

**Crab economic data collection  
North Pacific Fishery Management Council  
April 2011**

As a part of its Bering Sea and Aleutian Island crab rationalization program, the Council developed an economic data collection program to provide information to analysts to assess the effects of the program and future amendments to the program. Based on reviews of the data, it has been established that certain of the data elements collected are not accurately or consistently reported across respondents, preventing their use for some of their intended purposes. Given these circumstances, at its October 2010 meeting, the Council elected to begin the process of developing an amendment to revise the data collection program, by adopting a purpose and need statement and outlining alternatives. At that time, the Council also requested that staff use the outlined alternatives to draft fully specified alternatives for its consideration. This paper is the staff response to that request.

To guide its action to revise the data collection program, the Council has developed the following purpose and need statement:

*As a part of its Bering Sea and Aleutian Island crab rationalization (CR) program, the Council developed a comprehensive economic data collection ("EDR") program to provide information to analysts to assess the effects of the CR program and identify problems that may require future amendments to the EDR program.*

*Council review of the EDR program, development of the EDR metadata through PNCIAC and testimony from the industry has resulted in the identification of substantial portions of the EDR data that are inaccurate. In addition, several elements are wholly or partially redundant with other existing data collection requirements, and some components may not further the Council's objectives. The cost to industry, both directly through data submission, and indirectly through cost recovery funding of program administration, outweigh the benefits of the resultant data and greatly exceed estimates provided in the initial analysis of the EDR program and in the accompanying regulatory analyses.*

*To address these problems, the Council intends to amend the EDR process so that the data collected is accurate, informative to the Council, not redundant with existing reporting requirements, and can be reported by industry and administered at a reasonable cost.*

*The Council expressly wants to limit the EDR to the collection of data that have been demonstrated, through the development of the EDR metadata, and other reviews of the data, to be sufficiently accurate. Data collection should be structured and specific elements identified, to minimize costs while maintaining accuracy and providing the greatest information value to the management decision making process.*

*As analysts develop, refine, and verify methods for accurately collecting additional informative data elements the Council will consider expansion of the data collection program to include those elements. This process can also inform the future Council action regarding other existing and future EDR programs.*

To address this purpose and need, the Council adopted the following outline of alternatives for further development at this meeting:

- 1) critical operational components by individual crab fishery,
- 2) critical operational components from all crab fisheries (aggregated across all crab fisheries),

- 3) critical operational components from all fisheries (aggregated across all fisheries), and
- 4) all operational components by individual crab fishery (similar to current data collection program). (updated status quo)<sup>1</sup>

These alternatives are bolded in the following table:

		<b>Fishery information level</b>		
		<u>By individual crab fishery</u>	<u>Crab fishery only</u>	<u>All fisheries</u>
<b>Economic information level</b>	<u>Critical elements</u>	<b>Critical operational components by crab fishery</b>	<b>Critical operational components in the crab fisheries</b>	<b>Critical operational components pertinent to activities in all fisheries</b>
	<u>All elements</u>	<b>All operational components by crab fishery</b>	All operational components in the crab fisheries	All operational components in all fisheries

**Background**

This section briefly reviews relevant work previously undertaken by the Council and staff. Specifically, the Council’s rationale for adopting a data collection program is reviewed and assessments of data quality are summarized. These prior steps form the backdrop for this action.

**The Council’s rationale for data collection and its data collection motion**

In June 2002, early on in the development of the crab economic data collection program, the Council adopted an expansive motion identifying its purpose for pursuing data collection. Although lacking some specificity, the motion suggests that collected data would be used to examine the economic and social effects of the rationalization program on harvesters, processors, regions, and communities. In an attempt to further understand the Council’s objectives, analysts relied on the following five problems identified in the purpose and need statement for the rationalization action:

- 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.

Based on these identified problems, analysts suggested measures that could be used to examine the success of the program in achieving objectives. Since the data collection program was intended to address economic aspects of the fishery, only the third and fourth problems were pursued in the data collection.

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<sup>1</sup> It should be noted that both the status quo (and the revised status quo present in this paper) include data at all three fishery levels (e.g., by crab fishery, aggregated across all crab fisheries, and aggregated across all activities).

To examine these objectives, the analysts identified a number of measures and the data necessary to estimate those measures. These include:

Excess harvesting and processing capacity and low economic returns

For both the harvest sector and processing sector:

- 1) capacity and capacity utilization
- 2) profits
- 3) quasi-rents
- 4) productivity
- 5) technical efficiency
- 6) allocative efficiency

Computation of these measures requires the following data:

- a) variable input quantities and prices
- b) capital quantities and fixed costs
- c) catch quantities and prices (species)
- d) input quantities and prices
- e) output quantities and prices by product form

Lack of economic stability for harvesters, processors, and coastal communities

For both the harvester sector and processor sector:

- 1) Distribution of ex vessel revenue
- 2) Distribution of product revenue
- 3) Distribution of profits and quasi rents within and between harvesters and processor
- 4) Distribution of privileges within the harvesting and processing sectors
- 5) Seasonality of catch and revenues by location
- 6) Vertical integration
- 7) Domestic and foreign ownership
- 8) Harvesting employment and payments to harvesting crews
- 9) Processing employment and payments to processing crews
- 10) Involvement of crab fishery participants in other fisheries
- 11) Value of privileges
- 12) Regional economic impacts

Computation of these measures requires the following data:

- a) Vessel owner information
- b) Plant owner information
- c) Catch
- d) Landings
- e) QS and PQS ownership information
- f) Harvester crew employment and compensation
- g) Processor crew employment and compensation
- h) QS and PQS prices and quantities transferred
- i) Expenditures by location
- j) Crew residence information

The current data collection program omits non-variable (or fixed) cost data from the collection, except to the extent necessary to understand variable costs. In addition, the data collection focuses on crab fishery data with much of the data collected on an individual crab fishery basis, to provide more detailed information for analyses, as crab fisheries differ in their prosecution. Other data are aggregated across all crab fisheries, while some additional data are aggregated across all fisheries.

### **Assessment of the existing collection**

As a part of the October 2010 discussion paper, staff presented the Council with an assessment of the crab economic data reporting program that assessed each data element currently collected based on its accuracy, cost of collection, and utility for informing management decisions. That assessment drew from prior data assessments of Alaska Fisheries Science Center, Pacific Northwest Crab Industry Advisory Committee, and various industry workgroups. Although the Council's outline of alternatives does not directly rely on these factors for identifying specific alternative elements, the purpose and need statement specifically identifies these factors as determinative of the scope of the data collection. As a consequence, the assessment of data may be useful to the Council in the development of alternatives, and is attached as Appendix A.<sup>2</sup>

In reviewing the assessments and fashioning revisions to the data collection program, the Council should primarily assess the extent to which the collection of data elements will improve information concerning 1) the effects of management decisions on fisheries and 2) the social and economic effects of fisheries. An assessment of the utility of the data collected poses certain challenges. First, the utility of a data element is dependent on several aspects of that element and its collection. The information value of a data element often arises directly from the nature of the factor that it represents. For example, landings by a vessel are particularly informative, as they are representative of a vessel's production from the fishery. Spending on paper supplies used to maintain logs and business records is less fundamental to understanding the fishery. Utility is also dependent on the accuracy of the data. Inaccuracy (or even unknown accuracy) can substantially diminish utility by leaving analysts uncertain of the reliability of any analytical results. In addition, a data element's utility will also depend on the information of the element relative to other data currently collected. For example, data concerning product forms and sizes may be informative, but (depending on the fishery) may represent only a marginal improvement over existing data on product form alone. Lastly, the utility of data elements may vary with other data availability. For example, pot purchases may provide useful and relevant information concerning a vessel's expenditures, but without knowing whether the vessel shares pots owned by other vessels in its cooperative, these costs are less informative (and possibly provide misleading information) concerning the vessel's operation and costs. Each of these different aspects is presented in the assessment of the utility of the data.

A review of the metadata (or the table accompanying this document concerning data quality) suggests that the data collected in their current form have (and, in the near future, will continue to have) several limitations. Several elements are not accurately and consistently reported. In addition, the reviews of the data submissions suggest that barriers (surmountable only with considerable and time consuming efforts) are likely to prevent the accurate and consistent collection of some of these items in the near future. Other elements provide only partial information concerning operations in the fisheries. For example, the collection includes only purchased bait, although many vessels in the crab fisheries harvest a portion of their bait. To estimate quasi-rents (a suggested goal for the data collection program) would require comprehensive collection of information concerning the costs of bait harvesting. Similarly, many of the shore based processors deploy crews as needed to process groundfish and crab. Company housing is often provided, along with meals and other support services. The costs of labor associated with crab fisheries must be apportioned from these labor and labor support costs. An analyst will have an incomplete

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<sup>2</sup> The assessment includes only the assessments of catcher vessel and shore plant data collection. Although some variations exist between the forms for these sectors and the forms for catcher processor and floating processor sectors, this paper is intended addresses only the catcher vessel and shore plant forms. Once the Council has identified alternatives for catcher vessels and shore plants, staff will construct alternatives for the catcher processor and floating processor sectors based on the Council's catcher vessel and shore plant alternatives that can be reviewed and revised by the Council to fully specify alternatives for those sectors.

understanding of the operations, if the method of apportionment and influences of other fisheries on crab labor choices are not considered. Complete consideration of these factors likely requires an understanding of the timing and labor demands of those other fisheries. To fulfill the original objectives of the data collection (such as estimation of quasi-rents) would require that these elements be fully and consistently reported.

