it has become more and more difficult to collect economic data on a voluntary basis, and the most recent attempts were met with very limited success. Today there are no economic cost data being collected for the commercial fleets on a voluntary basis that can be used for FMP

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The Commission has no opinion on voluntary versus mandatory data collection mechanisms for economic data.

and regulatory amendments for fisheries that the NPFMC makes recommendations to the SOC.

The most recent attempt at voluntary economic data collection was a program developed by NMFS. That economic survey focused on the pollock harvesting and processing sectors participating in the Bering Sea and Aleutian Island groundfish fisheries. After approximately two and a half years of working with industry members to develop the data collection surveys, only one firm completed a survey and that was ultimately returned to the company when no other industry members responded. This effort included the development of a data verification process as requested by the industry.

ADF&G has recently attempted to collect ownership information from pollock catcher vessel owners. This information is essential to defining each firm as an entity for economic analysis. Catcher vessel response rates to the survey was initially very low and there has been continuing resistance to requests for reporting this basic data. These data were ultimately collected after a strong request was made by both the ADF&G and the NPFMC.

In another independent effort, the Council's economic data committee was unable to secure a commitment from industry participants to collect individual firm level cost data from the EEZ pollock groundfish fisheries after several meetings from 1998 through 2000. That committee has recently been disbanded by the Council for lack of progress towards meeting its objectives. Given the reluctance of industry members to supply these data, economists from each of the agencies have concluded that it is unlikely that any voluntary program will result in a systematic and periodic data collection program that would provide analysts with a useful time series of disaggregated economic data. Therefore, the focus should shift to studying how the data can be collected through a mandatory program.

#### 4. Existing Mandatory Data Collection

Currently, revenue and price data are the only economic data being systematically collected under mandatory programs. Two examples of these are ADF&G's fish ticket records, which contain a value field, and ADF&G's Commercial Operator's Annual Reports (COAR) which contain data on both ex-vessel and wholesale values.

The data from these reporting systems are extremely useful for a variety of purposes, but neither fish tickets nor COAR reports collect the additional data on costs or employment that are needed to carry out requisite economic net benefit and economic impact analyses. A systematic approach to collecting cost, employment, and earnings data at the vessel or plant level is needed.

In recent years, some efforts have been made to indirectly estimate marginal costs from fish ticket data based upon the participant's in-season fishing decisions. While similar approaches to estimate in-season marginal costs deserve continued exploration, the methodologies require many simplifying and ad hoc assumptions. The regular and systematic collection of detailed cost and employment data from participating entities would directly provide a reliable database that could be used for the analyses of many proposals.

#### 5. Problem Statement

A successful economic data collection program has all of the following characteristics:

- The data are available in a timely fashion
- Sufficient cross sectional and time series data coverage at the operating unit level to allow for statistical analyses
- Sufficient in scope to carry out standard economic analyses (i.e., net benefit)
- Minimal biases (i.e., non-response bias and strategic bias)
- High degree of confidence in the accuracy of the data

If data satisfying the above characteristics were available, it would substantially improve the ability of economists to develop models and provide useful information to the public, fishing industry, policy makers, and fishery managers.

The economic data necessary to study the impacts of regulatory changes are currently not available. Analysts are being tasked with analyzing complex FMP and regulatory amendment packages without being provided the economic data necessary to conduct formal economic analyses. These analyses are considered to be inadequate by many reviewers of the documents, since most must fall back on gross revenue calculations, which provide no insights to profitability or net benefits to the nation. Recent legal actions leave the agencies vulnerable to regulatory challenge (i.e., Atlantic Shark Amendment). Because the analysts lack the data required to conduct formal cost-benefit or distributional analyses, policy makers that rely on their work are often required to base their decisions on incomplete economic analyses. Furthermore, the number of policies requiring these types of analyses are increasing.

## 6. Goals

The goal of the proposed project is to develop a mandatory data collection program for vessel or plant level data that is verified to the extent practicable. The program will be designed to protect confidential data, coordinate the collection of data, minimize the burden on industry, and be administratively efficient. Improving the quality and scope of the economic data that are being collected will require cooperation from all of the agencies involved, as well as a commitment to supply the resources necessary to make the program successful.

It is the intent of this group that the disaggregated (raw) data be shared among participating agencies in accordance with Federal and State laws<sup>2</sup>. Each agency would then be responsible for ensuring that the confidentiality of the data is protected.

## 7. Tasks

To facilitate the collection of economic data it is necessary to develop a data collection protocol that all of the agencies would agree to follow. The protocol would establish the following:

- Which agency would collect specific data
- Who would be responsible for oversight of the data collection and ensuring its confidentiality
- How the data would be shared between agencies,
- Ensure adequate data sharing agreements that allow the exchange of disaggregated economic data among the appropriate staff members within the participating agencies, and

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<sup>2</sup> It is also the intent of the committee that if current laws prohibit/inhibit the sharing of disaggregated economic data among the appropriate analytical staffs of the agencies participating in this effort, that those laws be modified to allow the sharing of disaggregated economic data.

- The funding sources for the data collection projects.

Defining the basic structure of the data collection process before setting out to collect the data should ensure that the proper data are collected, they are properly stored and maintained, and that they can be used in the most effective manner.

A larger group of economists from the agencies met in July 2001 to develop a list of needs for economic research. That list represents the areas we feel need to be improved. Some of the areas of need that relate to this effort are:

$^{\circ}P_t$	Markets
$1/2P_t$	Industrial organization
$1/4P_t$	Regional and community economic impacts
$\emptyset P_t$	Prediction of behavior
$^2P_t$	Economic performance
$^n P_t$	Rights based management

It is critical that the process to develop these protocols begins within a relatively short period of time. Currently several fisheries under the authority of the NPFMC, NMFS, and ADF&G are moving towards systems of more rational management. The management system changes being discussed for these fisheries will alter the economics of the industries and communities that rely on them. Without collecting information on the fisheries before these changes take place, economists and policy makers will not be in a position to determine the overall impacts of the programs. Therefore, without an adequate data collection mechanism, the successes, failures, and ability of those programs to meet their objectives may never be truly understood.

## 8. The Next Steps

If each of the agencies agrees to provide staff support for development of this project, the next two steps towards implementing a mandatory data collection program will be (1) developing a draft Inter-agency proposal fleshing out the mandatory data collection mechanisms and (2) presentation of the proposal to each agency for modification and approval of the concepts.

Should each of the agencies agree to the proposal then efforts will focus on developing the implementation details of the program and the collection of data. These steps will require additional support from a broad group of people with specialized knowledge in the agencies (lawyers, policy experts, and database designers and administrators).

*Section 2*

**Objective Measures, Models, and Necessary Data**

**Discussion Paper**

Prepared for the Crab Data Group

August 19, 2002

National Marine Fisheries Service  
Alaska Fisheries Science Center  
Seattle, Washington

This discussion paper is based upon the objective measures previously identified by the SSC to monitor the success of the crab rationalization program. It identifies the method or models typically used to construct such measures and the data required to adequately construct them.

The measures identified by the SSC are intended to allow the Council to monitor the success of the crab rationalization program in terms of addressing the five problems currently facing the fishery (as identified in the BSAI crab rationalization problem statement prepared by the Council in June 2002). Those five problems and the summary of the problems facing the Council are as follows:

1. Resource conservation, utilization and management problems;
2. Bycatch and its associated mortalities, and potential landing deadloss;
3. Excess harvesting and processing capacity, as well as low economic returns;
4. Lack of economic stability for harvesters, processors and coastal communities; and
5. High levels of occupational loss of life and injury.

"The problem facing the Council, in the continuing process of comprehensive rationalization, is to develop a management program which slows the race for fish, reduces bycatch and its associated mortalities, provides for conservation to increase the efficacy of crab rebuilding strategies, addresses the social and economic concerns of communities, maintains healthy harvesting and processing sectors and promotes efficiency and safety in the harvesting sector. Any such system should seek to achieve equity between the harvesting and processing sectors, including healthy, stable and competitive markets."

## **The objective measures**

This paper discusses the economic objective measures that will likely need to be computed, and the corresponding economic data that is needed (some of which must be elicited through the surveys). For a majority of the measures elaborated on below, the required data is discussed in the context of the vessel or plant (and at times, the firm), depending on the measure. Measures that are primarily production based (capacity utilization, productivity, and efficiency) are best constructed with data from the vessel or plant level. Such a focus allows the analyst to more directly 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 changes, is a key part in assessing the changes in economic performance that arise under rationalization. However, because the production process of one vessel or plant is at times only one component of the 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.

Therefore, in addition to the individual measures discussed below, ownership data are required to link each piece of the overall puzzle. This data allows one to assimilate the individual effects into the likely “overall” effect of crab rationalization on the residual claimants of the operations we observe on a piece-by-piece basis. It also allows analysts to monitor structural changes not reflected directly in performance- or profit-based measures, such as changes in the concentration of domestic and foreign ownership in the harvesting and processing sectors, the structure of ownership (including proprietorships, publicly traded corporations and privately held corporations), and the relationships both within firms, (i.e., the amount and nature of vertical and horizontal integration) and among firms.

Although vessel-, plant-, or firm-level detail is needed to adequately construct many of the measures discussed below, there are measures for which aggregate (e.g., sector-level) data can likely provide an adequate representation. One underlying problem with using aggregated data for all purposes, however, is that the conditions under which the aggregate data accurately represents the individual firms’ production technologies and decisions is quite restrictive. The result is a model with unrealistic assumptions may seriously bias the resulting measures (aggregation issues constitute a large branch of economic theory). Furthermore, if the aggregation is too extreme, the information that can be obtained from a model will not allow the analyst to adequately explain the source or cause of any changes. In other cases, the lack of sufficient number of observations (i.e., data on each vessel, plant, or firm operating in a given time period) may preclude estimation of the model typically used to construct a particular measure. Finally, aggregate data cannot be used to determine whether most fishermen and processors will have benefitted from crab rationalization. For example, aggregate processor profits could increase even though the profits for the majority of the processors decreased. Additional discussion of these issues is provided in the Appendix.

Note that this paper does not provide a discussion of the specific data needed to address problems 1), 2), and 5), as the primary data required is not necessarily “economic” in nature and therefore not requested in the economic data surveys under consideration. However, some of the objective measures discussed for problems 3) and 4), and the data used therein, may be useful in monitoring the success of the crab rationalization program with regard to problems 1), 2), and 5). For example, issues of resource conservation and utilization may be addressed by examining the patterns of spatial and temporal effort and catch given in the trip-level harvesting records. The incidence of ghost fishing mortality can, in part, be inferred by changes in pot losses, which are currently requested on the draft harvesting surveys. Information regarding changes in the likelihood of injury or loss of life may be supplemented by data on the nature of fishing trips that reflects their intensity and duration.

## Problems, measures, and data

### 3. Excess harvesting and processing capacity and low economic returns

Measures:

#### a) Harvesting capacity and capacity utilization

Data Required: Typically, the analysis of capacity and capacity utilization is based upon the cost structure of the vessel, and examines whether the observed level of catch coincides with the least-cost level, given the capital stock. This process requires one to compile information on all significant variable costs (labor, fuel, bait, pots, etc.), including the price of all variable inputs and the quantities used. A measure of the capital stock is also required, and is often expressed as the dollar value of the vessel and equipment onboard, or with proxies such as vessel characteristics [length, tonnage, horsepower, etc.]. One can then model the relationship between output (total catch, by species) and cost. If production is currently less than the level at which total average costs are minimized, given the existing capital stock, capacity is under utilized (the opposite is true if current output exceeds such a level). Further extensions of the model allow one to directly compute the contribution of the capital stock in production and thus, provide an alternative measure of the extent to which capital is being utilized.

Summary: Variable input prices and quantities purchased, capital quantities, and catch quantities (by species) are required.

#### b) Processing capacity and capacity utilization

Data Required: The same approach and data requirements would apply in assessing processing capacity and capacity utilization (although the specific inputs used and outputs produced are different). It can be more difficult, however, to quantify the capital stock for processors, as is evidenced by conversations with industry.

Summary: Variable input prices and quantities purchased, capital quantities, and production quantities by species and product form are required.

#### c) Harvesting sector profit (total revenue - total cost)

Data Required: This measure is comprised of total revenues less total cost. If one wants to understand the source of any change in its value at the most basic level, one needs separate measures of total revenues and total costs. However, without details on total catch, the prices and quantities of variable inputs, and fixed costs, one cannot tell if costs changed due to changes in catch levels, effort (variable input) levels, input prices, or fixed costs. Furthermore, without detail on the quantities sold and prices received, for each species, one cannot tell if changes in revenue are attributable to changes in price or total catch. Thus, without the above information, changes in profit cannot be explained and increased production or cost efficiency cannot be discerned from exogenous market impacts. The data components described above can also be used to construct predictive models that assess the likely change in production patterns, revenues, and costs in response to market shocks and/or regulations.

Summary: Variable input prices and quantities purchased, fixed costs, total catch quantities and prices received, by species are required.

d) Harvesting sector quasi rent (total revenue - total variable cost)

Data Required: The comments expressed in c) with respect to profits apply to quasi-rents as well, except fixed costs are not required for the analysis. Such a focus eliminates accounting for fixed costs that cannot be easily allocated to a specific vessel (or solely to crab operations), and must be prorated across several vessels.

Summary: Variable input prices and quantities purchased, total catch quantities and prices received, by species are required.

e) Processing sector profit

Data Required: essentially the same type of information is required as for harvesters, which is discussed in c) above (with the obvious qualification that the respective variable inputs are likely to be different and revenue data should include product form, by species, quantity produced, and price received).

Summary: Variable input prices and quantities purchased (including fish purchases by species), fixed costs, total production, by species and product form, and prices received for each product are required.

f) Processing sector quasi rent

Data Required: The same comments apply to quasi-rents, except fixed costs are not required for the analysis. Such a focus eliminates accounting for fixed costs that cannot be easily allocated to a specific plant (or solely to crab processing), and must be prorated across several plants.

Summary: Variable input prices and quantities purchased (including fish purchases by species), total production, by species and product form, and prices received for each product are required.

*Productivity:*

Data Required: The measurement of productivity essentially involves the quantity of inputs required to produce a unit of output. The inputs included in the model should consist of those that directly contribute to the quantity of output one can produce. In the simplest terms, a single-input productivity measure such as labor productivity is computed as the ratio of output to labor hours. These measures are quite limited, however, in that they fail to account for the use of other inputs in production. That is, the ratio of total output to labor hours may have increased over time for a particular plant, but this may be due to increased use of automation (so the decreased labor use has been offset by increased capital expenditures). Therefore, *total* factor productivity measures are preferred, which account for the use of, and substitution among, all inputs in production. Because the contribution (and cost) of a one-unit change in each factor of production can differ widely, each input's share of the total cost of production is needed as a weight when accounting for the changes in input use.

Summary: Direct inputs in production (quantities used and the cost of each), total catch quantities, by species are required.

*Efficiency:*

*Technical Efficiency*

Data Required: The measurement of “efficiency” can be undertaken in several ways to identify different notions of efficiency. *Technical* efficiency is similar to productivity in that it relates to the quantity of inputs used to obtain a given bundle of output(s). Essentially, productivity measurement involves computing how the skill with which inputs are converted to outputs progresses (or regresses) over several periods of time, and technical efficiency measurement involves analyzing each firm’s relative proficiency in production processes within each period.

Summary: Direct inputs in production and total catch quantities by species are required.

*Allocative Efficiency:*

Data Required: The measurement of *input-allocative* efficiency pertains to the degree to which one minimizes costs of producing a given level of output by choosing an optimal proportion of inputs, given their relative costs and contributions to production. In more familiar terms, cost savings afforded by eliminating the race for crab are likely to increase input-allocative efficiency. *Output-allocative* efficiency reflects the degree to which one chooses the optimal mix of outputs (here, catch), given the respective market prices and opportunity costs of targeting one species instead of another. Loosely speaking, measures of input (output) allocative efficiency can be thought of as the extent to which one minimizes (maximizes) the cost of (revenue from) a given level of outputs (inputs). Note that one can be input-allocatively efficient and output-allocatively inefficient, or vice-versa. Similarly, one can be technically efficient and allocatively inefficient. The point here is that each measure captures a different aspect of production, and each can be affected in different ways from changing institutional or regulatory environments.

Summary: The quantities of direct inputs in production and their costs, total catch quantities and prices by species are required.

h) Processing sector productivity and efficiency

Data Required: The basic data required to measure productivity and efficiency in the processing sector is the same as in the harvesting sector -- only the definition of direct inputs and outputs changes. See g) I), ii), and iii) for a description of the measures, models, and data.

#### **4. Lack of Economic Stability for Harvesters, Processors and Coastal Communities**

The objective measures c), d), e) and f) listed for Problem 3 are well suited to assess the success of the crab rationalization program in increasing economic stability for harvesters and processors. This can be accomplished by examining each vessel or plant’s annual profit or quasi-rents, and calculating measures of variation for pre- and post-

rationalization periods. The detail afforded in the data used to construct c), d), e) and f) also allows one to account for exogenous market effects (or varying stock levels) that may affect stability. That is, one can ascertain whether economic stability or viability is more likely in the rationalized fishery (relative to pre-rationalization) when market shocks are prevalent. Stability can also be analyzed by designating vessels or plants into groups of interest (based on size, species composition, regional designation, etc.) and presenting the mean values for the group (along with indicators of the variation within that group) for each year. Such an approach will preserve confidentiality, yet allow for the most accurate and informative measures of stability and the distribution of income among and between harvesters and processors. The following section outlines additional measures that can be constructed -- many of which provide information on impacts to coastal communities, which are not adequately addressed in c), d), e), and f) above.

Measures:

- a) Distribution of catch and ex-vessel revenue by vessel class (e.g., length class and type), port of landing, and residence

Data Required: Catch and revenue information, vessel information, and vessel owner information are required.

- b) Distribution of processed product revenue by community and processor or processor category (size, ownership, location)

Data Required: Product revenue information, plant and plant owner information are required.

- c) Distribution of profits and quasi rents within and between the harvesting and processing sectors

Data Required: The measures computed in c), d), e), and f) from Problem 3 above can be aggregated together in various ways to construct measures of profits and quasi-rents within and between the harvesting and processing sectors. Such an approach would allow analysts to explain any observed changes and facilitate predictive modeling.

- d) Distribution of harvester use rights by vessel class:

Data Required: Distribution of use rights by vessel and vessel class information are required.

- e) Distributions of harvester and processor use rights by processor or processor category

Data Required: Distribution of use rights by processor and processor category information are required.

- f) Seasonality of catch and ex-vessel revenue by vessel class, port of landing, and residence

Data Required: Catch, ex-vessel revenue, vessel class, port of landing, ownership, and owner residence data are required.

- g) Processor ownership interest in BSAI crab catcher vessels and harvester QS/catch history  
Data Required: Processor, vessel and QS ownership data are required.
- h) Catcher vessel ownership interest in BSAI crab processors and processing QS/catch history  
Data Required: Processor, vessel and QS ownership data are required.
- I) Concentration of domestic and foreign ownership in the BSAI crab harvesting and processing sectors  
Data Required: Processor and vessel ownership data are required.
- j) Level and distribution of harvesting and processing sector employment and payments to labor (number of individuals, hours/days worked, and income)  
Data Required: Harvesting and processing sector employment and payments to labor data are required.
- k) Degree of involvement of BSAI crab harvesters and processors in other AK fisheries  
Data Required: Processor and vessel ownership data, as well as, catch, production, and revenue data are required.
- l) Value of use right  
Data Required: Information on the prices of buying and leasing QSs is required.
- m) Regional economic impacts (employment and income) of the BSAI crab fisheries  
Data Required: Data on expenditures by location and the residence of those involved in harvesting and processing crab, and other regional economic data are required to develop regional economic models.

## Appendix: - The need for (disaggregated) observations in economic models

Economic theory is concerned with explaining the relationships among economic variables (e.g., inputs in production, outputs, input prices/costs, and output prices) and using that information to explain, evaluate, and/or predict production, allocation, and distribution decisions. This process typically involves specifying a “model” that characterizes the salient aspects of a particular process or decision. The chosen model defines the general relationships to be examined, and within the model, observed choices, outcomes and factors (i.e., data) are used to provide information regarding the relationships of interest.

For example, one may specify a model of producer behavior that examines the effect of input and output prices on input and output decisions. Within this model, one can establish both the sign of certain relationships (i.e., does an increase in the cost of fuel decrease the quantity of fuel demanded?) and the magnitude or sensitivity of these relationships (i.e., what is the percent change in fuel consumption when fuel prices increase by one percent?). These relationships are established by examining the observed reactions of all the producers in the sample to changes in the price of fuel.

