Public Testimony Sign-Up Sheet

Agenda Item C-1(a,b,c)

a) Crab Committee Report
b) Data
c) 3-year review

	NAME (PLEASE PRINT)	AFFILIATION
1	Ernie Weiss	City of King Cove
2	LINDA FREED	CITY of Kodiak/KIB
3	Stephen Taufen	Groundswell Fisheries Movement
4	Tim Henkel	Bering Sea Fishermen's Union
5	Arni Thomson / Frank Kelty	Ad Hoc Crab Coalition
6	Terry Leitzell	Icicle
7	Lenny Herzog	Homer
8	Steve Minor	NPCA
9	John Iani	crab Arbitration Organ.
10	Jim Stone	F/V Retriever
11	~~Jeff Steele~~	F/V Bering Hunter
12	Simeon Swetzof / Mateo Paz-Soldan	City of Saint Paul
13	Heather McCarty	CBSFA
14	Gary Painter	F/V Trailblazer
15	Ed Poulsen	Sea Boot Coop
16	SHAWN C. DOCHTERMANN	CREWMAN'S ASSOCIATION
17	JOE PLESHA	TRIDENT SEAFOODS
18	Pat Kendall	TNX, St. Paul
19	Linda Kozak	Kozak + Assoc.
20	MIKE STANLEY	Golden King Crab Harvesters Assn
21	Beth Stewart	Aleutians East Borough
22	Florence Colburn	Crab Group Ind. Harvesters / Advisory Committee
23	Margaret Hall / Kale Garcia	Harvester Wendy's Inc
24	Jerry Bongen	
25	TIM MILLER	

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person " to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

+ DAVE FRASER, ADAK FISHERIES

AGENDA C-1(a, b, c)
FEBRUARY 2008

MEMORANDUM

TO: Council, SSC and AP Members

FROM: Chris Oliver
Executive Director

DATE: January 30, 2008

SUBJECT: BSAI Crab Issues

ESTIMATED TIME
14 HOURS
(All C-1 items)

ACTION REQUIRED

(a) Report of the Crab Advisory Committee
(b) Report on crab data collection quality ~~and confidentiality~~
(c) Proposed social and economic analyses for the three-year review.

BACKGROUND

(a) Report of the Crab Advisory Committee

At its October 2007 meeting, the Council requested staff to prepare an analysis (for review at the October 2008 meeting) examining the effects of a change in the A share/B share split. The analysis should examine:

1) the status quo 90/10 split, as well as 80/20, 70/30, 50/50, and 0/100 share splits;
2) incremental changes in the share split over a period of years;
3) a one-pie IFQ allocation to vessel owners, processors, and skippers and crewmembers based upon each sector's investments and participation in the fishery; and
4) the effects of shifts in the share split as the annual TAC levels rise and fall in each fishery.

The Council also requested the Crab Advisory Committee to continue its work, with a focus on programmatic issues and effects of policy decisions related to the BSAI crab rationalization program. The committee was also tasked to discuss potential solutions to concerns that may arise from any adjustments to the A share/B share split. These could include concerns such as 1) potential compensation to processors from harvesters for lost economic opportunity from a shift in market power, 2) potential changes in landing distribution, 3) the remaining need and necessary changes to the binding arbitration program, 4) use and effectiveness of regional landing requirements to protect communities, and 5) respective impacts on crew. The committee was also requested to make recommendations on how best to provide for economic data needs. Specifically, the crab advisory committee was asked to develop recommendations for a protocol, including an audit process, to obtain timely information about ex vessel price, by share type and region, and first wholesale price. Committee recommendations for improving ex vessel and wholesale price information should be prioritized, so that the data becomes available to inform the Council's ongoing analytical process. The committee was requested to provide a report to the Council at the February 2008 meeting indicating its progress on this assignment.

In response to the Council's request, the committee has prepared the attached report **(Item C-1(a)(1))**. The report includes several proposals for the Council's purpose and need statement, as well as discussion of potential bases for the Council's proposed action. The report also summarizes the committee's discussions of

the proposed revisions to the current 90/10 A share/B share split, community, processor, and crew concerns (under both the existing program and under the proposed program revisions), and emergency relief from regionalization. The report includes two proposals advanced to address crew issues and recommended processes for addressing arbitration issues and data issues.

(b) Report on crab data collection quality ~~and confidentiality~~

At its December 2006 meeting, the Council passed a motion directing staff to develop protocols concerning data collected under crab rationalization Economic Data Reporting (EDR) program. The protocols would apply to two general areas, maintaining data confidentiality and assessing the quality of the data to ensure accuracy. To maintain confidentiality, the Council directed staff to develop protocols for Council review specifying aggregation requirements to avoid revealing proprietary data of fishery participants. That process is currently ongoing, with review of legal, analytical, and policy considerations, and will be presented to the Council at a later meeting.

The direction concerning data quality included several areas of interest to the Council. The Council recommended that staff develop descriptions of data, their quality, deficiencies, and variability. These descriptions, in turn, would be used to draft protocols. Among other purposes, these descriptions would be used to determine appropriate revisions to the EDR questionnaires.

The attached discussion paper **(Item C-1(b)(1))** describes the results of work completed to date on assessment of data quality and the development of data documentation to support proper use and interpretation of EDR data by analysts. Extensive work has been performed to assess data quality, including mandatory audits conducted by an independent accounting firm and both formal and informal submitter feedback. The principal objective of this paper is to describe the data quality assessment methods employed by PSMFC and AFSC personnel to ensure that EDR data meet requirements of federal law and NOAA guidelines for data quality assessment and documentation. Detailed audit reports and a detailed review of known data quality concerns for individual EDR data elements are included as appendices to this discussion paper. These appendices will be handed out at the meeting.

(c) Proposed social and economic analyses for the three-year review.

In October of 2008, the Council is scheduled to receive an analysis of the effects of the first three years of the crab rationalization program (the three year review). Staff presented an outline of that analysis to the Council at its December 2007 meeting **(Item C-1(c)(1))**. To assist in the development of the understanding of the effects of the program, the staff of the Alaska Fisheries Science Center intends to undertake several analyses. To the extent feasible, the results of these analyses will be incorporated into the three year review. All proposals are preliminary and are subject to revision. Specifically, the following studies will be undertaken:

1) A study analyzing changes in crew opportunities since rationalization. The project description states, in part: "As the initial effects of the rationalization program begin to stabilize, it is important to understand the actual impacts of this program on crewmembers. Loss of crew jobs was a predicted effect, but the specifics of crew impacts are not understood in great detail. Beginning in the fall of 2007, this project will use ethnographic techniques to study current and former crewmembers, how they have been affected, and how their communities have been affected. This study will take place in Seattle, Dutch Harbor, Kodiak, and additional communities. Interviews will include specific issues (e.g., alternative income sources for displaced crew and what factors enable crewmembers to retain their jobs) that may be useful in understanding how crewmembers might be affected in other rationalization initiatives. Decision theory and occupational communities theory will provide the preliminary analytical framework for this research." (Lead: Jennifer Sepez)

2) An analysis of the distribution of harvester revenues and/or quasi-rents among vessel owners, captains, crew, and ITQ owners. Using EDR data one can estimate/compute the revenues (including post-season adjustments lacking in fish tickets) and quasi-rents earned within each fishery (or the year overall) and see how this "pie" is split up among crew, captains, vessel owners, and quota owners. Quota holders notwithstanding, it is likely that we will be able to compare how this distribution has changed pre- and post-rationalization. This distribution can also broken be out several ways to see if the patterns are consistent across fisheries, regions, co-ops, and vessel types or sizes. There will be no modeling component to this analysis since we believe the conclusions on distribution drawn here are less likely to be influenced by market impacts than a study that examined a change in the magnitude of benefits and whether they went up or down (which is drastically impacted by crab market prices, fuel prices, etc.). Plus, our time constraints may not allow the development of a model. (Lead: Brian Garber-Yonts, with assistance from Ron Felthoven).

3) An analysis comparing ex-vessel prices to reservation prices for both vessel owners and processors. The reservation price of the harvesters represents the minimum price they would be willing to accept for their harvested fish. Neglecting the role of outside options, this harvester reservation price will be the average cost associated with harvesting (which can be estimated from the EDR data). The reservation price of the processors represents the maximum price they would be willing to pay for the fish, which may be represented by the price they receive for the finished product minus the average cost of processing (also estimable from the EDR data). While we understand the binding arbitration system sets the ex-vessel prices at an agreed-upon ratio of historic revenues from harvesters and processors, the result of this system, when combined with vessel and processor costs, generates a realization of quasi-rents. Even if the revenue formula consistently mimics the pre-rationalization period and is considered to be "fair" to both parties, any welfare differentials attributable to the two sectors will thus be driven by costs. Differential changes in cost margins for either sector after rationalization provide an indication of whether one group is better or worse off (depending on the distribution within each sector). It should be noted that the results of such comparisons may not solely reflect impacts due to changes in fishery management. However, the results could suggest that on average, one of the groups is better able to realize the benefits of rationalization (for example, if one is more readily able to substitute labor for capital to offset the marked fuel price increases we've observed). In sum, generating these rent share differentials will provide some informative results about welfare changes, but interpreting these results and attributing portions to rationalization will require modeling, which could require a great deal of time. Alan will work toward this end, but by October results may only be speculative. (Lead: Alan Haynie with possible assistance from Harrison Fell (of Resources for the Future)).

4) An analysis of world crab market trends and fuel costs. Many of the welfare impacts observed over the last few years will be driven by the drastic changes we've seen in crab prices and fuel prices. Any discussion of the effects of rationalization should take these factors into consideration and Mike's work will frame these trends nicely. (Lead: Mike Dalton).

5) A regional impact analysis of crab rationalization. A state-level Social Accounting Matrix model is under development that can be used to analyze the total state impacts of changes in the crab fisheries for both Alaska and Washington. Finer scaled regional analyses are possible, if assumptions concerning the absorption of impacts at various sub-regions of Alaska (based on landings or revenues in such regions) are employed. Time constraints suggest a fairly simple broad analysis over all regions, or a more specific analysis of a few sub-regions may be conducted, if the required assumptions are deemed acceptable. More refined modeling will be possible in the future after finer-scaled regional data collections are completed this spring. (Lead: Chang Seung).

Report to the Council
Crab Advisory Committee
February 2008

Committee Members – Sam Cotton (chair), Lenny Herzog, Kevin Kaldestad, Jerry Bongen, Florence Colburn, Dave Hambleton, Phil Hanson, Rob Rogers, John Moller, Linda Freed, Frank Kelty, Simeon Swetzof, Ernie Weiss, Tim Henkel, Steve Branson

Overview

In general, committee members have very differing opinions concerning the scope of the proposed action and the purpose and need statement. There are committee members that believe only minor technical changes are needed for most fisheries, and there are other committee members that believe that changes to the overall structure of the program (i.e., the 90/10 share split) should be considered for all fisheries.

The committee struggled to understand its specific role. Most (if not all) committee members, at some point in the process, questioned whether areas of committee discussion were within the scope of the Council's direction for the committee. The committee would benefit greatly from further direction from the Council with any of its future work.

Discussion of purpose and need

Some committee members suggested that the Council's initiation of an action may be premature and that no clear problem that would be addressed by the change in the 90/10 A share/B share split has been identified. In addition, several committee members believe that additional information is needed to identify problems to be addressed by the potential change in the A share/B share split.

Some members suggested that an analysis of the A share/B share split should be undertaken in the very near future, as any delay cause the current 90/10 A share/B share split to be more established complicating future changes with potential negative effects on current participants. In addition, several data issues need to be explored to identify specific problems to be addressed by program changes. These include further analysis of crew and community effects. The analysis of these effects is complicated by lack of available data.

All committee members suggested that any purpose and need statement distinguish problems by fishery, region, and locale, as problems under the program may differ across fisheries and space. Specifically, Kodiak and St. Paul have very different issues that would likely need to be addressed by different measures.

Consensus – Western Aleutian Islands golden king crab fishery has problems that are different from all others and could be addressed separately.

Review of possible rationales for Council action

As a part of the review of the purpose and need, the committee reviewed several possible rationales for Council action restructuring the program. The following summarizes opinions expressed by committee members in that discussion.

B share issues

- *The B share allocation is inadequate to support entry to the processing sector*
  Pro - not much opportunity for entry – entry is only possible on a small scale

Con - not completely accurate statement since some processors have entered the fisheries – some processors entered based solely on the opportunity to buy B share crab – processor entry is greater than prior to the program, suggesting the program has created processor entry opportunity

- *The B share allocation is inadequate to support competition for landings*
  Pro – may not be adequate competition among existing processors
  Con – some existing processors are competing with each other and entrants for B share landings
- *The B share allocation is inadequate to support development of new markets and products*
  Pro – product development has not occurred
  Con – processors are increasingly serving niche markets and those markets take time to develop – product development is a very challenging market, in part, because of international supplies of specialty products – this is not a program issue, but a market issue
  Consensus – TAC has not affected opportunities for market development
- *The B share allocation is inadequate to support development of crab processing in certain communities*
  Consensus - this concern applies only in the Western Aleutians
- *The B share allocation is inadequate to support historic levels of processing in certain communities*
  Pro – this is perceived a problem by Kodiak – but their historic processing interest goes back several years (70s/80s)
  Con – this interest is too dated – would deprive current community participants of their recent activity

Arbitration and share matching issues

Consensus – Under any processor delivery or regional landing restriction, the program requires arbitration – arbitration issues are not a reasonable justification for program revision- likewise, share matching is needed to address coordination of shares under the program and is not a reasonable justification for program modification.

Processor consolidation issues

Some committee members support removal of processor consolidation related issues from justifications for program modification

- *Processor consolidation has prevented the development of new products and markets*
  Pro – some committee members believe this needs additional exploration
  Con – consolidation is not affecting production decisions
- *Processor consolidation has threatened community sustainability*
  Pro – consolidation contributed to divestiture and potential movement of shares from communities – this may justify examining sideboard issues in the processing sector
  Con – this may occur, but it is not a program structure issue

Fleet consolidation issues

- *Fleet consolidation has resulted loss of captain and crew positions*
  Pro – possible examination of vessel caps is appropriate, possible compensation of crew who lost jobs is important
  Con – the consolidation was an expected effect of the program, vessel caps exacerbate crew problems, crew compensation for job loss is unnecessary since most jobs were part time and not large commitment
- *Fleet consolidation has resulted in lower quality and lower paying jobs for captain and crew*
  Pro – exorbitant lease fees have cut into crew shares
  Con – existing jobs are better than prior to program implementation
- *Fleet consolidation has resulted in extended processing seasons preventing processors from realizing production efficiencies*

Pro – processors have been affected by elongated seasons resulting from fleet consolidation
Con – this was an intended affect of the program, which might be better addressed another way (rather than through program modification)

- *Fleet consolidation has harmed community-based support industries*
  Pro – in some instances this occurred, because the number of vessels declined – this is an intended effect
  Con – some communities have benefited by having boats in the community for extended periods
- *Fleet consolidation has harmed community-based harvesting crews*
  Committee members agreed that this effect is reflected in the comments that appear above concerning crew effects
- *Current allocations of harvester and processor shares do not adequately reflect historic participation and investment in the fisheries by harvesters and processors*
  Pro –there may be an inequity in the distribution of benefits between the sectors
  Con – any issue in this respect is fully captured by other issues (primarily B share issues)
- *Current allocations of harvester and processor shares do not adequately reflect historic participation and investment in the fisheries among processors*
  Pro – ***in the Western fisheries only***, the processor allocations may not adequately reflect recent history, there may be an inequity in the distribution
- *Current program structure does not adequately consider community investment in the fisheries*
  Pro – may be addressed through measures other than share allocations
  Con – community use of tax revenues is already a reflection of community investment, the program currently recognizes these investments

- *The absence of a harvest share allocation to crew and the 3 percent harvest share allocation to captains do not reflect historic participation and investment and is unfair and inequitable*
  Pro – lack of crew and 3 percent captain allocation is inadequate, it does not reflect time/human capital investment
  Con – financial investments are the proper focus and those are adequately accounted for, reallocation would be inequitable

- *Initial allocation of long term (or permanent) harvesting and processing shares unjustly enriches recipients of those shares and deprives the public of the benefits of the resource*
  Pro – permanency of allocations that are not linked to continuing participation removes the share holdings from those running fishing operations, the high value of shares initially allocated reflects a great windfall to their recipients
  Con – this does not reflect a problem in the existing program and overshadows great benefits of the program, the initial allocations reflect effort exerted to earn those allocations

- *Any program revision should contain provisions to maintain or even extend community protections*
  The program needs to recognize the variety and diversity of communities that have interests in these fisheries

Suggested Purpose and Need Statements
Several committee members and members of the public presented proposals for purpose and need statements and alternatives for analysis. The following proposals are attached:

Phil Hanson/Dave Hambleton Proposal (attached as Proposal A) – suggests currently identifiable problems are with 1) community access to capital to exercise rights of first refusal and 2) the Western

Aleutian Islands brown king crab fishery management, which may need revision in the future, if the custom processing/use cap measure does not address production efficiency issues in that fishery.

John Moller Proposal (attached as Proposal B) – suggests the removal of PQS from the Western Aleutian Islands brown king crab and Western Aleutian Islands red king crab because of the initial allocation of PQS in that fishery did not adequately consider the history or investments in the fishery by Adak.

Mike Stanley Proposal (attached as Proposal C) – proposal differentiates Aleutian Island golden king crab fisheries from all other fisheries. The East is distinguishable for its IPQ consolidation. The West is distinguishable for the share of its IFQ/TAC that has remained unharvested.

Simeon Swetzoff/Pat Hardina Proposal (attached as Proposal D) – suggests revision of Council's purpose and need statement – suggests the 90/10 split may be sufficient to achieve Council's purposes for B shares. Also, suggests that the recent custom processing exemption from processor share use caps and development of electronic transfers may address some issues with B shares use. Identifies community concerns with changes in the A share/B share split. The proposal identifies the absence of community interests as a problem in the proposed purpose and need statement. The revision also suggests that the committee work to vet possible problems in the fisheries.

Florence Colburn Proposal (attached as Proposal E) – suggests revision of the current problem statement – identifies that the choice of 90/10 is a Council policy decision – suggests that the purpose and need should not identify an outcome, but should be a basis for considering changes. We need to examine the effects of the existing system and how potential changes in 90/10 would affect participants. Also, identifies unresolved arbitration issues as potential need for being addressed and acknowledges work being done on it. Questions whether arbitration is working as intended, because it is being resorted to frequently for price setting.

Data Issues

The committee identified several data needs. Staff suggests that additional data collection would be necessary and beneficial only for items 1) and 5) shown below. Specifically, ex vessel prices by share type and location could be improved by an industry led effort. Dave Hambleton and Lenny Herzog agreed to work with industry to prepare a suggested protocol for collection of the data for review by the committee. Staff has agreed to assist with these efforts. The proposal is intended to provide aggregated price data that industry could present to the Council to verify assertions concerning price effects of the share system of the program. The protocol would be discussed with NOAA GC to limit potential for anticompetitive uses of the data.