### **Framework for defining alternatives**

The Council has outlined its alternatives based on a two levels of distinguishing data. First, data may be submitted at one of three **“fishery levels”** – by individual crab fishery, aggregated across all crab fisheries, or aggregated across all fisheries. If data are submitted at the individual crab fishery level, for each specific variable collected, a vessel (or plant) would report the value of variable for each fishery in which it participated. For example, if crew payments are collected at the fishery level, each vessel operator would report payments to crew for each fishery the vessel participated in. This level of collection is ideal for analyzing issues and effects at the fishery level, but may lack reliability, if the data are not applicable at the fishery level. In some cases, the submitter may be able to estimate a fishery level value for a variable, but inconsistencies in data could arise across the fleet, if segments of the fleet choose to use different methods of estimating values. The Council could instead choose to collect data at the crab fishery level, in which case data elements would be submitted aggregated across all crab fisheries. This collection level would be ideal for elements that are specific to crab fisheries, but not specific to any particular crab fishery. For example, if a vessel uses pot gear exclusively in crab fisheries and otherwise participates in trawl fisheries, it may be appropriate to collect certain gear and equipment data (such as pot launcher specific costs) at the crab fishery level. In cases where the vessel uses the pot gear for crab and groundfish fisheries, separation of data at the crab fishery level might be less appropriate. Lastly, the Council could elect to collect data from a plant or vessel aggregated across all fisheries (or activities) it participates in. This level of collection may be appropriate for inputs that support all operations. For example, general vessel repairs cannot be said to be undertaken to support a single fishery, but likely support all activities of a vessel.<sup>3</sup>

The Council also chose to use a framework that distinguishes data by their **“operational importance”**. Certain elements may be critical to operations, in the sense that changes in their levels may more accurately signal an operational change – either a change in the structure or scale of operations. For example, a notable change in fuel consumption could arise either from improved efficiency in operations or in simply scaling down operations. These elements that are likely to be reflective of changes in operations are considered “critical operational” elements. Other elements (while possibly important) may less directly reflect operational changes (particularly short term changes). Focusing data collection exclusively on these “critical operational” elements would eliminate the collection of data elements that are less informative of operations, but which might be desirable for more all-encompassing analyses, such as estimating profits. This approach might be intended to reduce the burdens associated with data submission, while still providing improved information concerning the certain aspects fisheries operations and their effects. The collection, however, would not support some of the more expansive analyses that might be possible with a broader data collection program. For example, it may not be possible to generate estimates of quasi-rents, profits, or net benefits derived from the fisheries. Relying on a suite of indicators (or critical elements) may make it difficult to resolve how overall economic well-being has changed over time. This difficulty underlies the appeal for overall measures of quasi-rents or profits, but those measures must be comprised of components of sufficient quality to be of use to analysts, and at present there are considerable issues to resolve. In short, it may not be prudent to collect all revenue and costs solely for the purpose of getting an overall measure of well-being if inaccuracy in the components makes the overall measure suspect.

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<sup>3</sup> In considering whether to aggregate data should be collected (or whether to have the respondent disaggregate), the Council should also consider that analysts may be able to compare a variety of methods of disaggregation.

The framework proposed by the Council is applied in Appendix B attached hereto. Two tables are included in that attachment, one showing elements that could be considered for inclusion in catcher vessel alternatives and a second showing elements that could be considered for inclusion in processor alternatives. Alternatives for floating processors and catcher processors could be adapted from the alternatives shown in the table after that Council has developed alternatives for catcher vessels and shore-based processors.

In developing specific alternatives, the Council could consider selecting elements from the different structural alternatives shown in the tables. For example, the Council could choose to collect certain elements at the crab fishery level and others aggregated across all crab fisheries in the same alternative. In addition, the Council could consider some elements to be critical operational components that are not identified as critical operational components in the table. Taking this broader approach is likely to result in alternatives that are of better utility and accuracy and less redundancy with other data collection programs.<sup>4</sup>

In considering the attached tables, the Council may also consider the data categories used in the existing data collection. The following discussion briefly reviews the data currently collected, identifying some of the issues that arise that should be considered in making revisions to alternatives. Based on this discussion and the materials in the tables, the Council could identify specific elements (including the fishery level at which they would be collected) for inclusion in specific alternatives. The Council could use a table form similar to (or adapted from) that of Appendix B to define the alternatives.

#### Catcher vessel sector

The various categories of data currently collected provide some structure for the development of specific alternatives.

In the catcher vessel sector, fishing data are collected for each vessel. These data include fish ticket numbers, days fishing, and days travelling from port to the grounds and offloading. These data are generally available from (or may be estimated using other sources). Fish ticket numbers can be identified for all vessels in the fishery. In addition, fish tickets and log books both include information concerning fishing time and time of offload that could be used to develop estimates, similar to the estimates provided in this collection. In all cases (including this collection) some degree of estimation is required for determining number of days of activity. It is unclear whether these data provide any improvement over existing sources.<sup>5</sup>

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<sup>4</sup> At present, certain elements may be reported either on the individual fishery level or at the overall crab fishery level, at the discretion of the submitter. While this flexibility allows reporting entities to report in a manner more consistent with their records, it is unclear to analysts which (if any) apportionment methods may have been used by the submitter. Selecting a standard method for all submitters would represent a trade-off between flexibility for the submitter and a more consistent basis of measurement.

<sup>5</sup> For most submitters, vessel logbooks are the primary source for information used to calculate summary estimates reported in the EDR, although it has been reported that accountants and other administrative staff that fill out EDR forms on behalf of vessel owners have difficulty accessing logbooks, which are kept onboard vessels, significantly increasing the burden of EDR completion. Logbook records are not currently available to analysts, but if made available in electronic format, would provide the best source of information on vessel operations. This would eliminate the need for reporting this information in EDRs. It should also be noted that the submission of paper logbooks represents a substantial reporting burden that currently does not provide information for any analytical use due solely to NMFS administration of the submitted records. Changing the mode of administration of logbooks to an electronic format, as has been implemented in other fleets, would significantly reduce submitter burden as well as provide an important source of information for analytical purposes. More efficient administration of logbook reporting may eliminate the need for this reporting.

Among data not currently available for the fisheries are days transiting from a home port to a port that is proximate to the fishing grounds (such as Dutch Harbor or King Cove) and days of crew work in port. Estimates of these values are important to assessing crew pay per day. Whether inclusion of these data in this collection would be an improvement over simple estimates based on anecdotal information is uncertain. For example, a vessel may take 16 days to transiting to and from Alaska for crab fishing. The vessel may also fish cod (which could be reported). In addition, half of the crew may transit with the vessel, while remaining crew meet the vessel in Alaska. The amount of port time worked by each crewmember may also vary with availability. To fully describe crew work would require separate information for each of the crew, or knowing the work of the average crewmember. This discussion should not be read to suggest that this crew work is unimportant to assessing crew pay. It is only meant to suggest that collection of information to a degree that it is an improvement over crude estimates applied to the fleet in general may require much more specific data for each crewmember that is a notable increase over the existing collection.

The second section of the data collection concerns revenue data. Although the collection includes catch amounts by share type that replicate permit landings data, these data are unique in that they are accompanied by revenues by share type (e.g. Class A IFQ/Class B IFQ or CDQ/C share IFQ).<sup>6</sup> These data are the only source of information concerning landings revenues by share type.

Data identifying harvested IFQ that are held by the owner are also distinguished from IFQ leased to the vessel. These data are intended to provide information concerning the scale of leasing in the fishery. Unfortunately, the variety of overlapping vessel and quota share ownership structures in the fishery make these data difficult or impossible to interpret. Some vessel owners hold quota share and vessel interests in separate companies. A strict interpretation of common ownership would consider all IFQ harvested by the vessel as leased. Persons owning a partial interest in a vessel may independently hold their quota shares, fishing those shares on the vessel under a contract that assigns revenues to the vessel and the IFQ based on considerations other than market values. The variety of arrangements is likely to confound any collection of data that attempts to draw a distinction based on vessel ownership and share holdings. An alternative might be to limit the collection in this category to arm's length leases. These transactions provide information concerning market lease rates, which is the target of this portion of the collection. In considering this approach, it should be noted that it may substantially limit the amount of data collected, as a number of persons have a variety of vessel and share holding interests.<sup>7</sup> An additional alternative could be to collect information from all QS holders concerning their transfers of IFQ. The broader collection could be used to gain a comprehensive understanding of the distribution of IFQ within the fishery. As a part of the collection, submitters would be requested to identify arm's length transactions, which would be used to determine the market lease rates.

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<sup>6</sup> Class A IFQ landings are required to be delivered to a processor that holds IPQ; Class B IFQ may be delivered to any processor; C share IFQ are issued based on holding of "C share" quota shares that are available only to qualified captains and crew (and may be delivered to any processor).