To get an accurate and complete characterization of how firms may react to the price changes, one must observe several choices over the quantity of fuel purchased at various prices. These observations increase the amount of “evidence” substantiating the relationship, and show the relationship over a wider range of conditions (e.g., is the reaction to increasing fuel prices larger when fuel prices are low or when they are already higher than their typical levels?). Furthermore, the quality and reliability of the model increases when one observes the same firm or decision making unit in several periods. Such observations help to establish whether observed choices and relationships are stable, and the extent to which they may change in conjunction with other potential shocks. Therefore, it is widely accepted that “more is better” when incorporating data into models -- as long as the quality of the data is not compromised by extracting more detail.

Fortunately (for both those supplying the data and the analyst tasked with compiling it), statistical tests can be used to evaluate the strength or significance of the estimated relationships, and one typically knows the number of observations necessary to construct a particular model. Assuming that all relevant variables are included in the model, there comes a point at which one can reject the conclusion that the estimated relationships are spurious. Just as with the relationships one attempts to characterize in the model, the tests of significance typically become increasingly conclusive as the number of observations increase. Going in the opposite direction, by say, aggregating data, results in a loss of unique observations from which to characterize and test relationships, and generates a “representative” data set that does not coincide with actual choices.

To elaborate this point a bit, let us go back to our fuel example. Micro-level data (the plant or vessel in our current context) may indicate that “firm one” decreased fuel consumption by 1,000 gallons when fuel costs rose, while “firm two” decreased consumption by 500 gallons. The obvious information here is that the two firms may react differently to input price changes. This would be masked by instead only seeing that total fuel consumption dropped by 1,500 gallons – when in fact no actual decision maker cut fuel consumption by 1,500 gallons in response to the price change. Furthermore, we would not know if one firm is more price-sensitive than the other is, or if the entire change should be attributed to only one of the firms. At the micro-level, we could examine the scale of the two operations and see if firm one’s production was twice the second’s (and thus, they reacted the same, but total quantity consumed was different due to their differently sized operations), or if their product mix is more varied and they could thus switch to a less fuel-intensive production plan.

It should be fairly clear by this point that the aggregate response postulates a relationship that does not reflect the observed choices, and often eliminates one's ability to say why changes occurred. In addition to this anecdotal example, there is a vast literature on the effects of aggregation across firms and the conditions under which it is valid. Unfortunately, many of the assumptions required do not coincide with reality. For example, to model the cost structure of multiple fishing vessels using data on total catch and the total quantity (and cost) of the inputs used, all vessels in the sample must have identical marginal costs of production. If this is not the case, and one proceeds with the analysis, the model results will be inaccurate and biased by the aggregation. There are several other aggregation-related issues that not only restrict the types of production that can be analyzed in aggregate, but compromise the interpretability of the results from the models that can be constructed.

It is worth emphasizing at this point that the benefits of using firm-level data in models (increased precision, robustness, and validity of estimated relationships) need not be tainted by concerns regarding elicitation of the detail used to construct them. The results of the models can be presented at an aggregate level – as though the micro-level detail was never there. The essential difference, however, is that much more information went into establishing the relationships described by the model, even though the level of sensitive detail shown in the model results is identical. If there is a large enough sample that sub-groups (with similar operating characteristics) can be broken out without threatening confidentiality, the increased precision of the micro-level data allows for much more accurate description, evaluation, or prediction of the subgroup's choices and/or reactions.

### ***Section 3: Other issues associated with implementing mandatory reporting requirements***

#### **1. Data Collection Mechanisms**

As noted above, the existing data collection programs (e.g., the fish ticket, COAR, crab observer, fishery permit, and ADOL processing sector employment data programs) provide only some of the data required to monitor the effects of the crab rationalization program. Furthermore, they collect data on a less frequent basis than that required for the development of economic models required to monitor and predict economic effects. The other required data can be obtained by expanding the current programs and by establishing additional data collection programs such as log book or periodic survey programs. The cost to the industry and the usefulness of the data are two key criteria for determining what mix of these two methods should be used and how to modify each existing data collection program. A cooperative effort among the management agencies and industry will be required to develop efficient and effective data collection programs. Obviously no change could be made to an existing data collection program without the approval of the agency responsible for that program.

#### **2. Data Verification**

During the late 1990s, NMFS staff and representatives of the harvesting and processing sectors of the BSAI groundfish fishery had extensive discussions of economic data collection programs. One issue for which there was general agreement was the need for a process to verify the data provided by the industry. Such a process would provide industry with an incentive to supply accurate data and would tend to increase the confidence that industry, management agencies, and other stakeholders would have in assessments based on that data. Therefore, methods of verification are expected to be developed and implemented. This will also require a cooperative effort among the management agencies and industry.

#### **3. Frequency of Data Collection**

The frequency at which data would be collected is expected to vary by type of data. For example, ex-vessel price data are collected for each trip but fixed cost data would be collected much less frequently. The cost to the industry and the usefulness of the data are two key criteria for determining how frequently each type of data should be collected. A cooperative effort among the management agencies and industry will be required to determine how frequently to collect the various types of data.

#### **4. Federal and State Reporting Requirements**

It is anticipated that some of the data required to monitor the success of the crab rationalization program will be collected under State of Alaska reporting regulation for the harvesting and processing sectors, and that other data will be collected using Federal reporting regulations. When existing State programs are used to collect data, State regulations would be required. Similarly, when existing Federal programs are used to collect data, Federal regulations would be required. It will have to be determined if the new data collection programs that are required will be State or Federal programs with State or Federal regulations, respectively. Although it is assumed that the expansions of existing data collection programs and the implementation of new data collection programs will be principally federally funded, it is expected that there will continue to be a mix of State and Federal data collection programs. If the new programs are implemented by the State, the existing State statute and data sharing agreement for confidential data would need to be modified to provide access to the new data sources to Council and NMFS staff. If new Federal data collection programs are implemented, the data sharing agreement may need to be amended to provide access to that data by ADF&G staff.

The cost, effectiveness, State and Federal restrictions on data collection programs, and confidentiality are four critical criteria for determining whether new data collection efforts should be administered as a State or Federal program. The plan is to use a cooperative effort among the management agencies and industry to determine what mix of State and Federal programs will be used to collect the data required to monitor the success of the crab rationalization program.

## 5. Magnuson-Stevens Fishery Conservation and Management Act Considerations

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) contains requirements to monitor the economic and social impacts of fishery management plans (FMPs) and to assess the economic and social impacts of changes to the FMPs. At a minimum, this implies a requirement to collect the data needed to monitor and assess these impacts. However, the MSA also contains data collection restrictions in sections 303(b)(7) and 402.

The relevant language from those two sections with the restrictions highlighted are as follows:

### SEC. 303. CONTENTS OF FISHERY MANAGEMENT PLANS

**(b) DISCRETIONARY PROVISIONS.**--Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, may--

(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. 402. INFORMATION COLLECTION

**(a) 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. ....

The former restriction (Sec 303) applies to the Councils and the Secretary; however, the latter restriction (Sec 402) applies only to information collection programs initiated by a Council.

"Economic data" is not defined in the MSA but can be interpreted any number of ways. Put simply, subparagraph 7 both authorizes and limits the collection from processors of "data...necessary for the conservation and management of the fishery". The phrase "would disclose proprietary or confidential commercial or financial information regarding fishing operations or fish processing operations" is another phrase that can be interpreted broadly like the "economic data". There are innumerable ways to break the phrase apart and try to fit or categorize data in or out of it. There is virtually no helpful legislative history.

Recently at the request of the Council, NMFS promulgated regulations that extended to at-sea processors the requirement to submit groundfish COAR data to the State. State reporting requirements have been in effect for shoreside processors for many years. In reviewing the proposed regulation, General Counsel (GC) had to weigh the phrases above and ascertain if the wholesale price information was "economic data" or "proprietary or operations" data. GC decided wholesale information and the rest of the data collected under the COAR was not exempt from collection.

To ensure that these two data collection restrictions will not prevent the Council and NMFS from obtaining the data required to monitor the success of the crab rationalization program, it probably is necessary to have Congress explicitly provide to the Council and NMFS the authority to collect the types of data discussed in this discussion paper. The Congressional action could include one of the following

- (a) Eliminate these restrictions.
- (b) Eliminate these restrictions, require the Council to collect the data required to monitor the effects of the crab rationalization program, and increase the protection provided for confidential data received by NMFS.
- (c) Eliminate these restrictions, require the Secretary to collect the data required to monitor the effects of the crab rationalization program, and increase the protection provided for confidential data received by NMFS.

In addition, Congress could help ensure that the data required to monitor the success of the crab rationalization program are available in a cost effective manner by providing NMFS limited authority to access information collected by other Federal agencies. One example is the ownership information collected by the Maritime Administration

## **6. Confidentiality**

Protecting the confidentiality of the economic data collected to monitor the success of the crab rationalization program is a very high priority for the management agencies and the industry. Although the MSA, other Federal law, and State law provide substantial protection for such data, methods for providing additional protection should be considered. Those methods could include strengthening existing laws and having some of the data collected by the Bureau of the Census, which has additional legal protections for confidential data. The decision as whether to use State or Federal data collection programs could be made in part based on which alternative provides the greater protection for confidential data.

## **7. Scope of the Data Collection Programs**

The following topics are addressed in this section: (1) the need to collect sufficiently detailed economic data on harvesting and processing activities both before and after the crab rationalization program is implemented; (2) the need to collect economic data for all of the economic activities of the firms participating in the BSAI crab fisheries; and (3) the required level of detail of the economic data.

### How Many Years of Data

In order to monitor the success of the crab rationalization program, it will be necessary to collect economic data for one or more years preceding program implementation. This data would provide a benchmark that would allow for "before and after" comparisons. Different data collection mechanisms

may be appropriate for the pre-implementation data and post-implementation data, unless the data collection can be put in place one or more years before the crab rationalization program is implemented. Once the program is implemented, ongoing data collection programs will be required to allow periodic assessments of the success of the crab rationalization program and to identify ways to make the program more successful.

### Economic Data for All Fisheries

The effects of the crab rationalization program will depend not only on how it affects economic activity in the BSAI crab fisheries, but also on how it affects the economic activity of BSAI crab fishing vessels and processing plants in other fisheries. Therefore, the success of the crab rationalization program cannot be fully assessed without data for the full range of fishery activities of those vessels and plants.

### Required Level of Detail

The level of detail that is required naturally depends on intended uses of the data. At the very minimum, analysts will require the data necessary to construct the objective measures discussed in this discussion paper. Such a level of detail will allow analysts to show how the objective measures may differ in the pre- and post-rationalization periods, but will not allow them to: (1) determine which changes were principally the result of the crab rationalization program, as opposed to other external factors or (2) predict the changes that would occur over time with the crab rationalization program as initially implemented or with proposed changes to the program after it is implemented.

#### ***Section 4: Additional issues concerning data collection***

Between the April and June 2002 Council meetings, informal discussions were held with members of the agencies involved in crab management and the fishing industry regarding the collection of economic data. While these meetings did not define a complete program to collect economic data for the BSAI crab fisheries, they did provide insights into the types of data that would be required and some of the concerns members of industry have with providing the data. These issues are discussed in more detail in the remainder of this section.

Data are proposed to be collected from shore-based processors, harvesters, catcher/processors, and floating processors (floaters). A distinct data collection procedure would be developed for each of the four industry segments listed. The goal of the program would be to collect the data that are needed by analysts to study the impacts of the crab rationalization program in addition to collecting the data that would be needed for future BSAI crab FMP amendments.

Summaries of the data that were proposed to be collected are provided in Appendix 3-8. A separate list was generated for each of the four industry segments (i.e., shore-based processors, harvesters, catcher/processors, and floaters). These lists were developed by using the surveys constructed for harvesters and processors by the North Pacific Crab Association. Their surveys were expanded to create the lists attached in Appendix 3-8.

Preliminary meetings with some members of industry have allowed them to express concerns over specific aspects of the data collection program. Foremost on their minds were concerns over who would have access to the data and how enforcement would react to data that were submitted and later determined to contain errors. These two issues will be addressed first; then other topics discussed during the meetings will be presented.

Protection of Confidential Data Members of the fishing and processing industry have indicated that before data are collected there must be regulations established that protect the data from being released for reasons other than the purposes for which it was collected. Individuals have stated that in the past data have been provided to agencies on a voluntary basis. Those data were then forced to be released, through court proceedings, and used in lawsuits against the companies that provided the data. Because of such incidents, members of industry feel it is imperative that laws are in place which preclude the data from being used by individuals that are not intended to have access to the data. Authorized agency staff from NMFS, ADF&G, and NPFMC are currently defined as the primary users of these data. Other users would include individuals that are contractors of the above agencies that are conducting research associated with the BSAI crab fisheries. Examples include agencies like AKFIN or PSMFC that are involved in maintaining and supplying data to other agencies. University faculty conducting research for one of the above agencies would also be envisioned as users that would be given access to these data. The release of these data outside of the primary users or for other purposes would be strictly regulated. NMFS has stated that protecting the confidentiality of the data will be one of its highest priorities.

NOAA GC will need to be involved in the development of laws designed to protect the data being collected so that the data are collected under an appropriate statute. Their input will help ensure that the goals set out for the protection of these data are strictly adhered to by all agencies. Until legal advice is received, it is not possible to address the specific laws that need to be added or modified.

Other laws will require modification to allow the collection of these data. Those issues were addressed in earlier sections of this document.

Ensuring Data Accuracy Regulations need to be developed in order to ensure the accuracy of data being provided and protect the suppliers of the data from fines or other penalties when good faith efforts were made to supply accurate data (even though errors may be found). To help protect both the providers of the data and the agency collecting the information, a review process could be established to ensure the data being submitted is accurate. This could be accomplished through a review of the underlying information by an auditor. While the review of the data would not likely be an official “audit” in the accounting sense of the term, it would be an established procedure that could be used to verify the accuracy of the data being submitted.

Input from certified public accountants was solicited when NMFS was developing the pollock data collection program. Knowledge gained from that processes could be used as a starting point from which procedures for verifying crab data could be developed.

The second concern with the accuracy of data being submitted deals with the enforcement/laws under which the data are collected. Members of industry are concerned that fines or jail time could result from accidental submission of incorrect data. If a firm’s data are determined to contain errors, a mechanism for correcting the problem must be in place. If it is determined that the data were willfully and purposely submitted in error, enforcement proceedings against the firm should be initiated. In cases where there was no intent to misrepresent the activities of the firm, corrections to the data should be made without imposing sanctions against the firm that submitted the inaccurate data. It will be up to legal experts to develop regulations that accomplish the desired result.

Other Issues Several other issues that industry members felt were important to consider during the data collection process were discussed during the meetings. Those issues are listed below and each is then discussed briefly.

1. Some cost data are not solely assigned to crab production.
2. The cost of borrowing money is different depending on its source (i.e., CCF funds vs bank loans).
3. Industry needs to understand why collection of the data are important and how it will be used.

The first issue raised by members of industry is that not all costs are specific to the crab fisheries. Obtaining an accurate description of costs will require that these costs are somehow divided among the appropriate fisheries. For example, a processor that produces both crab and pollock may purchase permits, land, equipment, or labor that is used in both fisheries. The costs associated with those inputs must be apportioned among the two activities to estimate the expenditures associated with crab production.

There are a variety of ways the costs could be apportioned among activities (based on value, volume, production time, etc.). Selecting the best method for dividing the costs among the various operations of the firm will require a cooperative effort of the analysts and industry.

The next issue of concern pertained to the cost of borrowing money. Fishermen can often access loans at lower rates than are available in the open market (CCF funds are an example). Understanding the impacts of being able to access money at a lower interest rate was felt to be important in the crab fishery, where owners require substantial amounts of capital to purchase vessels and gear.

While other issues were raised during the meetings with members of industry, the last issue that will be addressed here is the importance of providing an understanding of why the data are needed. The earlier section on data collection in this analysis, provided by NMFS, provides a good discussion of why the data are needed. In addition to that discussion it is important to look at the Council's problem statement for the crab rationalization issue to understand why these data are needed.

## DRAFT

### Minutes from the July 25<sup>th</sup> Meeting of the Crab Rationalization Data Collection Workgroup.

The following individuals were in attendance for the meeting. Note that members of the workgroup that were appointed by the Council are listed with an asterisk next to their name.

Glenn Reed*	Mark Fina
Kevin Kaldestad*	Darrell Brannan
John Garner*	Dave Colpo
Gary Painter*	Ron Felthoven
Doug Wells*	Joe Terry
Terry Leitzell*	Jeff Harman
Tom Casey	
Margaret Hall	

Terry Cosgrove and Joe Plesha are also members of the workgroup, but were unable to attend this meeting.

John Garner and Gary Painter were elected as co-chairs of the workgroup. Co-chairs were elected to help provide a balance between the harvester and processor interests as the data collection process moves forward.

Mark Fina provided an overview of the current time lines for completing the analysis of the crab rationalization program. The goal of the workgroup is to have the analysis of the data collection aspects of the program included in the analysis when it goes forward for initial review. That will likely occur in December. To meet that timeline the program will be presented to the Council in October when it reviews all of the trailing amendment packages. The Council would then be on a schedule to take final action on the crab rationalization EIS/RIR/IRFA in April of 2003.

Considerable discussion and comments occurred on the structure, detail, and definitions used in the draft surveys developed by the NMFS Alaska Fisheries Science Center for the crab fisheries. Ron Felthoven will be responsible for incorporating the workgroup's comments into a revised draft of the surveys that is to be available for review at the next meeting.

The workgroup provided several comments regarding the need for additional information and the structure of that data collection system. Major points from the group's discussion were:

1. Industry suggested that historical data over a longer period of time (such as five years, or back to 1997) would be more meaningful compared to the two years

prior to implementation of the data collection program that was initially suggested. The two years prior to implementation were years when the GHGs were low and several fisheries were closed, and therefore may not be representative of a participant's historic fishing activities.

Data for the longer time period should be accessible to most harvesters that use computers in their operations and processors so long as they could refer to internal company summaries and recaps for the data. If source documents were required for processors to access the data, then it may not be possible to supply the data with the accuracy requested, and the data may be very expensive and cumbersome to produce.

The collection of historic data should be mandated by Congress to ensure that the data can be protected from unauthorized access. It would also help to ensure that all members of the crab harvesting and processing industry comply with the program. Currently NMFS cannot mandate the collection of data from past fishing seasons, such a mandate would require Congressional authorization.

2. NOAA GC and the State of Alaska Attorney General's office should provide a side-by-side comparison of how data could be protected under their regulatory structure when data are submitted to a third party, under a mandatory data collection program, and under a voluntary data collection program. This discussion should also include a discussion of the various State and Federal rules governing the release of confidential data. Industry attorneys noted that under the current interagency data sharing agreement between NMFS and ADF&G, the agreement, by itself, is not sufficient to protect FOIA requestors from accessing confidential ADF&G data. Though the ADF&G data is collected under a mandatory State data collection system there must be some form of sufficient Federal law requiring protection of this type of data from FOIA of federal records. It was not determined at this meeting if any such protective federal laws exist. Darrell Brannon agreed that he would forward some questions to NOAA GC and Kevin Duffy. This would aid in answering these legal questions. If Federal law does not provide adequate protection of data supplied by ADF&G, the committee may recommend measures to correct that deficiency.
3. NMFS enforcement should provide a report on the penalties that will be imposed when errors in the data are found. This would include errors that are deemed to be inadvertent as well as intentional misstatements of data.
4. A discussion of whether the aggregation rules of 3 (used by NMFS) or 4 (used by the State of Alaska) are the proper rules to use when reporting the economic data collected under this program. We should develop alternative rules that better protect these data - if additional protections are needed.
5. A single method to allocate fixed costs should be selected. Members of industry have suggested using purchase dollars, sales dollars, purchase pounds, finished

pounds, operating days, or relative labor costs. The method selected should be used throughout the life of the data collection program to allocate fixed costs. The government agencies support the collection of certain verifiable data on fixed costs that is required to address crab rationalization policy questions developed by the Council. Particularly, they agree that fixed costs would lend themselves to determining the distributional impacts and indirect effects of crab rationalization. The method to be used for allocating these fixed costs should be determined for the specific application by the agencies, with careful consideration of input from the industry. The allocation method may depend on the policy question being addressed. If industry is requested to supply information on allocation of fixed costs, a specific method should be specified by the data collection agencies throughout the life of the data collection program.

6. The persons that is responsible for the fishing operation and processing operation would be responsible for filling out the cost surveys and the person that leased the QS would be responsible for reporting the amount of revenues generated from the lease. Depending on the roles skippers play in harvesting their IFQ, they may need to respond to one or both surveys.
7. The cost of repacking crab needs to be captured in the surveys.
8. CDQ crab needs to be accounted for in the surveys filled out by both harvesters and processors.
9. Processors cannot assign labor costs by month. Those costs can be more accurately assigned by fishing season.
10. The issue of whether revenue information needs to be collected on sales that were made to related firms, or whether it would be more appropriate to collect only revenues from sales that were made to unrelated firms needs to be addressed. Some believe that transfers that occur within a company may not result in a credit to the processor equal to the true market price. Therefore, it may be more appropriate to apply the average price of the transactions that occur between unrelated firms to the sales of crab that take place within a firm. Others believe that sales data should not be categorized by whether the transaction was between a related or unrelated party. Current US law and corporate practice is to state a revenue amount for related party transactions based on market value, and there is therefore no need for separate data categories of this nature.
11. The draft surveys should identify whether the information asked for in a particular question could be obtained from another source that already collects the information. That source should be identified. The public agencies agree that collection of duplicate information should be minimized, except where some duplicate identifier variables are needed (e.g. vessel ID, permit number).