Data needs identified by the committee

1) Landings and ex vessel prices by share type (A share/B share/C share/CDQ) and location are critical to understanding the effects of the share structure and landings requirements of the program.
2) Comparison of historical landing patterns and landing patterns under the rationalization program by share type are important to understanding the effects of the program on communities.
3) Basic data showing the allocations of IFQ in the different fisheries by share type at different TAC levels under the existing structure may be useful for exploring the effects of the program's system of share allocations.
4) Additional crew data are critical to understanding crew impacts. Specifically, individual crew data are important for documenting individual participation. (State initiative and comprehensive committee)

5) Landings and ex vessel prices by location (including region), share type (A share/B share/C share/CDQ), and processors/harvester affiliation – including role of different share types in negotiations
6) Analysis of binding arbitration effect on ex vessel price by region and share type
7) Role of different share types in cooperative fishing plans (A share/B share/C share/CDQ)
8) Lease rates for IFQ (by share type) and IPQ and analysis of prices
9) Analysis of binding arbitration outcomes relative to historic division of first wholesale revenues
11) Comparison of landings by share type (A share/B share/C share/CDQ) with cooling off rights distribution
12) Changes in the distribution/consolidation of QS and PQS holdings among processors and CDQ groups (including pre-rationalization vessel/license transfers and since initial allocation) – (also considering mergers)
13) Distribution of share holdings/vessel ownership by location
14) Changes in landings taxes and business taxes - pre/post-rationalization
15) Changes in processor capacity - pre/post-rationalization
16) Changes in processor employment - pre/post-rationalization
17) Changes in processing days - pre/post-rationalization

Modification from 90/10 A share/B share split

Some committee members suggested that because they believe the program requires no changes, it is difficult to suggest appropriate revisions/additions to elements and options. Some committee members suggested that there was no analytical basis for the original 90/10 share split. Some committee members believe that any analysis should encompass a broad range of share splits to fully assess differential impacts of the share split.

Some committee members suggested that any change from 90/10 1) should provide for compensation for persons deprived of processor shares 2) should provide for compensation to communities. The committee briefly discussed the basis for community landings (i.e., distribution of landings among communities). Some committee members suggested that compensation might differ for those who have purchased shares. It was suggested that any reallocation of harvest shares from their current holders may need to include harvester compensation, particularly for those who have purchase harvest shares. Some committee members suggested that splits of 0/100 and 50/50 should be excluded from consideration because regional/community issues could not be addressed with these large shifts in the portion of the fishery subject to processor shares.

Some committee members believe that the one-pie alternative should be removed from consideration. Others believe that the one-pie alternative may be useful for contrasting alternatives by illuminating differences in the program alternatives. In addition, some processors supported retaining a one pie alternative with harvest shares divided between the sectors, as that may be more equitable than large change in the A share/B share split. Some committee members believe that any one-pie alternative should include a direct allocation to communities. Other committee members believe that other measures are more appropriate to support community interests. Some committee members suggested that we should examine measures other than share allocations to address losses under a program change for all interests. Committee members also expressed concern that interests have vested too quickly for a revocable privilege that was created recently. Some committee members believe that community protections for the program will need significant revision to protect community interests under any shift from 90/10.

Some committee members suggested that any change from 90/10 would require that newly created B shares be subject to regionalization structure. Some committee members also suggested that arbitration

will be necessary for any regionalized shares. It was acknowledged that the arbitration system would need modification to be applied to regionalized B shares.

Several committee members suggested that any proposed changes in the A share/B share split considered should be specific to each fishery to distinguish by circumstances in the different fisheries. Specifically, committee members noted that the Aleutian Island brown king crab fisheries differ not only from the other fisheries, but also from each other. For example, in the Eastern fishery almost all of the processing occurs in Dutch Harbor. In the most recent season, one PQS holder did not apply for its IPQ, leading to substantial concentration of IPQ in the fishery. In the West, a large portion of the TAC was left in the water in the most recent season. In that fishery, the one shore-based facility located in the west (where 50 percent of the A share landings must occur) holds little PQS. That processor's inability to reach agreements with PQS holders likely contributed to that failure to harvest the allocation. This unharvested TAC may have limited the community benefits realized under the program. Some committee members suggested that no IPQ are needed in this fishery. These committee members suggested that the fishery participation was stable prior to rationalization and that the fishery did not have overcapacity. These committee members suggested that adjusting the A share/B share split may alleviate some of the problems in these two fisheries. In addition, it was pointed out that the preseason sale of crab by one processor at a price substantially below the in-season market price may harm some harvesters in the fishery. Another committee member suggested that the arbitration system is equipped to address this issue, if the harvester would be unjustly harmed by the low priced sale. Some committee members also suggested waiting until the use cap exemption for custom processing took effect to see, whether problems persist or whether action to modify manage are needed. Also, it was suggested that the effects of the large catcher processor participation in the western fishery should affect any changes considered in that fishery.

One committee member suggested that the Pribilof and St. Matthew Island fisheries are likely to have small TACs and may be worth distinguishing when considering different A share/B share splits. Processing sector committee members, however, suggested that the recent Council action on custom processing will enable processors to address any capacity issues that could complicate processing of deliveries under the existing 90/10 share split.

Some committee members suggested that no large changes should be considered in the Bristol Bay and *opilio* fisheries. Some committee members believe that the only possible rationale for changes in the share split in these fisheries is that the 90/10 split can impose logistical challenges to participants attempting to comply with the A share landing requirements. Some committee members suggested that nothing beyond a 70/30 be considered for these fisheries.

Some committee members suggested that changes in the share split be undertaken in a single step. These committee members suggested that incremental changes would require annual adjustments to the changes in IPQ issuance. These changes were thought to be potentially disruptive for participants. Other committee members suggested that incremental changes could mitigate negative effects to those harmed by the change in the share split. Some committee members also suggested that the effects of the change may be better understood, if the changes are incremental. These committee members suggested that any added uncertainty would be worth the benefit of easing the effects of the transition on communities. It was also suggested that from processor perspective, to the extent that a change is uncompensated, a slower, later change will have less negative effects. Some committee members suggest that the appropriateness of incremental changes depends on the scope the change in the share split.

Community Issues

Some committee members also suggested that some community concerns could be alleviated by shifting the IPQ threshold (or by having the share split shift) with TACs. Changing the IPQ distribution with TAC could allow more shares to be marketed competitively when TACs are higher. Some committee members pointed out that B shares are more important to logistical coordination at low TACs, suggesting that the B share allocation should be higher at low TACs. Other committee members suggested that the IPQ share should decrease at higher TACs (as under the current threshold). Some committee members suggested it is important to maintain community linkages for any harvest shares not subject to IPQ landing requirements to protect community interests. Some committee members suggested that changing from the current share split will have negative effects on communities, particularly during periods of low TACs. These effects could be compounded by high fuel costs that effect the spatial distribution of landings. Differences in ex vessel prices by location may also compound these effects.

Some committee members suggested that any newly created B shares should be regionalized to protect communities. Since B shares are not currently subject to regionalization, the application of regionalization to newly created B shares would create a new share type under the program. Some committee members expressed concern that retaining regionalization on newly created B shares (i.e., North B share) would greatly diminish the value of those shares to harvesters, but would be important to communities (particularly in the North region). Some committee members suggested that regionalization could be applied only to newly created B share QS in the North. This revision, however, would not address concerns of harvesters, who believe the North region may have little competition for B share landings. Some committee members suggested that any regionalized shares would require arbitration. To apply arbitration to B shares would require substantial revision of the arbitration program (because share matching cannot be applied to B share allocations).

Some committee members suggested that regionalization of B shares may do little to protect some communities. Instead, a redistribution of landings would occur within the region, leaving the some committees unprotected. Other communities are likely to benefit from this redistribution. Some committee members suggested that community specific harvest share allocations could be used to mitigate this redistributive effect. Some committee members also suggested that regionalization of B shares (or a system of community linked shares) could harm harvesters, since the arbitration system does not apply to B share landings. In remote areas, it is possible that little competition for landings could lead to B share landing prices being lower than A share landing prices, which are subject to arbitration.

The committee also discussed the potential to use compensation, instead of regionalization to address community interests arising from the change in the split. Some committee members asserted that any compensation would be inadequate, since processing activity is the important community component in the North. Absent landing requirements of regionalization, the processing interest would not be protected.

Some committee members suggested that the existing distribution of B share landings has arisen from individual QS holder decisions, rather than from the lack of available B shares for a competitive market. These committee members suggested that share leasing (undertaken by QS holders) has had a large impact on the distribution of landings, limiting the amount of B share landings in certain communities. In addition, some committee members suggested that current prices for A share/IPQ landings have been high enough to discourage some competition in the market (i.e., A share/IPQ landing have been at a competitive price), particularly in communities that wish to attract additional landings. Other committee members suggested that the lack of available B shares has limited the distribution of B share landings. Some committee members suggested that this *opilio* season could be important for considering the potential for B shares to induce competition because of the relatively high TAC in the fishery.

Specifically, it was pointed out that as many as 10-12 million pounds of unrestricted shares (B shares/C shares/CDQ pounds) would be available for landing from the *opilio* fishery. Some committee members believe that CDQ pounds should not be considered unrestricted shares, since they are not part of the rationalization program.

Some committee members suggested that the weak community protections (specifically the right of first refusal) offer some communities little protection, while others benefit greatly from the stronger protections (specifically the current 90/10 share split and regionalization). These committee members suggested that more should be done to protect communities that are vulnerable to the weak protections.

Some committee members suggested that crew impacts also have consequences for their home communities. These community impacts, however, are not addressed by the program. These committee members suggested that a crew allocation could be used to mitigate these effects. These committee members suggest that effective crew protections should be considered community protections. Some committee members pointed out that these effects are largely a symptom of the pervasive leasing under the program. Some committee members suggested that the effects of leasing have been both the loss of jobs and diminished quality in remaining jobs, since crew shares are paid on post-royalty vessel revenues. Most vessel owners that have continued to fish are said to pay full crew shares on all revenues from owned shares, but must deduct royalties paid to share lessors in calculating crew shares on leased quota. It was suggested that at prevailing lease rates, vessel operators are subsidizing crew shares of QS holders that lease their shares. Some committee members suggested that caps on lease rates could be used to mitigate crew effects arising from high lease rates. Despite these circumstances, several committee members maintain that many of the remaining crew jobs pay well and are high quality jobs.

Some communities also questioned the utility of rights of first refusal because of the high cost of buying into the fisheries. These committee members suggested that assisted financing of share purchases should be considered for community share purchases. In addition, it was suggested that the use of intra-company transfers could subvert the protection of the right of first refusal.

Revision of rights of first refusal

The committee discussed the erosion of rights of first refusal that would occur with any change in 90/10 split. Since PQS and IPQ interests would be removed, rights of first refusal would also no longer exist with respect to those shares.

The committee also discussed the need to address the 'intra-company transfer' exemption from rights of first refusal. Some committee members suggested that these transfers can fully undermine the right, since three consecutive years of IPQ intra-company transfers will remove the right with respect to the underlying PQS. Some committee members suggested that community entities should be permitted to intervene in these intra-company transactions, but did acknowledge that a system would need to be developed to determine a price for retaining the shares in the community. Some committee members expressed concern that the right applies to the transaction as structured by the parties to it. These transactions may include items other than the shares (e.g., capital, equipment, etc). The breadth of the items that may be included in a transaction limits the effectiveness of the provision, since communities may not have the assets to make large scale acquisitions and may have no interest in acquiring items other than the shares. It was noted that the community benefits have arisen from crab vessels remaining in Alaska ports (including King Cove) for extended periods, rather than returning to Seattle between crab seasons.

One committee member expressed a concern that effects of the program on processors in other fisheries should continue to be discussed.

Processor Issues

Some committee members suggested that any shift from the current 90/10 should be compensated with a portion of the new B shares created by that change. These committee members believe any change in the share distribution is effectively a shift in the distribution of rents from the fisheries. Other committee members suggested that minor changes in the A share/B share split (such as 85/15 or 80/20) would not merit processor compensation. Some committee members suggested that determining the appropriate compensation requires a consideration of whether the existing program benefits one sector over the other (i.e., is one sector better compensated for stranded capital than the other). Once this is known, the need for compensation of changes in the program can be considered.

Some committee members suggested that any loss of QS by harvesters will not be made up for by a change in the A share/B share split (i.e., if any compensation is paid for a change in the split, QS holders will be worse off). In addition, it was suggested that harvester problems that drive the need for shift in A share/B share split will not be addressed to the extent that the processors are given harvest shares (i.e., giving up quota to processors will weaken harvester position in negotiations). It was suggested that an alternative to compensating processors with harvest shares could be a processor buyback. A charge on landings could be used to fund the buyback. It was noted that a processor buyback would likely require Congressional approval.

Crew Issues

Some committee members suggested that the benefits received by share holders who have leased quota at high lease rates have been at the expense of crew more than others. In addition, it was suggested that the current program lacks mechanism for natural progression of crew in fishery from the deck to wheelhouse to vessel ownership. Some committee members suggested that this situation could be mitigated by the loan program; however, even that program would have limited effect, given the high price of shares in the fisheries.

Two written proposals have been presented to the committee to address crew issues (see Crew Proposals A and B). The first would establish a skipper/crew pool of shares to be managed for crew benefit The shares in the pool would be distributed among members of the pool based on a point system similar to the system used for eligibility for the Gulf Tanner crab fisheries. The pool would require funding, which would be an allocation of quota from the fishery, effectively reducing the existing owner QS allocations under the program. The initial proposal is to have the allocation match the current crew share (approximately 40 percent of the QS pool).

Depending on the structure, this crew allocation would be intended to address the interests of both active crew and crew displaced under the program. Some committee members suggested that a crew pool allocation could be used to bargain for better crew shares. This pool could also be used to bargain down lease fees (particularly, if the boat owner is charging a royalty on initially allocated shares). It was suggested that any individual's (or pool member's) share of the allocation could be restricted by a cap, so that owner operators with substantial share holdings (and less in need of protection) do not receive the allocation. The management of crew pool might be fashioned after hook-and-line agreement used in the Cape Cod groundfish fishery. Some committee members request that additional definition for management of the pool and the distribution of benefits from the pool be developed. It was also suggested that a crew pool could be regionalized to mitigate community effects.

Some committee members suggested that crew could be worse off under this proposal, if royalties are charged on crew holdings and crew shares paid for their work are decreased. In addition, it was suggested that crew entry could be curtailed in the long run under this proposal, since entering crew would have no stake in the pool. It was suggested that entering crew would work their way into the pool over time, just as current crew shares increase with experience. Some committee members suggested that the negative effects on many crew displaced by the program should be addressed. Some committee members stressed that the objective of crew initiatives are not to return to the pre-rationalized fishery, but to address problems under the existing system.

Committee members also suggested that other measures be considered, such as establishing a crew training program to increase the number of persons trained as fishing crew. This may address some concerns of crew who believe jobs under the program are too demanding. Additional crew would allow some cycling of crews on and off boats in-season. These measures could put more people to work in the fisheries. It is acknowledged that average earnings from a crew position could decline under this proposal.

The committee received a second proposal that could either supplement or substitute for a crew allocation. Under the proposal, 10 percent of any share transfer would become C shares at the time of transfer. This conversion would occur until 30 percent of the QS pool were C shares. These shares would be subject to the active participation requirements that the Council defines for C shares. Under the proposal, these shares would also be exempt from PQS landing requirements, potentially depriving processors and communities from protections of those aspects of the program. It was noted that this proposal might have reduced effects on current share holders, since they would not have shares voided, involuntarily transferred, or taken back. Supporters of the crew proposals suggested that work on the proposal continue at the next meeting to address these concerns.

Arbitration Issues

All committee members agreed that A share landings must be subject to arbitration under any A share/B share split. The Congressional limit on processors using IPQ landings to negotiate B share deliveries effectively limits the ability of harvesters to use B share landings to negotiate A share landings. As a result, any IPQ landings need to be subject to arbitration. So, ***short of a straight IFQ program without IPQ, the arbitration system is necessary.*** In addition, some committee members suggested that arbitration would be necessary even in a regionalized harvest IFQ only system.

Committee consensus – modifications to the arbitration system should be undertaken separately from broader program changes suggested by the Council motion. Jake Jacobsen presented a proposal for technical revisions of the arbitration program. The committee agreed that staff can work with the arbitration organizations to review the proposed changes and return with proposed revisions for presentation to the committee at the next meeting.

The committee discussed the uses of data in arbitration. Specifically, the committee expressed concern that the best available data be used in developing the non-binding price formula. Committee members suggested that industry is discussing arbitration data issues and is amenable to continuing those discussions. The committee agreed that data issues are important to success of the arbitration system, so they are appropriate for committee and Council oversight, but do not require any immediate committee or Council attention.

Emergency relief from regionalization

The committee also discussed the potential need for emergency relief from regionalization for ice or other unexpected circumstances. The committee requested community representatives to consider whether

relief from regionalization might be acceptable in certain situations and the appropriate terms for that relief. Some committee members advised that past circumstances suggest the need for relief might have been alleviated if the B share pool were larger. The committee also discussed efforts made by processors and communities to keep harbors accessible during periods of icing. Some committee members suggested that icing problems are usually temporary and can be worked through in a brief period. It was suggested that communities could come up with recommendations on how to address harbor closures of 5-10 days because of ice. It is hoped that the terms of any relief would be limited in a manner that prevents improper use of the provision by persons wishing to avoid regional landing requirements. It was suggested that the best solution would be a negotiated agreement among the affected parties. It was pointed out that it could be problematic to identify affected parties (including communities), since shares are not currently linked to a specific community. Some committee members also expressed concern that any relief provision be limited to specifically identifiable events to ensure that undue leverage is not asserted by an affected party. The committee also discussed the potential for cooperatives to address these issues through fleet coordination of fishing and landings that would limit the need for any relief provision.

A proposal for this exemption was received by the committee, which would grant an exemption only if persons requesting the relief take any reasonable and available steps to address the emergency prior to the granting of emergency relief. Generally, the committee believed the proposal is a good starting point, but will need revision to improve its workability. The committee agreed that members should continue to work with the communities and NMFS to improve the workability of the proposal. The proposal included provision for tax redistribution to the community that lost processing. Committee members suggested that this provision would likely require a State law change and could be very complicated to administer since tracking of the tax amounts might not be possible in some circumstances. In addition, tax rate difference across jurisdictions might result in the collection less tax revenue than is required to compensate the community that lost processing (under its tax rates).

Proposal A – Hambleton/Hanson
Crab advisory committee minute
January 9-10, 2008

Proposed Problem Statement and Alternatives/Options for Analysis

January, 2008

We believe that there are currently only two "Problems" that can be quantified and analyzed. They are:

a. Western Aleutian Golden King Crab harvesting/processing. Crab was left in the water last year and there is some chance the same thing may happen again this year. It is not known if the Council's recent action to create a custom processing us cap exemption for this fishery will solve the problem. Given the potential negative impact on the fleet and communities, this issue is deserving of further analysis.

b. Community ROFR financing. More than one community has expressed the opinion that the ROFR rights granted under this program are relatively weak because they lack a financing mechanism. A range of alternative financing options should be analyzed.

Two other issues have been dealt with by the Committee on a unanimous basis: first, that any level of IPQ will require a binding arbitration system; second, that the binding arbitration data problems be addressed by the established industry binding arbitration organizations with periodic monitoring by the Committee and Council.

All other "problems" identified in the Council's draft Problem Statement should be deleted from the October Motion because there is no quantifiable evidence and/or existing data sets appropriate for analysis; recognizing that the 36 Month Review process will help identify those data gaps and processes for data collection necessary for those issues.