<sup>7</sup> An additional alternative would separate reporting of quota lease royalties from vessel EDRs into a separate report filed by individual quota owners. Because vessels act as aggregators of quota, both from owners of the vessel as well as leases from other sources, reporting lease royalties at the vessel level is confounded by the variety of lease arrangements and ownership structures and would be burdensome for the submitter to delineate or group into types of lease arrangements. Individual quota share owners, particularly those who do not participate in operating an active vessel, are likely to execute fewer individual lease contracts and employ more consistent arrangements across individual leases. Using this approach, IFQ sellers (QS owners) would report the income received from the lease of IFQ, by share type, net of all in-kind transactions. Vessel owners would report a) the cost of all compensated lease transactions, by share type, and b) the amount of charged cost for IFQ withheld from crew payments, by fishery, which would incorporate the valuation applied to in-kind transactions that were charged against vessel owner and crew/captain earnings). It might be useful to specifically report in the crew compensation section the net ex vessel by fishery that comprises the basis for crew share payments, to control for any other differences from gross ex vessel revenue reported in the revenue section of the report.

A section of the data collection is focused on crew data. The collection currently includes the number of crew employed by a vessel in each fishery. These data, however, do not identify whether a vessel includes rotations of crew on and off the vessel. So, if a vessel had eight crew work during a season, four of which worked the first half of a season and four of which worked the second half, the vessel would report eight crew. Elandings data showing the number of crew on a vessel for each landing may be used to estimate average crew, which could then be used with total crew compensation in the fishery (also included in the report) to determine average crew pay for the fishery. Captains pay in each fishery is also reported. These compensation amounts are informative concerning crew pay and its change over time generally, as well as in relation to other factors, such as vessel revenues and days fishing.

The Council also collects a variety of information concerning computation of crew pay. In its current form, the collection contains incomplete information concerning these computations. As a result, analysts cannot fully determine the effects of the various factors on crew pay. Whether certain vessels costs (e.g., bait) are deducted or charged is currently collected based on the typical treatment of the cost in crab fisheries overall. If a vessel treats the cost differently in different fisheries, it is directed to report its average treatment of the cost. These data provide only a general assessment of whether a vessel typically charges or deducts a cost (or portions thereof) from revenues prior to compensating crew. Since the terms of pay (including how the charge or deduction is applied) is not fully described in the reports and many vessels compute payments in different ways, these data may not allow the accurate recalculation of crew pay. Likewise, shares of net revenues paid to owners, captains, and crews are reported. These are the percentages typically applied to net revenues (after deductions and before charges) for computing crew pay in a fishery. These percentages also provide incomplete information concerning crew pay, as one must consider both the amounts of deductions and charges to understand the implications of these percentages. In their current form, the data concerning crew deductions and charges and shares applied to net revenues are incomplete and may be misleading to an analyst attempting to understand crew pay. For example, a vessel that reports a large share percentage may pay crew a low amount, if it charges crew for a large share of certain costs, while another vessel may pay substantially higher on a lower share percentage by charging a smaller share of those costs. If the Council wishes to fully understand the structure of crew contracts and changes in that structure over time, it could consider the collection of specific deduction and charge amounts in each fishery and all other adjustments to revenues and pay, along with the specific contract terms for generating net revenues and applying share percentages. In the absence of this information, it is not clear that this collection of deductions or crew share percentages (that are applied to net revenues after deductions) are informative.

Crew license and permit information is also collected for each crewmember on each vessel at any time during a crab fishery in the reporting year. In its current form, these data provide general information for considering longevity of crew on a vessel and in the fishery overall, but do not provide any information concerning the amount that any crewmember worked. So, the data can be used to determine if a crewmember worked on a vessel, but cannot be used to distinguish a person taking a single trip from a person that worked in all trips in all seasons. These license and permit data can be used with demographic information submitted with those applications to determine the demographic characteristics of crab crew.

Certain crab specific costs are also collected currently. Insurance premiums for crab operations and deductibles paid based on crab operations are included in this section of the collection. Insurance premium costs are rarely fully separable for crab operations, so vessel owners can alternatively submit premium costs for the vessel without distinguishing the crab portion. Crab fishery costs also include numbers of pots purchased and their cost by location. The utility of these pot data are limited, as a variety of arrangements (both in pot usage and in transactions) have arisen under the rationalization program. Pots may be shared by vessels that fish for the same cooperative, including occasional arrangements under which one vessel deploys a pot and another retrieves it. In addition, recent transactions for pots

often include all of the used pots in a given location. Payment may (or may not) depend on the number of “good” pots. Pot leasing arrangements have also become more common.<sup>8</sup> Gear and line data are also collected. Since some vessels reconfigure doors to use their pots in different fisheries, the data are currently collected in the aggregate for all crab fisheries. In considering these data, it should be noted that some pots may also be reconfigured for use in Pacific cod fisheries. Given the amount of used pots currently available (because of the fleet contraction) and the range of conditions of those pots, the Council could consider collecting only new pot purchases. Gear purchases have similar issues to pot purchases, as substantial amounts of used gear are currently available as a result of fleet contraction.

Bait purchases (by species, pounds, and costs) are collected on a fishery basis. Bait caught by some vessels (in the cod fishery) make these purchases an incomplete representation of bait use in the fisheries. In addition, carry over amounts from one season to the next complicate bait reporting. An alternative approach could separate bait purchases from bait usage. Using this approach, a vessel could report its bait purchases (in pounds and dollars) without assigning those purchases to fisheries. In a separate entry bait can be assigned to each fishery (in pounds). This reporting would be intended to allow the assignment of these costs to the different fisheries and ensure that caught bait is considered. Alternatively, pot lift data could be used to apportion bait usage among fisheries.

Fuel use (in gallons and dollars of cost) is currently reported on a crab fishery basis. These data are currently considered inaccurate and an accurate method of estimating fuel use by fishery has not been established. In addition, fuel purchases (by location and costs in dollars) are currently reported. The amounts are believed to be accurate. Since fuel costs are clearly an important operational component, the could be collected on an annual basis for each vessel. This collection would likely provide limited information concerning crab fishery operations until a reasonable means of apportioning fuel among different activities (e.g., crab fishing, cod fishing, tendering, etc.) is determined. The Council could also consider collecting fuel charged to crew, but arrangements often differ across the fleet concerning the extent of deductions or charges (e.g., whether fuel use to homeport is charged).<sup>9</sup>

Food and provisions, “other crew expenses”, and freight costs for landed crab are collected currently on an annual crab fishery basis. These data are likely not critical operational data. Food and provisions are considered accurate in general, although some inventories are carried over between crab and non-crab fisheries. Storage, wharfage, and gear costs can be difficult to separate on a vessel basis for multiple vessel operations, operations that share pots, and operations that fish groundfish and crab. Catcher vessel observer costs are only incurred in the golden king crab fisheries. Landing taxes and fees may be approximated based on crab price information and tax rate information. In addition, fees and taxes may be paid, in part, the year after the landing posing a challenge to analysts using reported data. Cooperative fees are collected independent of arbitration organization fees and arbitration costs. The Council should consider whether these costs should be aggregated. In addition, the Council should consider that the collection only includes vessels. To the extent that these costs are based on share holdings, the data collected in this section are incomplete. In addition, it may not be possible to determine whether the costs are based on vessel ownership or share holdings confounding attempts to consider the use of the data. The Council could consider collecting this information from other sources or with additional detail to overcome these shortcomings.

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<sup>8</sup> These arrangements may further confound fully understanding crew compensation, as lease costs are not collected, but may be deducted.

<sup>9</sup> An alternative might be to have fuel purchase volume and cost reported on a periodic (e.g. monthly or quarterly) basis, rather than on a fishery basis. Fuel purchase date, amount, and cost is readily available in accounting records, but amount of fuel used on a daily, trip, or seasonal basis is not consistently monitored. Periodic information on amount of fuel purchase amount combined with eLandings data or improved availability of logbook data would may allow estimation of fuel consumption rate on a seasonal basis and apportionment of fuel costs by fishery.

The collection also includes vessel costs, which a submitter may designate as either an overall cost or crab fishery only cost. Vessel and equipment investments and vessel repair and maintenance costs are collected. Certain costs may be allocated to either of these two data elements, but both are important operational expenses. Annual fuel and lubrication costs, as well as annual insurance costs, are important operational expenses collected in this section.

The catcher vessel collection concludes with general vessel activity information, including aggregated gross revenues from all activities, pounds harvested in all fisheries, and labor costs in all fisheries. Harvest data are available from other sources, as are revenues from fishing. Revenue data from other sources may have quality limitations, as often times the revenue recorded at the time of landing is not the final settlement. Other data sources also exclude revenues from other activities, such as tendering operations and vessel charters, although these revenues are not separated in the crab data collection program. Labor costs are unavailable elsewhere.

### Processing sector

In the processing sector, data fall into a few different categories that are helpful to identify for consideration of the scope of the collection.

The first section of the collection concerns primarily production data. Portions of these data are duplicated in the State of Alaska Commercial Operator's Annual Report (COAR). The crab data collection in its current form goes beyond COAR collection in three respects. First, production is broken down by grade. Most processors may distinguish grades to some extent, but those distinctions are generally not consistent across processors. If the Council wished to continue collection of this production data, it could consider distinguishing only sub-quality or dirty shelled crab. The current collection also specifies that different crab sizes be distinguished in production reports. Standard or large size is distinguished from smaller size. Lastly, the collection requests that box sizes be distinguished. This disaggregation might be used to identify whether packaging size is being changed to serve different markets. In all other respects, the information collected duplicates that collected in the COAR.