12. Ownership information will need to be collected, as it is essential for determining the benefits, costs, income and distributional effects of the program
13. This program will focus on the crab fisheries with minimal information being collected for other fisheries.
14. Existing data sources should be used to the extent possible
15. Why is economic data being collected only from the crab fishery participants? Other fisheries, such as pollock, sablefish, and halibut have been rationalized but participants in those fisheries have not been required to submit comparable data. Members of the committee also questioned why the crab fishery participants have to provide revenue data from non-crab sources.
16. Ongoing communication is needed between the agencies and industry members to ensure data quality as well as proper use of the data.
17. The uses of data should be identified. The planned uses should be identified early on in the process. *(Note that a partial answer to the question is that the data are needed to address the Council's problem statement and the objective measures identified by the SSC at the request of the Council.)*
18. Industry representatives recommended that the data collection portion of the program should not hold up implementation. Representatives of the public agencies offered no specific confirmation that implementation of the program would not be delayed without the necessary data collection.
19. Trip level data would be submitted on an annual or seasonal timeframe.
20. Problems with a consistent pre and post rationalization identification of the entities on the harvester side (what is the firm?) were discussed with no final resolution. As the primary intent of the Council seems to be the determination of pre and post distribution of quasi rents and other distributional effects, this objective is complicated by the fact that the definition of a harvesting entity is going to change under rationalization. Under the present regulated access condition, the entities are (1) vessel owners, (2) CFEC permit holders and (3) owners of LLP licenses. After rationalization, the owners of QS, may no longer be LLP qualified, if they buy quota. However vessels will still need to be tracked, as will permits issued by the CFEC. A plan for tracking a single set of entities through the structural changes anticipated in the program is needed.

Finally, a list of assignments was made at the end of the meeting. Those assignments were as follows:

1. Glenn Reed would develop a list of questions for NOAA GC and the State AG regarding protection of confidential data.

2. Ron Felthoven would rework the questionnaires given the input from this meeting as well as additional comments that will be emailed. The revised questionnaires will be available the week of July 29<sup>th</sup>.
3. John Garner will develop a short discussion regarding the issue of related party transactions
4. Gary Painter will provide a blank copy of his vessel summary sheet. John Garner will try to provide similar information from the processors.

The next meeting is scheduled for August 7<sup>th</sup> at 9:00am.

# DRAFT

## Minutes from the August 7th Meeting of the Crab Rationalization Data Collection Workgroup.

### **Participation:**

The following individuals were in attendance.

Glenn Reed*	Mark Fina
Kevin Kaldestad*	Darrell Brannan
John Garner*	Lew Queirolo
Arni Thompson	Ron Felthoven
Doug Wells*	Joe Terry
Margaret Hall	

The following individuals were linked to the meeting via teleconference

Dave Colpo	Jeff Passer
Tom Casey	Tom Meyer
Jeff Hartman	
Gary Painter*	

\* Indicates official members of the workgroup that were appointed by the Council

Terry Cosgrove, Terry Leitzell, and Joe Plesha are also members of the workgroup but were unable to attend this meeting.

### **Meeting Summary:**

Jeff Hartman provided several suggested changes to the minutes from the July 25<sup>th</sup> meeting of the workgroup. Those changes were accepted by the workgroup and those changes will be made to the minutes from that meeting.

Ron Felthoven provided a review of the changes that have been made to the surveys since they were reviewed at the July 25<sup>th</sup> meeting. A brief summary is as follows:

1. Costs that are collected on an annual basis were broken up into three categories, based upon the way they could be allocated: vessel-specific crab costs (those that need no prorating), vessel-specific costs (those that only need to be prorated among a vessel's crab and non-crab activities), and vessel-related costs (those that must be prorated among multiple vessels and among crab and non-crab activities). The same was done for processing plants.

2. Historic surveys were changed so that the most temporally specific information was at the "fishery" level (rather than trip- or week-level data).
3. Cost categories were added for freight and broker's fees.
4. Line-level detail was excluded from all processor surveys

The workgroup requested that in the future Ron track the changes made on the survey to aid the reviewers in understanding the exact changes that were made.

After Ron provided a brief overview of the major changes to the document, the group went over the processing sector surveys line-by-line. That review of the surveys yielded the following opinions by the members of the workgroup and others in attendance:

1. Use of the Federal Tax ID to track firms is not a good method. There was concern expressed over the usefulness of the Tax ID as well as how it would be used. The analysts indicated that it was not their intent to link the number to tax records. Instead it was considered to be an identifier that could be used to track a taxable entity. After that discussion it was recommended that the Tax ID be dropped as a means to identify entities.
2. The industry members of the workgroup suggested that the COAR be used to track dependence in other fisheries. They felt that the COAR is a verified annual census of all processors in the State of Alaska. Gaps in the COAR data that may exist in the offshore sector should be addressed instead of requiring all processors to file another survey that addresses their participation in other fisheries.
3. Members of the workgroup and agency staff members have struggled with selecting the best method for determining the value of the plants and vessels operating in the BSAI crab fisheries. Insured value has been suggested as a method, but rejected because of the different philosophies owners may use when setting the insured value. It was also suggested that the insured value might change after quota shares are issued. Estimated market value less depreciation was also suggested. That figure was also considered to be too hard to estimate consistently. Ultimately it was suggested that the government hire a surveyor to set a consistently estimated value for each of the plants and vessels.
4. The industry members of the workgroup next inquired as to the purpose for collecting workers SSNs. Agency staff indicated that the SSNs would be useful in determining the total number of people employed, as well as movement of those individuals as they change jobs. Members of industry indicated that supplying SSNs might be difficult for the historic time period. They also felt that going back in time would increase the likelihood that reporting errors will occur. Industry members also indicated that if SSNs are only going to be used to determine the total number of employees, then SSNs are not needed and a question asking for the total number of employees should be asked instead.

Going forward in time is not expected to present as much of a problem. Industry members also indicated that assigning some workers to an activity would be difficult for both historic and future surveys.

5. Members of the workgroup indicated that if the survey asks for separate information on sales to related and unrelated firms the survey should use the Council's definition of "related firms". Firms that sell crab have also indicated that they believe sales to related firms represent a fair market price. Ultimately industry recommended that we do not separate sales to related/unrelated firms.
6. It was noted that the terms of sale are important to understanding the reported sales price, but they will not be captured in the survey. Terms of the sales were considered too varied to collect in a survey.
7. The workgroup received a short presentation from Tom Meyer (NOAA GC) and Jeff Passer (NMFS Enforcement). Tom discussed, in general terms, issues relating to protecting the confidentiality of the data and changes in statute that are needed to collect the data. A list of question that was developed for NOAA GC is included under the "Other Assignments" section. That list will be forwarded on to Tom so he can provide guidance ASAP. Jeff provided a general discussion of how the program would be enforced. However, the program needs to be fleshed out before a detailed description of the enforcement program can be provided.

Considerable time was also spent going over why the detail asked for in the surveys is necessary. It was decided that Ron Felthoven would provide a short summary of why each of the data pieces are needed in the form they are requested. This will be available at the next meeting.

Several other changes to the survey were also suggested. Ron will incorporate those changes in the next draft of the surveys that should be available at the August 20<sup>th</sup> meeting of the workgroup.

**Other Assignments:**

John Garner volunteered to provide a short discussion on the issue of sales to related and unrelated firms.

John Garner and Glenn Reed will report back to the workgroup on whether it makes sense to ask for sales to domestic versus foreign markets. Darrell Brannan will provide information on export data that is currently being collected by the Federal government.

Ron Felthoven will provide a discussion of why detailed data (as proposed in the surveys) are needed to perform economic analyses. This discussion may also include information collected from other industries that have exclusive use rights to Federal resources (timber and land for example).

Ron Felthoven will revise the surveys based on input at this meeting. The revised surveys are expected to be available for use at the next meeting.

Darrell Brannan will provide a discussion on how entities will be tracked pre and post implementation of the crab rationalization program.

John Garner will look at the cost categories in Sections 6.1, 6.2, and 6.3 of the survey to ensure that the list includes the appropriate items.

Darrell Brannan will provide the following list of question to NOAA GC so they can provide the workgroup guidance on the issues.

1. Under what circumstances can the data collected under this program be legally protected?
2. What statutory and regulatory language would be suggested to best protect the data from being released do to FOIA or court order?
3. Can we require that SSNs be provided as part of this data collection program?
4. Can the data be better protected if they are submitted to a third party (i.e., PSMFC)?
5. Is sharing of this type of economic data covered under the current MOUs between NMFS and the State of Alaska?

## DRAFT

### Minutes from the August 20th Meeting of the Crab Rationalization Data Collection Workgroup.

#### **Participation:**

The following individuals were in attendance.

Terry Cosgrove *	Mark Fina
Kevin Kaldestad*	Darrell Brannan
John Garner*	Lew Queirolo
Arni Thompson	Ron Felthoven
Terry Leitzell *	Joe Terry
Margaret Hall	Jeff Hartman
Gary Painter*	Tom Casey
James Mize	

Tom Meyer of NOAA GC was linked to the meeting via teleconference.

\* Indicates official members of the workgroup that were appointed by the Council. Glenn Reed, Doug Wells, and Joe Plesha are also members of the workgroup but were unable to attend this meeting.

#### **Meeting Summary:**

The meeting started with a discussion of the purpose of the workgroup and what the end product of these meetings should be. It was noted that output from this group would be given to the Council in the form of their meeting minutes. In addition, it is expected that the products of this workgroup would be incorporated into the trailing amendment that is being developed for the Council's October 2002 meeting.

Concern was once again expressed regarding the level of detail that is being asked for in the surveys. It was also noted that some of the data potentially being required may not be collected given the constraints on data collection currently in the MS Act.

One person thought that perhaps the focus of data collection should be on fisheries that are more profitable than crab (pollock was suggested). The suggestion was noted, but was thought to be outside the scope of the workgroup's assigned task and was not discussed further.

Ron Felthoven presented his discussion paper on why firm level data are being requested, the need for disaggregated data, and the importance of collecting sufficient observations to conduct research that offers information on statistical significance.

Members of the workgroup asked that the agencies represented discuss the rules for data sharing within and among their organizations. The NMFS and ADF&G data sharing agreement was distributed to the workgroup. Each agency also discussed the internal methods used to ensure data are maintained in a confidential manner. Each agency uses a slightly different method. The Council and NMFS require each employee to sign a form stating that they must prevent the release of the data except in aggregate form or they can be held liable. The methods used to protect data held by the State of Alaska likely vary by agency. However, it was indicated that members of ADF&G staff were not required to sign a special form solely to access confidential data. However, it is clearly understood that release of the data is prohibited except to approved users. It was also stated that some data may be more widely used within the agencies than others. A suggestion was then made that if the workgroup wishes to make a statement regarding who should have access to the data they should provide that to the Council as part of their report. A small working group was then formed to develop a discussion paper on confidentiality of the data. That paper will be presented to the Council's workgroup at their September 5<sup>th</sup> meeting.

Enforcement would have access to any of these data unless they were precluded through statute or regulation.

Additional questions were raised regarding whether the staffs of the Oregon Department of Fish and Wildlife and the Washington Department of Fish and Wildlife would have access to these data. It was indicated that under the current data sharing agreements they would not have access to the confidential data, but could be provided summaries that are not confidential. New agreements would be required before they could access the confidential data.

Potential advantages and disadvantages of submitting data to a third party and having them assign a unique code to identify the individuals and firms was also discussed. The purpose would be to help protect the confidentiality of the data. It was noted that even using codes for names it would still be possible (at least in some cases) to identify the firm using existing data sources.

Staff members from the agencies that would use these data thought that only having access to a code should not present substantial problems in their work, as long as the information could be linked to other data sources such as fishtickets and the COAR.

The workgroup discussed whether information to estimate profits is needed or whether information used to estimate quasi-rents (revenue less variable costs) is adequate. Because of problems assigning fixed costs across the entire operation and the inaccuracies that could be introduced, it was felt that quasi-rents may be a better indicator of changes that take place in the crab fisheries.

Ron presented a short discussion of how changes in capacity and capacity utilization can be estimated. There was some confusion in the difference between capacity and efficiency, so a discussion of those terms in an economic sense was also provided.

Members of the industry indicated that it makes more sense to collect data on a seasonal basis rather than trip-by-trip. Most firms retain data on seasonal basis. Forcing them to allocate costs to a trip could introduce inaccuracies. It was generally agreed that this would be acceptable.

A discussion of how a season might change after rationalization followed. Industry members pointed out that after rationalization trips would likely be taken to harvest multiple species of crab. Cost of harvesting a specific species of crab on a trip might then be muddled even further.

The group discussed that it may be possible to obtain information regarding harvest crew using the numbers issued to them in the crew license files and the CFEC permit file. Members of industry noted that they expect the number of crew size per vessel to decrease by about one after rationalization.

Ron provided a summary of the revised surveys. The workgroup provided input on changes to be made. Those will be incorporated into the surveys for the next meeting.

Jeff Hartman will provide his comments on where data requested in the surveys can be found in other sources to Ron. That information can then be incorporated into the revised surveys where necessary.

Tom Meyer provided two handouts to the workgroup. The first was a response to some of the questions<sup>1</sup> asked of NOAA GC at the last meeting. The second was a copy of NAO 216-100 regulations that define the “Protections for Confidential Fisheries Statistics”.

Tom indicated that in his opinion the “Reciprocal Data Access Agreement” between NOAA, ADF&G, and CFEC should be reviewed to ensure that data collected under this program are adequately covered by that agreement. Substantial time may be required to rework that agreement.

#### Assignments from the meeting

John Garner, Gary Painter, and Terry Leitzell will develop a paper related to the issue of confidentiality. That paper will be presented at the next meeting on September 5<sup>th</sup>.

Ron will redraft the surveys given input from this meeting.

Darrell Brannan will provide the following list of questions to NOAA GC so they can offer the workgroup and Council guidance on these issues.

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<sup>1</sup> They included (1) Under what circumstances can the data collected under this program be legally protected? (2) What statutory and regulatory language would be suggested to best protect the data from being released do to FOIA or court order? And (3) Better protection of data submitted to a third party.

6. Can NMFS require the submission of cost and earnings data if the Council is precluded from requiring that information?
7. What legislative language would best protect the data submitted under this program?
8. Under what circumstances can the data collected by a third party be accessed by (a) the public or (b) NMFS or the Council?
9. Review the “Reciprocal Data Access Agreement” to ensure it covers data collected under this program.

## DRAFT

### Minutes from the September 5th Meeting of the Crab Rationalization Data Collection Workgroup.

#### **Participation:**

The following individuals were in attendance.

Terry Cosgrove *	James Mize
Kevin Kaldestad*	Darrell Brannan
John Garner*	Lew Queirolo
Arni Thompson	Ron Felthoven
Terry Leitzell *	Joe Terry
Margaret Hall	Tom Casey
Doug Wells*	

Gary Painter\*, Jeff Hartman, Mark Fina, Kurt Schelle, and Tom Meyer of NOAA GC was linked to the meeting via teleconference.

\* Indicates official members of the workgroup that were appointed by the Council.

Glenn Reed and Joe Plesha are also members of the workgroup but were unable to attend this meeting.

#### **Meeting Summary:**

The focus of the meeting was to provide the catcher vessel, catcher/processor, and processor sectors the opportunity to present their proposals regarding what data should be collected by the Council to meet the objectives outlined in the June crab rationalization motion. Representatives of the committee provided papers describing their position to the members of the workgroup prior to the meeting. Those papers served as the starting point for each sector's presentation.

Members of the industry workgroup were in general agreement that they would rather supply additional data to a third party rather than supplying less data to an agency that could be linked to existing data sets (i.e., fishtickets, vessel registration files, COAR, etc.). They felt that supplying additional data in a "blind" format would result in them incurring higher costs to meet the requirements, but it would provide greater protection for their confidential data. Given the trade off, and their concern that these sensitive data be closely held, they would prefer to spend additional money with the expectation that it would help to ensure that their confidentiality is maintained.

Representatives from the public agencies provided some initial thoughts on potential problems with the use of an independent agency for creating blind data sets.

1. Costs to the public agencies as well as industry would increase because third party suppliers would need to become experts in all State and Federal data sets, to be able to be able to supply meaningful data. Blind identifiers would need to be developed for all existing data sets that would be merged to construct a set of observations for statistical analysis.
2. Identifiers for any new data sets collected after the program was in place, that were deemed to have useful economic data, would need to be provided to the third party, and a set of blind identifiers would need to be generated.

Finally, creating a truly blind data set, might not prevent a knowledgeable analyst with access to the State vessel file, permit file, and fish ticket file from identifying entities that industry wishes to protect. Unless restrictions were placed on the use of data in this way the third party system may offer less protection than anticipated by industry.

A discussion of the need for information on the quantity of inputs purchased was also held at the meeting, since the position papers generally only referred to input costs. Agency staff indicated that quantity and cost information was needed to understand efficiency changes. Members of the industry recognized the economist's need for quantities purchased, but no consensus among all sectors of the industry was reached in terms of providing those data. That issue will likely be discussed at future meetings of the industry.

Two other types of data that were excluded from the industry proposals were expenditures by location and plant or vessel specific annual costs. Without those types of data some objective measures of the success of the crab rationalization program cannot be generated

Gary Painter was first to presented the views of the people he represents. His presentation started by indicating that in their view (his constituents) the data being requested was "proprietary, confidential, and financial in nature". Further they felt that harvesters never agreed to provide these data as part of the crab rationalization "deal". Mr. Painter also indicated that several people that he has spoken to resent being singled out for data collection. They feel that participants in other rationalized fisheries (such as pollock, halibut, and black cod) were not required to submit similar types of data when they were rationalized, and the crab fishery should not be the only group required to provide this type of information.

Mr. Painter felt that no additional economic data are needed because a binding arbitration program based on the division of first wholesale revenues will help ensure fair ex vessel crab prices. If the binding arbitration program needs to collect cost/revenue data, he suggested it should be collected by a third part and not be made available to agency personal.

In summary, Mr. Painter's paper proposed that the fishticket program continue to collect

information on crab harvests and that ownership information be collected to enforce the caps outlined in the crab rationalization program. If additional information is requested by the Council (they recommend that it not be requested), then information should be submitted to a third party and supplied to agency staff with only coded identifiers (blind data) to enhance confidentiality. They also requested that the written data sharing agreement between the Council, NMFS, and ADF&G be reviewed and updated if necessary. Finally, they felt that the standards and penalties for unauthorized release of the data should be uniform across all the agencies that are allowed to access the data.

Kevin Kaldestad present a proposal developed by the Alaska Crab Coalition (ACC). Under that proposal catcher vessels would supply variable cost data, revenue data, employment data, and ownership data, but are concerned about the level of detail being requested in the surveys that have been developed in the workgroup to date. The people represented by the ACC also requested that any new data being collected be submitted to a third party to help protect the confidentiality of the data. The ACC recommendation stated that variable costs and revenues could be used to estimate quasi-rents (variable costs - revenue), and that level of information is adequate to address the mandate of the Council. Including fixed costs in the survey would require the apportioning of fixed costs among a firms crab operations and that could introduce inconsistencies in the treatment of the data. Those inconsistencies were listed as a primary concern in the ACC proposal in terms of collecting and using fixed cost data.

Ownership data was proposed to be provided at a level similar to that used to monitor the halibut and sablefish IFQ program and the BSAI pollock fishery. The ACC proposal was in agreement with the proposal from Gary Painter in that the interagency MOU for data sharing should be revised where necessary to protect data from unauthorized release. Their proposal also stated that legislative language should be developed to further protect the confidentiality of the data.

The ACC proposal recommended that variable cost and revenue data be provided on a fishery-by-fishery basis. Employment data would also be provided and it would include the name, state of residence, and SSN of each crew member. Variable costs would be provided for (1) fuel, oil, and hydraulic fluids (2) insurance (3) crew costs (4) bait (5) fishing related taxes (6) observer costs and (7) miscellaneous costs. The ACC proposal, as written does not provide any information on the quantities of variable inputs. As stated earlier, there was a discussion with the agency staff of the need for this information to explain any observed changes in the industries' cost structure.

Finally, the ACC proposal stated that historic data would be collected for the years 1999-2001. Members of industry indicated that they would review the years to be included in the data collection program at their next meeting. Therefore, the years listed in the ACC report may be subject to change.