Hambleton/Hanson Proposal
Crab Committee Recommendation
Amended/Substitute "October Motion"
January 2008

The Council should adopt the following Problem Statement, and move forward the analysis and alternatives proposed by the Crab Advisory Committee in their December (2007) and January (2008) meetings.

Problem Statement

The Crab Rationalization program is viewed as having accomplished many of the goals established in the original Purpose and Needs statement[1]; however, there are some unanticipated problems with the Community Protection measures and the Western Aleutian Golden King Crab fisheries.

The community "Right of First Refusal" granted in relation to Processor Quota Shares insures an Eligible Crab Community a significant portion of it's historic share of crab landings, but some Eligible Crab Community Organizations may not have sufficient access to capital to exercise their ROFR rights. Addressing this problem may strengthen the community protection measures in this program.

The west-designated portion of the Western Aleutian Islands Golden King Crab fishery has suffered an under-harvest of the resource for two consecutive years; exacerbated by low market prices, inefficient processing use caps and other factors. A full analysis of recent Council actions and additional alternatives may lead to full utilization and stability in this fishery.

Elements of this Motion

Community Protection Elements

1. Loan program

    1.1 A low-interest rate loan program consistent with MSA provisions, for Eligible Crab Community Organization ("ECCO") purchases of QS or PQS[2], shall be established for QS or PQS purchases by ECCO's using 25% of the Crab IFQ fee program funds collected.

    1.2 Eligibility is restricted to Eligible Crab Community Organizations as defined in the current program under _____.

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[1] **See June 2002 Problem Statement attached**
[2] **QS/PQS Eligibility attached**

Proposal A – Hambleton/Hanson
Crab advisory committee minute
January 9-10, 2008

West-Designated Western Aleutian Islands Golden King Crab

2. Full-utilization measures

2.1 Await full implementation of new custom processing use cap exemptions.

2.2 Forced divestiture if not utilized 3 years out of five

2.3 Reallocation of PQS, CP and CPO shares to more adequately address community concerns.

2.4 Convert west-designated IFQ shares to "B" shares

Option 1: with compensation to PQS holders
Option 2: without compensation to PQS holders

Sub-Option A: new "B" shares are not regionalized
Sub-Option B: new "B" shares are west-designated

Proposal A – Hambleton/Hanson
Crab advisory committee minute
January 9-10, 2008

June 2002
NPFMC Crab Rationalization
Purpose and Needs Statement

BSAI Crab Rationalization Problem Statement

Vessel owners, processors and coastal communities have all made investments in the crab fisheries, and capacity in these fisheries far exceeds available fishery resources. The BSAI crab stocks have also been highly variable and have suffered significant declines. Although three of these stocks are presently under rebuilding plans, the continuing race for fish frustrates conservation efforts. Additionally, the ability of crab harvesters and processors to diversify into other fisheries is severely limited and the economic viability of the crab industry is in jeopardy.

Harvesting and processing capacity has expanded to accommodate highly abbreviated seasons, and presently, significant portions of that capacity operate in an economically inefficient manner or are idle between seasons. Many of the concerns identified by the NPFMC at the beginning of the comprehensive rationalization process in 1992 still exist for the BSAI crab fisheries. Problems facing the fishery include:

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

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

Proposal A – Hambleton/Hanson
Crab advisory committee minute
January 9-10, 2008

(1) To be eligible to receive QS, PQS, IFQ, or IPQ by transfer, a person must first meet the requirements specified in the following table:

Quota Type	Eligible Person	Eligibility Requirements
(i) PQS	Any person	None.
(ii) IPQ	Any person	None.
(iii) CVO or CPO QS	(A) A person initially issued QS	No other eligibility requirements
	(B) An individual	who is a U.S. citizen with at least 150 days of sea time as part of a harvesting crew in any U.S. commercial fishery.
	(C) A corporation, partnership, or other entity	with at least one individual member who is a U.S. citizen and who (1) owns at least 20 percent of the corporation, partnership, or other entity; and (2) has at least 150 days of sea time as part of a harvesting crew in any U.S. commercial fishery.
	(D) An ECCO	that meets the eligibility requirements described under paragraph (j) of this section.
	(E) A CDQ group	No other eligibility requirements
(iv) CVO or CPO IFQ	All eligible persons for CVO or CPO QS	according to the requirements in paragraph (c)(1)(iii) of this section.
(v) CVC or CPC QS	An individual who is a U.S. citizen with:	(A) at least 150 days of sea time as part of a harvesting crew in any U.S. commercial fishery; and (B) recent participation in a CR crab fishery in the 365 days prior to submission of the application for eligibility.
(vi) CVC or CPC IFQ	All eligible persons for CVC or CPC QS	according to the requirements in paragraph (c)(1)(v) of this section.

Proposal B – Moller
Crab advisory committee minute
January 9-10, 2008

DRAFT PROBLEM STATEMENT FOR AI KING CRAB FISHERIES

The Aleutian Islands king crab fisheries (WAG) present a unique set of issue under the BSAI crab rationalization program due to their relatively small TACs, small numbers of harvesters and processors, and specific markets. These fisheries were generally stable prior to rationalization, but have experienced problems under the program, including inability to harvest and deliver the full TAC (WAG)

The 2002 action by the Council regarding WAI brown and red king crab:

A - Did not adequately consider the appropriate history basis for allocating Processor Quota in these fisheries
1- the WAI brown crab fishery was unique in that quota was allocated based on years where the fishery was significantly under-utilized, thus inflating the amount of quota allocated relative to actual use.
2- the allocation of PQs for WAI red king crab was arbitrary, WAI red king crab PQ was allocated pro-rata to WAG PQ, not based on processing investment or history in the fishery.

B - Dd not adequately consider the requirements of National Standard 8 relative to Aleutian Island management area communities:
1- the community impacts of awarding IPQ based on years prior to Adak returning to civilian control,
2- opportunities for other communities in the region (e.g. Atka) to develop on shore crab processing in the future

C - Did not adequately consider the 303(b)(6) limited access provisions of the MSA in the context of allocating limited access processing privileges in the Aleutian Island crab fisheries:
1- "present participation" in the processing sector in Adak;
2- existing "investment" in crab processing in Adak;
3- "dependency" on crab processing in Adak;

D -The original analysis was further constrained by confidentiality rules from providing the Council with sufficient information on many of these factors which precluded the Council from making an informed decision on the impacts of IPQs for these two fisheries.

As a result:
A- Harvesting sector has been unable to harvest and deliver the full TAC of WAG crab and the fishery is once again under-utilized because harvesters have been prohibited from legally delivering regionalized crab in Adak.
B- Regionalization has been an inadequate and ineffective community protection measure, because PQs were allocated almost exclusively to "out of region" processors.
C -Crab processing in Adak has dropped from over 2 million pounds per year prior to implementation of crab rationalization to less than 20% of that level last season

It is time now to re-evaluate the appropriateness of Processor Quotas in the Aleutian Island King Crab fisheries."

OPTIONS
Western Aleutian Islands King Crab Elements

2. Western Aleutian Golden (WAG) King Crab options

2.1 Status Quo (Await full implementation of new custom processing use cap exemptions.)

2.2 Convert IFQ shares "A" shares to "B" shares

Sub-Option : new "B" shares retain west area designation

Sub-Option : new "B" shares are subject to onshore delivery requirment

2.3 Reallocation if not utilized 2 years out of five years

2.4 Reallocation of PQS, CP and CPO shares to more adequately address community concerns and processing investment

Sub-Option 1: with compensation to PQS holders
Sub-Option 2: without compensation to PQS holders

3. Western Aleutian Red (WAI) King Crab options

3.1 Status Quo

3.2 Convert IFQ shares "A" shares to "B" shares

Sub-Option : new "B" shares are subject to onshore delivery requirment

3.3 Reallocation of PQS, *CP and CPO* shares to more adequately address community concerns and processing investment

Sub-Option 1: with compensation to PQS holders
Sub-Option 2: without compensation to PQS holders

Proposal C – Stanley
Crab advisory committee minute
January 9-10, 2008

Aleutian Island golden king crab fishery

The Eastern Aleutian Islands golden king crab fishery (EAG) and the Western Aleutian Island golden king crab fishery (WAG) present a unique set of issues under the BSAI crab rationalization program due to their relatively small TACs, small numbers of harvesters and processors, and specific markets. These fisheries were generally stable prior to rationalization, but have experienced problems under the program, including inability to harvest and delivery the full TAC (WAG) and significant consolidation of IPQ (EAG).The Council intends to consider the effects of the rationalization program in the EAG and WAG fisheries, with the intention of promoting 1) full harvest of the TAC, 2) participation by a sufficient number of viable processors to ensure competitive pricing and 3) maximizing the market value of golden king crab.

Proposal D – Swetzof - Hardina
Crab advisory committee minute
January 9-10, 2008

Draft Purpose and Need Statement
Bering Sea Aleutian Islands crab fisheries
January 2008

Share allocations to harvesters and processors under the BSAI crab rationalization program were intended to increase efficiencies and provide economic stability in both the harvesting and processing sectors. Recognizing that processor quota shares reduce market competition for deliveries subject to share match requirements, the Council adopted B share IFQ to provide some degree of competition, encourage processors to pursue market opportunities for their products, and possibly facilitate processor entry. The Council included a system for binding arbitration in the program to resolve price disputes for deliveries subject to share match requirements.

The Council has heard many concerns about the BSAI crab rationalization program suggesting that the proportion of B shares is not adequate to meet the Council's intended purpose for those shares and, thus, towards furthering the goals of the program. Information to date has not shown whether the 90/10 split has promoted or is sufficient to promote 1) competitive negotiated deliveries, 2) unserved and underserved markets, and/ or 3) processor entry.

The Council has also heard concerns over the complexity of the program, and also about the uncertainties and costs associated with share matching and binding arbitration. An increase in B shares might help to resolve these issues, though the scope and magnitude of expected effects of change from the status quo are unknown. Additionally, recent final action taken by the Council on custom processing and post-delivery transfers, in conjunction with the electronic transfer system presently under development by NMFS RAM, may also resolve some of these issues. The optimal A share/B share split has not been analytically determined, nor was a clear analytical evaluation for the original 90/10 share split ever presented. The appropriateness of various split levels may vary between fisheries and as TAC levels rise and fall. Further, any potential change to the original 90/10 split will have a direct impact on the corresponding regionalization requirements that were built into the plan in order to protect communities, the third piece of the three-pie program. These aspects also have not been analyzed.

The Council requests that the Committee 1) identify each of the perceived problems by industry sector; 2) determine whether the perceived problem indicates that the program is not meeting its original goals; 3) identify whether the program is the cause of the perceived problem and the data necessary to make that determination; 4) determine the method and timeframe for collecting the data; 5) compile a list of confirmed problems for potential action; and 6) propose solutions.

Proposal E - Colburn
Crab advisory committee minute
January 9-10, 2008

Proposed purpose and need statement
Submitted to Crab Advisory Committee January 9, 2008
(*italics indicate modifications from original draft*)

Share allocations to harvesters and processors under the BSAI crab rationalization program were intended to increase efficiencies and provide economic stability in both the harvesting and processing sectors. Recognizing that processor quota shares reduce market competition for deliveries subject to share match requirements, the Council adopted B share IFQ to provide some degree of competition, encourage processors to pursue market opportunities for their products, and possibly facilitate processor entry. The Council included a system for binding arbitration in the program to resolve price disputes for deliveries subject to share match requirements.

The Council has heard many concerns about the BSAI crab rationalization program suggesting the proportion of B shares is not adequate to meet the Council's intended purpose for those shares and, thus, towards furthering the goals of the program. Information to date has not shown that the 90/10 split has promoted 1) competitive negotiated deliveries, or 2) unserved and underserved markets, or 3) processor entry; there is no indication that the current A share/B share split is sufficient to promote all three.

The Council has also heard concerns over the complexity of the program, and also about the uncertainties and costs associated with share matching and binding arbitration. An increase in B shares might help to resolve these issues, though the scope and magnitude of expected effects of change from status quo are unknown. The appropriateness of various split levels may vary between fisheries and as TAC levels rise and fall. These aspects also have not been analyzed.

Public testimony and anecdotal evidence have suggested the following as specific problems in the program:

- *the 90/10 split has not created a competitive market for B share landings and does not create an incentive for IPQ holders to actively pursue new market opportunities*
- *the 90/10 split has concentrated market control in one sector and has resulted in reducing bargaining power for harvesters and limited competition for landings*
- *the 90/10 split has not protected processing activities in certain communities*
- *regional landing requirements have no mechanisms to address contingencies that may arise for either sector*
- *the binding arbitration program does not provide information on pricing by location or terms of delivery*
- *harvest sector consolidation has resulted in fewer crew jobs and analysis is needed to determine the number of part time and full time jobs lost, as*

well as address the quality of remaining jobs; loan program, certification and training programs need for implementation

- *problems in the binding arbitration program as suggested in the attached letter from the Bering Sea Arbitration Organization, which includes clarifications and proposed solutions*

The optimal A share/B share split has not been analytically determined, nor was a clear analytical evaluation for the original 90/10 share split ever presented. *The selection of 90/10 was a policy decision made without detailed quantitative analysis. After almost three years since implementation of the program, we may find that*
there are several data issues, as well, that should be evaluated:

- *need for accurate data on final ex vessel price for each share type to harvesters and first wholesale revenues for processors*
- *information on product quality, grading, recovery rates and product forms are of great importance now that the market mechanism for price setting has been replaced*
- *comparison of historical landing patterns and landing patterns under the rationalization program by share type are important to understanding the effects of the program on communities.*
- *data on crew to document participation*
- *IFQ holdings by harvesters, processors and CDQ*
- *landings by share type by community pre and post rationalization*
- *changes in the distribution/consolidation of QS and PQS holdings among processors and CDQ groups (including pre-rationalization vessel/license transfers and since initial allocation) – (also considering mergers)*
- *changes in processor capacity - pre/post-rationalization*
- *changes in processor employment - pre/post-rationalization and processing days pre/post rationalization*

The Council's request for an 18-month review includes,

> "After receiving the analysis [18-month review], the Council will consider whether the A share/B share split and the arbitration program are having their intended effect and, if not, whether some other A share/B share split is appropriate."

It is time now to evaluate alternative A share/B share splits.

Skipper/Crew Pool
Operations Plan and Agreement

This OPERATIONS PLAN AND AGREEMENT (this "Agreement") is entered into as of this _____ day of ____, 200_ by and among the members listed on the signature pages hereto and any other members that are admitted pursuant to the terms of this Agreement (each, a "Member" and, collectively, the "Members").

RECITALS

WHEREAS, fisheries management plans known commonly as "Limited Access Privileges, or rationalization" have been perceived to have unintended consequences including the marginalization of Skippers and Crew and the loss of capital equity for traditional fishing communities, and

WHEREAS, a free and open marketplace is necessary to obtain fair value for the resource, and

WHEREAS, " LAPs, or Rationalization" have caused traditional levels of compensation for Skippers and Crew to plummet, and

WHEREAS, the practice of sustainable harvest practices are recognized as essential to the continued survival of traditional fishing communities, and

WHEREAS, the Members desire to form a fishery sector through Skipper/Crew Co-Op Inc. (the "Sector"), for the purposes of establishing a legally responsible entity (i) to obtain an aggregate sector allocation of BSAI Crab from NMFS and to sub-allocate such aggregate sector allocation among the Members. To take such actions as may be necessary to ensure that the Sector, its Members and their vessels conduct groundfish harvesting activities in compliance with the Plan, the Magnuson-Stevens Fishery Conservation and Management Act (the "Act") and applicable regulations promulgated by NMFS.

NOW, THEREFORE, in consideration of the mutual agreements, covenants, rights and obligations set forth in this Agreement, the benefits to be derived therefrom and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound hereby, agree as follows:

Article I. Representations and Warranties of the Members. As of the date hereof, each of the Members represents and warrants to the other Members and the Sector that:

Section 1.01 **Eligibility.** Each Member has been issued a commercial fishing license and participated significantly in the harvesting of the resource during the years identified for initial allocation of harvest quota (such period of time shall hereinafter be referred to as the "Qualifying Period"). Skippers will receive 2 "Points" for each year of participation. Crewmen will receive one "Point" for each year of participation. Each point will correspond to a percentage of allocated quota determined by dividing the amount of allocation by number

of points.

Section 1.02 **Organization and Authority.** Each Member (i) is in good standing in its state of organization and (ii) has all authority, corporate or otherwise, to enter into this Agreement on its own behalf. This Agreement constitutes a legally valid and binding obligation of each Member, enforceable against such Member in accordance with its terms. Each of the Members represents that he has no sanctions or other restrictions against him that would prevent him from enrolling in the Sector and/or complying with the terms of this Agreement.

Article II. Membership

Section 2.01 **Voluntary Membership.** Participation in the Sector is completely voluntary among the Members and the related Participating Vessels.

Section 2.02 **Scope of Membership Obligations.** The obligations of the Members set forth in this Agreement shall only apply to the Members and Participating Vessels (and not to any other permits or vessels owned by the Members that are not enrolled in the Sector pursuant to the terms hereof) to the extent that such Members or Participating Vessels are fishing commercially (i) in the Area (as hereinafter defined) and (ii) with gear that is capable of harvesting groundfish species managed under the Plan.

Section 2.03 **Length of Commitment.** Each Member agrees that all of its Points must remain in the Sector for the entire fishing year in which such Members are enrolled in the Sector.

Section 2.04 **New Members.** A Skipper or Crewman who is eligible under the criteria set forth in Section 1.01 hereto, but did not fish during the qualifying years may apply to the Board (as hereinafter defined) for membership in the Sector. Such application shall be made in writing no later than 120 calendar days prior to the first day of the fishing year for which the applicant seeks to be included as a Member and shall include evidence of eligibility. The Board shall, in its reasonable discretion, determine whether the applicant shall be admitted as a Member of the Sector. Notwithstanding the foregoing, (i) no such admission shall be effective until such new Member has agreed in writing to be bound by, and to comply with, the terms of this Agreement, and until the provisions of this Agreement shall have been amended or modified to reflect such additional Member.

Section 2.05 **Compensation.** The share system of compensation employed by the Deep Sea Fisherman Union's "Set Line Agreement" shall be adopted for all vessels while harvesting groundfish allocated to the Sector. In addition a lease fee agreed to by the Co-Op may be applied.

Section 2.06 **Point Transfers.** Each Member agrees that so long as it is a party to this Agreement, such Member (i) shall not have the authority to sell, lease or transfer the ownership of its Points to a party that is not bound by this Agreement and (ii) shall not transfer, lease or assign any quota allocated to it by

NMFS to any non-Sector entity.

Section 2.07 **Membership Dues.** The Sector may, to the extent necessary for the payment of the costs and expenses associated with the administration and management of the Sector (including the payment of the Manager's salary), require the payment by the Members of annual membership dues and/or poundage fees. Such annual membership dues and/or poundage fees shall be fixed by resolution of the Board prior to the commencement of the applicable fishing year or at such other time as the Board may deem necessary or appropriate.

Article III. ADMINISTRATION

Section 3.01 **Sector Manager.** The Board of Directors (the "Board") of the Sector shall appoint a manager of the Sector (the "Manager"), which Manager shall have the authority to manage the day-to-day business of the Sector and to act as its designated agent for service of process.