The second component of the data collection concerns revenues. These data also generally parallel COAR collection, again with a few distinctions. Data collected in the crab program are from actual sales, while COAR data include projected sales. In addition, the crab data collection distinguishes sales to affiliated companies from sales to independent entities. These data could be used to better understand market prices and the structure of crab markets. The collection also includes revenues from custom processing services. This aspect of data collection can be used to assess both the market for custom processing services and gain some information concerning the value of those services.

The third section of the collection concerns labor. This section collects information not available from any other source. Data in this section are generally reported on a crab fishery basis. At most plants, crab processing occurs simultaneously with the processing of groundfish. Processors tend to deploy crews as needed and move crews among lines and duties. This relatively fluid system limits the ability of processors to accurately report man-hours or payments on a fishery basis. To date, reported data suggest that hourly pay to labor may vary by more than 100 percent annually in each fishery (ranging from approximately \$10 per hour in at least one year in every fishery to over \$20 per hour in at least one instance in each fishery). This variation is likely attributable to data error arising from the difficulty of attributing man hours to crab fishery processing, as opposed to other activities. An alternative could be to collect these data on a plant basis, for all activities at a plant annually. This level of collection would not necessarily inform crab management decisions specifically, but would provide better insight into processing labor impacts more generally. Employee residence information could also be incorporated into the collection to assess community, Alaska, and non-Alaska impacts.

The purchase of custom processing services is also included in data collection. This collection parallels the revenues from custom processing that are included in the revenue section of the collection. The data collected here should mirror those data.

Crab purchases data are also collected. These include purchases from plant operators, as well as purchases by persons who contract custom processing services. Crab purchases are distinguished by share type (i.e., Class A IFQ/Class B IFQ/ C share IFQ) in this collection to gain a better understanding of the effects of the different share types on crab prices.

The collection also includes certain crab processing costs. Complications with the collection of crab processing costs parallel those complications arising in the collection of crab labor data. Some processing and packing materials, equipment and supplies may be used in several fisheries, requiring the plant operator to apportion costs among the different fisheries to report a crab fishery value. Likewise, freight shipments to and from the plant often combine a variety of materials and products that require the plant operator to estimate the crab portion of the costs. In addition, some plants use their own vessels for some shipments, requiring the operator to attribute some cost to the vessel. In many cases, brokers and promotional efforts serve several types of products, not strictly crab products (and may even include products from other plants). Food and provisions are also difficult to track, as purchases often overlap a variety of fishery seasons. These costs must also be apportioned among different fisheries to derive a crab only cost. Insurance deductibles also must be apportioned among fisheries. These apportionments are somewhat arbitrary, as incidents contributing to the deductible may occur in multiple fisheries. The basis for this apportionment is likely man-hours. Product storage costs may be estimated based on the amount of plant cold storage space occupied by crab products in comparison to other products and an assumed (or estimated) cost of operating that cold storage facility. Those costs are often intertwined with other costs at the operational costs facility (such as general fuel and electricity costs). In each case, these values are estimated. Estimates may not be determined based on a consistent methodology across responding plants. While the Council may wish to continue to collect some or all of these elements, issues concerning the need of the responding plant to derive estimates (and the potential inaccuracy of those estimates) should be considered. An alternative, in some cases, may be to collect data aggregated across all fisheries reducing the need to estimate the value for crab fisheries. In considering this revision, the Council should also consider whether the reported data's use for examining fishery impacts and crab fishery impacts in particular.

The data collection also includes general plant costs, which are aggregated at the plant level. Annual fuel, electricity, lubrication, and hydraulic fuels are included in the collection. Both plant and equipment investments and plant repairs and maintenance are included in this collection. Since aggregated to the plant level, these data may include expenditures not attributable to crab operations. In addition, it is not clear the extent to which these costs overlap with each other or other data collected. For example, it is possible that a plant may categorize the replacement of certain equipment in a processing line as either routine upkeep or an equipment investment – the choice of which may be driven by tax treatment of the expenditure. In addition, it is possible that plant staff labor may be treated as a cost of repairs, in addition to a labor cost. These overlaps raise some questions concerning use of the data and its application to any particular analysis.

The collection concludes with general processing information. This includes processing days at the plant in all fisheries, total plant revenues, total finished pounds, and total plant processing labor payments. The first three of these items are available from (or may be approximated using other sources). The payments to labor are unique to this collection.

## **Conclusion**

The Council has expressed its intention to revise the economic data collection reporting requirements that apply to participants in the crab rationalization program. In the process the Council outlined framework alternatives that could be used for identifying data elements for inclusion in alternative for analysis. This paper (and its appendices) applies that framework to data elements from which the Council could construct specific alternatives.

Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
1	Fish ticket number	A - High	Low	Used to verify consistency of records and link to other data sources	None	fish tickets - fully redundant with fish tickets	drop collection
1	Days fishing	B - Medium	Medium	Useful for analyzing operational and efficiency changes; unclear the extent of any improvement on existing fish ticket data	May lose some accuracy without partial days; includes days transiting on grounds (which is operationally different from fishing); no direction on treatment of partial days	1) fish tickets - days fishing as defined by date gear was first deployed and date of landing 2) logbooks, which collect date and time of setting and hauling for each string, and offload date	1) separate traveling and offloading; 2) clarify instructions 3) drop collection
1	Days traveling and offloading	B - Medium	Medium	Used for analyzing operational and efficiency changes; unclear the extent of any improvement on existing fish ticket data	No distinction between traveling and offloading time, which are operationally different; reports may or may not include time transiting between ports; may need to know base port to assess meaning of the data (e.g., King Cove, Kodiak, Dutch Harbor)		
2	Landings by share type - pounds	B - High	Medium	Useful for determining distribution of catch by share type	None		
2	Deadloss by share type - pounds	B - High	Medium	Useful for determining distribution of catch by share type	None	These data are redundant with IFQ data	
2	Landings by share type - revenues	B - Medium	Medium/High	Allows for comparison of prices by share type	Often difficult to separate payments by share type; requires tracking of bonuses, which may occur over an extended period; may involve some judgment concerning proportional distribution across different share types; unclear whether sales to affiliates should be identified (currently they are not)	None	1) Revise to ensure accuracy, may require some accommodation, if price distinctions are not clear; 2) add identifier for sales to affiliates; 3) drop collection
3.1	Vessel owner's IFQ used on the vessel by share type	C - Medium/Low	High - requires extensive spreadsheets	Used to show the distribution of activity and revenues in the fishery	Ignores pooling of quota by cooperatives - data may not reflect fishery operation; cannot be consistent, as vessel owner is not defined; Does not allow for entry of owner held C shares	None	1) Revise section on quota fishing/leasing - incorporate definitions of leasing and ownership; 2) supplement with data collection from inactive share holders; 3) add line for C shares; 4) simplify to collect only information on arm's length leases 5) drop collection
3.1	Vessel owner's IFQ used on other vessels by share type						
3.2	Leased quota by share type - pounds	C - Medium/Low	Medium	Used to show the distribution of activity and revenues in the fishery	May not be accurately reported due to complex ownership structures and owners of multiple vessels; cannot be consistent, as lease is not defined	None	
3.2	Leased quota by share type - cost						

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
3.2	Leased quota by share type - crew contributing shares	C - Medium/Low	Medium	Used to show the number of crew on a vessel holding shares in the fishery	May not accurately reflect cooperative structure and share pooling, cannot be interpreted as active share holders	May be redundant with active participation reporting	1) revise collection to count/identify crew with share holdings; 2) drop collection
4.1	Number of crew by fishery	A - High/Medium	Low	Used to examine changes in fishery operations	Subject to inconsistency and misinterpretation - does not show number of crew on vessel at any time (reflects either the sum of crew employed in the season or the most on the vessel at any one time)	Elandings includes number of crew on vessel at time of landing	1) revise instruction to identify desired information; 2) drop collection
4.1	Payments to crew						
4.1	Payments to captain	A - High/Medium	Low	Used to examine payments to labor	Some uncertainty over non-crab fishery payments; some uncertainty of compensation, if crew pay certain expenses; captains payments may be non-market, when the captain also owns the vessel; data may be misleading for some purposes as boatyard and transiting work are not available	None	clarify reporting requirement and instructions, if captain is owner; clarify that amount reported is after all crab fishing related deductions and charges (excluding personal spending); expand collection to include boatyard time and transiting and identify any additional payment for that work
4.2	Labor payment details - charges and deductions	A - High/Medium	Low	Used to examine changes in labor payment structures	Data have very limited information since details for charges and deductions are not provided (i.e., amount charged/ deducted); no provision for identifying if crew are not subject to share system	None	1) expand to include deduction amounts and clarify instructions, if captain is owner; include option for payment on system other than share system; 2) drop element
4.3	Revenue shares - owner/crew/captain	A - High/Medium	Low	Used to examine the distribution of revenues (after deductions)	Details of deductions creates uncertainty in meaning - without detailed deductions and charges (which are not collected) this can be misleading and is uninformative; captain's share may be non-market, if captain is also vessel owner	None	drop element
4.4	Crew license number/CFEC permit number	A - High/Medium	Low/Medium	Used for analyzing distribution of crew and identifying unique crew	Crew license residence data may be unreliable; includes no demographic data; cannot necessarily be used to estimate distribution of benefits by location, since we don't know how much any crewmember was paid or how much any crewmember worked	None	Collect crew residence/ demographic information; supplement with crew member trips and/or payments