Doug Wells presented the catcher/processor's perspective on data collection. Mr. Wells stated that the catcher/processor data submissions would likely be a synthesis of the catcher vessel and processor requirements. Like the ACC proposal, the

catcher/processor's proposal did not provide any information on the quantities of variable inputs. He noted that about eight catcher/processors are currently operating in the crab fisheries and they are heterogeneous in their operating characteristics.

The catcher/processors indicated that they would prefer to supply data to a third party to help protect the confidentiality of the data. They would prefer providing "blind" data, even if it requires them to submit more information, rather than information that can be linked to existing data sources. They also recommended that data should only be collected to the level of variable costs. Fixed costs should not be collected as part of this program. Their statement also implied that they would be willing to supply information on vessel ownership as well as employment information. Finally, they indicated that they could "live with" the survey that has been prepared by Ron Felthoven for the previous workgroup meeting.

John Garner presented the processor's proposal. The processors felt that they faced many of the same issues that were concerns expressed by the catcher vessel representatives.

The processing sector indicated that they are willing to supply ownership data. They felt this information is appropriate and should be supplied at a level similar to that collected to monitor consolidation in the halibut, sablefish, and pollock fisheries. Employment information would also be provided. They are willing to provide wage information for direct labor associated with the processing of each crab species, including SSNs for those employees. Processors are also willing to provide revenue data by size and grade for each species (and associated information) that would allow revenue to be stated on an FOB Alaska basis. Cost data would be supplied for the direct production costs of each crab species (variable costs). They do not believe that non-variable costs are needed and cannot be allocated to various fishery activities in a uniform, consistent manner, and that therefore the data would have little use to the council. Processors also believe that there is no justification in the Council's motion to collect information beyond the crab fisheries. They also believe that redundant information should not be collected if it is available (and can be linked to the data that is being collected).

In terms of how the data will be provided, the processors felt that data should be submitted to a third party. The processors would prefer to submit aggregate data to the third party but understand that this may not allow the analysts to conduct rigorous analyses. Therefore, they would like to explore the feasibility of the third party providing only aggregated to the agencies.

Mr. Garner also indicated that the current MOU allowing data sharing among the agencies should be reviewed and updated if necessary. This process should begin immediately given the time it has taken for these types of review to be completed in the past. The agencies should also develop Federal and State regulations governing access and use of the data collected under this program. The goal of those regulations would be to allow the data to only be used to analyze the impacts of the crab rationalization program and ensure the confidentiality of the data that are collected.

The processors continue to be concerned with the enforcement of the program and the penalties that will be imposed when errors in the data are found. Their two main areas of concern are 1) what is the consequence of unintended data submission errors and 2) when must the data be submitted. Little information could be provided in terms of the consequences of data submission errors. That will need to be worked out with NMFS enforcement. However, members of the agencies present at the meeting indicated that they do not need “real time” submission of the data, and the three-month lag period proposed by the processors would allow them to conduct the analyses that would be required.

Each of the written proposals provided to the workgroup are attached to these minutes as the “Position Paper Appendix” and provide additional detail on the positions taken by member of the workgroup.

After the meeting Mr. Garner sent additional information on the kinds of data the processors are willing to provide. A summary of his statement is included at the end of the processor’s position statement in the Appendix. In general, the processors agreed to supply the location of variable input purchases, the quantity of variable input purchases, and revenue information in the format requested in Ron felthoven’s survey.

Tom Meyer, representing NOAA GC, connected to the meeting via phone and provided an update on the questions he has been asked to research. He indicated that, due to the short time between meetings, he has not been able to determine if NMFS can require data collection from the crab fishery participants if the Council does not include it as part of their FMP amendment package. He also stated that he would prefer that Congress clearly state what data may be collected under this program when they make modifications to the MS Act. He also indicated that it is too early for NOAA GC to draft language to protect the confidentiality of the data. The program needs to be more clearly defined before that can take place. Mr. Meyer also indicated that a FOIA request could reach information that is under the “control” of the government. It could be argued that data submitted to a third party is under government control and could be reached through a FOIA request. Therefore, under the existing law, the use of a third party for data collection and dissemination may be equally or more vulnerable to FOIA than the current protections provided through the agencies. It was recommended that if the objective is to prevent any release of sensitive data, then legislation would need to make this clear while simultaneously mandating its submission to a third party contractor (if a third party contractor is used to collect the data). Rules governing the release of the data to any class of individuals (public, NMFS, ADF&G, Council, etc.) could then be specified in the legislation.

Mr. Meyer also indicated that any data collection program (including data collected by a third party) would likely not be approved by the SOC if NMFS enforcement were restricted from accessing the data. Compliance monitoring is critical part of any mandatory data collection program and enforcement would play a key role in ensuring that people fulfill their commitment to supply these data.

Representatives of the crab data collection workgroup are scheduled to meet again on September 16. Members of industry will compile the results of that meeting and make them available to Council staff so they can be incorporated into the “trailing amendment” that is being prepared for the Council’s October meeting.

## POSITION PAPER APPENDIX

### Gary Painter's Position Paper on Crab Data Collection

Re: Data Collection from Harvesters

I have received numerous calls from those in the fleet whom I consider to be my constituents. I have thought long and hard about data collection. What I have come to is this:

The data collection being asked for by NMFS and ADF&G as representatives of the Council is proprietary, confidential, and financial in nature. **Magnuson-Stevens** specifically protects our privacy on these counts in Section 402.

There were many concerned about a 2-Pie program. The BSAI crab processors made a deal to provide their own proprietary business information, in exchange for a 2-Pie program.

We harvesters never gave our consent to that deal. But I am still for rationalization, because fleet consolidation is mandatory for our survival. I continue to stand behind and rely on our confidential protection under **MSA-96 Section 402**.

The Council declared in its **BSAI Crab Rationalization Report to Congress** that "...It may not be the appropriate model for other fisheries in the Nation...and is not intended to be a template for other fisheries..." Many of those I have spoken with resent being singled out for micro-economic scrutiny while ignoring (for instance) the successful halibut & blackcod fisheries, and the wildly successful pollock fishery.

#### **I propose:**

3. Continued **mandatory and timely** submission of traditional fish ticket information for each trip, because it is the real world basis for ADF&G conservation and management of the BSAI crab fisheries.
4. **To provide information about the ownership of vessels and quota.**
5. A strong revenue based (Not economic rent based.) binding arbitration system.
6. A third party data-collection group (Such as Pacific States Marine Fisheries Commission.) to further enhance confidentiality.
7. An updated written agreement between the Council and all agencies it works with protecting the confidentiality of any proprietary information that we submit to that third party data-collection group.
8. For ADF&G, the same standards (and penalties) of confidentiality of information that NMFS employees are currently held to.

## **ACC DRAFT RECOMMENDATIONS FOR THE NPFMC DATA COLLECTION COMMITTEE**

September 3, 2002

### CONCERNS AND RECOMMENDATIONS:

- The ACC references industry concerns about the level of detail that is being asked for in the surveys, conflicts with the MS Act in regards to the data requests, interagency agreements relative to confidentiality, the advantages of submitting data to a third party—preferably the PSMFC to protect confidentiality and other concerns including the need to restrict data collection to variable costs, as noted in the Data Collection Committee Minutes of August 20<sup>th</sup>, 2002. The ACC recommends these committee minutes be attached to the committee’s formal submission to the NPFMC to provide background information on issues of concern to the crab industry.
- At the August 20<sup>th</sup> meeting the workgroup discussed whether information to estimate profits is needed or whether information used to estimate quasi-rents (revenue less variable costs) is adequate. Because of problems assigning fixed costs across the entire operation and the inaccuracies that could be introduced, it was felt that quasi-rents may be a better indicator of changes that take place in the crab fisheries.
- The ACC expects that ownership data that is requested for the crab fisheries will be similar to that which is required to monitor the consolidation rules in the other rationalized fisheries under the jurisdiction of the NPFMC, the halibut, sablefish and pollock fisheries.
- The current MOU allowing data sharing between the NMFS and the State of Alaska may not have adequate protections to ensure data confidentiality. NOAA GC has suggested that a review of the MOU is needed and that it should be incorporated in the new data collection effort; the ACC agrees that the review should be conducted immediately, with or without this data effort. The agencies must also develop internal protocol governing the access and use of data that is reviewed and approved by the Council.
- To provide additional protection for confidentiality of data to be collected, the ACC concurs with workgroup’s interest and efforts to develop appropriate legislative language.
- With the above concerns in mind, the ACC recommends the Committee review the attached Crab Harvesting (Catcher) Vessel Variable Cost and Revenue Worksheet for submission to the NPFMC as a preferred alternative for data collection. Note that submission of data is proposed on a fishery-by-fishery seasonal basis, including provision of names, state of residence, and Social Security Numbers for crew men.

**DRAFT RECOMMENDATION FOR NPFMC DATA COLLECTION  
COMMITTEE, SEPTEMBER 2, 2002  
FOR PROPOSED SEASON BY SEASON REVENUE & VARIABLE COST  
REPORTING FOR CRAB RATIONALIZATION PROGRAM**

**Crab Harvesting Vessel**

**Variable Cost and Revenue Worksheet**

(Recommended period for each BSAI Crab LLP fishery 1999 – 2001, and for future years to enable comparisons, open access vs. rationalization).

Vessel Name \_\_\_\_\_

Vessel Owner \_\_\_\_\_

ADF&G # \_\_\_\_\_ USCG # \_\_\_\_\_

Species (Check One)      **Opilio** \_\_\_\_\_      **Bristol Bay red king crab** \_\_\_\_\_  
   **Bairdi** \_\_\_\_\_  
   **Pribilofs red and blue king crab** \_\_\_\_\_  
   **St. Matthew blue king crab** \_\_\_\_\_  
   **Aleutians golden king crab** \_\_\_\_\_

Year of Harvest \_\_\_\_\_ (one sheet for each season)

AFA qualified?      Yes \_\_\_\_\_      No \_\_\_\_\_

Pounds Sold \_\_\_\_\_

Revenues \_\_\_\_\_ (total gross amount)

**Variable Costs (See Notes Below For Definition):**

**Fuel, oil, hydraulic fluids** \_\_\_\_\_

**Insurance** \_\_\_\_\_

**Crew costs** \_\_\_\_\_

**Bait** \_\_\_\_\_

**Fisheries related taxes** \_\_\_\_\_

**Observer costs** \_\_\_\_\_

**Miscellaneous** \_\_\_\_\_

**NOTES:**

**INCLUDE VARIABLE COSTS ONLY. DO NOT INCLUDE ANY FIXED COSTS IN THE COST DATA.**

**Fuel should include fuel from the beginning of the voyage to its termination, regardless of the origination and destination port. It should be the same fuel expense used to calculate the net revenues for crew share calculation.**

**Insurance costs are included only if they are specifically for the crab fishery. If Hull and Machinery is paid on a year round basis, for example, do not include it. If it is bought month to month, and crab fishing is the only activity for the month, then include the cost. P&I should be reported here on the same basis as Hull and Machinery.**

**Crew costs should include crew share, airfares (if paid by the boat owner), food (if paid by the boat owner), and any gear provided for the crew (if paid by the boat owner). Also, provide names and Social Security Numbers for crew men on separate sheet.**

**Fisheries related taxes would be the line for any taxes deducted directly from the gross receipts of the vessel. Sales tax and ASMI tax are two examples.**

**Observer costs should include travel, insurance, food, etc, plus the cost of the observer.**

**Miscellaneous costs are any variable costs not captured by the specific categories listed. Examples might include port and harbor charges. Do not include pot storage costs, but do include the cost of transporting pots to and from storage for the season.**

## **Crab Processors Positions Data Collection Committee**

The crab processors believe the following data submissions are adequate to provide the information the Council needs to determine the efficacy of the Crab Rationalization program.

Ownership data: we believe that ownership data is appropriate to determine the degree of consolidation occurring in the processing sector and to determine the degree of vertical integration within the industry. The type of ownership data that we would expect to have to provide is similar to that which is required to monitor the consolidation rules in the halibut, sablefish and pollock fisheries.

Employment data: the processing sector is prepared to provide wage information for direct labor associated with each crab species, including SSN for each employee.

Revenue data: the processing sector is prepared to provide revenue information for each crab species, including sufficient data to state revenue on an FOB Alaska basis, production style and grade.

Cost data: the processing sector is prepared to provide the direct (variable) costs of production for each crab species. We do not believe that non-variable costs are needed and we believe that non-variable costs will necessarily be misunderstood due to the need to make subjective assumptions regarding the basis for allocating non-variable costs to various fishery activities.

See our attached draft “worksheet” setting out the specific information related to costs and revenues that we believe is appropriate.

General considerations:

Confidentiality of the data, particularly on an individual firm basis is a key concern of the processing sector. We would therefore ask that the following be considered:

- All data should be submitted to a third party entity (such as PSMC). The data may then be made available to appropriate agencies on a blind basis. Although the processors prefer that the data be made available only in an aggregated format, we do agree that it is difficult to anticipate in what format or manner Council queries will require the data be presented. We would like to explore the feasibility of a third party providing blind data aggregated specifically on request of authorized agencies.
- The agencies must develop internal protocol governing the access and use of data that is reviewed and approved by the Council. This protocol must specify the

types of data that may be accessed, the offices that will have access to the data, and whether that data may be available on an individual firm basis or not.

- The current MOU allowing data sharing between the National Marine Fisheries Service and the State of Alaska may not have adequate protections to ensure data confidentiality. Data supplied by the State of Alaska to NMFS is not necessarily subject to the confidentiality provisions of the State, and may be subject to disclosure under Federal law including FOIA requests or Federal Court Orders. Similarly, there appears to be inadequate control of access of federal data when transferred to State agencies. NOAA GC has suggested that a review of the MOU is needed and that it should be incorporated in the new data collection effort; we agree that the review is needed, with or without this data effort, and that it should be undertaken immediately.
- The National Marine Fisheries Service, Alaska Department of Fish and Game, and the Council must develop federal and state regulations governing access and use of data collected under the crab rationalization program. The objectives of the regulations should be to provide data to the Council, NMFS, and state fish and game agencies for the purpose of analyzing the impacts of the program, and to ensure the confidentiality of the data collected. Those regulations should include the following points, at a minimum:
  1. All data should be provided to a third party entity such as the Pacific States Marine Fishery Commission. The PSMFC shall provide data only to those agencies covered by the regulations either through direct application or through an MOU with NMFS. The data provided by the PSMFC shall be “blind” with no identification of the entities making submissions.
  2. Data provided by the PSFMC shall be aggregated as directed by the Council (by sector, or by size categories, etc.).
  3. Access to the data should be limited to those individuals specifically requested by the Council, NMFS or a state agency to undertake an analysis of the impacts of the crab rationalization program.
  4. All individuals shall sign a confidentiality agreement before having access to the data. That agreement shall impose liability on an individual for breach of the agreement or regulations.
  5. For data already supplied to the Council, NMFS, or a state agency, sharing of that data with another agency shall be subject to an MOU which imposes the requirements of these regulations, e.g. an individual confidentiality agreement.

The data collected should relate only to the crab fisheries included in the Council’s crab rationalization motion. There is no justification to require the submission of data related to non-crab activities of the firms.

The data should be collected from individual firms only if it is not already available to agencies through some other means, including data that substantially fulfills the data requirement. As the Council motion stated, the data effort must be sensitive to the burden imposed on individual firms. Processors already routinely provide data on

revenues, ex-vessel payments, employment and ownership, supplied to a variety of local, state and federal agencies. There should not be a duplication of that data collection effort already being made. A review should be undertaken to determine if the current data submissions are satisfactory for specific data requirements, and if not if they can be revised in some manner to be satisfactory. We are also concerned that the system of verification not be overly burdensome. Audit procedures similar to what is employed in the AFA are envisioned as appropriate for the data effort in the crab program.

Industry understands that there will be enforcement rules to ensure that data is supplied in an accurate and timely manner. The Council noted its concern that enforcement be sensitive to unintended errors in data submission, especially given the extent and complexity of the data industry is being required to submit compared to any other fishery under its jurisdiction. We are familiar with the enforcement system used in the halibut, blackcod and pollock fisheries. To the extent that this system is designed with the paramount need to enforce the harvest quotas, which is a resource conservation issue, the system of exacting time schedules and data accuracies are understood. The same principles do not necessarily apply though for the new types of data being required in the crab program. There are two aspects to this:

1. What is the consequence of unintended data submission errors.
2. When must the data be submitted.

Each of these factors should be analyzed in light of the specific data being required. By way of example:

Ownership data is needed to enforce caps. Caps are scrutinized annually and, presumably, at each transfer of quota. Ownership information should therefore be required annually, only, and upon any transfer of quota. Accuracy is critical to determining cap compliance, and therefore the enforcement standard may be higher than some other data requirements.

Revenue, ex-vessel payment, cost of production and employment data are the type of data that takes time to collect, internally verify and submit to the agency collecting it. Rigid, and “quick” time frames for submission of this data are not needed for any Council purpose. As an example, for similar data submissions, the State of Alaska typically allows at least one month from the close out date to submit the data, up to three and one half months in the case of payment of the fisheries business taxes. Requiring data within three months of the close out date should be timely enough for any agency purposes and should give the processing firms an adequate period of time to compile and internally verify the information.

Similarly, for revenue, ex-vessel payment, cost of production and employment data are data summaries by firm that are built on a myriad of detail; unintended errors can and will occur. The enforcement approach with respect to this data should take this into consideration. First, as stated above, ample time following a close out period is essential for the firms involved. Second, failure to comply with a reasonable submission deadline should be treated completely differently than minor errors in the data that is submitted. The penalties, if any, should reflect the seriousness of the offense.

## Processing Costs and Revenues Worksheet

Company Name \_\_\_\_\_

Production Facility Name \_\_\_\_\_

Species and Area \_\_\_\_\_

Year of Production \_\_\_\_\_

Location of production \_\_\_\_\_

Pounds Purchased \_\_\_\_\_

Finished Pounds \_\_\_\_\_

Revenues \_\_\_\_\_ (total dollars received)

**Variable costs (see notes for definitions):**

Payments to fishermen (including retros) \_\_\_\_\_

Taxes paid by processor for raw crab purchases \_\_\_\_\_

Custom processing fees you paid \_\_\_\_\_

Direct Labor costs \_\_\_\_\_

Observer costs (including transportation) \_\_\_\_\_

Utility costs (including fuel) \_\_\_\_\_

Housing, transportation and food \_\_\_\_\_

Packaging materials and supplies \_\_\_\_\_

Freight of production \_\_\_\_\_

Storage and handling of production \_\_\_\_\_

Cost of repacking \_\_\_\_\_

Brokers fees, promotional expenses \_\_\_\_\_

**DO NOT INCLUDE ANY FIXED OR OVERHEAD COSTS IN THESE COST CATEGORIES.**

**Notes to Cost of Production Worksheet:**

**Variable costs are direct costs that vary with both season length and volume of production.**

**If you had product custom processed by another plant, include the revenues from the sale of production and report the custom processing fees you paid on the appropriate line.**

**If you custom processed product for someone else, exclude the variable costs and the revenues associated with that production.**

**Revenues should include all receipts from the sale of finished products, including products repacked by you or for your account after initial production. Revenues should be net of any brokerage fees paid to any independent broker making the sale on your behalf. If there is a broker's allowance or promotional fee that is deducted from your reported revenues, then you will need to enter that amount in the line asking for brokers fees or promotional expenses.**

**Direct labor costs EXCLUDES management or salaried labor, but includes all costs of processing labor, such as employer taxes, employer paid insurance, 401k contributions of employer in addition to the wages paid. The insurance costs should include any insurance related to direct labor; health (if any) insurance, worker's compensation or Jones Act coverage, including payment of deductibles or claims if self insured. Costs of training hourly workers should be included on this line item.**

**Utility costs include public or privately supplied utilities, including fuel, water, power, and sewer.**

**Housing, transportation and food category should include any expenses incurred for processing labor not listed in the labor category. It may include for example employer supplied special clothing and airfares.**

**Packaging materials and supplies should include fiber, banding materials, shrink-wrap, pallets, labels and anything else required to enclose and ship the finished product. This category should also report the cost of shipping packaging to the plant. Processing expendables of any sort are included in this category.**

**Freight of production. This should be zero if you reported sales on an FOB plant basis. If you reported sales from a different delivery point, the cost of freight and handling to that delivery point should be reported here. For example, sales that are FOB Seattle would include the freight from the plant to Seattle, and the cost of that freight would be reported on this line.**

**Storage and handling of production should include cold storage and handling costs incurred by you prior to sale.**

**Costs of repacking should include all charges associated with repacking crab that are sold by you after repacking. Brokers fees, promotional expenses that are paid as a deduction from the revenues reported in this worksheet should be included on this line item.**

THIS WORKSHEET WOULD BE REVISED AFTER A REVIEW OF INFORMATION ALREADY AVAILABLE THROUGH OTHER DATA SOURCES.