Section 3.02 **Manager Authority.** The Manager shall have the authority (i) to monitor the activities of the Members and the Participating Vessels and to take such other actions as may be necessary to ensure compliance by the Members and Participating Vessels with this Agreement and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws, as well as applicable laws, rules and regulations, and (ii) subject to the authority of the Board or a committee delegated thereby pursuant to Section 3.03 of this Agreement, the Sector's Bylaws or any other agreement relating to the Sector's internal governance, to enforce this Agreement, including specifically, without limitation, the authority to impose penalties set forth in the Schedule of Penalties (as hereinafter defined). The Manager shall also act as the liaison between NMFS and the Sector.

Section 3.03 **Infractions Committee**. The Board shall appoint an infractions committee (the "Committee") to ensure fair, consistent and appropriate enforcement of this Agreement, the Harvesting Rules, the requirements set forth on Exhibit B hereto, the Plan and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The Committee shall annually prepare and recommend to the Board for its approval a schedule of penalties for any unauthorized fishing activities (whether under applicable laws, rules and regulations or otherwise) and for violations of this Agreement, the Harvesting Rules, the requirements set forth on Exhibit B hereto, the Plan and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The Board shall review and approve any Schedule of Penalties prepared and recommended by the Committee prior to the commencement of the fishing year for which such Schedule of Penalties has been prepared. In addition, the Committee, on its own or at the request of a Manager or Member pursuant to Section 3.04 hereof, shall have the authority to take any number of enforcement measures against the Members for the non-payment of membership dues and/or poundage fees. Such enforcement measures may include requesting expulsion of the violating Member under Section 7.02 and issuing a "stop fishing" order against such

Member.

Section 3.04 **Procedures for Investigations**. In addition to the Manager's authority to invoke penalties under the Schedule of Penalties pursuant to Section 3.02 hereof, the Manager may, on his own, and shall, at the request of a Member, request that the Committee conduct an investigation of possible infractions of the Agreement, the Harvesting Rules, the Plan or other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws, by calling a meeting of the Committee and presenting it with the information that is the basis for the Manager's or Member's opinion that an infraction occurred. The Committee shall operate as a "blind" committee, such that the identity of the Member and/or Participating Vessel under consideration shall only be known to the Manager. The Committee shall assign a number of its members, which constitutes no more than 50% of the Committee, to investigate the matter further and to recommend action, if any, to the full Committee. Such Committee member assignments shall be rotated. If, upon the conclusion of such investigation, the Committee determines by an affirmative vote of a majority (51%) of its members that a violation of this Agreement, the Harvesting Rules, the Plan or other Sector requirements (as may be adopted under the terms of this Agreement or the Sector's Bylaws) has occurred, it may, and is hereby given the authority to (in addition to the imposition of any penalties prescribed in the Schedule of Penalties), invoke sanctions, ranging from letters of warning to reductions in allocation of points to the Member and its Participating Vessels by the Sector, or issue stop fishing orders. The Committee shall exercise all reasonable efforts to ensure that penalties and settlements are commensurate with the nature and extent of the violation, are designed to further the purposes of the Plan and are uniform with those reached in similar circumstances. All appeals from such Committee action shall be taken in accordance with Section 6.04 hereof. Each of the Members agrees to cooperate fully with the Manager and the Committee in such investigations and procedures (including cooperation with any requests for information or data that may be made by the Manager or the Committee).

Section 3.05 **Annual Report.** The Manager shall prepare and submit to the North Pacific Fishery Management Council and NMFS an annual year-end report on the fishing activities of its Members, including the harvest levels of all Participating Vessels for cod and other federally-managed limited access groundfish species, any enforcement actions taken against the Members, their Permits or Participating Vessels, and other information necessary to evaluate the Sector's performance.

Article IV. ALLOCATION

Section 4.01 **Annual Distribution.** Each Member hereby acknowledges and agrees that the aggregate allocation of GOA groundfish authorized by NMFS to the Sector (the "Aggregate Allocation") shall be harvested in accordance with the Harvesting Rules, which are set forth as Exhibit C hereto, and the requirements set forth on Exhibit B hereto. Each Member agrees to, and agrees to cause its Participating Vessels to, exercise all commercially reasonable efforts to (i) assist in harvesting an amount of GOA

groundfish equal to, but not greater than, the Aggregate Allocation, as further set forth on Exhibit C, and (ii) to comply with all of the other Sector requirements set forth on Exhibit B and Exhibit C hereto. If the Board determines that the Aggregate Allocation may not be fully harvested in any fishing year, the Board shall, subject to the provisions of Section 4.02, redistribute the Aggregate Allocation, through monthly quota targets or otherwise, to ensure that the Aggregate Allocation is fully harvested.

Section 4.02 **Reserve.** Each Member agrees that the Board may, in its sole discretion, establish a reserve of GOA groundfish in order to ensure that the Sector remains in compliance with its Aggregate Allocation limit; provided, however, that such reserve shall not exceed five percent (5%) of the Aggregate Allocation. The amount of the reserve shall be deducted from the Aggregate Allocation before such Aggregate Allocation is distributed among the Members, their Permits and their Participating Vessels through monthly quota targets or otherwise.

Section 4.03 **Distribution of Reserve.** If the Board, subsequent to the establishment of a reserve pursuant to Section 4.02 hereof, determines that the Aggregate Allocation, as adjusted pursuant to Section 4.02, will be fully harvested by the Participating Vessels, the Board shall release and authorize the harvesting of the reserve by the Members, their Permits and their Participating Vessels.

Section 4.04 **Fishing History in Sector.** The Members agree that any fishing history, which is accumulated or established by a Member while it is participating in the Sector (the "Sector History"), shall be attributed to such Member, and not to any other.

Section 4.05 **Non-Prejudicial.** It is the intent of the Members that the fishing history and points allocation of any Member during the Qualifying Period, as reported to NMFS prior to joining the Sector, shall not be diminished or penalized as a result of participation in the Sector in lieu of participation in any other allocation program.

Article V. CATCH MONITORING AND VERIFICATION; CERTAIN OTHER MEMBERSHIP REQUIREMENTS

Section 5.01 **Participating Vessel Catch Reports.** To enable each Member and the Sector to monitor the Members' compliance with this Agreement, each Member agrees to report each of its Participating Vessels' entire catch on a landing-by-landing basis, by providing the Manager with a copy of the official Fish Ticket or other reporting document authorized by NMFS within 48 hours of offloading fish in the form and manner prescribed by the Manager. The Members agree that these records shall be maintained by the Manager. The Manager shall, upon the request of any Member, provide such Member with the Sector's aggregate catch information that is generated from such records. The Manager shall, on a monthly basis, transmit to NMFS such Fish Tickets (or other document authorized by NMFS), together with the aggregate catch information generated from such reports ("Aggregate Reports").

After 90% of the Sector's Aggregate Allocation has been harvested, the Manager shall provide NMFS with Aggregate Reports on a weekly basis.

Section 5.02 **Processor Reporting.** Each Member agrees to (i) sell the catch of its Participating Vessels only to a processor within an identified historical region of landing, but with no other restriction upon choice of buyer, and (ii) cause any such processor to provide the Manager with a copy of the official dealer weigh out slip or other official reporting document required by NMFS on a weekly basis. Each Member further acknowledges and agrees that (a) it is responsible for ensuring timely processor reporting in accordance with the provisions of this Section 5.02 and (b) failure of the processor to timely deliver the reports for a Member's Participating Vessel in accordance with this Section 5.02 shall be deemed a breach of this Agreement by such Member.

Section 5.03 **Catch Verification.** The Manager (or his designated agent) shall, and each Member (or its designated agent) shall ensure that the Manager does compare, verify and validate each Participating Vessel's catch records with the processor reports for such Participating Vessel on a continuing and frequent basis. If the Manager identifies a discrepancy, he shall immediately notify the affected Member and seek to resolve the discrepancy. If the Manager is unable to satisfactorily reconcile the catch records, he shall notify the Committee of the discrepancy for its consideration and resolution. Each Member further agrees to cooperate fully with any requests for information or data that are made by the Manager or the Committee in an effort to resolve such discrepancy.

Section 5.04 **Designated Landing Ports.** To enable the Members and the Manager to monitor, observe and verify catches, and to ensure equity, each Member agrees that each of its Participating Vessels will only offload fish in designated ports, such ports to be determined by historical landing data.

Section 5.05 **Landing Port Exceptions.** Landings in ports other than those described in Section 5.04 hereof are permitted on a temporary, case-by-case basis, subject to prior approval of the Manager; provided landing at the historical port of landing is impractical, that the Manager determines that the excepted landing will not impair effective enforcement and monitoring of the Sector and this Agreement. Such exceptions may be granted in the sole discretion of the Manager. The Manager shall report to NMFS any landing port exceptions that are of a significant or prolonged nature.

Section 5.06 **Observed Offloading.** Each Member agrees that, in order to enhance the monitoring and enforcement of the provisions in this Agreement, the Manager may timely request that an observer be present during offloading operations. If such a request is made, each Member agrees not to permit its Participating Vessels to offload fish until the Manager or his designee is present.

Section 5.07 **Advanced Notice of Offloading.** If appropriate or necessary for purposes of quota monitoring or Sector efficiency, the Members' Participating Vessels may be required to notify the Manager prior to offloading fish.

Section 5.08 **Proof of Sector Membership.** Each Member agrees that it shall maintain on-board at all times while fishing for groundfish proper documentation from NMFS verifying such Member's participation in the Sector, except when such Participating Vessels are fishing as charter/party vessels pursuant to Section 5.12 hereof.

Section 5.09 **Gear Restrictions.** Each Member agrees that its Participating Vessels shall harvest using gear types and methods that minimize impact on non-target species.

Section 5.10 **Operators.** Each Member agrees to ensure that any operators of its Participating Vessels fully comply with the obligations and restrictions set forth in this Agreement. Each Member further agrees to accept responsibility hereunder for the actions of any such operators that result in a violation of this Agreement.

Section 5.11 **Charter/party vessels**. Each Member agrees that its Participating Vessels engaged in groundfish fishing as a charter/party vessel shall be subject to all of the regulations applicable to charter/party vessels.

Article VI. ENFORCEMENT

Section 6.01 **Agreement Enforcement.** Each Member agrees that the Sector, by or through its representatives, and/or any other Member may enforce this Agreement on behalf of the Sector and/or its Members. Each Member agrees to take all actions and to execute all documents necessary or convenient to give effect to the enforcement procedures contemplated by this Agreement, the Harvesting Rules and any Schedule of Penalties.

Section 6.02 **Restrictions on Fishing Activity.** The Members acknowledge that a violation of this Agreement or applicable federal fishery regulations by one or more Members (or the Members' Permits, Participating Vessels or Participating Vessels' operators, if any) that causes the Sector to exceed its Aggregate Allocation could subject the Sector and its Members to joint and several liability to NMFS for fishing violations. The Members further acknowledge and agree that monetary penalties could be inadequate recourse under such circumstances. Therefore, the Members acknowledge and agree that each of them will (and will cause their Participating Vessels and Participating Vessels' operators, if any, to) comply with a "stop fishing" order from the Sector, which shall be issued by the Board, the Manager or the Committee, and each of the Members further agrees that if any Member (or its Permits, its Participating Vessels or the Participating Vessels' operators) fails to comply with such order, the Sector shall have the authority to obtain an injunction, restraining order or other equivalent form of equitable relief to give effect to such "stop fishing" order.

Section 6.03 **Penalties for Violations.** Any penalties that are imposed upon a Member by the Sector pursuant to the terms of this Agreement shall be in addition to, and not in lieu of, any other potential state or federal penalty that may be imposed upon such Member.

Section 6.04 **Appeal from Committee Decision.** If the Committee (i) has determined, pursuant to the procedures set forth in Section 3.04 hereof, that a Member has violated this Agreement or (ii) makes any other determination with respect to a Member under this Agreement (including, specifically, without limitation Section 5.03 hereof), such violating Member shall have five business days following the date of the Committee's determination to request reconsideration of the enforcement or other action and/or propose an alternative form of penalty. Such request shall be made in writing and shall be addressed to the Board. The Board may, in its sole discretion, grant or deny any request for reconsideration and may, in its sole discretion, approve or disapprove any alternative form of penalty; provided, that the Board shall exercise all reasonable efforts to ensure that penalties and settlements are commensurate with the nature and extent of the violation, are designed to further the purposes of the Plan and are uniform with those reached in similar circumstances.

Section 6.05 **Penalties and Attorneys' Fees.** Penalties for any violations of this Agreement shall, to the extent addressed in the Schedule of Penalties, be limited to the amounts set forth on the Schedule of Penalties plus all costs, fees and expenses, including attorneys fees, incurred by the Sector or, in a case in which the Sector does not take enforcement action, by the Members bringing such action, in enforcing the provisions of this Agreement. To the extent the Schedule of Penalties addresses such matter, the Members and the Sector hereby waive any claims to actual, direct, or indirect damages, and instead agree that payment of the amounts set forth on the Schedule of Penalties and costs of enforcement shall be their sole remedy for breaches of this Agreement. In connection with any legal proceeding related to this Agreement, the non-prevailing party shall pay the prevailing party's reasonable costs and attorney's fees associated with the proceeding.

Section 6.06 **Application of Penalties, Fines and Damages.** All penalties, fines and/or other damages paid to the Sector shall, first, be applied to the cost of enforcement of such violations and, second, any remaining amounts shall be applied to the costs and expenses of the administration, management and preservation of the Sector. Any funds remaining after the application of the foregoing sentence shall be used to further research into efficient management of groundfish stocks for the benefit of the resource and those that harvest the resource.

Section 6.07 **Dispute Procedures.** Notwithstanding the provisions of Section 6.01 hereof, prior to instituting any litigation or other dispute resolution, the parties shall follow any applicable procedures set forth in this Agreement, including specifically Sections 3.04, 6.04 and 7.02, for the resolution of such dispute. Any appeals taken with respect to any dispute that arises in connection with this Agreement shall be taken in the federal district court in Anchorage Alaska or, if said court does not have jurisdiction, in such courts in the State of Alaska that do have jurisdiction.

Section 6.08 **Specific Performance.** In furtherance and not limitation of Section 6.02 hereof, each of the Members and the Sector shall have the right to

have any provision of this Agreement specifically enforced, through injunction, restraining order or other form of equitable relief.

Section 6.09 **Indemnification.** Each party that violates this Agreement (the "Indemnitor") hereby severally agrees to indemnify, defend and hold harmless the other parties hereto (each, an "Indemnitee") in respect of their respective Losses; provided, that such Losses result or arise from a third party claim or governmental proceeding brought against or involving the Indemnitee, which is based on or relates to such Indemnitor's (or its Permits', its Participating Vessels' or such Participating Vessels operators', if different from such Indemnitor) (i) violation of applicable laws, rules or federal fishery regulations or (ii) breach of any covenant, agreement or obligation contained in this Agreement, the Harvesting Rules or other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The indemnification obligations of the parties hereto shall be several and not joint and several. For the purposes of this Section 6.09, "Losses" shall mean any and all claims, liabilities, obligations, judgments, liens, injunctions, charges, orders, decrees, rulings, damages, dues, assessments, taxes, losses, fines, penalties, expenses, fees, costs, amounts paid in settlement (including reasonable attorneys' and witness fees and disbursements in connection with investigating, defending or settling any action or threatened action) arising out of any claim, complaint, demand, cause of action, action, suit or other proceeding asserted or initiated or otherwise existing. The obligations under this Section 6.09 shall survive the termination of this Agreement and the expulsion of any Member pursuant to Article VII.

Article VII. EXPULSION OF MEMBERS

Section 7.01 **Cause.** The Members agree that any Member, or its Participating Vessels may be expelled from the Sector if (i) the actions of such Member and/or its Participating Vessels (or the Participating Vessels' operators) seriously undermine and threaten the existence of the Sector, (ii) the actions of such Member and/or its Participating Vessels (or the Participating Vessels' operators) have exposed other Members of the Sector to monetary penalties and/or legal actions, (iii) such Member has been convicted of a serious crime, or (iv) such Member has not paid its membership dues and/or poundage fees as required by Section 2.06.

Section 7.02 **Procedure.** Any Member, the Committee or the Manager may submit to the Board a request to have a Member, and/or its Participating Vessels expelled from the Sector (the "Expulsion Request"). Such Expulsion Request shall be in writing and shall include an explanation of the basis for expulsion. The Board shall vote on such Expulsion Request within fourteen (14) days of receipt of such Expulsion Request. The affirmative vote of three-fourths (75%) of the members of the Board shall be required in order to expel a Member, its Permits and/or its Participating Vessels. Expulsion shall be effective immediately upon the receipt of the requisite vote by the Board.

Article VIII. TERM/TERMINATION

This Agreement takes effect upon the approval hereof by the Regional Administrator. This Agreement shall terminate on the last day of the 200_ fishing year, unless (i) it is extended by the written consent of the Members and (ii) such extension is approved by NMFS. Such written consent to extend this Agreement shall be given 20 calendar days in advance of the date by which the Sector's Operations Plan and Agreement for the upcoming fishing year must be submitted to NMFS.

Article IX. MISCELLANEOUS

Section 9.01 **Entire Agreement.** This Agreement, including the Exhibits hereto, the Schedule of Penalties and any other documents incorporated by reference herein, constitutes the entire agreement among the parties and supersedes any prior understandings, agreements, or representations by or among the parties, written or oral, to the extent they related in any way to the subject matter hereof.

Section 9.02 **Succession and Assignment.** This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the parties and their respective successors and permitted assigns, but neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by any party, including by operation of law, without the prior written consent of the Manager, such consent not to be reasonably withheld or delayed, nor is this Agreement intended to confer upon any person except the parties hereto any rights, interests, benefits, obligations or remedies hereunder. Any assignment in contravention of this Agreement shall be null and void.

Section 9.03 **Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Section 9.04 **Notices.** All notices, requests, demands, consents, claims and other communications hereunder shall be deemed duly given (i) one business day following the date sent when sent by overnight delivery, (ii) five business days following the date mailed when mailed by registered or certified mail return receipt requested and postage prepaid, and (iii) upon delivery confirmation when sent by facsimile, at the contact information provided by each such Member to, and maintained by, the Manager.

Section 9.05 **Governing Law.** This Agreement shall be governed by and construed in accordance with federal fisheries laws and, to the extent that federal fisheries laws do not apply, with the domestic laws of the State of Alaska without giving effect to any choice of law provision or rules (whether of Alaska or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than the State of Alaska.

Section 9.06 **Change in Law.** If and to the extent that any laws or regulations that govern any aspect of this Agreement shall change, so as to make any aspect to this Agreement unenforceable, then the parties agree to make such modifications to this Agreement as may be reasonably necessary for

this Agreement to accommodate any such legal or regulatory changes, without materially changing the overall benefits or consideration expected hereunder by the parties.

Section 9.07 **Consent to Jurisdiction and Venue.** Subject to and without limiting the dispute resolution procedures set forth in Article VI, each of the Members consent to the exclusive jurisdiction and venue of the federal district court in Anchorage, Alaska or, if said court does not have jurisdiction, in such courts in the State of Alaska that do have jurisdiction, for adjudication of any suit, claim, action or other proceeding at law or in equity relating to this Agreement. Each of the Members accepts, generally and unconditionally, the exclusive jurisdiction and venue of the aforesaid courts and waives any objection as to venue, and any defense of *forum non conveniens.*

Section 9.08 **Amendments and Waivers.** No amendment of any provision of this Agreement shall be valid unless the same shall be in writing and signed by each of the Members.