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
5.1	Insurance premium - crab only	C - Low	Medium	Used for examining changes in cost structure	Variety of insurance contracts complicates any interpretation; usually prorated by the submitter to separate crab/non-crab - proration is somewhat arbitrary and may differ across submitters - is often confused with 5.2 c; too many types of insurance to decipher meaning (e.g., P&I, hull, liability, vehicles, commercial liability, cargo, longshoreman's, breach of warranty)	None	1) collect total premium amount (including all activities); 2) drop collection
5.1	Paid deductibles - crab only	C - Low	Medium	Used to examine changes in cost structure	Payments are often spread over several fiscal years - or are not incurred in year of incident; may overlap with repair and maintenance	None	1) Revise to ensure no overlap with repair and maintenance; 2) drop collection
5.1	Pot purchases - number	C - Medium/Low	Medium	Used to examine operational and cost structures	No distinction between new and used gear; for used gear may be difficult to get accurate count (as damaged gear may/may not be counted); may be difficult to separate crab costs from other fisheries; will not reflect actual operations; costs may or may not include refurbishment costs; omits exchanges and pooling of pots that is currently occurring	Substantial data are currently collected through Federal log books/State pot registration/State port sample interviews to show the number of pots used and effort levels in the fishery; no cost information is available	1) revise collection to more accurately record pot purchases by including detail on pot conditions and improved price information; 2) drop collection
5.1	Pot purchases - cost						
5.1	Pot purchases - location	C - Medium/Low	Medium	Used to examine distribution of economic activity	Difficult to track location from companies with multiple locations or purchases of pots from storage; economic effect of pots purchased from storage is very different from pots purchased new; value of data is compromised by its dependence on the pot number and cost information	None	drop collection
5.1 d	Line and other gear purchases - costs	C - Medium	Medium	Used to examine operational and cost structures	Typically cannot separate out crab costs; may be confused with repair and maintenance to the extent that purchases are for gear maintenance	None	1) broaden to include gear costs from all fisheries (and activities); 2) drop collection
5.1 d	Line and other gear purchases - location	C - Medium	Medium	Used to examine distribution of economic activity	Difficult to track location from companies with multiple locations	None	drop collection

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
5.1 e	Bait used - species/pounds by fishery	B - Medium/Low	High/Medium	Used to examine operational and cost structures	May be difficult to separate by fishery and season and identify bait types ; inventories may be carried over to other crab fisheries or non-crab fisheries, but are excluded from collection; disregards bait caught by vessel	None	1) collect single bait purchase for all fisheries 2) clarify instructions 3) drop collection
5.1 e	Bait used - specied/cost by fishery						
5.1 e	Bait used - purchase location by fishery	B - Medium	High	Used to examine distribution of economic activity	May be compromised by problems with underlying data	None	drop collection
5.1 f	Fuel used - gallons by fishery	C - Medium/Low	High/Medium	Used to examine operational and cost structures	Difficult to separate by fishery, as a substantial number of operations are uncertain of estimates and a variety of methods are used to make estimates; difficult to separate fuel used transiting to Alaska; charges to crew on settlements may not match use by fishery (since transiting is excluded from reporting, but may be charged to crew)	None	1) develop uniform method for estimating use; 2) drop collection
5.1 f	Fuel used - cost by fishery						
5.1 f	Fuel used - purchase location by fishery	C - Medium/Low	High	Used to examine distribution of economic activity	Fuel is often carried over between fisheries and purchases complicating distribution of use by location of purchase (i.e., need clear methodology for assigning from multiple purchase locations - first in, first out); compromised by underlying data issues	None	drop collection
5.1 g	Food and provisions - costs	Medium	Medium	Used to examine cost structure	Inventories may be carried over from or to groundfish fisheries and year to year; some crews purchase own food; crew deductions are often per day estimates and are not actual cost	None	1) use crew charges; 2) drop collection
5.1 h	Other crew expenses	C - Medium	Medium	Used to examine cost structure; but these often are crew discretionary spending that is not relevant to operations	Open ended element creates uncertainty; amounts often change after preliminary settlements	None	1) develop instructions for specific information desired; 2) drop collection
5.1 i	Freight costs for landed crab	B - Unknown	Unknown	Used to examine costs associated with direct sales	This is a very small portion of sales - element just confuses most, as it is typically not relevant	None	1) clarify instructions; 2) drop collection
5.1 j	Storage, wharfage, delivery costs for gear	A - Medium/Low	Medium	Used to examine cost structure	May be difficult to separate costs from groundfish fishery and from costs of other boats, if multiple vessel operation (may just be apportioned by number of pots used); typically involves some judgment concerning which costs to include	None	1) develop consistent methodology for apportionment; 2) drop collection

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
5.1 k	Observer costs - by fishery	A - High/NA	Low/NA		observers cost are incurred only in the golden king crab and blue king crab fisheries		1) clarify instructions; 2) drop collection
5.1 l	Landing taxes and fees	B - Medium	Medium	Used to examine cost structure	Adjustments applied after year end, which may be necessary for both taxes and fees (such as buyback and arbitration assessment)		clarify instructions with respect to arbitration fees
5.1 m	Cooperative fees	A - Medium	Low	Used to examine cost structure	Does not clearly distinguish cooperative cost as a vessel from cooperative cost as a share holder (unclear, if and whether a distinction exists); unclear whether and why other costs are/are not included (i.e., FCMA cooperative negotiation costs seem to be included, but might not include arbitration costs and negotiation costs, if those are conducted independently, also may include research foundation costs)	None	1) clarify instructions; 2) consider collecting cooperative costs from share holders
5.1 n	Other expenses	C - Low	Medium	Used to examine cost structure	Limited direction on elements to include; may omit substantial expenses or include marginally relevant expenses; unclear whether independent arbitration/negotiation costs would be included		1) clarify instruction; 2) drop collection
5.2 a	Vessel and equipment investment - cost	B - Low/Medium	High	Used to examine cost structure	May be difficult to report whether it is a crab only expense; may be somewhat arbitrarily assigned between investment and repair/maintenance; collection excludes costs exclusively for non-crab fisheries (which is inconsistent with other entries in this section); unclear whether new vessel purchase would be included		1) clarify instruction; 2) combine with repair and maintenance costs; 3) drop collection
5.2 a	Vessel and equipment investment - location	C - Low	High	Used to examine distribution of economic activity	Locational information is difficult to separate as vendors have several locations		drop collection
5.2 b	Repair and maintenance - costs	B - Low/Medium	High	Used to examine cost structure	May be difficult to report whether it is a crab only expense; may be somewhat arbitrarily assigned between investment and repair/maintenance		1) clarify instruction; 2) combine with repair and maintenance costs; 3) drop collection

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
5.2 b	Repair and maintenance - location	C - Low	High	Used to examine distribution of economic activity	Locational information is difficult to separate as vendors have several locations; often several locations may be involved (up to 50 in one case); collection excludes costs exclusively for non-crab fisheries (which is inconsistent with some other entries in this section)		drop collection
5.2 c	Insurance premium	B - Medium/Low	Medium	Used to examine cost structure	Confusion between two insurance premium requests (see 5.1); may be prorated for crab on an unknown basis		1) clarify instructions; 2) drop collection
5.2 d	Fuel, lubrication, fluids - annual - cost	A - Medium	Medium	Used to examine cost structure	Difficult to separate crab/non-crab costs; purchases may be for fuel used in the following year; location information is thought to be a poor estimation		1) clarify instructions; 2) drop collection
5.2 d	Fuel, lubrication, fluids - annual - location	A - Medium	High	Used to examine distribution of economic activity			
5.2 e	Other vessel specific costs	C - Low/Medium	Medium	Used to examine cost structure	Element is too discretionary to be consistent		1) clarify instructions; 2) drop collection
6 e	Days at sea - all activities	B - Medium	High	Provides estimate of relative share of use of vessel in crab fisheries	By not distinguishing crab related from non-crab related activities other than fishing (such as transiting) this may misrepresent crab related activities; unclear to some whether transiting is included		1) clarify instructions; 2) drop collection
6 e	Gross revenues - all activities	A - High/medium	Medium	Used to examine crab dependence	Some payments are not made until after year's end; will not know source of non-crab revenues (i.e., tendering, chartering, fishing); clarify instructions that revenues from IFQ leases should not be included		1) clarify instructions; 2) drop collection
6 e	Pounds - all activities	A - High/medium	Medium	Used to examine crab dependence	Will not know whether pounds correlate with revenues because of non-fishing activities; unclear whether pounds in non-fishing activities should be included		1) clarify instructions; 2) drop collection
6 e	Labor cost - all activities	High	High	Used to examine crab dependence	May have different pay structures for fishing/tendering/ other activities; provide instruction to include payments in all activities		clarify instructions