John Garner noted after the meeting that their intent in providing the worksheet (*above*) was to restate what they thought were the costs that are variable by crab species.” Mr. Garner also stated that if information on quantities or units of effort is needed to understand cost data, it would also be provided. If information on where money is spent is desired to assess community impacts, that would be provided. And finally, the processor’s intent is to provide revenue information based on the format used in the survey developed Ron Felthoven, which has detailed information with respect to pack size, information needed to determine percentage of sales to related entities, and costs needed to derive an FOB Alaska wholesale value.

## DRAFT

### Minutes from the October 18th Meeting of the Crab Rationalization Data Collection Workgroup.

#### **Participation:**

The following individuals were in attendance.

Terry Cosgrove *	Jeff Hartman
Kevin Kaldestad*	Darrell Brannan
John Garner*	Dave Colpo
Arni Thompson	Ron Felthoven
Terry Leitzell*	Joe Terry
Margaret Hall	Tom Casey
Doug Wells*	

Gary Painter\*, Ben Muse, and Herman Savikko were linked to the meeting via teleconference.

\* Indicate official members of the workgroup that were appointed by the Council.

Glenn Reed and Joe Plesha are also members of the workgroup but were unable to attend this meeting.

#### **Meeting Summary:**

The workgroup reviewed a paper, developed by staff, describing the actions taken by the Council at their October meeting. That paper indicated that the Council wished to see the workgroup complete their work on the “9/18/2002 surveys” for the December meeting. The Council also wished to have additional information presented to them in December on the need and usefulness of fixed cost data, the need and best way to collect information on location of purchases, the usefulness of a third party data collection system and how it would function, the costs of the program, the need for arms length transaction data on prices, the need for additional community data, enforcement issues, and providing additional protection for confidential data. The requested studies are expected to help the Council determine the need for collecting data beyond that already contained in the draft surveys as well as help structure the overall data collection program.

Members of the workgroup discussed the meaning of the section of the Council motion that requested a discussion of audit requirements for voluntary and mandatory data collection programs. It was indicated that the intent of that language could have been to initiate a study to determine if a mandatory data collection program can be implemented

that would allow community impact data to be collected on a periodic basis. The timeframe could be selected by the Council or be setup so that data collection would be initiated on an as needed basis. That analysis is to be completed for the December council meeting.

The workgroup then proceeded to discuss the fixed cost sections of the “9/18/2002 surveys”. Each sector’s surveys were discussed in turn, but the minutes will describe the aggregate discussion of each fixed cost category for all sectors. The discussion is structured this way because of the substantial overlap in the problems associated with utilizing fixed cost data under each category. The group also decided that the data needed to analyze community impacts would be discussed separately from other fixed cost data needed to understand the operation of the firms.

Members of the fishing industry voiced no strong objection<sup>2</sup> to supplying information on insurance and property taxes. They have noted concern in the past with using insurance information to derive proxies for the market value of vessels and plants. Agency staff noted that insurance must be accounted for in impact analyses. They also noted that changes in insurance costs could reflect safety changes in the fishery that result from rationalization.

Consensus was not reached on the need to collect data on principal and interest payments. Member of industry asked agency staff how those data would be used. Staff responded that they would be useful in conducting community impact analyses and would provide one source of understanding concentration and entry/exit in the fishery. Members of industry were concerned that relying on principle and interest payments to understand the viability of a firm may mislead the analyst for two reasons. First, it is not always easy to trace the use of a loan back to the asset that was used as collateral to borrow the money. Therefore, the principal and interest payment may not be easily assigned to the plant or vessel operating in the crab fishery. If the vessel, for example, was used as collateral for a loan servicing the needs of other vessels owned by the firm, it would make the indebtedness of that vessel seem much larger. Second, a vessel/plant could increase their debt load for a variety of reasons. If the analyst cannot identify the reason for the change in indebtedness, they may come to the wrong conclusion about a firm’s viability. Finally, a discussion was held regarding how CCF funds should be treated in this context. It was concluded that they primarily impact taxes, and, therefore should be lumped in with other principal and interest payments, if they are collected.

Expenditures on capital improvements were discussed next. It was noted that capital expenditures could be just for the crab portion of a firm’s operation, not related to a firm’s crab operation, or could be used for both crab and other species. The workgroup indicated that only capital expenditures related to a firm’s crab or crab and other species production process should be included. Therefore, investments that have no link to crab production would be excluded from the data collection process. Agency staff feels that

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<sup>2</sup> Some committee members expressed strong objection to supplying fixed cost data, while others expressed strong reservations over how that data would be used by analysts.

collecting information on capital expenditures is important in understanding the use of variable input in the production process. Many committee members agreed that capital investment in crab operations may effect the variable costs of crab production, and is therefore needed to better understand changes in crab production costs that might be observed.

Repair and maintenance costs were discussed along with the problems of allocating these costs to crab operations. Industry suggested that they would likely provide an annual amount for the entire plant/vessel. A system would need to be devised by the analysts to allocate those costs to crab operations. The workgroup also discussed where the salaries of repair and maintenance employees would be assigned. Two options were discussed under the repair and maintenance or included with other salaried employees. It was suggested that all salaried labor costs would be collected and then assigned by agency staff to the crab operations of a facility. The analysts were also warned that they should be careful about how they interpret repair and maintenance variation across years. Some major repairs and maintenance items are scheduled every other year, for example. Understanding these cycles is important to explaining this cost category.

It was decided that a category for other plant or vessel fixed costs would be included in the survey. However, no one suggested a major cost category that was not otherwise covered in the fixed cost section of the survey.

A mechanism of assigning fixed costs to the crab portion of a fishing/processing operation was discussed next. Many committee members expressed reservations about developing a uniform system to allocate non-variable cost to crab operations. They reiterated that their desire was to provide accurate cost information, and that allocation systems rest upon assumptions that may not be an accurate basis to pro-rate cost to different activities. For that reason, if the agencies wish to collect this data, they should develop the system of allocation that makes sense to them.

Members of the committee had two divergent views of collecting and using these data. The first view was that the industry groups would not endorse or oppose the system the agencies develop to allocate these costs. However, a primary justification for collecting this type of information is to develop a database sufficient for a net benefit (profit) analysis. Most committee members felt that the data assigned by allocation among activities should not be used for that purpose. The second opinion expressed was that because of industry members concern with the accuracy of allocating fixed costs to crab production, they have indicated that they do not wish to recommend a specific method of allocating those costs.

Some members of the workgroup then suggested collecting the data in a stepwise fashion. Variable costs and perhaps some fixed costs, such as capital expenditures and repair and maintenance costs, would be collected first. More extensive fixed costs could be collected later if it is determined that they are needed and can be used in a meaningful way.

The data needed to conduct community impact analyses was discussed next. Jeff Hartman indicated that tracking the flow of money (expenditure, wages, and residual income) is an important part of conducting community impact analyses. He also indicated that these data perhaps could be collected using different collection mechanism than the current surveys being developed. To help the workgroup and the Council better understand the level of detail that is needed to conduct these analyses, beyond that in the current survey, staff will work with economists that specialize in this area and report back at the next meeting. Staff will also report at the next meeting on the ownership structure of the crab catcher vessel fleet. This information was requested to better understand the level of corporate ownership in the fleet. That information will provide insight into the problems that will be encountered when trying to track residual income back to the residence of the owners of a corporation.

PSMFC staff (Dave Colpo) was present at the meeting to discuss issues related to third party data collection. Dave discussed the PSMFC expertise in area of data collection, manipulation, and storage. He also indicated that, to his knowledge, persons trying to access their data have never served PSMFC with a FOIA request. He also stated that he understood that because they are not a Federal agency they are outside of the FOIA statutes. As discussed at previous meetings, NOAA GC will be asked to comment on this issue.

A discussion was held regarding whether the third party would create blind data sets linking economic survey data, fish tickets, COAR, vessel registration files, etc., and then downloading the entire file to NMFS, ADF&G, and Council staff, or if they would provide only the data needed for a specific project each time it is requested. It was decided that the most efficient system would be to provide the entire linked data sets to each agency. They could then query the data sets to conduct their analyses. If questions arise when using the data, they would need to be resolved through PSMFC. While PSMFC staff can provide this level of support Dave indicated there are reasons that a more direct interaction between analyst and industry might be useful. If analysts could contact industry directly they will get a richer understanding of the data with which they are working which will aid in their analysis. Other members of industry supported the concept of keeping the identifiers hidden from the analysts. They felt that while it may result in inefficiencies for the analysts trying to resolve questions, it could also reduce the burden on industry by limiting the questions they would be asked that are ancillary to resolving issues associated with data accuracy.

With regards to blind data sets, there is some question as to how effective this technique will be in masking the identities of industry participants when providing data to the agencies. For example, the agencies will have copies of the original fish tickets as well as those with masked identifiers. It would be a relatively simple procedure to develop a table that links the true and the blind identifiers. Still, some members of industry feel that blind data set would provide some value if staff were prohibited, through regulation or statute, from matching data sets available to them to determine the true identity of an entity.

Dave also stated that he felt PSMFC could use the data verification protocol developed for the Pollock surveys. That protocol involves using an accounting firm agreed upon by the agency and industry to conduct random review of the data provided.

PSMFC also feels that protecting the confidentiality of the data is paramount. The more specific the rules describing who has access to the data the more comfortable they feel. They are sensitive to competitors, the general public, and non-authorized agency staff accessing to these data.

Four points major points were made by PSMFC staff at the meeting that are worth highlighting.

1. PSMFC has a long history of data collection from multiple sources for multiple agency use. It is efficient in doing so and avoids the “turf” battles that might result over who collects the data and for whom.
2. Efficiencies will be lost unless they are allowed to provide “data dumps” to the agencies without using blind codes and without aggregating the data.
3. If blind data are supplied to the agencies without being aggregated, the user could, if they wanted, easily determine the identity of the firm from other sources.
4. PSFMC can easily integrate data from other sources to reduce the burden of multiple reporting requirements.

Staff from the NMFS indicated that they would encourage the use of PSFMC to collect and maintain the data required by this program. They believe that PSMFC is in a position to complete that task as cheaply and accurately as any other agency.

Jeff Hartman asked whether the use of a third party would change the cost of the data collection program. Staff will report any additional information they gather on this question at the next meeting.

The Council asked the workgroup to consider whether they feel good estimates of crew days can be developed using fish tickets combined with crew license identifiers collected under this mandatory program. The workgroup felt that fairly reliable estimates could be made under an open access system using the season start date and the landing date on the fish ticket. However, under a rationalized fishery with extended seasons, additional information would need to be collected on the survey to estimate the number of crew days by vessel.

Members of the workgroup also noted that off-season hourly wages are currently not included in the survey and would be missed if not added.

#### Staff’s Tasks for the Next Meeting:

1. Staff will provide a draft of the paper being developed for the Council regarding collecting no, some, or all fixed cost data.

2. Provide a discussion of whether the ownership structure of the BSAI crab fleet is different from the SE AK salmon fleet. This relates to the analysts ability to assign residual income to a specific geographic location.
3. Ask that the NOAA GC and the State AG review of the MOU include the possibility of using a third party collection agent, and that PSMFC be consulted as a likely agent for that role. Indicate that this is a very important part of the data collection program and needs to be in place at the beginning of the data collection process.
4. Provide a discussion of setting up a protocol to collect data under mandatory system on an as needed basis. This program would collect data (for community impact analysis) when it is needed, instead of every year. The idea is to reduce the burden on members of industry, by collecting these data on a less frequent basis.
5. Work with other economists to report back on the level of detail, beyond the current surveys, that is needed to conduct community impact analyses.

Next Meeting:

The next meeting has not yet been scheduled. The chairmen will notify the workgroup when the meeting day has been selected.

## DRAFT

### Minutes from the November 19th Meeting of the Crab Rationalization Data Collection Workgroup.

#### **Participation:**

The following individuals were in attendance.

Terry Cosgrove *	Lew Queirolo	
Kevin Kaldestad*	Darrell Brannan	
John Garner*	Jeff Passer	
Arni Thompson	Ron Felthoven	
Glenn Reed*	Joe Terry	
Margaret Hall	Tom Casey	
Doug Wells*		Herman Savikko

Gary Painter\*, Tom Meyer, and Dave Colpo were linked to the meeting via teleconference.

\* Indicate official members of the workgroup that were appointed by the Council.

Terry Leitzell and Joe Plesha are also members of the workgroup but were unable to attend this meeting.

#### **Meeting Summary:**

The Data Collection Workgroup met November 19<sup>th</sup>. Staff gave presentations on the five assignments made at the previous meeting. Other presentations to the Workgroup were made by Jeff Passer (regarding enforcement issues), Tom Meyer (regarding legal issues), and Dave Colpo (regarding third party data collection).

Staff's first assignment was based on the Council's October motion. Staff was directed to develop a document that discussed collecting all, none, or some of the fixed cost data elements outlined in the draft surveys presented to the Council at their October meeting. That paper was provided to the workgroup just prior to the meeting. Because members of the workgroup received the document so close to the start of the meeting, they did not have adequate time to review the paper in order to provide feedback. Instead, staff provided an overview of the paper and indicated that comments received from members of the Workgroup would be considered and perhaps incorporated into the document if they are received by noon on November 25<sup>th</sup>. The Workgroup was notified that staff intends to release the document to the Council family on November 26<sup>th</sup>.

The second assignment was to compare the ownership structure of the SE Alaskan salmon fleet to the BSAI crab to see if they are comparable in terms of the level of corporate ownership. The comparison of the two fleets showed that the vessels operating in the BSAI crab fleet were primarily comprised of partnerships, companies, and corporations. Individuals were the primary owners of the SE Alaska salmon fishing fleet. Therefore, community impact analyses that rely on tracking “residual income” to an owner’s location of residence would require more detailed ownership information than is currently being considered in the surveys. In addition to collecting information on ownership structure that is already being contemplated, questions would also need to be asked regarding how income is distributed to individual owners and if all the “residual income” is distributed each year. Those questions are not a part of the current survey, and staff concurred that they would not seek residual income (net profit) from harvesters as part of the survey. That data is not requested because estimating the flow of income to residents of specific communities is problematic for the reasons identified by the crab vessel ownership patterns.

Assignment number three requested that NOAA GC and the State AG’s office continue work on the data sharing MOU and that it be reviewed in light of PSMFC being considered as the possible agent whose role would be to collect the data.

Tom Meyer (NOAA GC) presented the progress that has been made to date on this assignment. He and Steve White (State AG’s Office) have met and discussed the need to either revise the MOU or draft a new MOU specific to this program. Because this may well be a “one way” data-sharing program, a new MOU that defines how NMFS would share the data with specific state agencies/employees and the restrictions on how those agencies/employees could use the data may be appropriate.

Assignment four directed staff to provide a discussion on the development of a protocol that would mandate the collection of data necessary to study community impacts. This discussion was folded into the first assignment. The discussion paper states that this information could be collected under a mandatory program on a timeline that is different from the current program. It is possible that the information could be collected on a less frequent basis and only from a sample of the crab harvesting and processing sectors (instead of the entire population). During past meetings it has been noted that collection of some of this information is a task to be undertaken by the Council’s committee appointed to address community issues.

The fifth assignment directed staff to work with economists that specialize in constructing community impact analyses, and report back on the level of detail needed to construct those analyses beyond that already contained in the surveys. Staff held a conference call with other agency and university economists specializing in community impact analyses. During that call several pieces of information were discussed but no specific recommendations were made. After that meeting, a paper was developed by a NMFS economist listing specific data elements that would be used to conduct community impact analysis. That paper has had little review and was only released to the workgroup for their input. Members of the workgroup and agency staff do not believe that the

Council should take action on data needed for community impact analysis at their December meeting. They feel that additional time is needed to address this issue.

Jeff Passer, from NMFS enforcement, attended the meeting and provided his view of that agencies role in the data collection process. NOAA GC will need to have access to the raw data and the person supplying the data to enforce compliance with this program. Enforcement will work closely with the agency collecting the data to ensure that the program is functioning properly. They will likely set up an annual visit, at least during the first years of the program, with the entity collecting the data to review the collection procedures. Mr. Passer also noted that enforcement is not interested in receiving a “data dump”. They anticipate requesting only the data needed for a specific action.

Enforcement will only become involved in a case when they are notified of a problem (outside of information collected on the annual review of the program). If the data are collected using a third party and the data are issued to the agencies in a blind format, then it will be the responsibility of the group collecting the data to notify enforcement of problems as they arise. However, it is the hope of everyone that problems with the data can be rectified before enforcement has to become involved.

Members of the workgroup asked if enforcement could use the data for any enforcement action. They were told that if the data were available it could be used to verify other sources of information.

Enforcement also noted that for criminal prosecution of a case to occur, the government would need to prove that they intended to misreport information. Criminal trials make up a very small percentage of the cases. Most cases are civil trials that would result in fines being imposed.

Finally, members of the Data Collection Workgroup discussed the possibility of the third party providing analysts only aggregated data. Some industry members of the workgroup expressed interest in pursuing such a format while others did not. Members of the workgroup and other industry attendees held a vote during the meeting to request 1) that the Council require harvest vessel data to be aggregated by vessel length at 25’ increments; and 2) that all vessels greater than 150’ would be placed in the same size category, as would all vessels under a specific size. Agency economists did not participate in the vote. The industry vote ended in a tie, four in favor and four opposed, and therefore failed. However, members of the workgroup that voted for aggregation remain interested in the concept of releasing only aggregated data. They also felt that more information would need to be available before they could make a decision on this issue.

#### Next Meeting:

The next Data Collection Workgroup is scheduled for December 17 at 9:30am in the PSPA conference room. If the December Council meeting results in tasks that must be taken up by the workgroup, the meeting will include both industry and agency

representatives. If the Council does not take action on issues affecting the workgroup, the meeting may only be for members of the fishing industry.

## DRAFT

### Minutes from the January 14, 2003 Meeting of the Crab Rationalization Data Collection Workgroup.

#### **Participation:**

The following individuals were in attendance.

Gary Painter*	Tom Casey
Kevin Kaldestad*	Darrell Brannan
John Garner*	Joe Terry
Arni Thompson	Ron Felthoven
Terry Leitzell*	

Terry Cosgrove\*, Tom Meyer, and Herman Savikko were linked to the meeting via teleconference.

\* Indicate official members of the workgroup that were appointed by the Council.

Glenn Reed, Doug Wells, and Joe Plesha are also members of the workgroup but were unable to attend this meeting.

#### **Meeting Summary:**

John Garner called the meeting to order. Committee members that were present then approved the minutes from the November 19, 2002 meeting.

Members of the Workgroup then worked to finalize their positions for the report to be available at the Council's February meeting. The first issue discussed was what data should be collected under this program. All members of the workgroup agreed that only information from the crab portion of a vessel's/plant's fishing season should be included in the data collection program. The majority of the harvesters, that are members of the workgroup, indicated that they would prefer that only variable cost data be collected from vessels operating in the BSAI crab fisheries. Members of the catcher/processor fleet and the processing sector indicated that they would be willing to provide fixed cost data that are necessary to explain changes in variable costs in addition to variable cost data. One member of the harvesting sector felt that all fixed cost data should be included in the program. The workgroup was unable to reach a consensus position on this issue.

Aggregation of data was the second issue discussed by the workgroup. Members of the harvest sector stated that their position was that the data should be aggregated into groups

of 10-15 vessels before it is released, by the collecting agency, to the staff analysts at ADF&G, NMFS, or the NPFMC. The workgroup members did not provide a rationale for selecting aggregations of 10-15 vessels. Members of the catcher/processor and processing sectors indicated that aggregation of four plants or vessels would be adequate.

Agency staff members present at the meeting indicated that they still feel the data should not be aggregated before being released to the analysts. They have agreed that the data could be submitted to them in a “blind” format. They also agree that the data must be aggregated before being released to the general public. Staff members noted that if the data are to be aggregated it would be best for the agency staff to determine which plants/vessels would go in each aggregation. Members of the committee agreed that it would be appropriate for staff to define the aggregation methods, and that those methods could be changed as necessary. A suggestion was also made that in some cases it may be appropriate for the agency with access to the raw data to run models provided to them using the disaggregated data. Models could be developed and provided by staff members of the agencies that do not have access to the raw data.

John Garner notified the group that Tom Meyer (NOAA GC) had stated that it is legal to collect identifiers for members of the harvesting crew. This clarified a question raised at the last Council meeting regarding whether the NPFMC/NMFS had the authority to mandate the collection of SSNs or other individual identifiers of crewmembers. Members of the Workgroup had agreed at a previous meeting that they would supply these data, and they continue to hold that position. It was also agreed that the AP had requested crew information to help the public better understand the impacts of the crab rationalization program on persons working as crab harvesting crew. Staff also clarified that the surveys are currently only asking for crew SSNs, residence information, and aggregate crew wages for the vessel. Wages are not being requested for each individual member of the crew.