Section 9.09 **Severability.** Any term or provision of this Agreement that is held invalid or unenforceable in any situation shall not affect the validity or enforceability of the remaining terms and provisions hereof or the validity or enforceability of the offending term or provision in any other situation.

Section 9.10 **Expenses**. Except as otherwise provided herein, each of the members shall bear its own costs and expenses (including legal and accounting fees and expenses) incurred in connection with this Agreement.

Section 9.11 **Incorporation of Exhibits and Other Documents.** The Exhibits and Schedule of Penalties identified in this Agreement are incorporated herein by reference and made a part hereof.

Deep Sea Fishermen's Union of the Pacific

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Established 1912

January 4, 2008

Mr. Chris Oliver, Executive Director
North Pacific Fishery Management Council
605 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Subject: BSAI Crab Advisory Committee
Alternative Crab Crew QS Proposal

Dear Mr. Oliver:

At the first meeting held December 17-18, 2007, Steve Branson submitted a proposal for crew QS. As an alternative, I have come up with the following proposal for consideration. I will be attending the meeting next week, January 9-10, 2008 and would appreciate you forwarding this proposal to Sam Cotten, Chairman, Bering Sea Crab Advisory Committee for his review.

Problem:
The current design of Crab rationalization makes it very difficult for crew to become vested as participants in the Bering Sea crab fishery. The Quota Share is expensive and it is difficult for an individual deck hand to compete for QS.

Proposal:
Whenever any crab QS is put up for sale, 10% of the crab sale would be re-designated as qualified crew shares. Those who would be eligible to purchase the shares would be crew only who can demonstrate "active participation". This re-designation of Quota Share, (10% of each sale of crab QS) would continue until 30% of the total crab quotas reflected ownership is by "active participants". Quota Share that was transferred in this manner would be exempt from the 90/10 split. This crew provision for crab rationalization would provide an opportunity for crew to buy into the Bering Sea crab fishery. The benefit of this proposal for crew would be heavily

dependent on congressional authorization of the BSAI Crab Federal Loan Program or equivalent financial tools made available to crew to facilitate purchase of these re-designated QS.

Impacts:
Crew and skippers typically received 20 to 35% of the annual catch proceeds prior to Crab Rationalization. This proposal would return the crew and skippers to their historical level of shared proceeds without an outright reallocation of the resource. It would also be a possible solution to the 90/10 delivery controversy by using time and market place to change the status quo. This re-designation option would use the market place and time to reach a desired result.

Sincerely,

Tim Henkel
President, Deep Sea Fishermen's Union
Member, BSAI Crab Advisory Committee

Data Validation and Documentation Protocols for BSAI Crab Economic Data

by

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

The following discussion presents the results of work completed to date on assessment of data quality for the BSAI Crab Economic Data Report (EDR) program, and the development of data documentation to support proper use and interpretation of EDR data by analysts. Extensive work has been performed to assess data quality, including mandatory audits conducted by an independent accounting firm and both formal and informal submitter feedback. The principal objective of this paper is to describe the data quality assessment methods employed by PSMFC and AFSC personnel to ensure that EDR data meet requirements of federal law and NOAA guidelines for data quality assessment and documentation. Detailed audit reports and a detailed review of known data quality concerns for individual EDR data elements are included as appendices to this discussion paper.

Data Quality Policy

The principal procedural requirements pertaining to quality of information disseminated by NOAA Fisheries are set forth under the federal Data Quality Act (Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001). NOAA Section 515 Information Quality Guidelines (NOAA, 2006) apply broadly to all information that the agency disseminates. Information that is collected for internal use by agency personnel and contractors, as is the case for the unaggregated EDR data, is not subject to the Data Quality Act requirements. However, any information that is synthesized from EDR data and subsequently disseminated by NOAA Fisheries, such as model results or aggregate-level statistics, is subject to the Act and covered by NOAA Information Quality Guidelines. As such, we consider NOAA Information Quality Guidelines as providing the relevant legal guidance regarding standards for data quality associated with the EDR program.

A key requirement of the Information Quality Guidelines is a "Pre-dissemination Review" that ensures the utility, integrity and objectivity of information released. These terms are defined in the Guidelines; in the context of this discussion paper, objectivity is of principal concern:

"Objectivity consists of two distinct elements: presentation and substance. The presentation element includes whether disseminated information is presented in an accurate, clear, complete, and unbiased manner and in a proper context. The substance element involves a focus on ensuring accurate, reliable, and unbiased information. In a scientific, financial, or statistical context, the original and supporting data shall be generated, and the analytic results shall be developed, using sound statistical and research methods."

Pre-dissemination review standards are distinct for different types of information products. For the EDR dataset (which will not be disseminated in unaggregated form)

and publicly disseminated data aggregates and synthesized results derived from raw EDR data (i.e. analytical results based on statistical models), the review standards are the following:

Objectivity Standards for Specific Information Categories

A. Original Data

Objectivity of original data is achieved by using sound quality control techniques.

Data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data collection methods, systems, instruments, training, and tools are designed to meet requirements of the target user and are validated before use. Instrumentation is calibrated using primary or secondary standards or fundamental engineering and scientific methods. NOAA=s standard operating procedures (SOPs) are reviewed on a regular basis and modified as practices and procedures evolve. Deviations from current SOPs are documented and occur only if valid scientific reasons exist for such a deviation.

Original data undergo quality control prior to being used by the agency or disseminated outside of the agency. Quality control techniques can include, as appropriate:

- gross error checks for data that fall outside of physically realistic ranges (e.g. a minimum, maximum, or maximum change);
- comparisons made with other independent sources of the same measurement;
- examination of individual time series and statistical summaries;
- application of sensor drift coefficients determined by a comparison of pre- and post-deployment calibrations; and
- visual inspection of the data.

The quality control/quality assessment of NOAA data is an on-going process. A continuous effort to improve the quality of NOAA data provides for evolution and improvements in survey techniques, instrument performance and maintenance, and data processing.

NOAA strives for transparency regarding data collection procedures, level of quality, and limitations. NOAA includes metadata record descriptions and an explanation of the methods and quality controls to which original data are subjected when they are disseminated, or makes them available upon request. This additional information helps the user assess the suitability of the data for a particular task.

B. Synthesized Products

Objectivity of synthesized products is achieved using data of known quality, applying sound analytical techniques, and reviewing the products or processes used to create them before dissemination.

Data and information sources are identified or made available upon request.

NOAA uses data of known quality or from sources acceptable to the relevant scientific and technical communities in order to ensure that synthesized products are valid, credible and useful.

Synthesized products are created using methods that are either published in standard methods manuals, documented in accessible formats by the disseminating office, or generally accepted by the relevant scientific and technical communities.

NOAA reviews synthesized products or the procedures used to create them (e.g. statistical procedures, models, or other analysis tools) to ensure their validity.

- Synthesized products that are unique or not produced regularly are reviewed individually by internal and/or external experts.
- For regular production of routine syntheses, the processes for developing these products are reviewed by internal and/or external experts.

> *NOAA includes the methods by which synthesized products are created when they are disseminated or makes the methods available upon request.*[1]

The guidelines recognize that where confidential data are concerned, the source data for synthesized products cannot generally be made available:

> "Where confidentiality or other considerations preclude full transparency, then especially rigorous robustness checks will be applied. They may take many forms, ranging from the use of outside review panels to the use of an array of specific checks to ensure objectivity. The nature and a description of these checks will be disclosed upon request."

Directions under the Information Quality Guidelines that apply particularly to the Crab EDR program are therefore to develop and apply "especially rigorous robustness checks." A description of the process currently in place follows.

Protocols for maintenance and assessment of EDR Data Quality

NMFS Office of Science and Technology and NOAA General Counsel staff have been consulted in the development of the following protocols and have recommended that predissemination review of any syntheses of the EDR data for public release be performed by the NPFMC Scientific and Statistical Committee. The data quality assessment and documentation of the EDR dataset, in addition to providing guidance to data users, is also intended to provide the SSC with all necessary information to assess the degree to which any analytical results produced using the EDR data are supported by, and make appropriate use of, the EDR data.

The EDR forms developed to elicit information on revenues, costs and other social and economic data from vessel and plant operators in the BSAI crab fisheries are essentially measurement instruments and, like other scientific instruments, are subject to some degree of measurement error. In the case of the crab EDRs, measurement error arises when information reported by an individual submitter in response to an elicitation for a given data element differs to some degree from that intended by the designers of the EDR forms. Given the complexity of the economic and operational activities that take place within the harvest and processing sectors, it is impossible to design instruments that completely eliminate any error. There will most likely always be some degree of misinterpretation, and it may not always be possible for unique economic enterprises to characterize their operations in exactly the terms specified in a given data form. The objective for those tasked with designing and conducting a data collection program is to minimize error through careful design, and to characterize error, both quantitatively, in terms of statistical measures of data validity, as well as qualitatively in the resulting dataset to permit proper interpretation by analysts. The relevant inquiry under the Information Quality Guidelines is whether the resulting dataset is within an acceptable level of statistical validity appropriate to the particular kind of information at issue (see NOAA Information Quality Guidelines, Part II, Objectivity).

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[1] NOAA Information Quality Guidelines, revised November 6, 2006. http://www.cio.noaa.gov/Policy_Programs/IQ_Guidelines_110606.htm

Alaska Fisheries Science Center staff oversee the design and maintenance of the EDR data collection process, in conjunction with the third party data collection agent, Pacific States Marine Fisheries Commission (PSMFC). Procedures currently in place to monitor and improve data quality include the following:

1. Monitoring submitter feedback on EDR completion – Data collection staff at PSMFC work closely with individual submitters to clarify the intent of individual data elements and maintain a detailed log of questions and comments that submitters provide through written and verbal communication. The feedback documented in these logs is used to identify any consistent pattern of misinterpretation of directions included in EDR forms for individual data elements and the potential for misreporting.

2. Data provider forums – following the 2005 and 2006 data collections, meetings were convened with representatives of data providers to solicit information on the data collection process, with a focus on data quality and interpretation concerns. The meetings following the 2006 data collection took place in Kodiak and Seattle during July of 2007 and were open to the public and announced in the Federal Register, as well as by letter to all EDR data providers. These meetings will continue to be convened as necessary as part of ongoing EDR program administration.

3. Outlier analysis – following the completion of data entry after each year's collection, preliminary analysis has been performed to review data quality. This review has focused on computing a number of indices from raw variables that normalize reported data relative to the scale of the reporting entity's operations (e.g., revenue per pound landed, insurance cost per day). For each EDR record a deviation statistic[2] is calculated for each of the indices and a relative deviation score for each EDR record is computed as the summed value of the deviation statistics over all computed indices. The deviation scores and the number of missing values for selected variables for each EDR record are then plotted and individual records that appear as outliers are selected for additional validation through the audit process. The deviation score for each EDR record is appended to the record in the database for use in identification of individual records for which overall data quality is suspect.

4. Data audit - A component of the EDR program specified in authorizing legislation is the compulsory audit of EDR forms to identify intentional and unintentional misreporting. During summer and fall of 2006, the protocols for implementing both random and outlier audits of EDRs submitted for the years 1998, 2001, 2004, and 2005 were developed and a professional accounting firm (Aldrich, Kilbride & Tatone, Portland, OR) was hired to complete the audits. The report detailing the results of the analysis and providing qualitative and, where possible, quantitative error measurements of selected data elements collected in the 1998, 2001, 2004, and 2005 EDRs was received by AFSC in May 2007, and the audit report for the 2006 data was received in January, 2008 (see appendices).

The sampling and audit methods used are described in detail in the respective reports.

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[2] For each index computed, we compared the value of the index for a given EDR record to the mean value of the statistic over all EDR records in a sector, and divided by the standard deviation: where X_i is the index value for a given EDR, $\mathbf{X}$ is the mean value of the index over all EDR records in a given sector, and S_x is the standard deviation on the index over all EDR records in the sector, then the statistic was calculated as $|X_i - \mathbf{X}|/S_x$ This is the "normed residual" used in the Grubbs test for outliers.

The data audit results are based on a sample of submitted EDRs. While the sampling method is intended to ensure that the validation audit results are representative of the dataset as a whole, it should be noted that representativeness cannot be assured on a variable-by-variable basis, or for the catcher-processor, floating processor, or shoreside processor sectors. The number of submitting vessels and plants in the processing sector is too small to support a valid statistical sample. For the harvest sector, the audit sample for each year is drawn from the pool of submitted EDRs. Fully representative sampling would require that random samples be drawn separately for each variable. This would have required that virtually every EDR submitter be subject to the audit. This was judged to be an excessive burden and a more qualitative analysis of data validity is the result. The results of these analyses are incorporated into the data documentation that will accompany the dataset to guide analysts in proper use and interpretation of the data. These results have also been used on an ongoing basis both clarify and improve the EDR forms to reduce reporting and measurement error.

Data Quality Documentation

The Crab EDR dataset is a relatively complex one. Although the number of vessels and plants for which data are reported is relatively small, and has diminished over time as the industry has consolidated, the number of variables in the dataset is quite large and the information they represent is complex, both in terms of their reporting by data submitters, as well as interpretation by data users. To provide detailed and accurate information to guide and assist data users, a metadata document has been developed for the dataset. This document will be continuously updated as additional data is collected and added to the EDR dataset, and as additional knowledge is gained regarding proper use and interpretation of the information contained in the data (the current draft of the metadata document is provided below as Appendix X). As the term implies, the metadata is a set of variables that describe the characteristics of the dataset (i.e. data about data) and is arranged as a set of spreadsheets containing a column of variables that are included in the dataset (both variables collected in the EDRs and additional variables created and appended to individual data records). Included in the metadata is extensive data quality information reported on a variable-by-variable basis, and additional information intended to aid data users in interpreting each data element and any analytical results based on these data. Table 1 below lists selected metadata fields, including all data quality characteristics currently described in the document. The EDR database is currently being migrated to the Oracle relational database by PSMFC and additional metadata fields will be populated for the database when that process is completed.

EDR Data Quality Summary

Data for the 1998, 2001, and 2004 calendar years was submitted to PSMFC in May, 2005. Subsequent to the historical data collection, annual EDRs have been submitted in June of the next calendar year. In addition to the metadata documentation, a detailed discussion of the process and findings of the data quality review is provided in Appendix Y. The general findings are that quality of data has improved markedly between 1998 and 2006. For the 1998 calendar year in particular, documented support for audited variables could not be supplied, with some exceptions, and the accuracy of these data cannot be assessed. Both the validation audit and submitter feedback indicate that much of the 1998 data, and the 2001 data to a lesser extent, consists of best estimates based on limited information. Use of these data in analyses must be interpreted in light of highly uncertain accuracy of the data. Notable exceptions are crew payment information that

are well supported with crew settlement documents through the entire data time series, and catch and landings data that can are comparable with secondary data sources. Data documentation has improved through over time; and the 2006 audit found that, with few exceptions, the basis for submitted data was well documented and clearly described by audited data submitters. As a result, the accuracy of the EDR data for 2005 and 2006, while still variable can be more quantitatively assessed. Data quality for these years is generally quite high; where data quality concerns with specific variables arise, they are well-identified and specific guidance on their use and interpretation, including statistical corrections will be provided in the metadata document.

Table 1: Selected Metadata Fields

Field Name	Description
Variable name	Data element identifier
EDR Source Tables	Identifies EDR source table year and sector
Variable Description	Defines data element as defined in EDR; any change in definition between years or sectors is highlighted
Data Structure Notes	Identifies any structural changes in data element within the database design relative to original structure in EDR tables
Year-Version Changes	Identifies changes in data element definition or structural changes in data collected and provides guidance on consistent interpretation of data elements between EDR years and versions
Data Quality Rating	0/1 identifier for data elements with know data quality concerns
Data Quality Notes	Description of known data quality concerns for data element and guidance on use and interpretation of data element
Validated Against Secondary Data	Identifies data elements that have been validated against secondary source and the source used.
Validated by Audit (by year)	Identifies which years and versions of EDR the data element was included in the external validation audit
Number Of Observations Audited, By Year	Number of observations included in validation audit; observations for data elements that are reported by fishery are counted separately; blank cells for N/A observations are not counted.
% Supported[3], By Year	Percent of observations supported by sufficient documentation or explanation to permit identification of a corrected value by auditors and comparison to stated value.
Mean % Error (absolute value), By Year	Calculated for all supported observations; percent error calculated as absolute value of the difference between stated and corrected value, divided by the corrected value. The mean is calculated over all supported observations. This provides a measure of the estimated measurement error of the data element, and is reported separately for each EDR year.
% Error Coefficient of Variation, By Year	Calculated for all supported observations; calculated as mean percent error divided by standard deviation of percent error. This provides a measure of estimated dispersion in measurement error for the data element.

[3] The validation audits performed by Alrich, Kilbride and Tattone, LLC classified data submitted in EDRs according to the quality of documented records or estimation methods used to support the value entered by respondents. The original audit reports distinguished eight classes of support. For purposes of identifying data of known quality, AKT was asked to reclassify audited data according to a four-point system. Data classified as "support available" or "unsupported/reasonable" are considered to be data of known quality. Data classified as "no basis" or "unsupported/unreasonable" are considered to be data of unknown quality. Note that the latter classification does not indicate that the associated data is inaccurate, but rather that the auditors found insufficient information to assess the accuracy of the submitted data. In some cases, particularly for the historical data, this was due to failure of EDR submitters to fully comply with the record request made by auditors.

References

National Oceanic and Atmospheric Administration. 1994. NOAA Administrative Order 216-100. : Protection Of Confidential Fisheries Statistics. http://www.corporateservices.noaa.gov/~ames/NAOs/Chap_216/naos_216_100.html

National Oceanic and Atmospheric Administration. 2006. Information Quality Guidelines November 6, 2006 Revision. http://www.cio.noaa.gov/itmanagement/IQ_Guidelines_110606.htm

Office of Management and Budget. 2005. Federal Committee on Statistical Methodology, Statistical Working Paper 22: Report on Statistical Disclosure Limitation Methodology. 137 p.

Workplan for 3-year review

In development of the Being Sea and Aleutian Islands crab fishery management program, the Council schedule a preliminary review of the program three years after its implementation. Since fishing under the program began in August of 2005, staff is planning for the delivery of the requested review to the Council in October of 2008. At its October 2007 meeting, the Council identified preliminary alternatives to revise the program. At that time, the Council adopted a draft purpose and need statement stating its intention to revisit that purpose and need statement at this meeting. This paper lays out a brief outline of the proposed review of the program and provides a discussion that could be used by the Council to refine the purpose and need statement.