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
1 a-e	Production - dates covered by fishery	A - High	Low	Provides start/stop processing dates for each fishery	Not mutually exclusive across fisheries; any activity in a day counts as a day; cannot estimate ability of plant to participate in other fisheries or scheduled down time	Can be approximated with fish tickets and production reports; may be addressed through emergency exemption reporting requirements	1) clarify instructions to identify days plant is prepared to accept deliveries; 2) drop collection
1 a-e	Production - processing days by fishery	A - High	Low	May allow examination of capacity used			
1 a-e	Raw crab processed by fishery	A - High	Low	Used to examine production levels		fish tickets	drop collection
1 a-e	Product and processed pounds by fishery	B - Medium	Low/Medium	Used to examine production levels	May not match sales; may be inconsistent product types	COAR reports	drop collection
1 a-e	Production - crab size and grade	C - Low	Low	Used to examine production changes	Varies over time and across processors; could distinguish dirty crab from clean		1) develop methodology for consistent reporting; 2) drop collection
1 a-e	Production - box size	A/B - High	Low	Used to examine production changes			drop collection
1 a-e	Production - finished pounds	A/B - High	Low	Used to examine production changes		COAR reports	drop collection
1 a-e	Production - custom processing identifier	A - High	Low	Used to examine production		fish tickets	drop collection
2.1 a-b	Sales to affiliates/non-affiliates by species - product/process	A/B - High	Low/Medium	Used to examine revenue changes			
2.1 a-b	Sales to affiliates/non-affiliates by species - crab size and grade	C - Low	Low	Used to examine revenue changes	Varies over time and across processors		1) revise instructions and submissions to ensure consistency and simplify reporting (e.g., all Alaska fob) 2) drop collection
2.1 a-b	Sales to affiliates/non-affiliates by species - box size and finished pounds	A - High	Low/Medium	Used to examine revenue changes			
2.1 a-b	Sales to affiliates/non-affiliates by species - revenues (fob)	A - High	Low/Medium	Used to examine revenue changes	Allows designation of Seattle or Alaska as fob location creating some inconsistency; instructions include any adjustments prior to submission/leaves out others		
2.2	Custom processing by species/product/process	A - High	Low/Medium		Note - this is redundant with 1 a-e , except for revenues received for processing		incorporate into 1 and make revision to collect only custom processing revenues
2.2	Custom processing revenues	A - High	Low/Medium		Incorporate into 1 a-e to reduce redundancy		
3.1	Average processing positions by fishery	B - Medium/Low	Medium	Used to examine production changes	Most processors do not maintain these data but instead compute it using man-hours; unclear whether this entry contains additional information		1) collect normal line capacities; 2) revise collection from multispecies plants to collect employment and compensation data generally (including plant labor, clerical/administrative staff, and management) 3) drop collection
3.1	Man-hours by fishery	B - Medium	Medium	Used to examine production changes	Most processors maintain some record of these values; often some degree of estimation as employees move among lines and duties		
3.1	Total processing labor payments	B - Medium	Medium	Used to examine cost changes			
3.2	Crab processing employees by residence	C - Low	Low	Used to examine economic effects	Processors generally have limited records concerning employee residence; typically cannot isolate employees that work in crab fisheries		1) develop standardized method of identifying residence (particularly for Alaskans/locals) 2) drop collection

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
4 a-e	Custom processing services purchased - raw pounds	B - High	Low				Broaden collection to include persons who purchase crab but do not actively process
4 a-e	Custom processing services purchased - product and process	B - Medium	Low/Medium				
4 a-e	Custom processing services purchased - size and grade	C - Low	Low		Excludes persons who purchase crab but do not actively process		Broaden collection to include persons who purchase crab but do not actively process
4 a-e	Custom processing services purchased - box size	A/B - High	Low				
4 a-e	Custom processing services purchased - finished pounds	A/B - High	Low				
4 a-e	Custom processing services purchased - processing fee	B - High	Low		Some confusion in metadata whether this is full amount paid for product or fee paid to processor of crab		clarify instructions
5 a-e	Raw crab purchases by fishery - ifq type	B - Medium	Low				
5 a-e	Raw crab purchases by fishery - size and grade	C - Low	Medium		Varies over time and across processors		Develop consistent reporting (possibly distinguishing dirty crab from clean crab)
5 a-e	Raw crab purchases by fishery - pounds	B - Medium	Medium				
5 a-e	Raw crab purchases by fishery - gross payments	B - Medium	Medium				
6.1 a	Fisheries taxes and fees - crab only	B - Medium	Medium		Currently excludes taxes and fees of companies that only custom process; some costs may be excluded as they are incurred in one year and paid in the next		
6.1 b	Processing and packing materials, equipment, and supplies - crab only	B - Medium	High		Some costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; location data are time consuming and have limited accuracy; consider removing equipment costs, as they differ substantially from other information reported here		1) develop consistent means of prorating costs; 2) remove equipment costs; 3) drop collection
6.1 c	Food and provisions - crab only	A - Medium	High		Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors		1) develop consistent means of prorating costs; 2) drop collection
6.1 d	Other direct crab labor costs	A - Medium	High		Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; may be inconsistently reported across processors		1) develop consistent means of prorating costs; 2) consider broader plant labor reporting that does not distinguish crab labor; 3) drop collection

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
6.1 e	Insurance deductibles - crab only	C - Medium	Medium		May not be able to distinguish crab costs		drop collection
6.1 f	Repackaging costs	B - Low/Medium	High	Used to examine changes in operations and costs	Does not distinguish by fishery, limiting the utility; by aggregating across fisheries may also lead to a mismatch of production and sales; takes place outside Alaska creating an inconsistency with other reporting; very complicated to track		1) separate by fishery, including greater detail; 2) drop collection
6.1 g	Broker fees and promotions by fishery	B - Medium	Medium		Often costs do not coincide with year of landing; somewhat arbitrary determination of which costs should be reported as most processors have own sales staff		drop collection
6.1 h	Lease (IPQ) costs by fishery				May not be accurately reported in circumstances of revenue sharing arrangements		
6.1 i	Observer costs by fishery	A - Medium	High		No direct observer costs to participating shore plants		drop collection
6.1 j	Freight cost for plant supplies	A - Medium	Medium		Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; inconsistently reported, as some processor use company owned vessels for freight		drop collection
6.1 k	Freight costs for products	B - Medium	Medium		Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; inconsistently reported, as some processor use company owned vessels for freight; omits storage costs, which may be significant; No reporting from firms that custom processing only		drop collection
6.1 l	Product storage	C - Medium	High		May not be consistently reported as some processors use their own storage facilities; no reporting from firms that custom processing only		drop collection
6.1 m	Water, sewer, and waste disposal	B - Medium/Low	High		Costs are incurred for processing and for housing and are not incurred for a single activity; no consistent method of prorating costs		drop collection
6.1 n	Other crab-specific costs	C - Low	Medium		Element is too discretionary to be consistently reported		1) clarify instructions; 2) drop collection
6.2 a	Annual fuel, electricity, lubrication, hydraulic fluids	A - Medium	Medium		Great degree of discretion in reporting on this variable; may include fuel for housing and also fuel sold to vessels		1) clarify instructions; 2) drop collection

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Table number	Data element	Accuracy	Cost of collection	Utility	Possible shortcomings	Substitute sources	Alternatives
6.2 b	Plant and equipment investments	B - Medium	Medium		Location information may be misleading; some discretion concerning scope of investments included, as support and housing are both related to plant operations; some discretion concerning choice of investment or repair and maintenance		1) clarify instructions; 2) drop collection
6.2 c	Repair and maintenance	B - Medium	Medium		Location information may be misleading; some discretion concerning scope of investments included, as support and housing are both related to plant operations; some discretion concerning choice of investment or repair and maintenance		1) clarify instructions; 2) drop collection
6.2 d	Foremen, managers, other employees and salaries	B - Medium	Medium		Omits on sight persons overseeing custom processing; if prorated some discretion concerning attribution to crab processing; also omits off site employees needed to support plant		incorporate into broader collection of labor data
6.2 e	Other plant specific costs	C - Medium	Medium		Element is too discretionary to be consistent		drop collection
7	Processing days - annual total - all fisheries	A - Medium	Low		Some days may have minimal processing, while others have extensive processing		
7	Gross FOB revenues - annual total - all fisheries	B - Medium	Low	ANY ISSUE WITH FOB CALCULATIONS??	Revenues are not consistent with processed pounds, as inventories are not included in sales		
7	Finished processed pounds - annual total - all fisheries	B - Medium	Low				
7	Processing labor costs - annual total - all fisheries	A - Medium	Low		Some audit issue; number/scope of plant management varies by company		

Category A: These data elements have been determined to exhibit minimal known data quality limitations. Users of these data are advised to carefully review the metadata to understand the structure of these data before performing analysis; however, these data as reported in the EDR database are consistent with the variable descriptions included in the EDR forms and detailed in the metadata.

Category B: These data elements are characterized by significant data quality limitations and require careful understanding of the data quality documentation in order to ensure their appropriate use and interpretation. These elements are reliable for use in economic analysis of the crab fisheries, provided adjustments to analytical methods or interpretation are undertaken to overcome the noted data quality concerns. Where possible, the metadata specifies the nature of the adjustment that can or should be utilized.

Category C: These data elements are not reliable for analysis of the economic performance of the crab fisheries. A substantial portion of the data collected is known to contain significant error, which cannot be identified or estimated.