Use of the data to be collected was the next issue discussed. The general focus of the discussion was who would have access to the raw data, how they would gain access to the data, and for what purposes the data could be used. It was pointed out that if only aggregated data are released to agency staff, this issue becomes less important. Under that scenario, staff members within ADF&G, NMFS, and the NPFMC would not have access to confidential data. Therefore, the rules for use and release of the data could potentially be relaxed<sup>3</sup>. In any case, legal counsel for the agencies involved will develop an MOU that will require staff to sign an agreement in order to access the data. The MOU will also define the terms for using the data as well as penalties for its misuse.

Members of the workgroup requested that language in the enforcement document prepared by staff be changed to better reflect previous discussions on the issue. Staff agreed that they would change the language leading to the penalty phase of the program

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<sup>3</sup> Because the data are not confidential the same data used by the analysts could potentially be released or used by anyone.

from “intentional” submission of incorrect data to “willful and intentional” submission of incorrect data.

Tom Meyer provided a paper that discusses how data collected under this program could be made available to the arbitrator. The conclusion of that paper is that members of the fishing industry would need to sign a waiver, absent any changes to the current laws and regulations, for an arbitrator to access the data. Changes to the laws and regulations that would be needed were also discussed in the paper.

Tom Meyer also stated that a regulatory package that defines the data that will be collected is likely needed before changes can be made to protect the confidentiality of the data under the MSA. He also stated that confidentiality standards must be linked to the MSA if standalone legislation is developed for the crab rationalization program.

Members of the Workgroup noted that they did not think it would be helpful to separate fixed costs into recoverable and non-recoverable (“sunk” cost) categories. This addresses the Council’s request to consider collecting “sunk” costs as a subcategory of fixed costs. Members of the Workgroup were given a copy of a journal article that defined variable, fixed, and sunk costs.

Darrell Brannan was requested to follow-up with Mark Fina on whether the data collected under this program, in addition to other data that will be available, is adequate to meet the data needs for community impact analyses envisioned by the Community Protection Committee.

# **Appendix 3-6**

**09-09-02**

## **Catcher Vessel Survey**

This survey is intended to gather information principally on BSAI crab operations (including CDQ fisheries). The definition of terms used in each question/category in the survey is included in an Appendix at the end of this document. Using the Appendix will help to improve the clarity of the both the questions and your responses. You can tear off these last few pages and use them as you proceed through the survey.

**Person Completing the Survey**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ FAX \_\_\_\_\_

E-mail address: \_\_\_\_\_

**Vessel Information**

Vessel name: \_\_\_\_\_

Owner: \_\_\_\_\_

USCG vessel ID: \_\_\_\_\_

ADF&G vessel ID: \_\_\_\_\_

Homeport: \_\_\_\_\_

**1. BSAI Crab Activity**

SEASON	# OF DAYS AT SEA	AVERAGE CREW SIZE	# POTS LOST

**2. BSAI Crab Ex-Vessel Revenues**

SEASON	SPECIES	GRADE	SIZE	POUNDS SOLD	REVENUE



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**4.1 Vessel-Specific BSAI Crab Costs** Record the costs incurred for this vessel only for the year's crab fisheries for each item in the TOTAL column.

COST CATEGORY	TOTAL
<b>a. Insurance (hull, P&amp;I and pollution)</b>	
Season: _____	\$
<b>b. Pot purchases</b>	
City/Port and State: _____ Quantity _____	\$
City/Port and State: _____ Quantity _____	\$
City/Port and State: _____ Quantity _____	\$
<b>c. Other crabbing gear and line purchases:</b>	
City/Port and State: _____	\$
City/Port and State: _____	\$
City/Port and State: _____	\$
<b>d. Bait</b>	
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$

e. <u>Fuel</u>	
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
f. <u>Lubrication and hydraulic fluids</u>	
Location: 1) City/Port: _____	\$
2) City/Port: _____	\$
3) City/Port: _____	\$
g. Other crew costs (food and provisions, transportation and housing, P&I claims, benefits, recruitment, training and education)	\$
h. Freight	\$
i. <u>Observer Costs</u>	
Season: _____	\$
j. Other crab-specific costs; specify: _____	\$

**4.2 Vessel-Specific Costs** Record the annual costs **for this vessel only** for each item in the TOTAL column. If the reported total should not be attributed solely to BSAI crab operations, please record the TOTAL and place an “X” in the “PRORATE OVER ALL ACTIVITIES?” column.

<b>COST CATEGORY</b>	<b>TOTAL</b>	<b>PRORATE OVER ALL ACTIVITIES?</b>
a. Principal payments	\$	
b. Interest payments	\$	
c. <u>Capital improvements in vessel and gear</u>		
1) City/Port and State: _____	\$	
2) City/Port and State: _____	\$	
3) City/Port and State: _____	\$	

<b>COST CATEGORY</b>	<b>TOTAL</b>	<b>PRORATE OVER ALL ACTIVITIES?</b>
d. <u>Maintenance and repair expenses for vessel and gear</u>		
1) City/Port and State: _____	\$	
2) City/Port and State: _____	\$	
3) City/Port and State: _____	\$	
e. Other vessel-specific costs; specify: _____ _____	\$	

## 5. BSAI Crab Crew Payment Details

5.1 Which of the following expenses were subtracted from total revenues (gross stock) before calculating the crew share? (Circle one number for each)

	DEDUCTED	NOT DEDUCTED
a. Fuel and lube _____	1	2
b. Food and provisions _____	1	2
c. Observer costs _____	1	2
d. Gear loss _____	1	2
e. Other (specify) _____	1	2

5.2 What percentage of the net share (gross stock minus the expenses indicated above in 5.1) went to:

- a. Boat Share \_\_\_\_\_%
- b. Crew Share (including skipper)..... \_\_\_\_\_%

5.3 Approximate the percentage of crew payments paid to persons who live in the following regions:

- a. Alaska \_\_\_\_\_%
- b. Oregon \_\_\_\_\_%
- c. Washington \_\_\_\_\_%
- d. Another US state..... \_\_\_\_\_%
- e. Foreign country..... \_\_\_\_\_%

### Appendix: Survey Question Details

**1. SEASON:** record the name of one of the following management/quota areas: BS snow (opilio), Bristol Bay red king, Western AI brown, Eastern AI brown, Western AI red, BS Tanner (bairdi), Pribilof red and blue, St. Matthew blue.

**# OF DAYS AT SEA:** record the total number of days you spent at sea during the specified season.

**AVERAGE CREW SIZE:** record the average number of crewmembers onboard for each trip taken in each of the BSAI crab fisheries.

**2. GRADE:** record the grade of the crab caught during the season using one of the following grades: #1, #2, #3. If multiple grades were caught, record the information for each grade on separate lines.

**REVENUE:** record the total payment you received (less any taxes paid to the buyer) for each species and grade/size landed. Include any post-seasonal adjustments you received.

**3.1 # OF CREW EARNING SHARES:** record the number of crewmembers who were paid according to a share system (as opposed to an hourly, daily, or trip wage).

**TOTAL CREW SHARE PAYMENT:** record the total payment made to all crewmembers paid on the share system, including the captain. Do not include other crew-related expenses (such as benefits, food and provisions, etc.) in the payment columns.

**TOTAL CREW SHARE PAYMENT MINUS CAPTAIN'S SHARE:** subtract the captain's share payment off of the total share payment and record this value.

**# OF CREW EARNING WAGES:** record the number of crewmembers who were paid a wage (as opposed to a share system).

**TOTAL CREW WAGE PAYMENT:** record the total payment made to all wage-earning crewmembers. Do not include other crew-related expenses in the payment column.

**4.1 a. INSURANCE (HULL, P&I AND POLLUTION):** the annual insurance premiums for this vessel for

the year, by crab season. If some insurance costs cannot be attributed to each crab season, enter these costs in Section 4.2.a.

**b. POT PURCHASES:** the total quantity and cost of pots purchased for the year, by location of purchase.

**c. OTHER CRABBING GEAR AND LINE PURCHASES:** the total expense on line, floats, and other fishing gear other than pots used in BSAI crab fishing, by location of purchase.

**d. BAIT:** the total quantity and cost of bait (by species) purchased in each season for the year, by location of purchase. If you caught a portion of your bait, do not list the location and estimate the cost of catching the bait, by species. If you received bait from a processor and this cost is already reflected in your reported catch revenues (i.e., you were paid less to reflect the bait given to you), do not record this as a bait cost here.

**e. FUEL:** the total quantity and cost of fuel used in crab fishing in each season, by location of purchase.

**f. LUBRICATION AND HYDRAULIC FLUIDS:** the total cost of lubrication & hydraulic fluids used in BSAI crab fisheries for the year.

**g. OTHER CREW COSTS (FOOD AND PROVISIONS TRANSPORTATION AND HOUSING, P&I CLAIMS, BENEFITS, RECRUITMENT, TRAINING AND EDUCATION):** record the resulting costs for these items that were borne solely by you. For example, if crew was charged to offset the cost of certain items, do not include these costs here.

**h. FREIGHT:** total expenses for having equipment/items used on this vessel (for BSAI crab only) shipped and stored on your behalf.

**i. OBSERVER COSTS:** record the sum of all expenditures incurred as a result of having observers onboard in each BSAI crab season for the year.

**j. OTHER CRAB-SPECIFIC COSTS; SPECIFY:** other costs specific to BSAI crab harvesting that are not included in the categories above (such as crab gear storage and transport expenses). Please specify the nature of the expense(s) and do not list costs to be recorded in Section 4.2 or the costs of permits, licenses, or IFQ fees (these costs can be determined internally by state and federal agencies).

#### **4.2**

**a. PRINCIPAL PAYMENTS:** the total annual payment made this year on the principal for outstanding debt related to this vessel.

**b. INTEREST PAYMENTS:** the total interest expense paid this year on outstanding debt related to this vessel.

**c. CAPITAL IMPROVEMENTS IN VESSEL AND GEAR:** the total annual expenditure on new equipment related to fishing, by location of purchase. Include improvements but exclude standard repairs and purchases that are necessary to conduct fishing operations. Exclude the pot and crabbing gear and line purchases listed above.

**d. MAINTENANCE AND REPAIR EXPENSES FOR VESSEL AND GEAR:** the total expenses for maintaining this vessel and repairing mechanical and physical problems with the vessel or (exclude improvements).

**e. OTHER VESSEL-SPECIFIC COSTS; SPECIFY:** record any other vessel-specific cost(s) that was not included in the categories above and not reported in the crab season-specific table (Section 4.1), such as port and harbor charges, or other insurance expenses. Please specify the nature of the expense(s) and do not list costs of permits, licenses, or IFQ fees (these costs can be determined internally by state and federal agencies).

# **Appendix 3-6**

**09-09-02**

## **Shoreside Processor Survey**

This survey is intended to gather information principally on BSAI crab operations (including CDQ fisheries). The definition of terms used in each question/category in the survey is included in an Appendix at the end of this document. Using the Appendix will help to improve the clarity of the both the questions and your responses. You can tear off these last few pages and use them as you proceed through the survey.

**Person Completing the Survey**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ FAX \_\_\_\_\_

E-mail address: \_\_\_\_\_

**Current Company and Plant Information**

Plant Name: \_\_\_\_\_

Owner: \_\_\_\_\_

ADF&G processor ID: \_\_\_\_\_

Federal Plant ID: \_\_\_\_\_

Year Built: \_\_\_\_\_

Assessed Value (\$): \_\_\_\_\_





**3. BSAI Crab Custom Processing Costs**

<b><u>CUSTOM BSAI CRAB PROCESSING DONE FOR YOU</u></b>					
<b>SEASON</b>	<b>SPECIES</b>	<b>PRODUCT</b>	<b>RAW POUNDS SUPPLIED</b>	<b>FINISHED POUNDS</b>	<b>PROCESSING FEE</b>

**4. BSAI Crab Costs** ( Include CDQ crab purchases)

<b>SEASON</b>	<b>SPECIES</b>	<b>GRADE / SIZE</b>	<b>RAW POUNDS PURCHASED</b>	<b>GROSS PAYMENT</b>



**6.1 Plant-Specific BSAI Crab Costs** Record the costs incurred for this plant only in the year's crab processing for each item in the TOTAL COST column.

COST CATEGORY	TOTAL COST
a. Total of fishery resource landing taxes, processing taxes, fisheries business taxes, borough and city taxes, where applicable (exclude property taxes)	\$
b. Fuel, electricity, lubrication, hydraulic fluids	\$
c. <u>Packaging materials and supplies</u>	
Location 1) City/Port and State: _____	\$
2) City/Port and State: _____	\$
3) City/Port and State: _____	\$
d. Other costs for direct crab labor (food and provisions, transportation and housing, P&I claims, benefits, recruitment, training and education)	\$
e. Re-packing costs	\$
f. <u>Broker fees and promotions for BSAI crab</u>	
Season: _____ Species: _____	\$
g. <u>Observer costs</u>	
Season: _____	\$
h. Freight	\$
i. Product storage, handling	\$
j. Water, sewer, waste and disposal	\$
k. Other crab-specific costs; specify: _____	\$
_____	\$

**6.2 Plant-Specific Costs** Record the annual costs **for this plant only** for each item in the TOTAL column. If the reported total should not be attributed solely to BSAI crab processing, please record the TOTAL and place an “X” in the “PRORATE OVER ALL ACTIVITIES?” column.

<b>COST CATEGORY</b>	<b>TOTAL</b>	<b>PRORATE OVER ALL ACTIVITIES?</b>
a. Insurance	\$	
b. Property taxes	\$	
c. Principal payments for plant and equipment	\$	
d. Interest payments for plant and equipment	\$	
e. <u>Capital improvements in plant and equipment</u>		
Location 1) City/Port and State: _____	\$	
2) City/Port and State: _____	\$	
3) City/Port and State: _____	\$	
f. Maintenance and repair for existing plant and equipment	\$	
g. Salaries for foremen, plant managers and other plant-level employees in support of crab processing that are not included in the direct labor costs reported in Section 2.1 NUMBER OF EMPLOYEES: _____	\$	
h. Other plant-specific costs; specify: _____ _____	\$	

**7. BSAI Crab Custom Processing Revenue**

<b>PRODUCT INFORMATION</b>	<b>REVENUE</b>
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$

**8. Labor Payment Details**

Approximately what percentage of total employee wages for BSAI crab processing were paid to persons who live in the following regions:

- f. Alaska \_\_\_\_\_%
- g. Oregon \_\_\_\_\_%
- h. Washington \_\_\_\_\_%
- i. Another US state \_\_\_\_\_%
- j. Foreign country \_\_\_\_\_%

## Appendix: Survey Question Details

- 1.** **SEASON:** record the name of one of the following management/quota areas: BS snow (opilio), Bristol Bay red king, Western AI brown, Eastern AI brown, Western AI red, BS Tanner (bairdi), Pribilof red and blue, St. Matthew blue.

**# OF CRAB PROCESSING DAYS:** record the total number of days spent processing BSAI crab in each season.

**SPECIES:** record the name of each species processed during the season. If multiple species were processed, record each species on a separate line.

**PRODUCT:** record the name of each product produced from the reported species, by season. If multiple products were produced from a given species, record the total for each on a separate line.

**SIZE/GRADE:** record the size and grade of each product produced from the reported species, by season. If different sizes or grades of a product were produced in a season, record the total for each on a separate line.

**BOX SIZE:** record the box size associated with each product. If different box sizes were produced, record the total amount for each box size on separate lines.

**RAW POUNDS:** record the number of raw pounds used in processing the specified products.

**FINISHED POUNDS:** record the number of finished pounds produced for each specified product.

**CUSTOM PROCESSED (Y OR N)?:** record custom and non-custom processing activities on separate lines. If the recorded production was custom work, enter a “Y” – otherwise enter a “N”.
- 2.1** **# OF CRAB POSITIONS:** record an estimate of the total number of employees engaged in, and in support of, crab processing in each 24 hour period, during each season. For example, if you typically had two shifts of 15 crab-designated laborers, you would record 30 crab positions.

**TOTAL MAN-HOURS:** record the sum of all hours worked by processing workers during the season.

**TOTAL LABOR PAYMENT:** record the total direct payment made to direct crab laborers. Exclude benefits and indirect expenses made on their behalf.
- 3.** **RAW POUNDS SUPPLIED:** record the number of raw pounds supplied to the custom processor for processing on your behalf.

**FINISHED POUNDS:** record the number of finished pounds of the specified product processed on your behalf.

**PROCESSING FEE:** record the total payment you made to custom processors for their BSAI crab processing services, by species and product.
- 4.** **GRADE/SIZE:** record the sizes/grades of the raw fish purchased each season, by species. If you purchased different sizes/grades of a particular species, record the total purchases for each on a separate line.

**RAW POUNDS PURCHASED:** record the total pounds of raw fish purchased in each season, by grade.

**GROSS PAYMENT:** record the total cost of the raw fish purchased in each season, by species and grade/size. Include any post-seasonal adjustments in the totals.
- 5.** **FINISHED POUNDS SOLD:** record the total pounds of each product sold in the year.

**GROSS REVENUE (FOB ALASKA):** record the total FOB Alaska revenue received for each product sold in the year.
- 6.1** **a. TOTAL OF FISHERY RESOURCE LANDING TAXES, FISHERIES BUSINESS TAXES, BOROUGH AND CITY TAXES, WHERE APPLICABLE:** the sum of all direct tax payments you made to a borough or the state of Alaska as a result of landing or processing BSAI crab for the year.

**b. FUEL, ELECTRICITY, LUBRICATION & HYDRAULIC FLUIDS:** the total annual cost of fuel, electricity, lubrication & hydraulic fluids used in BSAI crab processing, by location.

**c. PACKAGING MATERIALS & SUPPLIES:** the total cost of all materials used to package BSAI crab products processed by this plant.

**d. OTHER COSTS FOR DIRECT CRAB LABOR (FOOD & PROVISIONS TRANSPORTATION AND HOUSING, P&I CLAIMS, BENEFITS, RECRUITMENT, TRAINING AND EDUCATION):** record the resulting costs for these items that were borne solely by you. For example, if labor was charged to offset the cost of certain items, do not include these costs.

**e. RE-PACKING COSTS:** record the total cost of re-packing BSAI crab products processed by this plant.

## 6.1 (continued)

**f. BROKER FEES AND PROMOTIONS FOR BSAI CRAB SALES:** record the sum of all fees paid to brokers for sales and promotion of BSAI crab in the year.

**g. OBSERVER COSTS:** record all costs for having observers in your plant during BSAI crab processing.

**h. FREIGHT:** total expenses for having equipment/items used in this plant (for BSAI crab only) shipped and stored on your behalf. Do not include freight costs for product sales, as the sales revenues are to be reported on a FOB Alaska basis.

**i. PRODUCT STORAGE, HANDLING:** record the total amount paid to store and handle processed BSAI crab products during the year.

**k. OTHER CRAB-SPECIFIC COSTS; SPECIFY:** list the total cost of other expenditures incurred this year that were specific to BSAI crab processing not included in any of the other categories. Please specify the nature of the expense(s) and do not list costs to be recorded in Sections 6.2 or the costs of permits, licenses, or IFQ fees (these costs can be determined internally by state and federal agencies).

## 6.2

**a. INSURANCE:** the annual insurance premiums for this plant for the year.

**b. PROPERTY TAXES:** the sum of all property taxes levied on this plant for the year.

**c. PRINCIPAL PAYMENTS FOR PLANT & EQUIPMENT:** the total annual payments made for the year on the principal of outstanding debt related to this plant and its equipment.

**d. INTEREST PAYMENTS FOR PLANT & EQUIPMENT:** the total annual payments made for the year for interest on outstanding debt related to this plant and its equipment.

**e. CAPITAL IMPROVEMENTS IN PLANT AND EQUIPMENT:** the total annual capital expenditures on new equipment and improvements related to processing or storage, by location of purchase. Exclude standard repairs and purchases that are necessary to conduct operations.

**f. MAINTENANCE & REPAIR EXPENSES FOR EXISTING PLANT AND EQUIPMENT:** the total annual expenses for maintaining or repairing this plant and its equipment (exclude improvements) for the year.

**h. OTHER PLANT-SPECIFIC COSTS; SPECIFY:** list the total cost of all other plant-specific expenditures incurred this year that were not included in any of the other categories. Please specify the nature of the expense(s) and do not list costs recorded in Sections 6.1.

# **Appendix 3-6**

**09-09-02**

## **Floating Processor Survey**

This survey is intended to gather information principally on BSAI crab operations (including CDQ fisheries). The definition of terms used in each question/category in the survey is included in an Appendix at the end of this document. Using the Appendix will help to improve the clarity of the both the questions and your responses. You can tear off these last few pages and use them as you proceed through the survey.