Crab 3-year review outline

The Council's motion establishing the program included the following provision for a review of the program after 3 years of fishing:

> *RAM Division in conjunction with State of Alaska will produce annual reports regarding data being gathered with* ***a preliminary review of the program at 3 years****.*
>
> *Formal program review at the first Council Meeting in the 5th year after implementation to objectively measure the success of the program, including benefits and impacts to harvesters (including vessel owners, skippers and crew), processors and communities by addressing concerns, goals and objectives identified in the Crab Rationalization problem statement and the Magnuson Stevens Act standards. This review shall include analysis of post-rationalization impacts to coastal communities, harvesters and processors in terms of economic impacts and options for mitigating those impacts. Subsequent reviews are required every 5 years.*

Since the contents of this review are not defined by the Council motion, staff proposes the following outline:

Description of management
- Review of State/Federal joint management
- Pre-rationalization limited access management
- Description of rationalization program

Harvest share holdings
- Initial allocations by sector (CVO, CPO, CVC, CPC) and region
- Transfers – number of transactions and numbers of shares transferred and prices by sector, share type (QS/IFQ) and region
- Current holdings – concentration by sector, share type, and region/use caps and CDQ holdings
- Active participation by share holders (by share type) – to the extent practicable
- Allocation of B shares
  - Vertical integration
  - Amount of B shares at various TACs

Harvest sector – pre/post-rationalization comparisons and analysis by fishery and operation type and comprehensive
- Vessel participation
- Summary of leasing and cooperative fishing
- Vessel operations
  - Number of trips/deliveries/average trip/use caps
  - Cost comparison using EDR data – consider variable costs to the extent practicable
  - Integration of use of CDQ allocations with program allocations

Captains and crew
Number of captains and crew and compensation of captains and crew
Participation in other fisheries (vessels currently active in crab/vessels not active in crab)
Integration with crab activity
Review of sideboards

Processor share holdings
Initial allocations by region
Transfers – number of transactions and numbers of shares transferred and prices by sector, share type (QS/IPQ) and region
Current holdings – concentration by region/use caps and CDQ holdings

Processing sector – pre/post-rationalization comparisons and analysis by fishery and comprehensive
Plant participation
Summary of custom processing (interaction with use caps)
Plant operations
Number of trips/deliveries/average trip
Cost comparison using EDR data – consider variable costs to the extent practicable
Labor – overview of plant labor using EDR data
Integration of use of CDQ allocations with program allocations
Participation in other fisheries – integration with crab activity (potential need for sideboards)

Markets and prices – pre/post-rationalization comparison
Review of crab markets and prices – retail/first wholesale (if possible consider CPs separately)
New market development/changes in existing markets
Review ex vessel prices
Review of arbitration program
Discussion of standard and its application (include data issues)
Discussion of procedure
Share matching process
Terms of deliveries – timing, etc.

Entry
Harvest sector entry (share holders/vessels)
Processing sector entry (share holders/plants – entry with A share landings/B share landings)

Safety
Equipment, working conditions, emergency response time

Biological benefits and costs
Spatial and temporal dispersion
Incidental catch rates/soak times and gear sorting
Handling mortality/deadloss
High grading

Community Issues – pre/post-rationalization comparison
General profiles of communities with focus on crab dependence
Distribution of activities among communities
Geographic distribution of share holders
Harvesters (by share type – CVO/CPO/CVC/CPC)
Distribution of processing shares by community of plant(s)
Activities of home ported vessels (active in crab/inactive in crab)

Distribution of landings among communities
Review of processors and processor activities (including processing labor effects)
Landings by share type - CVO A share/CVO B share/CVC – include discussion of effectiveness of "cooling off" and "right of first refusal provisions"
Harvesting crew affects/job loss
Community revenues
Community investments
Community support businesses

Management – pre/post rationalization comparison
Costs (e.g., additional management burdens)
Benefits (e.g., more precise harvest of TAC)

Other issues –
Effects of the buyback

AGENDA C-1(a)
Supplemental
FEBRUARY 2008

Date:

Eric Olson, Chair
NPFMC
605 West 4th Ave. Ste. 306
Anchorage, AK 99501-2252

Fax: 907 271 2817

Comment on Agenda Item: C1(a), Report from Crab Committee; action as necessary

Dear Chairman Olson:

I am the Skipper on the Bering Sea crab vessel Bering Hunter, Home port Kodiak Alaska, and I have been working in the crab fisheries for several years.

Prior to the startup of the rationalization program in 2005, when we were fishing in the short derbies, I found myself scrambling to work other jobs onshore in order to make a living and stay in crab fishing.

Safety, working conditions and my income have all improved since rationalization began and I hope to remain on deck for several more years now, thanks, in large part to the rationalization program.: I am married and we have 2 children and so the rationalization program with its new benefits and improved economic stability has also made life better overall for our family.

Sincerely, Dennis Donohoe, Dennis Donohoe
Captain. F/V Bering Hunter

First and last name
Street address P.O. Box 3476
City, State and Zip Kodiak AK 99615
Position:

Alaska Crab Coalition
3901 Leary Way N.W. Suite #6
Seattle, Washington 98107
206.547.7560
Fax 206.547.0130
acccrabak@earthlink.net

January 28, 2008

Mr. Eric Olson, Chair
North Pacific Fishery Management Council
605 West 4th Avenue
Anchorage, Alaska 99501-2252

RE: Agenda Item C-1(a), Report from the Crab Committee—the issue of job loss. The attached correspondence and analysis was originally submitted to the NPFMC on February 6, 2007.

The ACC wishes to resubmit the attached comments to the NPFMC since the Crab Advisory Committee has heard discussions and criticism of the crab rationalization program for causing significant loss of jobs for Alaskans. This analysis shows that although seasonal crab jobs have been lost, the vessels continue to work in other fisheries. This has stabilized jobs, or, created new jobs in other fisheries which balances out seasonal job loss in the crab fisheries.

Sincerely,

Ami Thomson
Executive Director

Alaska Crab Coalition
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February 6, 2007

Ms Stephanie Madsen, Chair
North Pacific Fishery Management Council
605 West 4th Avenue
Anchorage, Alaska 99501-2252

RE: Agenda Item D-2(c),
ACC Analysis of Harvesting Jobs By Homeport of Bering Sea Crab Vessels

Executive Summary:

Sources, Background Information and Assumptions:
The ACC has been tracking and analyzing the Bering Sea crab fleet for twenty years. The attached Excel analysis is the most recent in a series of analyses the ACC has presented to the NPFMC. It is based on the Bering Sea, Bristol Bay king crab fishery (BBRKC) for 2004 and 2005, for comparative purposes. It does not include the Aleutian Islands Golden king crab fisheries. The data is based on the NMFS LLP data base as of June, 2005 and ADFG vessel registration lists for 2004 and 2005. Vessel usage information has been compiled from cooperative managers and vessel owners from Washington, Oregon and Alaska. In particular, the ACC wishes to acknowledge the contributions of Tim Kennedy, Jerry Bongen and Jeff Steele to the list of "vessels active in other fisheries, and/or tendering for salmon."

It is the intent of the analysis to document the activities of 2004 pre-rationalization crab boats that are still fishing in other fisheries and that also do salmon tendering during the summer months. For illustrative purposes, the analysis does not show the number of active crab boats involved in other fisheries. However, a large number of the active crab boats also fish for cod with pots in the Bering Sea and tender in the summer for salmon. They are working almost year-round. The estimate of lost harvesting jobs assumes the Alaska Department of Labor and NPFMC standard of six men per vessel.

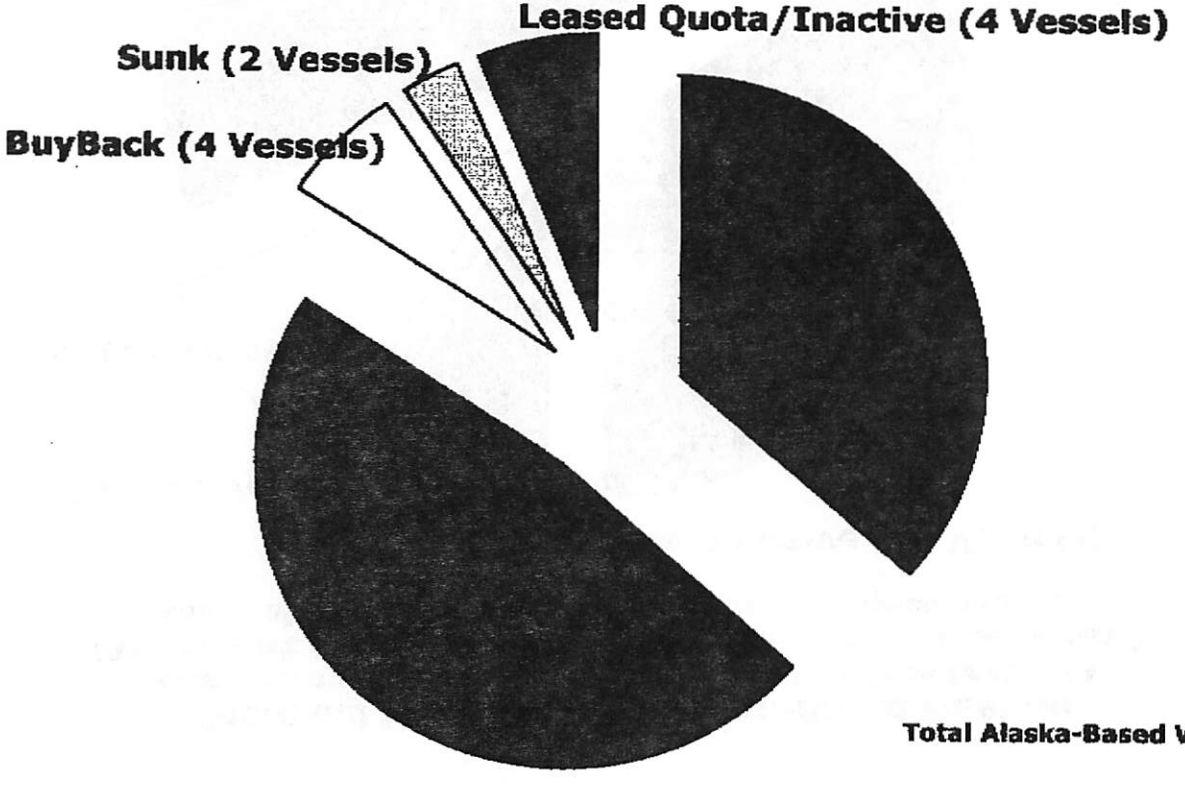
Summaries of the individual columns approximates, but does not equal the 2004 pre-rationalization vessel total of 250 vessels, as numerous crab pot boats have diversified operations portfolios that often include crab and cod pot fishing, halibut and sablefish IFQ fishing, tendering and the Pollock fisheries.

Summary:	
Total vessels registered for BBRKC in 2004:	250
Total vessels registered for BBRKC in 2005:	89
Total vessels that are inactive:	18
Total lost harvesting jobs (assuming AK DOL average of 6 per vessel):	**108**
Alaska:	
Registered for BBRKC in 2004:	63
Registered for BBRKC in 2005:	23
Vessels active in other fisheries and/or tendering salmon:	34
Vessels that are inactive:	4
Alaska lost harvesting jobs:	**24**
Vessels sold in Buyback:	4
Vessels sunk:	2
Washington:	
Vessels registered for BBRKC in 2004:	165
Vessels registered for BBRKC in 2005:	58
Vessels active in other fisheries and/or tendering salmon: (75-79)	75
Vessels that are inactive:	14
Washington lost harvesting jobs:	**84**
Vessels sold in Buyback:	17
Vessels sunk:	1
Oregon:	
Vessels registered for BBRKC in 2004:	16
Vessels registered for BBRKC in 2005:	6
Vessels active in other fisheries and/or tendering salmon:	11
Vessels that are inactive:	0
Oregon lost harvesting jobs:	**0**
Vessels sold in Buyback or sunk:	0
Other States:	
Vessels from other states registered for BBRKC in 2004:	6
Vessels from other states registered for BBRKC in 2005:	2
Vessels from other states active in other fisheries and/or tendering salmon:	2
Vessels from other states that are inactive:	0
Vessels from other states sold in Buyback:	2

Arni Thomson, Executive Director, Alaska Crab Coalition

Where did the 2004 Alaska-Based Fleet go?

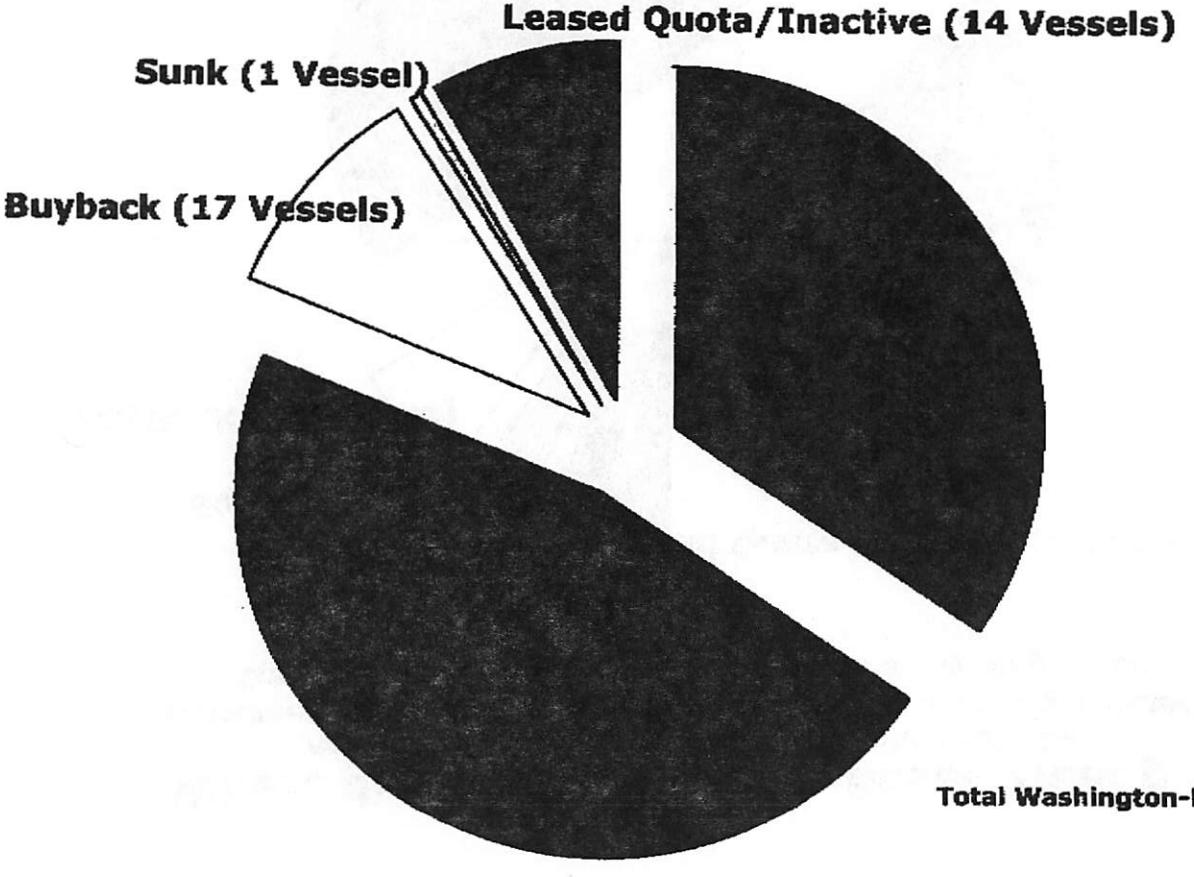
Actual Estimated Seasonal Alaska Jobs Lost - 24
(Assumes Ak Dept of Labor/NPFMC Standard - 6 Crew per Vessel)
Crab Jobs Retained are Now Full Time, Family Wage Jobs



Total Alaska-Based Vessels - 63

Where did the 2004 Washington-Based Fleet Go?

Actual Estimated Seasonal Washington State Jobs Lost - 84
(Assumes Ak Dept of Labor/NPFMC Standard - 6 Crew per Vessel)
Crab Jobs Retained are now Full-time, Family-wage Jobs



Total Washington-Based Vessels 165

Vessels	ADF&G #	Homeport	Vessel Length	Other Info.	RKC 04	RKC 06	Active in Pollock	Buyback	Active in Other Fisheries	Sunk/Scrapped	Tender/Charter	True Non-Active Vessel
Alaska Dawn	69765	AK	90		1				1			0
Alicia Joan	60666	AK	115		1						1	0
Alliance	31944	AK	100	vessel sunk	1					1		0
Aleen	40749	AK	125	AFA pollock also	1		1					0
American Way	47839	AK	69		1			1				0
Anna Marie	6858	AK Homer	68		1				1			0
Arctic Lady	37210	AK	133		1	1						0
Argosy	38347	AK	124		1		1					0
Atlantico	37	AK	98		1	1						0
Big Valley	23480	AK	68	vessel sunk	1					1		0
Buccaneer	25	AK	67	not qualified for crab program	1				1			0
Deception	55840	AK Petersburg	128		1						1	0
Determined	55306	AK	111		1	1						0
Diamond Head	56140	AK Homer	130		1			1				0
Diligence	59024	AK	85		1	1						0
Elizabeth F	14767	AK	90	AFA pollock also	1	1						0
Farrar Sea	61954	AK Homer	87		1	1						0
Guiding Star	21730	AK	86		1							1
Handler	62438	AK	126		1	1						0
Icelander	2	AK	100		1				1			0
Incentive	63000	AK	86		1	1						0
Irene H	5710	AK	62		1				1		1	0
Jeanoah	14663	AK	62		1				1			0
Katrina Em	35872	AK	104		1				1		1	0
Kodiak	3626	AK	111		1	1						0
Kustatan	60210	AK Homer	100		1	1						0
Lady Alaska	61931	AK	138		1	1						0
Lady Aleutian	41715	AK	116		1				1			0
Lady Blackie	58129	AK	79		1						1	0
Lady Kiska	35822	AK	158		1						1	0
Lady Kodiak	61352	AK	126		1						1	0
Lady Simpson	30801	AK	96		1	1						0
Last Frontier	47826	AK Anchorage	89		1				1			0
Mar Del Sud	21682	AK	110		1	1						0
Mercy J	55	AK	97	AFA pollock also	1		1					0
Misty Blue	49892	AK Yakutat	102		1						1	0
North Point	53600	AK	80		1							1
Northern Spirit	59578	AK	90		1	1						0
Nuka Island	33640	AK	105		1	1						0
Obsession	34374	AK	107		1	1						0
Pacific Sojourn	48068	AK Homer	72		1				1			0
Pacific Venture	986	AK	102		1				1		1	0
Perseverance	63218	AK	95		1						1	0
Providence	52119	AK	70		1				1		1	0
Provider	68	AK	135		1	1						0
Ramblin Rose	56656	AK Homer	103		1							0
Ruff & Ready	63	AK	87		1				1			0
Sage	11022	AK	107		1						1	0
Seabrooke	36800	AK	109		1	1						0
Storm Bird	46854	AK	90		1	1						0
Sustina	36361	AK Homer	85		1			1				0
Theresa Marie	34	AK	94		1							0
Time Bandit	65577	AK Homer	110		1	1					1	0
Viekoda Bay	57871	AK	98		1	1						0
Zolotoi	40917	AK	98		1			1				0
Jennifer A	33277	AK Ketchikan	86		1				1			0
Katherine	58133	AK	88	not qualified for crab program	1				1			0
Lisa Marie	70221	AK Anchorage	78		1	1						0
Lucky Lady	8485	AK	59	not qualified for crab program	1				1		1	0
Nor Quest	56422	AK	110		1							1
Ocean Bay	65006	AK	58	not qualified for crab program	1				1			0
Rondys	3725	AK	120	not qualified for crab program	1							1
Tempo Sea	40817	AK Homer	134	ex Blue Aleutian	1	1						0
		AK Total			83	23	3	4	17	2	14	4
Rebel	34189	AL	98		1			1				0
		AL Total			1	0	0	1	0	0	0	0
Cougar	6700	CA	89		1				1			0
Pacific Sun	35677	CA	121		1	1						0
		CA Total			2	1	0	0	1	0	0	0
Alaskan Mariner	39156	MA	108	E coast lobster fishery	1				1			0
		MA Total			1	0	0	0	1	0	0	0
Four Daughters	41444	MN	80		1	1						0
		MN Total			1	1	0	0	0	0	0	0