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Data type	Data element	Alt 1. (status quo)	Alt. 2 (critical operation components by crab fishery)	Alt. 3 (critical operational components for crab fisheries aggregated)	Alt. 4 (critical operational components aggregated for all fisheries)	Alt. 5 (all components by crab fishery)	Comments	
Fishing data	Fish ticket number	all fish ticket numbers collected for all crab fisheries					This collection is not necessary, as analysts have access to these data elsewhere	
	Days fishing	by crab fishery - includes time transiting between strings, which may be operationally similar to traveling to offload				by crab fishery (including queueing time)	1) fish tickets define days fishing as days from first gear deployment to date of landing 2) logbooks collect date and time of setting and hauling for each string, catch in each string, and offload date	
	Days traveling (from port to grounds) and offloading	by crab fishery - does not distinguish traveling and offload, which are operationally different				by crab fishery (include queueing time)		
	Crew port and transiting days (from home port to port in vicinity of grounds)					by crab fishery	To assess payments to crew on a daily basis, data should be included that account for work in port and transiting - as an alternative could use an estimate applied to all vessels (e.g., 10 days)	
Deliveries and revenues	Landings by share type - pounds	by crab fishery	by crab fishery			by crab fishery	Although redundant with fish tickets, may be important to collect for pricing by share type	
	Deadloss by share type - pounds	by crab fishery	by crab fishery			by crab fishery	Redundant with fish tickets	
	Landings by share type - revenues	by crab fishery	by crab fishery			by crab fishery	1) Revise for accuracy; 2) could add identifier for sales to affiliates	
	Vessel owner's IFQ used on the vessel by share type					by crab fishery	The variety of structures of vessel and share ownership can prevent the collection of meaningful data of this type	
	Vessel owner's IFQ used on other vessels by share type	by crab fishery						
	Leased quota by share type - pounds	by crab fishery	by crab fishery - limit collection to arm's length leases				by crab fishery - identify arm's length leases	To obtain lease price information, this collection can be modified to collect only arm's length transactions
	Leased quota by share type - cost							
Leased quota by share type - crew contributing shares	by crab fishery	by crab fishery - revise question to identify crew holding C shares	aggregated across all crab fisheries - identify number of crew with C share holdings			by crab fishery	Cooperative structure may prevent clear tracking of shares by vessel - a more relevant question may be to identify crew that hold C shares	
		supplement with lease data limited to arm's length leases				supplement with lease data limited to arm's length leases		
	Number of crew by fishery	by crab fishery	by crab fishery			by crab fishery	Elandings includes number of crew on vessel at time of landing	
	Payments to crew	by crab fishery	by crab fishery	aggregated across all crab fisheries	aggregated across all fisheries	by crab fishery	clarify that amount reported is after all crab fishing related deductions and charges (excluding personal spending)	
	Payments to captain	by crab fishery	by crab fishery	aggregated across all crab fisheries	aggregated across all fisheries	by crab fishery	May be useful to identify captains that also have an ownership interest in the vessel	

Data type	Data element	Alt 1. (status quo)	Alt. 2 (critical operation components by crab fishery)	Alt. 3 (critical operational components for crab fisheries aggregated)	Alt. 4 (critical operational components aggregated for all fisheries)	Alt. 5 (all components by crab fishery)	Comments
Crew	Labor payment details - charges and deductions	in all crab fisheries				by crab fishery	Could be expanded to include deduction amounts; however, may be excessive amounts of data for limited added information; alternatively could be omitted
	Revenue shares - owner/crew/captain	by crab fishery				by crab fishery	These data are meaningful only if all deductions and charges are also collected
	Crew license number/CFEC permit number	by crab fishery	by crab fishery	listed for all crab fisheries		listed for all crab fisheries	Unclear the extent of additional information provided by these data, as crew demographic information may be unreliable; may provide limited information since we don't know specific payments to any particular crew (unless collection is expanded to show specific payments to individuals)
	Insurance premium - crab only	aggregated across all crab fisheries and aggregated across all fisheries			aggregated across all fisheries	aggregated across all crab fisheries	In many instances insurance is not on a crab fishery/non crab fishery basis - current collection includes two entries to address this issue; too many types of insurance are used preventing any interpretation of these data (e.g., P&I, hull liability, vehicles, commercial liability, cargo, longshoreman's, breach of warranty)
	Paid deductibles - crab only	aggregated across all crab fisheries		aggregated across all crab fisheries	aggregated across all fisheries	aggregated across all crab fisheries	Payments are often spread over several fiscal years - or are not incurred in year of incident; may overlap with repair and maintenance
	Pot purchases - number						
	Pot purchases - cost	aggregated for all crab fisheries		aggregated across all crab fisheries - limit to new pots	aggregated across all fisheries	aggregated across all crab fisheries	May not be possible to accurately count pots, used gear often is damaged; currently have substantial pot usage data through federal log books and state pot registration and port sample interviews
	Pot purchases - location	aggregated for all crab fisheries				aggregated across all crab fisheries	Difficult to track location from companies with multiple locations or for used pot purchases from storage areas (also used purchases have very different economic meaning)
	Line and other gear purchases - costs	aggregated for all crab fisheries		aggregated across all crab fisheries limit to new line and gear	aggregated across all fisheries limit to new line and gear	aggregated across all crab fisheries	Typically cannot separate out crab costs; may be confused with repair and maintenance to the extent that purchases are for gear maintenance
	Line and other gear purchases - location	aggregated for all crab fisheries				aggregated across all crab fisheries	Difficult to track location from companies with multiple locations

Data type	Data element	Alt 1. (status quo)	Alt. 2 (critical operation components by crab fishery)	Alt. 3 (critical operational components for crab fisheries aggregated)	Alt. 4 (critical operational components aggregated for all fisheries)	Alt. 5 (all components by crab fishery)	Comments
Crab costs	Bait used - species/pounds by fishery	by crab fishery				by crab fishery	May be difficult to separate by fishery and season and identify bait types ; inventories may be carried over to other crab fisheries or non-crab fisheries, but are excluded from collection; disregards bait caught by vessel
	Bait used - species/cost by fishery						
	Bait used - purchase location by fishery	by crab fishery				by crab fishery	Difficult to track location from companies with multiple locations or for used pot purchases from storage areas (also used purchases have very different economic meaning)
	Fuel used - gallons by fishery	by crab fishery			Annual fuel usage and costs/could independently report each purchase	by crab fishery	A variety of methods are used to make estimates
	Fuel used - cost by fishery						
	Fuel used - purchase location by fishery	by crab fishery			by fuel purchase - aggregated across all fisheries	by crab fishery	Fuel is often carried over between fisheries and purchases
	Food and provisions - costs	aggregated across all crab fisheries				aggregated across all crab fisheries	Some inventories are carried over between fisheries
	Other crew expenses	aggregated for all crab fisheries				aggregated across all crab fisheries	Open ended element
	Freight costs for landed crab	aggregated for all crab fisheries				aggregated across all crab fisheries	Freight is typically not a harvester expense
	Storage, wharfage, delivery costs for gear	aggregated for all crab fisheries			aggregated across all fisheries	aggregated across all crab fisheries	Difficult to apportion, if groundfish operation or multiple vessel operation that shares pots with other vessels
Observer costs - by fishery	by crab fishery				by crab fishery	Observer cost are incurred only in the golden king crab and blue king crab fisheries	
Landing taxes and fees	aggregated across all crab fisheries				aggregated across all crab fisheries	Adjustments applied after year end, which may be necessary for both taxes and fees (such as buyback and arbitration assessment)	
Cooperative fees	aggregated across all crab fisheries			Revise to require reporting from the cooperative, which could include cooperative costs and charges to members		aggregated across all crab fisheries	Does not clearly distinguish cooperative cost as a vessel from cooperative cost as a share holder (unclear, if and whether a distinction exists); unclear whether and why other costs are/are not included (i.e., FCMA cooperative negotiation costs seem to be included, but might not include arbitration costs and negotiation costs, if those are conducted independently, also may include research foundation costs)

Data type	Data element	Alt 1. (status quo)	Alt. 2 (critical operation components by crab fishery)	Alt. 3 (critical operational components for crab fisheries aggregated)	Alt. 4 (critical operational components aggregated for all fisheries)	Alt. 5 (all components by crab fishery)	Comments
	Other expenses	aggregated across all crab fisheries				aggregated across all crab fisheries	Limited direction on elements to include; may omit substantial expenses or include marginally relevant expenses; unclear whether independent arbitration/negotiation costs would be included
	Vessel and equipment investment - cost	aggregated across all fisheries (excluding exclusively non-crab costs)			aggregated across all fisheries	aggregated across all fisheries	May be somewhat arbitrarily assigned between investment and repair/maintenance; current collection excludes costs exclusively for non-crab fisheries; unclear whether new vessel purchase would be included
	Vessel and equipment investment - location	aggregated across all fisheries					difficult to identify location for vendors with several locations
	Repair and maintenance - costs	aggregated across all fisheries			aggregated across all fisheries	aggregated across all fisheries	uncertain how to allocate between investment and repair/maintenance; may be difficult to identify as crab only expense
Vessel costs	Repair and maintenance - location	aggregated across all fisheries				aggregated across all fisheries	difficult to identify location for vendors with several locations
	Insurance premium	aggregated across all fisheries			aggregated across all fisheries and insurance types	aggregated across all fisheries and insurance types	May be confused with crab only insurance
	Fuel, lubrication, fluids - annual - cost	aggregated across all fisheries			aggregated across all fisheries	aggregated across all fisheries	
	Fuel, lubrication, fluids - annual - location	aggregated across all fisheries			aggregated across all fisheries		Purchases may be for fuel used in the following year; location information is thought to be a poor estimation
	Other vessel specific costs	aggregated across all fisheries			aggregated across all fisheries	aggregated across all fisheries	Element is too discretionary to be consistent
	Days at sea - all activities	aggregated across all activities				aggregated across all activities	Should be clarified whether transiting is included and whether non-fishing activities (tendering, charters) are included
All activities	Gross revenues - all activities	aggregated across all activities				aggregated across all activities	Should be clarified whether transiting is included and whether non-fishing activities (tendering, charters) are included
	Pounds - all fisheries	aggregated across all fisheries				aggregated across all fisheries	Should be clarified whether vessel obtains revenues from non-fishing revenues, if this element is included
	Labor cost - all activities	aggregated across all activities				aggregated across all activities	Should be clarified whether compensation is paid for non-fishing activities, if this element is included