**Person Completing the Survey**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ FAX \_\_\_\_\_

E-mail address: \_\_\_\_\_

**Plant Information**

Plant name: \_\_\_\_\_

Owner: \_\_\_\_\_

USCG vessel ID: \_\_\_\_\_

ADF&G vessel ID: \_\_\_\_\_







**3. BSAI Crab Custom Processing Costs**

<b><u>CUSTOM BSAI CRAB PROCESSING DONE FOR YOU</u></b>					
<b>SEASON</b>	<b>SPECIES</b>	<b>PRODUCT</b>	<b>RAW POUNDS SUPPLIED</b>	<b>FINISHED POUNDS</b>	<b>PROCESSING FEE</b>

**4. BSAI Crab Costs** ( include CDQ crab purchases)

<b>SEASON</b>	<b>SPECIES</b>	<b>GRADE / SIZE</b>	<b>RAW POUNDS PURCHASED</b>	<b>GROSS PAYMENT</b>



**6.1 Plant-Specific BSAI Crab Costs** Record the costs incurred for this plant only in the year's crab harvesting and processing for each item in the TOTAL COST column.

COST CATEGORY	TOTAL COST
a. Total of fishery resource landing taxes, fisheries business taxes, processing taxes, borough and city taxes, where applicable	\$
b. Fuel, electricity, lubrication, hydraulic fluids	\$
c. <u>Packaging materials and supplies</u>	
Location 1) City/Port and State: _____	\$
2) City/Port and State: _____	\$
3) City/Port and State: _____	\$
d. Other crew costs (food and provisions, transportation and housing, P&I claims, benefits, recruitment, training and education)	\$
e. Re-packing costs	\$
f. <u>Broker fees and promotions for BSAI crab sales</u>	
Season: _____ Species: _____	\$
g. <u>Observer Costs</u>	
Season: _____	\$
h. Freight	\$
i. Product storage, handling	\$
j. Waste and disposal	\$
k. Other crab-specific costs; specify: _____	\$

**6.2 Vessel-Specific Costs** Record the annual costs **for this vessel only** for each item in the TOTAL column. If the reported total should not be attributed solely to BSAI crab, please record the TOTAL and place an “X” in the “PRORATE OVER ALL ACTIVITIES?” column.

<b>COST CATEGORY</b>	<b>TOTAL</b>	<b>PRORATE OVER ALL ACTIVITIES?</b>
a. Insurance	\$	
b. Principal payments	\$	
c. Interest payments	\$	
d. <u>Capital improvements in vessel, gear and equipment</u>		
1) City/Port and State: _____	\$	
2) City/Port and State: _____	\$	
3) City/Port and State: _____	\$	
e. Maintenance and repair expenses for vessel, gear and equipment	\$	
f. Salaries for foremen, managers and other vessel-level employees not included in direct labor costs reported in 2.1 # OF EMPLOYEES: _____	\$	
g. Other vessel-specific costs; specify _____	\$	

**7. BSAI Crab Custom Processing Revenue**

<b>PRODUCT INFORMATION</b>	<b>REVENUE</b>
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$

**8. Labor Payment Details**

Approximately what percentage of total employee wages for BSAI crab processing were paid to persons who live in the following regions:

- k. Alaska \_\_\_\_\_%
- l. Oregon \_\_\_\_\_%
- m. Washington \_\_\_\_\_%
- n. Another US state \_\_\_\_\_%
- o. Foreign country \_\_\_\_\_%

## Appendix: Survey Question Details

- 1.** **SEASON:** record the name of one of the following management/quota areas: BS snow (opilio), Bristol Bay red king, Western AI brown, Eastern AI brown, Western AI red, BS Tanner (bairdi), Pribilof red and blue, St. Matthew blue.

**# OF CRAB PROCESSING DAYS:** record the total number of days spent processing BSAI crab in each season.

**SPECIES:** record the name of each species processed during the season. If multiple species were processed, record each species on a separate line.

**PRODUCT:** record the name of each product produced from the reported species, by season. If multiple products were produced from a given species, record the total for each on a separate line.

**SIZE/GRADE:** record the size and grade of each product produced from the reported species, by season. If different sizes or grades of a product were produced in a season, record the total for each on a separate line.

**BOX SIZE:** record the box size associated with each product. If different box sizes were produced, record the total amount for each box size on separate lines.

**RAW POUNDS:** record the number of raw pounds used in processing the specified products.

**FINISHED POUNDS:** record the number of finished pounds produced for each specified product.

**CUSTOM PROCESSED (Y OR N)?:** record custom and non-custom processing activities on separate lines. If the recorded production was custom work, enter a “Y” – otherwise enter a “N”.
- 2.1** **# OF CRAB POSITIONS:** record an estimate of the total number of employees engaged in, and in support of, crab processing in each 24 hour period, during each season. For example, if you typically had two shifts of 15 crab-designated laborers, you would record 30 crab positions.

**TOTAL MAN-HOURS:** record the sum of all hours worked by processing workers during the season.

**TOTAL LABOR PAYMENT:** record the total direct payment made to direct crab laborers. Exclude benefits and indirect expenses made on their behalf.
- 4.** **RAW POUNDS SUPPLIED:** record the number of raw pounds supplied to the custom processor for processing on your behalf.

**FINISHED POUNDS:** record the number of finished pounds of the specified product processed on your behalf.

**PROCESSING FEE:** record the total payment you made to custom processors for their BSAI crab processing services, by species and product.
- 4.** **GRADE/SIZE:** record the sizes/grades of the raw fish purchased each season, by species. If you purchased different sizes/grades of a particular species, record the total purchases for each on a separate line.

**RAW POUNDS PURCHASED:** record the total pounds of raw fish purchased in each season, by grade.

**GROSS PAYMENT:** record the total cost of the raw fish purchased in each season, by species and grade/size. Include any post-seasonal adjustments in the totals.
- 5.** **FINISHED POUNDS SOLD:** record the total pounds of each product sold in the year.

**GROSS REVENUE (FOB ALASKA):** record the total FOB Alaska revenue received for each product sold in the year.
- 6.1** **a. TOTAL OF FISHERY RESOURCE LANDING TAXES, FISHERIES BUSINESS TAXES, BOROUGH AND CITY TAXES, WHERE APPLICABLE:** the sum of all direct tax payments you made to a borough or the state of Alaska as a result of landing or processing BSAI crab for the year.

**b. FUEL, ELECTRICITY, LUBRICATION & HYDRAULIC FLUIDS:** the total annual cost of fuel, electricity, lubrication & hydraulic fluids used in BSAI crab processing, by location.

**c. PACKAGING MATERIALS & SUPPLIES:** the total cost of all materials used to package BSAI crab products processed by this plant.

**d. OTHER COSTS FOR DIRECT CRAB LABOR (FOOD & PROVISIONS TRANSPORTATION AND HOUSING, P&I CLAIMS, BENEFITS, RECRUITMENT, TRAINING AND EDUCATION):** record the resulting costs for these items that were borne solely by you. For example, if labor was charged to offset the cost of certain items, do not include these costs.

**e. RE-PACKING COSTS:** record the total cost of re-packing BSAI crab products processed by this plant.

## 6.1 (continued)

**f. BROKER FEES AND PROMOTIONS FOR BSAI CRAB SALES:** record the sum of all fees paid to brokers for sales and promotion of BSAI crab in the year.

**g. OBSERVER COSTS:** record all costs for having observers in your plant during BSAI crab processing.

**h. FREIGHT:** total expenses for having equipment/items used in this plant (for BSAI crab only) shipped and stored on your behalf. Do not include freight costs for product sales, as the sales revenues are to be reported on a FOB Alaska basis.

**i. PRODUCT STORAGE, HANDLING:** record the total amount paid to store and handle processed BSAI crab products during the year.

**k. OTHER CRAB-SPECIFIC COSTS; SPECIFY:** list the total cost of other expenditures incurred this year that were specific to BSAI crab processing not included in any of the other categories. Please specify the nature of the expense(s) and do not list costs to be recorded in Sections 6.2 or the costs of permits, licenses, or IFQ fees (these costs can be determined internally by state and federal agencies).

**6.2** **a. INSURANCE:** the annual insurance premiums for this plant for the year.

**b. PRINCIPAL PAYMENTS FOR PLANT & EQUIPMENT:** the total annual payments made for the year on the principal of outstanding debt related to this plant and its equipment.

**c. INTEREST PAYMENTS FOR PLANT & EQUIPMENT:** the total annual payments made for the year for interest on outstanding debt related to this plant and its equipment.

**d. CAPITAL IMPROVEMENTS IN PLANT AND EQUIPMENT:** the total annual capital expenditures on new equipment and improvements related to processing or storage, by location of purchase. Exclude standard repairs and purchases that are necessary to conduct operations.

**e. MAINTENANCE & REPAIR EXPENSES FOR EXISTING PLANT AND EQUIPMENT:** the total annual expenses for maintaining or repairing this plant and its equipment (exclude improvements) for the year.

**g. OTHER PLANT-SPECIFIC COSTS; SPECIFY:** list the total cost of all other plant-specific expenditures incurred this year that were not included in any of the other categories. Please specify the nature of the expense(s) and do not list costs recorded in Section 6.1.

# **Appendix 3-6**

**09-09-02**

## **Catcher-Processor Survey**

This survey is intended to gather information principally on BSAI crab operations (including CDQ fisheries). The definition of terms used in each question/category in the survey is included in an Appendix at the end of this document. Using the Appendix will help to improve the clarity of the both the questions and your responses. You can tear off these last few pages and use them as you proceed through the survey.

**Person Completing the Survey**

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ FAX \_\_\_\_\_

E-mail address: \_\_\_\_\_

**Vessel Information**

Vessel name: \_\_\_\_\_

Owner: \_\_\_\_\_

USCG vessel ID: \_\_\_\_\_

ADF&G vessel ID: \_\_\_\_\_

Homeport: \_\_\_\_\_



## 2.1 BSAI Crab Labor Costs

### Harvesting Labor:

SEASON	# OF CREW EARNING SHARES	TOTAL CREW SHARE PAYMENT	TOTAL CREW SHARE PAYMENT MINUS CAPTAIN'S SHARE

SEASON	# OF CREW EARNING WAGES	TOTAL CREW WAGE PAYMENT

Processing Labor: note: if some employees harvest and process crab, and are paid according to a share system and included in the payment above, do not include them in the following.

SEASON	# OF EMPLOYEES WITH PAY DETERMINED BY PROCESSING WORK	# OF CRAB PROCESSING POSITIONS	TOTAL MAN-HOURS	TOTAL PROCESSING LABOR PAYMENT





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**6.1 Vessel-Specific BSAI Crab Costs** Record the costs incurred for this vessel only for the year's crab harvesting and processing for each item in the TOTAL COST column.

COST CATEGORY	TOTAL COST
a. <u>Insurance (hull, P&amp;I and pollution)</u>	
Season: _____	\$
b. Total of fishery resource landing taxes, fisheries business taxes, processing taxes, borough and city taxes, where applicable	\$
c. <u>Pot purchases</u>	
City/Port and State: _____ Quantity _____	\$
City/Port and State: _____ Quantity _____	\$
City/Port and State: _____ Quantity _____	\$
d. <u>Other crabbing gear and line purchases:</u>	
City/Port and State: _____	\$
City/Port and State: _____	\$
City/Port and State: _____	\$
e. <u>Bait</u>	
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Season: _____ City/Port: _____ Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$
Species: _____ Quantity: _____	\$

COST CATEGORY	TOTAL COST
<b>f. <u>Fuel</u></b>	
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
Season: _____ City/Port: _____ Qty: _____	\$
<b>g. <u>Lubrication and hydraulic fluids</u></b>	
Location: 1) City/Port: _____	\$
2) City/Port: _____	\$
3) City/Port: _____	\$
<b>h. Other crew costs (food and provisions, transportation and housing, P&amp;I claims, benefits, recruitment, training and education)</b>	
<b>i. <u>Packaging materials and supplies</u></b>	
Location 1) City/Port and State: _____	\$
2) City/Port and State: _____	\$
3) City/Port and State: _____	\$
<b>j. Re-packing costs</b>	\$
<b>k. <u>Broker fees and promotions for BSAI crab sales</u></b>	
Season: _____ Species: _____	\$
<b>l. <u>Observer Costs</u></b>	\$
Season: _____	\$

COST CATEGORY	TOTAL COST
m. Freight	\$
n. Product storage, handling	\$
o. Waste and disposal	
p. Other crab-specific costs; specify: _____ _____	\$

**6.2 Vessel-Specific Costs** Record the annual costs for this vessel only for each item in the TOTAL column. If the reported total should not be attributed solely to BSAI crab, please record the TOTAL and place an "X" in the "PRORATE OVER ALL ACTIVITIES?" column.

COST CATEGORY	TOTAL	PRORATE OVER ALL ACTIVITIES?
a. Principal payments	\$	
b. Interest payments	\$	
c. <u>Capital improvements in vessel, gear and equipment</u>		
1) City/Port and State: _____	\$	
2) City/Port and State: _____	\$	
3) City/Port and State: _____	\$	
d. <u>Maintenance and repair expenses for vessel, gear and equipment</u>		
1) City/Port and State: _____	\$	
2) City/Port and State: _____	\$	
3) City/Port and State: _____	\$	
e. Salaries for foremen, managers and other vessel-level employees not included in direct labor costs reported in 2.1 # OF EMPLOYEES: _____	\$	
f. Other vessel-specific costs; specify _____ _____	\$	

**7. BSAI Crab Custom Processing Revenue**

PRODUCT INFORMATION	REVENUE
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$
Species: _____ Product Form: _____	\$

**8. Labor Payment Details**

8.1 Which of the following expenses were subtracted from total revenues (gross stock) before calculating the crew share? (Circle one number for each)

	DEDUCTED	NOT DEDUCTED
a. Fuel and lube _____	1	2
b. Food and provisions _____	1	2
c. Observer costs _____	1	2
d. Gear loss _____	1	2
e. Other (specify) _____	1	2

8.2 What percentage of the net share (gross stock minus the expenses indicated above in 8.1) went to:

- a. Boat Share \_\_\_\_\_%
- b. Crew Share (including skipper)..... \_\_\_\_\_%

8.3 Approximate the percentage of crew payments paid to persons who live in the following regions:

- p. Alaska \_\_\_\_\_%
- q. Oregon \_\_\_\_\_%
- r. Washington \_\_\_\_\_%
- s. Another US state..... \_\_\_\_\_%
- t. Foreign country..... \_\_\_\_\_%

**Appendix: Survey Question Details**

**1.1 SEASON:** record the name of one of the following management/quota areas: BS snow (opilio), Bristol Bay red king, Western AI brown, Eastern AI brown, Western AI red, BS Tanner (bairdi), Pribilof red and blue, St. Matthew blue.

**# OF DAYS AT SEA:** record the total number of days you spent at sea during the specified season.

**AVERAGE CREW SIZE:** record the average number of crewmembers onboard for each trip taken in each of the BSAI crab fisheries.

**1.2 # OF CRAB PROCESSING DAYS:** record the total number of days spent processing BSAI crab in each season.

**SPECIES:** record the name of each species processed during the season. If multiple species were processed, record each species on a separate line.

**PRODUCT:** record the name of each product produced from the reported species, by season. If multiple products were produced from a given species, record the total for each on a separate line.

**SIZE/GRADE:** record the size and grade of each product produced from the reported species, by season. If different sizes or grades of a product were produced in a season, record the total for each on a separate line.

**BOX SIZE:** record the box size associated with each product. If different box sizes were produced, record the total amount for each box size on separate lines.

**RAW POUNDS:** record the number of raw pounds used in processing the specified products.

**FINISHED POUNDS:** record the number of finished pounds produced for each specified product.

**CUSTOM PROCESSED (Y OR N)?:** record custom and non-custom processing activities on separate lines. If the recorded production was custom work, enter a “Y” – otherwise enter a “N.”

**2.1**

**# OF CREW EARNING SHARES:** record the number of crewmembers who were paid according to a share system (as opposed to an hourly, daily, or trip wage).

**TOTAL CREW SHARE PAYMENT:** record the total payment made to all crewmembers paid on the share system, including the captain. Do not include other crew-related expenses (such as benefits, food and provisions, etc.) in the payment columns.

**TOTAL CREW SHARE PAYMENT MINUS CAPTAIN’S SHARE:** subtract the captain’s share payment off of the total share payment and record the value.

**# OF CREW EARNING WAGES:** record the number of crewmembers who were paid a wage (as opposed to a share system).

**TOTAL CREW WAGE PAYMENT:** record the total payment made to all wage-earning crewmembers. Do not include other crew-related expenses in the payment column.

**# OF EMPLOYEES WITH PAY DETERMINED BY PROCESSING WORK:** record the total number of employees whose pay was determined by their processing activities.

**# OF CRAB POSITIONS:** record an estimate of the total number of employees engaged in, and in support of, crab processing in each 24 hour period, during each season. For example, if you typically had two shifts of 15 crab-designated laborers, you would record 30 crab positions.

**TOTAL MAN-HOURS:** record the sum of all hours worked by processing workers during the season.

**TOTAL PROCESSING LABOR PAYMENT:** record the total direct payment made to direct crab laborers engaged in processing. Exclude benefits and indirect expenses made on their behalf.

**5.**

**RAW POUNDS SUPPLIED:** record the number of raw pounds supplied to the custom processor for processing on your behalf.

**FINISHED POUNDS:** record the number of finished pounds of the specified product processed on your behalf.

**PROCESSING FEE:** record the total payment you made to custom processors for their BSAI crab processing services, by species and product.

**4.**

**GRADE/SIZE:** record the sizes/grades of the raw fish purchased each season, by species. If you purchased different sizes/grades of a particular species, record the total purchases for each on a separate line.

**RAW POUNDS PURCHASED:** record the total pounds of raw crab purchased in each season, by grade.

**GROSS PAYMENT:** record the total cost of the raw crab purchased in each season, by species and grade/size. Include any post-seasonal adjustments in the totals.

**5.**

**FINISHED POUNDS:** record the total pounds of each product sold in the year.

**GROSS REVENUE (FOB ALASKA):** record the total FOB Alaska revenue received for each product sold in the year.

**6.1**

**a. INSURANCE (HULL, P&I AND POLLUTION):** the annual insurance premiums for the year for this vessel, by crab season. If some insurance costs cannot be attributed to each crab season, enter these costs in Section 6.2.

**b. TOTAL OF FISHERY RESOURCE LANDING TAXES, FISHERIES BUSINESS TAXES, BOROUGH AND CITY TAXES, WHERE APPLICABLE:** the sum of all tax payments you made directly to a borough or the state of Alaska as a result of landing or processing BSAI crab for the year.

**c. POT PURCHASES:** the total quantity and cost of pots purchased for the year, by location of purchase.

**d. OTHER CRABBING GEAR AND LINE PURCHASES:** the total expense on line, floats, and other fishing gear other than pots used in BSAI crab fishing, by location of purchase.

**e. BAIT:** the total quantity and cost of bait (by species) purchased in each season for the year, by location of purchase. If you caught a portion of your bait, do not list the location and estimate the cost of catching the bait, by species. If you received bait from a processor and this cost is already reflected in your reported catch revenues (i.e., you were paid less to reflect the bait given to you), do not record this as a bait cost here.

**f. FUEL:** the total quantity and cost of fuel used in crab fishing for the year, by location of purchase.

**g. LUBRICATION AND HYDRAULIC FLUIDS:** the total cost of lubrication & hydraulic fluids used in BSAI crab fisheries for the year.

## 6.1 (continued)

**h. OTHER CREW COSTS (FOOD AND PROVISIONS TRANSPORTATION AND HOUSING, P&I CLAIMS, BENEFITS, RECRUITMENT, TRAINING AND EDUCATION):** record the resulting costs for these items that were borne solely by you. For example, if labor was charged to offset the cost of certain items, do not include these costs.

**i. PACKAGING MATERIALS & SUPPLIES:** the total cost of all materials used to package BSAI crab products processed by this vessel.

**j. RE-PACKING COSTS:** record the total cost of re-packing BSAI crab products processed by this vessel.

**k. BROKER FEES AND PROMOTIONS FOR BSAI CRAB SALES:** record the sum of all fees paid to brokers for sales and promotion of BSAI crab in the year.

**l. OBSERVER COSTS:** record all costs for having observers on your vessel during BSAI crab processing.

**m. FREIGHT:** total expenses for having equipment/items used on this vessel (for BSAI crab only) shipped and stored on your behalf. Do not include freight costs for product sales, as the sales revenues are to be reported on a FOB Alaska basis.

**n. PRODUCT STORAGE, HANDLING:** record the total cost of storing processed BSAI crab products during the year.

**p. OTHER CRAB-SPECIFIC COSTS; SPECIFY:** list the total cost of other expenditures incurred this year that were specific to BSAI crab processing not included in any of the other categories. Please specify the nature of the expense(s) and do not list costs to be recorded in Section 6.2 or the costs of permits, licenses, or IFQ fees (these costs can be determined internally by state and federal agencies).