Westling	42736	MT	85		1			1					0
		MT Total			1	0	0	1	0	0	0		0
Chisik Island	12612	OR	90		1						1		0
Guardian	61571	OR	87		1						1		0
Jamie Marie	59330	OR	89	not qualified for crab program	1				1				0
Kiska Sea	61154	OR	128		1	1							0
Maverick	45708	OR	82		1	1							0
Midnite Sun	63	OR	85		1				1		1		0
Polo Star	61076	OR	109		1						1		0
Sandra V	70770	OR	113		1	1							0
Seadawn	77	OR	110		1		1						0
Silver Spray	60880	OR	118		1				1				0
Trailblazer	33704	OR	134		1	1							0
Vixon	70330	OR	98		1				1				0
Windward	66992	OR	88		1						1		0
Zone 6	61718	OR	103		1						1		0
Melanie	20363	OR	95		1	1							0
Nordic Viking	8500	OR	127		1	1							0
		OR Total			18	6	1	0	4	0	6		0
Adventure	965	WA	98		1	1							0
AJ	57934	WA	137		1				1				0
Alaska Challenger	4100	WA	99		1	1			1				0
Alaska Sea	25061	WA	110		1								1
Alaska Spirit	35949	WA	81		1				1		1		0
Alaskan Beauty	8663	WA	98		1	1							0
Alaskan Enterprise	32726	WA	131		1	1							0
Alaskan Lady	33233	WA	154		1	1							0
Aldebaran	48215	WA	131		1		1						0
Aleutian Ballad	48383	WA	107		1	1							0
Aleutian Beauty	32282	WA	98		1				1				0
Aleutian Mariner	35844	WA	117		1	1							0
Aleutian No.1	6992	WA	128		1				1				0
Aleutian Rover	966	WA	128	offshore surfing support vessel	1			1					0
Aleutian Spray	991	WA	98		1				1				0
Alpine Cove	30100	WA	78	not qualified for crab program	1				1				0
Amatuli	3638	WA	112		1				1		1		0
American Eagle	39	WA	120	AFA pollock also	1	1							0
American Lady	87	WA	128			1							1
Andronica	39528	WA	92		1	1							0
Aquila	62505	WA	155		1						1		0
Arctic Baruna I	65869	WA	144		1								1
Arctic Baruna II	65870	WA	144		1								1
Arctic Dawn	42144	WA	98		1								1
Arctic Eagle	61111	WA	128	owned yacht	1			1					0
Arctic Fox	32564	WA	103	renamed Arctic Hunter	1	1			1				0
Arctic Mariner	31702	WA	128		1	1							0
Arctic Sea	33698	WA	134		1	1							0
Arcturus	40578	WA	131		1		1						0
Autumn Dawn	40651	WA	128		1						1		0
Baranof	34855	WA	178		1	1							0
Barbara J	44671	WA	96		1	1							0
Beauty Bay	60100	WA	127		1				1				0
Bella K	55124	WA	130		1	1							0
Bering Sea	52	WA	114		1				1				0
Bering Star	4147	WA	108		1	1							0
Beverly B	36379	WA	146		1						1		0
Big Blue	37241	WA	77		1	1							0
Bison	20745	WA	138		1						1		0
Blue Dutch	54865	WA	188		1								1
Botany Bay	45056	WA	83		1	1							0
Bountiful	34053	WA	151		1	1							0
Bristol Mariner	8411	WA	128		1	1							0
Brittany	3508	WA	108		1				1				0
Bulldog	131	WA	132.6		1	1			1				0
Cameron	41828	WA	58	not qualified for crab program	1						1		0
Cascade Mariner	64	WA	102		1	1							0
Commodore	55648	WA	133		1		1						0
Confidence	8848	WA	103		1	1							0
Constellation	38029	WA	127		1				1				0
Controller Bay	72847	WA	90		1	1							0
Cornelia Marie	59109	WA	126		1	1							0
Courageous	38833	WA	180		1				1				0
Debra D	61565	WA	110		1						1		0
Denali	951	WA	73		1				1				0

Destination	47234	WA		92		1	1						0
Dominator	6868	WA		124	AFA pollock also	1	1	1					0
Early Dawn	103	WA		108		1	1						0
Entrance Point	48498	WA		90		1						1	0
Erla N	20556	WA		117		1	1						0
Exito	54653	WA		127		1			1				0
Farwest Leader	35583	WA		105		1	1						0
Fierce Allegiance	58111	WA		155	AFA pollock also	1	1						0
Fierce Contender	55123	WA		168		1							1
Gayle Maureen	24323	WA		90		1						1	0
Gladiator	32473	WA		124		1		1					0
Golden Dawn	35687	WA		132		1		1					0
Gulf Winds	36969	WA		105		1	1						0
Gun Mar	41312	WA		134	AFA pollock also	1	1						0
Husky	994	WA		133		1							1
Icy Bay	35298	WA		131		1						1	0
Island Mist	61791	WA		124		1	1						0
Juno	6480	WA		108	not qualified for crab program	1							1
Kari Marie	50501	WA		123		1	1						0
Karin Lynn	524	WA		127		1	1						0
Kellie K	20384	WA		108		1	1						0
Keta	7189	WA		97		1	1						0
Kevleen K	960	WA		104		1	1						0
Kirsten Marie	22	WA		100		1						1	0
Kodiak Queen	6459	WA		144		1			1				0
Kona Kai	51347	WA		90		1						1	0
Labrador	12128	WA		128		1			1				0
Lady Helen	18	WA		89		1						1	0
Lady Jessie	44829	WA		98	crewed yacht	1			1				0
Lady Joanne	62822	WA		89		1				1			0
Majesty	60850	WA		108		1		1					0
Mar Gun	12110	WA		110		1		1					0
Margaret Lynn	31672	WA		87		1		1					0
Mark I	6440	WA		98	AFA pollock also	1							0
Mary J	40217	WA		100		1				1		1	0
McKinley	49582	WA		94		1						1	0
Muir Milach	41021	WA		85		1		1					0
Mystery Bay	62920	WA		135		1	1						0
New Venture	4	WA		82		1				1			0
Nordic Fury	200	WA		83		1		1					0
Nordic Mariner	222	WA		121		1	1						0
Nordic Star	961	WA		108		1		1					0
Norseman	22406	WA		108	scientific charters AK	1			1				0
Norseman II	35830	WA		108		1			1				0
North American	25216	WA		110		1							1
North Sea	36047	WA		128		1	1						0
Northern Mariner	61223	WA		110		1	1						0
Northern Orion	31458	WA		166		1			1				0
Northwind	35733	WA		105		1						1	0
Northwestern	29962	WA		126		1	1						0
Notorious	987	WA		126		1						1	0
Ocean Fury	97	WA		124		1	1						0
Ocean Harvester	101	WA		108		1		1					0
Ocean Olympic	56111	WA		155		1				1			0
Oceanic	3404	WA		122		1		1					0
Pacific Fury	33	WA		88		1		1					0
Pacific Mariner	7	WA		126		1	1						0
Pacific Star	59621	WA		182		1				1			0
Paragon	20734	WA		110		1	1						0
Pavlof	37374	WA		150		1				1			0
Pinnacle	71174	WA		140		1	1						0
Polar Lady	36822	WA		105		1						1	0
Polar Sea	309	WA		109		1	1						0
Pro Surveyor	63610	WA		173		1	1						0
Rainier	956	WA		110		1							1
Reliance	53779	WA		158		1						1	0
Retriever	35199	WA		133		1							1
Rogue	59968	WA		90		1						1	0
Rolly	30	WA		107		1	1						0
Royal Pacific	6800	WA		100		1						1	0
Royal Viking	3719	WA		91		1	1						0
Scandies Rose	35319	WA		130		1	1						0
Sea Em	6448	WA		112		1	1						0
Sea Fisher	8187	WA		148		1					1		0

Sea Rover	134	WA		109		1							1
Sea Spray	58	WA		95		1			1				0
Sea Star	997	WA		80		1						1	0
Sea Storm	40969	WA		111		1		1					0
Sea Venture	8928	WA		104		1				1			0
Sea Warrior	60804	WA		108		1	1						0
Secret Island	61333	WA		128		1			1				0
Shane	58131	WA		124		1			1				0
Sharon	36	WA		110		1			1				0
Shishaldin	33923	WA		107	renamed Brenna A	1				1			0
Silent Lady	61841	WA		159		1			1				0
Silver Dolphin	121	WA		128		1	1						0
Snug Harbor	69296	WA		78	Sold to Russia	1							0
Southern Wind	40923	WA		129		1							0
Starfish	12	WA		122		1		1					0
Starlite	34931	WA		122		1		1					0
Starward	36197	WA		122		1		1					0
Storm Petrel	39990	WA		123		1		1					0
Stormy Sea	104	WA		151		1			1				0
Sultan	58039	WA		130		1							1
Tempest	3718	WA		116		1						1	0
Trident	5739	WA		82		1						1	0
Valiant	996	WA		111		1						1	0
Vesteraalen	38342	WA		105	AFA pollock also	1							0
Viking Explorer	36045	WA		111		1							0
Viking Queen	6434	WA		110		1						1	0
Western Mariner	963	WA		115		1						1	0
Western Viking	6069	WA		101	salvage work in Alaska	1			1				0
Westward Wind	32660	WA		142		1				1			0
Wizard	35265	WA		154		1	1						0
Arctic Wind	1112	WA		123		1		1					0
Ballyhoo	3646	WA		116.6		1						1	0
Cape Caution	46309	WA		58		1				1			0
Ocean Hunter	40924	WA		100		1				1			0
Swell Rider	43	WA		54		1				1			0
Watchman	43609	WA		90	not qualified for crab program	1				1			0
North Pacific	6208	WA		96		1			1				0
		WA Total				188	68	25	17	29	1	29	16
		Grand Total				258	89	28	23	52	3	43	18

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January 28, 2008

Mr. Eric Olson, Chair
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Re: Comments on Agenda Item C-1(a), Report from the Crab Committee; Economic and Social Impacts of BSAI crab rationalization on the Communities of King Cove, Akutan and False Pass—presented January 10, 2008 to the Crab Committee. (Prepared by Gunnar Knapp and Marie Lowe, ISER, University of Alaska, Anchorage, November, 2007)

Executive Summary:
The analysis contains a lot of socio-economic information on the three Aleutian East Borough (AEB) communities. The broader context of King Cove residents' dependency on fisheries shows historical dependency on salmon and groundfish fisheries, not crab. The analysis shows that **the most important short-term economic impacts of crab rationalization on King Cove to date have been a loss of crab fishing jobs and a decline in the use of the King Cove large boat harbor by crab vessels.** About 20 King Cove crab fishermen lost their jobs and the average income was $22,000 It is noteworthy that there were very few fishermen in either of the AEB communities holding permits for the crab fisheries, with King Cove holding the most with four Bristol Bay red king crab permits and three Bering Snow crab permits. However, only one King Cove resident qualified to receive catcher vessel quota share. Declining participation in the crab fisheries is not of itself a major economic problem, it is a pattern of overall socio-economic changes taking place in coastal communities and the out-migration of fishing permits that reduce the opportunities for local hire on crab fishing vessels. It is apparent that AEB communities need to develop a more diversified economy to maintain a stable job force and halt the out-migration of youth.

Total revenues from boat harbor services in FY 04-05 were $298,000, with lost revenues from crab boats estimated at $32,000 per year in 05-06 and 06-07. Recent reports from industry representatives indicate the boat harbor is back to full-capacity with an influx of groundfish boats.

The Peter Pan Seafoods King Cove processing plant is by far the largest local taxpayer. Between FY 02 and FY 06, fisheries-based taxes based primarily on the value of landings, accounted for more than half of city revenues.

King Cove sales tax data do not show any clear effect from crab rationalization with the exception of the pot service business which lost about $20,000 in 05-06 and 06-07.

Summary comments from the analysis:

1. "There has been a disturbing long-term decline in fishery participation by King Cove residents, reflected particularly in a decline in the number of salmon limited entry permit holders and halibut IFQ holders. The number of active permit holders participating in at least one fishery declined from 88 in 2003 to 47 in 2005. The number of Alaska Peninsula salmon drift gillnet permits held by King Cove residents declined from 39 in 1981 to 14 in 2005. The number of King Cove residents holding halibut IFQ decreased from 40 in 1995 to 14 in 2005." (Analysis page 1). For reference to King Cove residents participation on groundfish, see Analysis, page 42.

   Most King Cove fishermen did not have the capital to invest in the larger sized vessels required for offshore crab fisheries. While there are some 58' vessels owned by King Cove residents in addition to the two larger crab boats, the Denali at 73' and the Northern Spirit at 90', the average size vessel in King Cove today is about 30'. The number of active permit holders in the Bristol Bay king crab fisheries peaked at 10 in 1995 and fell to 4 for the years 2002-2004. The number of active permit holders in Bering Sea Tanner crab fisheries peaked at 7 in 1995 and fell to 3 for the years 2003-2005. (Analysis page 50).

   Because there were very few King Cove resident permit holders at the onset of crab rationalization, only four residents of King Cove received initial allocations of crab quota share. The total QS allocation yielded 75,561 pounds of IFQ for Bristol Bay king and Bering Sea snow crab for residents. King Cove residents received 0.26% of king crab and 0.08% of snow crab IFQ issued. Most King Cove crab fishermen (with the exception of two) were deckhands rather than vessel owners or captains, so most received no initial allocations of quota share. (Analysis, page 77)

   The study notes that the effects of crab rationalization may not seem that large by themselves. But the combined effects of the changes in many fisheries over time from multiple rationalization programs, including salmon limited entry are significant. Thus, declining participation in the crab fisheries is not of itself a major economic problem, it is the pattern of overall socio-economic changes taking place in fisheries in coastal communities and the out-migration of fishing permits that reduces the opportunities for local-hire on crab fishing vessels. (Analysis page 3).

In the first page of the Executive Summary of the analysis, Knapp and Lowe summarize the effects as such: "The most important short-term direct economic effects of crab rationalization on King Cove to date have been a loss of crab fishing jobs and a decline in the use of the King Cove large boat harbor by crab vessels." The Summary does not provide the economic data about the extent of the lost revenue, however, the analysis does as noted below.

2. The study estimates that of the 19 residents who had jobs in the Bristol Bay king crab fishery, 13 lost seasonal jobs in 2005, while 6 kept their jobs. In the Bering Sea snow crab fishery, there were an estimated 17 resident crew members fished in 2005, while 12 lost seasonal jobs, 5 kept their jobs in 2006. The average crew share in the king crab fishery (based on a share of 5% of the gross revenues) was $14,000, and for the snow crab fishery, it was $8,434. Thus, the estimated total net lost income for resident crew jobs is $182,000 for the king crab fishery and $101,208 for the snow crab fishery—and a combined total of $203,208 for both fisheries. (Analysis, Tables V-2 and V-3, pages 71, 72.)

The industry-wide analysis of crab job loss in the study is exaggerated, particularly since these jobs were highly seasonal, compared to the more full-time nature of crab jobs under the rationalization program. The study notes (on page 12) that the decline in the number of boats fishing between 2004/2005 and 2005/06 resulted in a loss of 757 total jobs in the Bristol Bay Red King crab fishery and 457 total jobs in the Bering Sea snow crab fishery. This is after adjustments attributable to the buyback program and lost vessels.

3. However, the study notes that ADFG estimates the average number of "days fished" in the Bristol Bay king crab fishery increased from 4 days in the three years prior to rationalization to 26 days in the 2005/06 and 21 days in 2006/07. The average number of "days fished" in the Bering Sea snow crab fishery increased from 7 days in the three years prior to rationalization to 42 days in 2005/06 and 36 days in 2006/07. (Analysis, Table II-5 and II-6, page 13).

   The King Cove study also notes that in an earlier study done for the City of Kodiak (G. Knapp, June 2006) after adjusting for assumptions about days in port and in transit to and from fishing grounds, the estimated loss in crab fishing jobs was approximately offset by the increase in days worked per job. Thus the effect of crab rationalization was that a much small number of people worked at jobs which lasted a much longer period of time, and did about the same total amount of work in about the same total number of days. (Analysis, page 13).

   The study also further explains job loss after rationalization, that some boats which had fished for BSAI crab up until rationalization focused on other fisheries—in effect creating new jobs in those fisheries, and reducing the total job losses attributable to rationalization. The study notes that data are not available for how many former crab boats fished in other fisheries during crab seasons, and

so it does not estimate how many new jobs may have been created in other fisheries. (Analysis, page 13).

However, the ACC conducted a rather extensive analysis of the changes in crab vessel participation in other fisheries, relying on the expertise of crab cooperative managers, immediately following the implementation of the rationalization program. The analysis and an executive summary were submitted to the NPFMC on February 6, 2007, Agenda Item D-2(c) and they are a part of the administrative record. The summary shows total lost harvesting jobs (assuming the AK Dept. of Labor average of 6 men per vessel) at 108 seasonal jobs lost from 18 boats that became inactive. Of the total, 4 Alaskan boats were inactive and 24 jobs were lost. Of the Washington boats, 14 were inactive and 84 jobs were lost. The study's estimate of the average crew share being $22,000 per man is very close to the ACC estimate of $20,000 for the year 2004, as published on March 24, 2006, "Benefits of BSAI Crab Rationalization, " and submitted to the NPFMC.

4. In regards to lost revenues for the King Cove boat harbor, recent reports from industry representatives about the boat harbor are that it is now back to full capacity, with an influx of groundfish boats. This is a direct result of the installation of shore power and other needed improvements and the increased costs of fuel and King Cove being able to capitalize on its adjacency to Bering Sea fishing grounds. Total revenues from harbor fees in FY 04-05 (pre-rationalization) were $298,000 for transient moorage fees plus pot onloading/offloading fees. The total loss from harbor revenues for the crab fishing seasons October through March were $32,000 per year, 05-06 and 06-07. This breaks out to about $10,000 lost revenues for moorage and $22,000 for pot services. (Analysis, page 74) The relative impact on the total year-round harbor services viewed within this context appears non-significant.

5. King Cove is heavily dependent on the Peter Pan Seafoods (PPSF) processing plant. The processing plant is by far the largest local taxpayer. Between FY 02 and FY 06, fisheries-based taxes—based overwhelmingly on the value of landings for processing at the plant—accounted for more than half of city revenues. In addition, the company's fuel sales, company store, hardware and custom processing operations accounts for more than half of non-fish sales tax revenues. In recent years crab accounted for about one-third of the ex-vessel value of fishery landings in King Cove, and correspondingly about one-third of the value of King Cove fisheries-related revenues and about one-fifth of total city revenues. (Analysis, page 2).

   King Cove's share of Bristol Bay king crab landings was higher in the first two years after rationalization than in any of seven years prior to rationalization. But King Cove's share of snow crab landings for some reason decreased during the first two years of rationalization. However, King Cove's share of total landed volume and value in both fisheries combined was about the same in FY 06 and FY 07 as it was in FY 05 (which was down slightly from the two previous years).

In effect, the changes in the two fisheries approximately balanced each other out. (Analysis, p. 80).