Shore Plant Data Alternatives

Data type	Data element	Alt. 1. (status quo)	Alt. 2 (critical operation components by crab fishery)	Alt. 3 (critical operational components for crab fisheries aggregated)	Alt. 4 (critical operational components aggregated for all fisheries)	Alt. 5 (all components by crab fishery)	Comments
Production	Production - dates covered by fishery	by crab fishery				by crab fishery	Providing first and last day and number of active days gives some information on capacity use; ignores scheduled interruptions in processing and partial days; can be estimated with deliveries on fish tickets
	Production - processing days by fishery	by crab fishery				by crab fishery	Redundant with fish tickets
	Raw crab processed by fishery	by crab fishery				by crab fishery	Redundant with COAR reports; may not match sales
	Product and processed pounds by fishery	by crab fishery				by crab fishery	Grades varies over time and across processors; could distinguish dirty crab from clean
	Production - crab size and grade	by crab fishery				by crab fishery	Redundant with COAR reports
	Production - box size	by crab fishery				by crab fishery	fish tickets
	Production - finished pounds	by crab fishery				by crab fishery	
	Production - custom processing identifier	by crab fishery				by crab fishery	
Revenues	Sales to affiliates/non-affiliates by species - product/process	by crab fishery	by crab fishery			by crab fishery	
	Sales to affiliates/non-affiliates by species - crab size and grade	by crab fishery	by crab fishery			by crab fishery	
	Sales to affiliates/non-affiliates by species - box size and finished pounds	by crab fishery	by crab fishery			by crab fishery	
	Sales to affiliates/non-affiliates by species - revenues (fob)	by crab fishery	by crab fishery			by crab fishery	Could provide Alaska fob to simplify
	Custom processing by species/product/process	by crab fishery	by crab fishery			by crab fishery	Could be incorporated into general production with revision to collect only custom processing revenues
	Custom processing revenues	by crab fishery	by crab fishery			by crab fishery	
Labor	Average processing positions	by crab fishery				by crab fishery	Most processors do not maintain these data but instead compute it using man-hours; unclear whether this entry contains additional information
	Man-hours	by crab fishery			aggregated across all fisheries	by crab fishery	Most processors maintain some record of these values; in some cases estimation is poor as employees move among lines and duties
	Total processing labor payments	by crab fishery			aggregated across all fisheries	by crab fishery	
	Crab processing employees by residence	by crab fishery			aggregated across all fisheries	by crab fishery	Processors generally have limited records concerning employee residence; typically cannot isolate employees that work in crab fisheries
Custom processing services purchased	Custom processing services purchased - raw pounds	by crab fishery	by crab fishery			by crab fishery	
	Custom processing services purchased - product and process	by crab fishery	by crab fishery			by crab fishery	
	Custom processing services purchased - size and grade	by crab fishery	by crab fishery			by crab fishery	Broaden collection to include persons who purchase crab but do not actively process
	Custom processing services purchased - box size	by crab fishery	by crab fishery			by crab fishery	

Shore Plant Data Alternatives

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	Custom processing services purchased - finished pounds	by crab fishery	by crab fishery			by crab fishery	
	Custom processing services purchased - processing fee	by crab fishery	by crab fishery			by crab fishery	
Crab purchases	Raw crab purchases by fishery - ifq type	by crab fishery	by crab fishery			by crab fishery	Develop consistent reporting (possibly distinguishing dirty crab from clean crab)
	Raw crab purchases by fishery - size and grade	by crab fishery	by crab fishery			by crab fishery	Develop consistent reporting (possibly distinguishing dirty crab from clean crab)
	Raw crab purchases by fishery - pounds	by crab fishery	by crab fishery			by crab fishery	
	Raw crab purchases by fishery - gross payments	by crab fishery	by crab fishery			by crab fishery	
	Fisheries taxes and fees - crab only	by crab fisheries	aggregated across crab fisheries			aggregated across crab fisheries	Currently excludes taxes and fees of companies that only custom process; some costs may be excluded as they are incurred in one year and paid in the next; taxes may be estimates based simply on crab prices
	Processing and packing materials, equipment, and supplies - crab only	aggregated across crab fisheries				aggregated across crab fisheries	Some costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; location data are time consuming and have limited accuracy; consider removing equipment costs, as they differ substantially from other information reported here
	Food and provisions - crab only	aggregated across crab fisheries			aggregated across all fisheries	aggregated across crab fisheries	Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors
	Other direct crab labor costs	aggregated across crab fisheries				aggregated across crab fisheries	Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; may be inconsistently reported across processors
	Insurance deductibles - crab only	aggregated across crab fisheries				aggregated across crab fisheries	May not be able to distinguish crab costs
	Repackaging costs	aggregated across crab fisheries				by crab fishery	Does not distinguish by fishery, limiting the utility; by aggregating across fisheries may also lead to a mismatch of production and sales; takes place outside Alaska creating an inconsistency with other reporting; very complicated to track and requires attribution of costs from other plants
Crab processing costs	Broker fees and promotions by fishery	by crab fishery				by crab fishery	Often costs do not coincide with year of landing; somewhat arbitrary determination of which costs should be reported as most processors have own sales staff who market all products

Shore Plant Data Alternatives

Data type	Data element	Alt. 1. (status quo)	Alt. 2 (critical operation components by crab fishery)	Alt. 3 (critical operational components for crab fisheries aggregated)	Alt. 4 (critical operational components aggregated for all fisheries)	Alt. 5 (all components by crab fishery)	Comments
	Lease (IPQ) costs	by crab fishery	by crab fishery	aggregated across all crab fisheries		by crab fishery	may be complications because of revenue sharing arrangements
	Observer costs	by crab fishery			aggregated across all fisheries	by crab fishery	No direct crab observer costs associated with crab alone
	Freight cost for plant supplies	aggregated across crab fisheries				aggregated across crab fisheries	Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; inconsistently reported, as some processor use company owned vessels for freight
	Freight costs for products	aggregated across crab fisheries				aggregated across crab fisheries	Costs are prorated across crab and non-crab fisheries; no consistent method of prorating costs across processors; inconsistently reported, as some processor use company owned vessels for freight; omits storage costs, which may be significant; no reporting from firms that custom processing only
	Product storage	aggregated across crab fisheries				aggregated across crab fisheries	May not be consistently reported as some processors use their own storage facilities; no reporting from firms that custom processing only
	Water, sewer, and waste disposal	aggregated across crab fisheries					Costs are incurred for processing and for housing and are not incurred for a single activity; no consistent method of prorating costs
	Other crab-specific costs	aggregated across crab fisheries				aggregated across crab fisheries	Element is too discretionary to be consistently reported
General plant costs	Annual fuel, electricity, lubrication, hydraulic fluids	aggregated across all fisheries				aggregated across fisheries	Great degree of discretion in reporting on this variable; may include fuel for housing and also fuel sold to vessels
	Plant and equipment investments	aggregated across all fisheries				aggregated across all fisheries	Location information may be misleading; some discretion concerning scope of investments included, as support and housing are both related to plant operations;
	Repair and maintenance	aggregated across all fisheries				aggregated across all fisheries	some discretion concerning choice of investment or repair and maintenance
	Foremen, managers, other employees and salaries	aggregated across all fisheries			aggregated across all fisheries	aggregated across all fisheries	Omits on sight persons overseeing custom processing; if prorated some discretion concerning attribution to crab processing; also omits off site employees needed to support plant
	Other plant specific costs	aggregated across all fisheries				aggregated across all fisheries	Element is too discretionary to be consistent
	Processing days - annual total - all fisheries	aggregated across all fisheries				aggregated across all fisheries	Some days may have minimal processing, while others have extensive processing; this may be approximated with fish tickets

Shore Plant Data Alternatives

Data type	Data element	Alt. 1. (status quo)	Alt. 2 (critical operation components by crab fishery)	Alt. 3 (critical operational components for crab fisheries aggregated)	Alt. 4 (critical operational components aggregated for all fisheries)	Alt. 5 (all components by crab fishery)	Comments
General processing information	Gross FOB revenues - annual total - all fisheries	aggregated across all fisheries				aggregated across all fisheries	Revenues are not consistent with processed pounds, as inventories are not included in sales; unclear how custom processing should be considered; redundant with COAR
	Finished processed pounds - annual total - all fisheries	aggregated across all fisheries				aggregated across all fisheries	
	Processing labor costs - annual total - all fisheries	aggregated across all fisheries					aggregated across all fisheries