## 6.2

**a. PRINCIPAL PAYMENTS:** the total annual payment made this year on the principal for outstanding debt related to this vessel.

**b. INTEREST PAYMENTS:** the total interest expense paid this year on outstanding debt related to this vessel.

**c. VESSEL AND GEAR IMPROVEMENTS:** the total annual expenditure on new equipment related to fishing, by location of purchase. Include improvements but exclude standard repairs and purchases that are necessary to conduct fishing operations. Exclude the pot and crabbing gear and line purchases listed above.

**d. VESSEL AND GEAR MAINTENANCE AND REPAIR EXPENSES:** the total expenses for maintaining this vessel for fishing, and for repairing mechanical and physical problems with the vessel or equipment (exclude improvements).

**f. OTHER VESSEL-SPECIFIC COSTS; SPECIFY:** record any other vessel-specific cost(s) that was not included in the categories above and not reported in the crab season-specific table (Section 4.1), such as port and harbor charges, or other insurance expenses.

# **Appendix 3-6**

## **Sections 7 and 8**

### ***Section 7: Potential uses of the industry's September 5<sup>th</sup> data proposal***

This section of the appendix provides a discussion of some specific questions that are likely to be of interest to the Council and of the analysts' ability to answer those questions given the industry's September 5<sup>th</sup> data collection proposal (see Appendix 3-6, Section 6 for the submitted documents). As will be shown in more detail below (in Table 3-7.7.1), some of the questions can be addressed adequately and some cannot. Presumably in response to the limited analyses that could be performed with the data provided in the September proposals, in October the Council moved to evaluate three alternatives that mandate the collection of all variable cost data and varying degrees of fixed cost data. In all fairness to industry, they had submitted their proposals before the direction was provided at the October Council meeting, and again have agreed to provide whatever data the Council deems appropriate.

Without information on all input costs and revenues a firm's profitability cannot be estimated. Therefore, based on the September proposal, the profitability of the industry, sectors within the industry, or firms within each sector, cannot be estimated. Quasi-rents could be estimated, but just for the BSAI crab operations of a firm, and the role of rationalization in any observed cost changes could not be distinguished with confidence. Technical efficiency and productivity of firms within the industry cannot be accurately estimated without measures of all the inputs used in harvesting and processing crab. Cost efficiency of firms cannot be estimated without accompanying measures of the quantity (or price) of the inputs used. Community impact analysis cannot be undertaken without information on the location, price, and quantity of input purchases. Finally, with the data that industry has proposed to provide, it will not be possible to provide accurate estimates of net benefits<sup>1</sup> to the Council for use in RIRs.

Questions that could be answered with the data in the September 5<sup>th</sup> proposal are those regarding the number of employees (direct labor only) in the crab fishery, the cost of employing those individuals, changes in ownership patterns and structure, changes in vertical integration, quasi-rents earned solely in the BSAI crab portion of a firm's business, and the value of QS transfers. The ability to quantify changes in these areas would, however, represent an improvement over our current state of knowledge.

The following table shows issues that the Council may wish to see addressed in their reports, the information that would be available given the September 5<sup>th</sup> industry proposals and existing data bases, how well that information can address the issues, and the additional data that would be required to perform a satisfactory analysis<sup>2</sup>. The measures to be estimated were taken from Section 2 in Appendix 3-6.

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<sup>1</sup>Recall that net benefit analyses compute producer surplus (total revenue minus total costs excluding transfer payments [e.g., taxes, grants, etc.]) and consumer surplus within the US economy.

<sup>2</sup> The "additional data needed" is that which is generally accepted as a required element of the model(s) typically used by economists to construct each objective measure. Other data elements may be incorporated to enhance one's confidence in the estimate, but these elements are omitted here.

**Table 3-7.7.1 Economic measures, data, and confidence in estimate**

<b>Measures</b>	<b>Data Collected (<i>italics</i> indicate industry proposed data)</b>	<b>Additional Data Needed from Industry</b>	<b>Confidence in Estimate without this Additional Data</b>
<i>Issue: Excess Harvesting and Processing Capacity and Low Economic Returns</i>			
Harvesting capacity and capacity utilization (CU)	Harvest levels per vessel, time spent fishing, number of active vessels, <i>some variable input costs</i>	Complete variable input costs and quantities, "fixed costs" related to capital (R&M and new purchases) and salaried employees	Fishery participation and activity can be monitored, but standard CU measures cannot be adequately constructed.
Processing capacity and capacity utilization	Processing levels per plant, time spent processing, number of active plants, <i>variable input costs and quantities</i>	"Fixed costs" related to capital (R&M and new purchases) and salaried employees	Processing activity can be monitored, and <i>technical</i> capacity and CU measures can be constructed with some caveats <sup>3</sup> .
Harvesting sector profit for BSAI crab only (total revenue - total cost)	A firm's revenue and <i>some variable input costs from the BSAI crab fishery only</i>	Complete fixed and variable cost data	Cannot be estimated because some variable costs and all fixed costs would not be provided.
Harvesting sector quasi rent for BSAI crab only (total revenue - total variable cost)	A firm's revenue and <i>some variable input costs from the BSAI crab fishery only</i>	Complete variable input costs and quantities, "fixed costs" related to capital (R&M and new purchases) and salaried employees	Rough estimates for the BSAI crab portion of a firm's operation could be provided.
Processing sector profit for BSAI crab only	A firm's revenue and <i>some variable input costs (and quantities) from BSAI crab processing only</i>	Complete fixed and variable cost data	Cannot be estimated because fixed costs would not be provided.
Processing sector quasi rent for BSAI crab only	A firm's revenue and <i>variable input costs (and quantities) from BSAI crab processing only</i>	"Fixed costs" related to capital (R&M and new purchases) and salaried employees	Estimates for the BSAI crab portion of a firm's operation could be provided
Harvesting sector productivity and efficiency	Catch levels, fishing weeks, pot lifts, <i>some variable input cost data</i>	Complete variable input costs and quantities, "fixed costs" related to capital (R&M and new purchases) and salaried employees	Reliable estimates of productivity, technical efficiency, and allocative cost efficiency cannot be developed without measures of input use to accompany the cost data

<sup>3</sup>A distinction is drawn here between *technical* and *economic* capacity (and CU) estimates. As discussed earlier, economic capacity estimates reflect the extent to which costs are minimized through utilization of capacity, and thus provide a richer interpretation. Technical capacity (and CU) estimates indicate the extent to which a firm is producing near their maximum physical output level, regardless of cost.

**Table 3-7.7.1(Cont.) Economic measures, data, and confidence in estimate**

<b>Measures</b>	<b>Data Collected (<i>italics</i> indicate industry proposed data)</b>	<b>Additional Data Needed from Industry</b>	<b>Confidence in Estimate without this Additional Data</b>
Processing sector productivity and efficiency	Production levels, <i>crab purchases</i> , weeks processing crab, <i>variable input cost and quantity data</i>	Costs related to capital (R&M and new purchases) and salaried employees	Estimates of productivity, technical efficiency, and allocative cost efficiency can be developed; data on capital expenditures/value are required for good estimates
Management costs	Will not rely on data collected from industry	None	Good estimates can be provided by agencies.
<i>Issue: Lack of Economic Stability for Harvesters, Processors and Coastal Communities</i>			
Distribution of catch and ex-vessel revenue by vessel class (e.g., length class and type), port of landing, and residence	Revenue, fish tickets, <i>ownership, and employment data (for direct labor)</i>	None	Good estimates can be made with the data sources listed
Distribution of processed product revenue by community and processor or processor category (size, ownership, location)	Revenue, fish tickets/RAM landings, <i>ownership, and employment data (for direct labor)</i>	None	Good estimates can be made with the data sources listed
Distribution of profits and quasi rents within and between the harvesting and processing sectors	Revenue, <i>some BSAI crab variable costs</i> , and plant/owner location data	Complete variable and fixed costs	Profits cannot be estimated. Quasi rents in BSAI crab (with caveats) could be assigned to plant/ vessel
Distribution of harvester use rights by vessel class	RAM QS data	None	Good estimates can be made
Distributions of harvester and processor use rights by processor or processor category	RAM QS data	None	Good estimates can be made
Seasonality of catch and ex-vessel revenue by vessel class, port of landing, and residence	Fish tickets/RAM <i>landings data, revenue, ownership data</i>	None	Good estimates can be made
Processor ownership interest in BSAI crab catcher vessels and harvester QS/catch history	<i>Ownership data</i> , RAM QS data	None	Good estimates can be made
Catcher vessel ownership interest in BSAI crab processors and processing QS/catch history	<i>Ownership data</i> , RAM QS data	None	Good estimates can be made

**Table 3-7.7.1(Cont.) Economic measures, data, and confidence in estimate**

<b>Measures</b>	<b>Data Collected (<i>italics indicate industry proposed data</i>)</b>	<b>Additional Data Needed from Industry</b>	<b>Confidence in Estimate without this Additional Data</b>
Concentration of domestic and foreign ownership in the BSAI crab harvesting and processing sectors	<i>Ownership data/MARAD data.</i>	None. Assumes information that links companies to parent companies will be collected	Would need to collect as part of the ownership data or be allowed to access MARAD data.
Level and distribution of harvesting and processing sector employment and payments to labor (number of individuals, hours/days worked, and income)	<i>Aggregate employment data for direct labor</i>	Need estimates of hours/days worked, labor cost estimates need to be separated into payments to labor and other labor costs (benefits, training, etc.)	Estimates of labor costs (not wages) and the number of individuals employed would be provided. Hours/days worked would be problematic, and labor payments would have to be imputed from total labor costs
Degree of involvement of BSAI crab harvesters and processors in other AK fisheries	RAM QS data, fishtickets, NMFS Blend data, COAR	None	Good estimates can be made with the listed data sources
Value of use right	RAM Transfer data	None, assuming RAM tracks transfer prices	Reasonable estimates could be made if RAM tracks the value of transfers
Regional economic impacts (employment and income) of the BSAI crab fisheries	<i>No data is currently available with industry proposals</i>	Location, quantity, and cost of all purchases made by crab harvesters and processors	Cannot be estimated
<i>Issue: High Levels of Loss of Life and Injury</i>			
Vessel safety	USCG vessel safety statistics and NIOSH data	None	Reasonable estimates can be made
Number of days at sea by weather risk level	Fish tickets and weather service data	Information on specific days at sea	Difficult to estimate because we cannot determine the specific days at sea
Pots carried or fished per trip by vessel class	Only pot limit and buoy tag data are available	Information on the number of pots fished	Could not estimate the number of pot fished - especially under an IFQ system

Some members of industry have expressed concern that the data collection elements proposed by agency economists will be used to study the profits of individual firms, and that the information might be used in the future to redistribute harvest rights. While it may be possible for that to occur<sup>4</sup>, the questions agency economists are tasked with addressing are rarely concerned with the profits of a single firm. Economic analyses generally focus on “*exploring the ins and outs of how society’s pool of scarce resources (.natural resources, technology, labor, capital goods, managerial talents) can be utilized to produce a stream of goods and services that produce the greatest consumer and societal fulfillment*” (Thompson, 1985).

In producing RIRs for the Council and SOC, analysts are required to estimate the action’s impact on net benefits to the Nation, which does not elicit information in individual plants, vessels, or firms. The Council has also asked for periodic reports on the success of the crab rationalization program. The estimates contained in such reports also do not require the release of individual records. Therefore, none of the information gathered as part of this process would be presented in public documents or reports that would identify the profitability of a vessel/processor/firm. All information would be presented in aggregate to preserve the confidentiality of the participants in the fishery.

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<sup>4</sup>The Council may begin an FMP amendment for a fishery when problems are brought to their attention that they feel warrant action on their part.

## *Section 8: Effects of aggregation in economic analyses*

It is clear that aggregating the results of analyses based upon confidential data is a prudent step, as it protects the identities of all parties involved, yet allows for public discussion of the results. Furthermore, aggregating results obtained from analyses in no way compromises the quality of work, types of methods that can be used, or one's confidence in the results. The same cannot be said, however, when the underlying data used to construct analyses is aggregated. Aggregating data prior to analyses gives rise to several problems that limit analysts' ability to understand the effects of rationalization.

### Diminished Ability to Verify the Accuracy of Data

When data is only examined at an aggregate level, one is unable to spot data anomalies that may lie within particular observations. Data anomalies would only be obvious if the underlying error is quite large, and would likely go unobserved in other cases. Even in cases where the suspected error were sufficiently large to raise questions, the analyst would be unaware of the specific source that gave rise to the anomaly, which would make it more difficult to track down. Finally, observations which contain outliers (i.e., those which are reported correctly, yet differ greatly from other observations within the sample) cannot be distinguished, interpreted, or handled differently from more representative data points when constructing models or providing descriptive statistics.

### Inability to Discern Distributional Impacts

The use of aggregate data does not allow the analyst to describe the number of firms that "gained" or "lost" according to a particular metric (e.g., quasi-rents, profits, productivity, efficiency) – only the net outcome can be expressed. Therefore, it is not possible to determine with certainty whether a majority of firms are better or worse off because of a particular policy action. An obvious result of not being able to discern the number of firms that gained and the number that lost is an inability to explain why that pattern came about. This would make it difficult to adapt policies in response to unintended effects (effects which may be immeasurable, coincidentally, if analysis relies upon aggregated data) .

Furthermore, when data is aggregated according to a particular rationale (say, by size class), it is not possible to restructure the data according to other groupings that may be of interest to the Council. Only if all vessels within the aggregated groups share the characteristics of the other groupings can one change the point of reference for the analysis.

### Limited Ability to Conduct Statistical Analyses

While aggregate data might provide some useful information for tracking the economic performance (e.g., total quasi-rents for each group or averages across groups) it would not be very useful for policy analysis. With access to only a limited number of observations, one cannot estimate the statistical models that allow analysts to isolate the effects of policies from other external effects (such as market or stock effects). In order to clarify the role of observations within statistical models, the following discussion is provided.

Economic theory is concerned with explaining the relationships among economic variables and using that information to explain, evaluate, and/or predict production, allocation, and distribution decisions. The economic variables typically considered when analyzing production decisions are the inputs used, the output obtained, and the prices paid or received for the inputs and outputs, respectively. This process typically involves specifying a "model" that characterizes the salient aspects of a particular process or decision. The model defines the general relationships to be examined, and relies upon data on observed choices and factors affecting those choices to provide information on relationships of interest.

One motivation for constructing models, as opposed to merely observing each factor in a production or decision making process in isolation, is that several influential factors may change simultaneously and one

cannot distinguish the role (or the relative importance) each may have played on the observed outcome. In such cases, one is unable to give a qualitative or anecdotal description of why the observed result came about. One may be able to use *a priori* judgement about the effect of each factor in isolation, but the collective effect of simultaneous factors that may each have different and/or offsetting impacts cannot be deciphered.

Fortunately, a statistical model allows one to incorporate several important factors (or “variables”) that collectively determine an outcome, and structure the roles of these variables to reflect the nuances of the situation being examined. The basic structure chosen to characterize these relationships is called the “specification”, which may be thought of as a definition of the variables that affect the decision being examined and the way in which they are involved.

The primary role of the data used in a model is to contribute information to estimate and quantify the role or effect of each variable on the decision. This information then allows one to estimate the overall effects that would arise when multiple variables change simultaneously, or predict the outcome that is likely to occur when the variables take on particular values. Because each data point used in the model represents an observed outcome and gives the corresponding value of the variables that affect that outcome, having more data points generates more evidence to characterize the role and relative magnitude of each variable in the relationship under study. Thus, the quality of the information obtained from the model depends crucially upon the number of observations one has to rely upon.

Once the relationship between outcomes and each influential variable has been estimated, one can construct estimates of the likely outcome that would occur if particular values of the influential variables were to arise. For example, if one has a good estimate of the way (direction and magnitude) in which fishing costs are affected by input prices and stock conditions, and a mechanism to monitor changes in those variables, one can identify the costs changes that arise from other impacts such as a changes in the management of the fishery (e.g., rationalization). One can isolate these external impacts because one is simultaneously accounting for any changes in the other salient variables that affect harvesting costs.

The role of each variable in the model is identified by examining statistical correlations between its value and the associated outcome. The benefit of estimating the relationships in this way is that the strength of the correlations can be quantified in order to assess one’s confidence in the estimated relationships, or define a range of values in which the estimates are very likely to lie (“confidence intervals”). However, the precision of the estimated relationships is dependent on the number of data points (outcomes and their influential variables) one observes, and the confidence in, and precision of, estimates diminishes with fewer observations. In this way, it is typically the number of observations available to the analyst that limits the complexity and realism of a model, and one’s confidence in the conclusions that may be drawn.

As a result, by aggregating data on production decisions over one or more firms, one immediately diminishes a model’s ability to accurately characterize the relationships of interest as well as the certainty and precision of one’s estimates. Furthermore, restrictions not associated with the loss of observations are also imposed through aggregation. Specifically, rather than looking at individual decisions and the state of the factors that effect them, one looks at the net outcome of a multitude of decisions and states of nature. Reliance on a “representative” data set therefore masks reality, requires one to assume that all firms are affected identically by changes in the influential variables, and necessitates that large costs incurred by one firm and benefits gained by another go unaccounted.

It is worth emphasizing, however, that the benefits of firm-level data in models (increased precision, robustness, and confidence in the estimated relationships) need not be offset by concerns regarding the release of the confidential data when the results of the model are reported. One can present results of a

models at various levels of aggregation (focusing on groups of interest) -- as though the firm-level detail was never there. The essential difference, however, is that much more information (based on actual decisions) went into establishing the relationships described by the model, even though the level of sensitive detail shown in the model results is identical.

#### Bias Arising from Incorrect Aggregation

Up to this point, the discussion has centered on the limited analyses that can be conducted with aggregate data, and has not focused on issues related to the way in which data are aggregated. These issues have their roots in economic theory, and are therefore more difficult to convey without use of mathematics, but can be summarized as follows. There are assumptions implicitly made when one groups together multiple vessels or plants, which, if incorrect, can severely bias the results of the economic model one is constructing. Typical assumptions that must hold, for example, are that all plants/vessels and decision making entities are “identical” (in terms of their costs, risk preferences, the type of technology they use, etc.). When such assumptions are not valid, the aggregation leads to erroneous results.

The economics literature provides a vast discussion of the problems associated with aggregating over firms or individuals. Two well-written books on production theory provide complete chapters on issues related to aggregation bias (Chambers 1988, and Cornes 1992). Many journal articles have also been written on this topic. Examples include Crown (1990), DeBeaumont and Singell (1999), Derrick and Wolken (1985), De Serres, Scarpetta and de la Maisonneuve (2001), Fortin (1991), Gupta (1971), Kymn (1990), Lai (1991), May Lee (1997), Lee, Pesaran and Pierse (1990), Lewbel (1992), Lovell (1973), Lovell *et al.* (1988), Mittelhammer *et al.* (1996), Mozayeni (1998), Olsen (2000), Pesaran *et al.* (1994), Shumway and Davis (2001), Teulings (2000), and Thomas and Tauer (1994).

#### An Empirical Example of Aggregation Bias

The literature cited above contains many examples of aggregation bias, but in an attempt to provide an example directly related to the fishing industry (and crab in particular), we provide the following. In October 2002, the Alaska Fisheries Science Center compiled a report that provided quantitative estimates of fishing capacity for the vessels that participated in federally managed Alaskan fisheries in 2001 (NMFS, 2002). The estimates computed in the report used vessel-level data to estimate what each vessel could have caught, by species, if they targeted the same species as in 2001, but fished the maximum number of weeks they had ever fished (over the 1990-2001 period). Once estimates were computed for each vessel, vessels were categorized according to vessel type, gear and other factors (e.g., target species, vessel length, license type). Table 3-7.8.1 below shows the capacity estimates for the group of catcher vessels using pot gear for Pacific Cod and crab. Estimates in the “Disaggregated Data” column were computed with individual vessel observations, using the methodology described above. Estimates in the “Aggregate Data” column were computed by taking the means for each of the variables used in the former calculations to create an aggregate capacity estimate for each species.

**Table 3-6.8.1 Capacity estimates based on aggregated and disaggregated data**

Species	Aggregate Data	Disaggregated Data	% Difference
Pacific Cod	25,869.4	27,781.0	-6.9%
Golden King Crab	3,656.3	4,930.0	-25.8%
Red King Crab	4,623.8	12,104.0	-61.8%
Lanner Crab	13,691.3	35,495.0	-61.4%

As can be seen in the third column, the capacity estimates based on aggregated and disaggregated data are substantially different (especially for each crab species). Although the potential bias that may arise in a model is dependent upon the degree of heterogeneity in the fleet under study (which is masked by only examining means or totals), it is evident that the crab fleet has enough heterogeneity to be affected. With that in mind, the potential for creating such biases through aggregation represents a significant concern that should be considered when designing and implementing the mandatory data collection.

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