6. King Cove sales tax data do not show any clear effect of crab rationalization on King Cove businesses, with the clear exception of one company which is very dependent on the crab fishery and which experienced a dramatic reduction in sales (most likely the pot loading service, noted above, $22,000 loss per year), (Analysis, page 2).

7. The communities of Akutan and False Pass have been less directly affected by crab rationalization than King Cove, and as CDQ communities, Akutan and False Pass continue to benefit from their CDQ groups' crab allocations and involvement in other fisheries (Analysis, page 3). The APICDA CDQ group has ownership in two crab vessels and they own a processing plant in False Pass, Bering Pacific Seafoods, which they plan to reopen soon to process value added products. (Analysis, page 58).

Arni Thomson
Executive Director
Alaska Crab Coalition

Date:

Mr. Eric Olson, Chair
NPFMC
605 West 4th Avenue, Ste 306
Anchorage, AK 99501

Fax: 907 271 2817

Agenda Item: C1(a) Report from Crab Committee; action as necessary

Dear Mr. Chairman:

We the undersigned are crewmembers on the Bering Sea crab fishing vessel Bering Hunter – Home Port Kodiak, Alaska

Before the rationalized program began in 2005, we were down to fishing two crab derbies a year, and we could not make enough from crab fishing to make a living. We were working other jobs, both fishing and onshore, to survive.

Since the beginning of the rationalized program, our jobs have greatly improved, they are much safer, we are working several months a year and our income has improved.

Sincerely,

Name	Address	Position
Mike Rockstad	po box 3476 Kodiak AK 99615	Deckhand / Eng.
Dominick Duskin	P.O. Box 25 King Cove AK 99612	Deckhand
Matt House	28039 W. 95th St. Scottsdale Az. 85262	
Joshua Lovejoy		

Date: January 25,2008

Mr. Eric Olson, Chair
NPFMC
605 West 4th Avenue, Ste 306
Anchorage, AK 99501

Agenda Item:

Dear Mr. Chairman:

We the undersigned are crewmembers on the Bering Sea crab fishing vessel, F/V Bulldog.

Before the rationalized program began in 2005, we were down to fishing two crab derbies a year, and we could not make enough from crab fishing to make a living. We were working other jobs, both fishing and onshore, to survive.

Since the beginning of the rationalized program, our jobs have greatly improved, they are much safer, we are working several months a year and our income has greatly improved.

Sincerely,

Name	Address
Brad Petefish	4224 E. 28th Ave Spokane WA. 99223
Cory Ray	24 Nuclear Richland, Wa. 99352
Spencer Bronson	18202 Bellflower Road Bothell, WA 98012
Kevin Miller	6950 540 Loop Logan, NM 88426

September 29, 2008

Mr. Eric Olson, Chairman
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Re: Comments on Agenda Item C-1(a), Report from the Crab Committee

An Overview of Key Aspects of the Bering Sea Crab Rationalization Program—a fishery in transition

By, Arni Thomson, Executive Director, Alaska Crab Coalition
3901 Leary Way N.W., Seattle, Washington 98107

There is a lot that is going right with the Bering Sea/Aleutian Islands crab rationalization program, and a few things that need revision. This situation reminds us of the first two-to-three years of transition and stress, when the American Fisheries Act was authorized to rationalize the Bering Sea and Aleutian Islands Pollock fishery—a program that, despite controversy, is now widely considered one of the most successful in Alaska's fisheries, and perhaps in the Nation. We are now witnessing similar transitional events and noise in the crab fisheries. Unfortunately, we live in a time when our culture can give equal weight to anecdote and fact, so it is difficult for those who are not engaged in the crab fisheries on a daily basis to separate the two.

Here are a few facts that we do know:

- No one has died in the last two years, and no vessels have been lost in the crab fisheries, despite numerous hazards that have been encountered by the fleet. Horrendous 100-mile-an-hour storms repeatedly greeted the opening of the first rationalized Bristol Bay king crab fishery, on October 15th, 2005. Virtually the entire fleet stayed in port and waited out the weather. In a related, hazardous situation, during the first rationalized snow crab fishery in February of 2006, the fleet encountered one of the worst months for ice buildup we have seen in the winter fishery since the late 1990s. Under the old open access rules, vessels would have stayed on the grounds, increasing both the risks to deckmen and vessels, and crab handling mortality while deck sorting during bitterly cold weather. However, most of the fleet tied up, while 40 of the vessels opted to fish for cod.

- There is a lot less gear being deployed on the grounds. In the Bristol Bay king crab fishery, the number of pots used in the fall of 2006 was 14,685, down from 49,000 pots in the fall of 2004. This is a full two-thirds reduction. In addition to less gear being used, vessels are using longer soak times, which results in sorting of undersize crabs on the bottom of the ocean, instead of sorting and handling

millions of crabs on deck. Lifting juvenile crab through the water column is a known cause of mortality, and therefore, of lost brood stock.

- Fleet harvesting operations and involvement with management of the crab resource are improving, however, there is more we can do. When the ice moves down over the fishing grounds and the weather turns bitterly cold, vessels can now leave, without fear of losing their share of the catch. This also results in reducing handling mortality of crabs on deck. Some vessels have installed expensive, hydraulically powered, conveyor belt sorting tables that minimize handling of crabs. However, more vessels need to plan for this sustainability-based technological improvement in their operations, to reduce handling mortality that can eventually translate into increased resource abundance, higher catches, and improved profits.

- Consolidation of the fleet was a purpose of the new program. There were too many boats chasing too few crab. However, the rapidity and extent of consolidation of fishing effort was not anticipated, and has fueled controversy over the program. The fleet has been reduced from 250 boats in 2004, down to 80. Two years ago, few if any of those people involved in development of the program thought that individual crabbers would consolidate as they have. However, it was widely known during formation of the management alternatives that both the harvesting and processing sectors were grossly overcapitalized and under increasing economic stress since the opilio stock collapse in 1999. The North Pacific Fishery Management Council anticipated consolidation was going to occur– either through a program like this, or through widespread bankruptcy. Unexpected royalty fees of 50-70 percent for snow and king crab, a doubling in the cost of fuel, and a dramatic increase in insurance costs have all contributed to the rapid consolidation.

- In the four years prior to rationalization, captains, crewmembers and vessel owners could not earn a living, on a sustainable basis, when crab fishing was limited to only 14 days a year. The average ex vessel revenue for the two major Bering Sea crab fisheries was about $100 million, shared by 250 boats, for an average gross revenue of $400,000, a poor return on investment for the majority of vessel owners. For the average crewman this meant an average income of $20,000, for risking his life and limb at sea in the most dangerous occupation in the United States.

- Widely publicized claims by some deckmen of 800-to-1,000 men out of work in Alaska are unsupported by evidence. An analysis of the crab fleet by the ACC office (based on information from the managers of all the major cooperatives), submitted to the NPFMC on February 6, 2007, shows that seasonal crab fisheries job loss to deck men on crab boats from Washington, Oregon, and Alaska is reliably estimated at 110 men. (A 2006 Alaska Department of Labor report covering the fall 2005 king crab fishery reflects an average job loss compared to the previous four years of 179 jobs—for 30 days employment. There were also

recognized job benefits for longer fishing periods that compensate for the overall job loss for the previous 4-day October derby fishery.) Job loss claims are also recognized in the hallway adjacent to the NPFMC meeting room as a mechanism for crew and communities to gain allocation leverage in other rationalization programs and it is also becoming the means for crewmen to take a second shot at an allocation in the crab program under the upcoming NPFMC three year programmatic review.

- Job loss is not the issue it is being portrayed, because most of the vessels that are no longer fishing crab, are still participating in other fisheries in Alaska and employing crew men and purchasing goods and services. Of the total of 63 Alaska-based crab vessels active in 2004, 23 are still fishing crab, while an additional 30 vessels are actively engaged in other fisheries and tendering salmon. Alaska lost an estimated 24 seasonal crab jobs, an average of 6 men per boat on 4 boats that are known to be tied up. (An additional 4 vessels were sold into the December 2004 buyback program and 2 crab vessels have sunk since the 2004 season, accounting for a total of 63 boats.)

- Washington State, on the other hand, has lost most of the crab jobs. Of a total of 165 boats fishing in 2004, 58 are still fishing crab and 75 more are active in other fisheries. However, Washington lost an estimated 84 seasonal jobs from the tie up of 14 boats. (An additional 17 crab boats were bought out in the industry-funded buyback program, accounting for 102 additional jobs lost, and one vessel sunk.)

  In a concluding note on job loss, ask virtually any crab vessel owner or manager in Alaska, Washington or Oregon about the need for deckmen and the first thing he or she will tell you is that there is a distinct shortage of skilled deck men--indicating that most of the men who have lost jobs, were prepared for the transition. They have been absorbed into other fisheries, other areas of the maritime industry, or the trades. Like participants in other industries involved in global markets that revolve around incessant change, they could not wait to rely on social welfare programs.

- In the fall 2005 first rationalized Bristol Bay king crab fishery, crab harvesters encountered an unusually high rate of "barnacle" shelled, unmarketable crabs on the grounds that led to excessive discarding and high-grading. At the time, the entire industry was caught up in a tight financial squeeze—trapped between high fuel costs, higher than expected program costs, and falling wholesale crab prices. By January of 2006, the Pacific Northwest Crab Industry Advisory Committee, after hearing reports from concerned captains and anecdotal information from crab observers, called a meeting with industry to assess the situation and to start developing a plan of action for voluntary full retention of all legal size crabs.

  At a follow-up meeting on February 23rd, PNCIAC appointed a subcommittee of the whole, that was tasked with working directly with ADF&G staff, market

experts, industry cooperatives, and processors, to develop proposals for new management measures that would lead to improved retention of crab.

In its report that was published in May of 2006, ADF&G confirmed anecdotal information when it reported that 677,000 legal male king crab were discarded during the first rationalized fishery, with 24 percent of the legal male king crab retained in the fishery. Prior to the 2005 fishery, the highest discard rate of legal males was 80,000 animals, in 2002.

Knowing that ADF&G would be obliged by its long-established sustainability policies to deduct an estimate for excessive discards from the quota in the 2006 fishery, PNCIAC and the ACC were poised to respond quickly to the crab discard problems of 2005. By August 2nd, in a memo addressed by the ACC to ADF&G, nearly all of Alaska's crab harvesting cooperatives had signed pledges for full retention of legal crab through a number of individual and industry-wide measures. Thirteen harvesting cooperatives, representing over 80% of all quota shares in the Bristol Bay Red King Crab fishery, signed onto a coordinated effort to reduce discard and handling mortality in the upcoming fishery. As a result of the coordinated harvester/processor efforts, discarding returned to the normal 95 percent retention rate in the 2006 fishery. Without the coordinated management efforts and communication between the cooperatives and the processors, made possible by the rationalization program, it is highly doubtful that the discard reduction effort could have been achieved. It is likely ADF&G will return to utilizing the customary discard mortality estimates based on 95 percent retention in the 2007 king crab fishery.

Of the unanticipated problems that have accompanied the implementation of the new program, the most significant is the aggregate cost of the program.

- $1 million to set up the binding arbitration process in 2005-2006.

- Three percent of the ex-vessel value of the fisheries is collected to cover the bulk of the NMFS and ADFG administrative costs related to the new program---which amounted to $4.16 million dollars in 2005-2006, and an estimated $3.6 million in 2007.

- Buyback loan cost fees of 1.9 to 5 percent per fishery, amounting to an estimated $3.5 million, based on total annual fishery values of $138 million in 2005-2006; and $3.0 million, based on the preliminary estimate for 2007 of a total annual fishery value of $120 million.

- Added to this, is the existing ADFG "cost recovery" catcher vessel observer program cost of $836,000 in 2006, and $377,000 in 2007. This includes deployment, travel, and salary costs of observers on 20-30 percent of the vessels and/or harvestable IFQs. Few if any complain about this cost-effective, well-

managed program that incorporates industry oversight committee participation in the budgetary process with ADFG.

- Of equal significance is the overall cost involved in the management of harvester cooperatives, including escalating attorney fees, that are reported to be "eating the industry alive."

The burden of these costs has been amplified by other unanticipated events:

- A steep decline in the world market of king and snow crab prices, in 2006, gave rise to an enormous stir among harvesters about suspected processor manipulation of prices under the 90/10 A/B IFQ share split. However the snow crab market rebounded in 2007, followed by the king crab market later in 2007, and this has somewhat dispelled concerns among harvesters. (Once discovered by the domestic industry, the $300 million worth of Russian king crab imports into the US were widely recognized as having a significant impact on prices.)

- Fuel costs have doubled.

- IFQ lease fees, which in the Bristol Bay king crab fishery are very high, at 70 percent, but might reasonably reach a more sustainable level in the near future.

- The ice event of the 2006 opilio crab fishery and the fire on the Pribilof Island – dedicated floating processor, *Stellar Sea*, in 2007, caused serious delays in harvesting of snow crab, and this too raised a stir amongst harvesters calling for emergency exemptions to mandatory landings of over 40 percent of the snow crab in the Pribilof Islands region.

Looking ahead the next two years, there is the potential for both improvements and controversial changes looming on the horizon for the crab industry and the crab rationalization program. These have emerged in the discussions of the NPFMC Bering Sea Crab Advisory Committee, established for the 18-month review.

- Within the ongoing NPFMC 18-month review of key issues in the program, there could be minor changes to the arbitration program and a change to the A/B share split, provided that the NPFMC can demonstrate by this fall that harvesters have been harmed by price negotiations over the last two years. This major concern over the A/B share split of the harvesters will carry over into the 3-year programmatic review, which begins in the spring of 2008.

- Two interconnected and important topics are the binding arbitration program and 90/10 A/B Individual Fishing Quota share split. (90 percent of harvester IFQs can be sold only to qualified PQ holders, while only 10 percent of harvester IFQ can be sold to any licensed buyer of crab in the State of Alaska.) Both of these issues are currently being addressed in the NPFMC 18-month review committee. It is safe to say the arbitration program, initially proposed by the ACC as an integral

part of the program, has been working well for the harvesters. However, this has been to the dismay of the processors. The crab rationalization program gives harvesters two options for negotiating prices. One is the traditional ex vessel price; but the primary standard involves a division of the current first wholesale value of the crab in accordance with a standard of the historical division of the revenues, which has been designed to protect the harvesters. Essentially, if individual harvesters and the cooperatives are unhappy with negotiated ex vessel prices, then they can wait out market developments and negotiate for the historical share of the first wholesale price, and pending satisfaction there, they have the option to call for the services of an arbitrator, who according to program regulations, is obliged to select the last best offer of one of the parties.

- Cooperatives' involvement and success in six arbitrations over the past two seasons leads to a preliminary conclusion that the 90/10 A/B share split on IFQs is adequate to maintain harvesters' historical share of the revenues. Astute harvester representatives in several of the major cooperatives that previously supported increasing the percentage of B shares to improve negotiating leverage now view the arbitration program as an equally strong, if not more effective mechanism for preserving market competition.

- Two data quality issues related to the arbitration process that are being discussed by the review committee are a need for more transparency in wholesale pricing, to verify in season prices with processors, and the need for improving data for defining the historical division of revenues. The current State of Alaska COAR annual reports (fish ticket data) have been found to have deficiencies that affect the historical division of revenue. Part of the solution on COAR data, could lead to a third-party audit of a comparison of COAR data with Alaska Fisheries Business Tax (AFBT). Compromises between the coops and the processors on these two issues are recognized by both parties to be essential to the long-term viability of the crab program.

- At the July 31st meeting of the Advisory Committee, in Anchorage, the National Marine Fisheries Service, in response to the Committee requests for a real-time QS transfer process, announced acceleration of the implementation schedule from the fall of 2010 to the fall of 2009 for electronic online QS transfers. The NMFS also announced that it will accept notarized faxed copies of transfers this fall. This will immediately expedite transfers, reduce vessel downtime and improve overall efficiency for the industry. The committee applauded the NMFS for timely action on the much needed improvements.

- At the same meeting, the processors proposed the development of an umbrella voluntary inter-cooperative, based on the highly successful American Fisheries Act inter-cooperative, and comprised of both independent and processor-affiliated quota share holders. The purpose of the inter-coop would be to serve as a forum for all parties to discuss and resolve non-price related common issues of concern, e.g., minimization of discards to enhance rebuilding and sustainability; improved

on-deck handling of crabs; avoidance of areas of non-marketable crabs; North and South inter-coop emergency transfers, unloading schedules in the North and South districts; processor grading standards and branding of Alaska crab products.

- A recent Magnuson-Stevens Act amendment to the crab plan allows for unlimited custom processing of snow crab in the Pribilof Islands, the Northern Region, in one processing facility. The amendment was intended to improve efficiency in the processing industry and to promote economic stability in the Northern Region. The provision is viewed as similar to the allowance for unlimited consolidation of harvesting quota shares in cooperatives to promote efficiency. Given this provision, four major processors have been negotiating an agreement to enter into cooperative management of the Trident-owned shore plant on St. Paul Island, with a daily throughput capacity of 400,000 pounds. The capacity of this single plant far exceeds the combined capacity of the two floaters that operated in the Pribilof Islands in 2007. The cooperative agreement would be subject to Justice Department approval and price negotiations involving product processed in the single plant would be conducted, as they are now, between the cooperatives and the individual companies—not with a single entity. The St. Paul Island plant opened in mid-January of this year.

- Congress has at last, provided for a NMFS guaranteed loan program (up to $3.5 million the first year) to enable implementation of the skipper and crew crab quota loan program. The program could be implemented in 2009. The NPFMC is now developing options to determine eligibility and minimum thresholds for accessing the loan program.

- Without radical changes, but with modest improvements to the overall system, we can anticipate that an equilibrium for the crab rationalization program is two years away...similar to what we saw during the early years of implementation of the American Fisheries Act and the Halibut/Sablefish IFQ program.

January 29, 2008

Mr. Eric A. Olson, Chairman
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Re: Comments on Agenda Item C-1(a) Report from Crab Committee

The attached position paper is being submitted by the **Ad Hoc Crab Coalition**, a large group that represents major crab-dependent communities, crab harvesting cooperatives and fishing associations, crab processing companies, several Crab Advisory Committee members, and some Western-Alaska CDQ organizations.

The communities, cooperatives and processors listed in the attachment represent 75 per cent of the total crab landings, 60 per cent of the total IFQ holdings, and over 90 per cent of the total IPQ holdings.

Sincerely,

Ad Hoc Crab Coalition (as listed in the attached position paper)

Ad Hoc Crab Coalition
Recommendations to the North Pacific Fishery Management Council
January 29, 2008

The Ad Hoc Crab Coalition is a large group that represents major crab-dependent communities, crab harvesting Cooperatives, crab processing companies, several Crab Advisory Committee members, and some Western-Alaska CDQ organizations.

Coalition position:

The BSAI Crab rationalization program is largely achieving its intended purpose, as described in the original program Problem Statement (see attached).

The Crab Advisory Committee has identified important technical fixes to the program and requests the Council's involvement to set aside the time and resources necessary to address these.

The Coalition also believes that the Crab Advisory Committee has not received any evidence to date that would require changes to the main elements of the BSAI Crab Rationalization program.

Therefore, the Council's Problem Statement should be limited to the current and specific problems identified below; and all other issues should be incorporated and analyzed as part of the 36-month review, which is already established in this program.

Technical fixes/housekeeping changes:

1. *Under-utilization of West-designated Western Aleutian Islands Golden King Crab.*
2. *Review and possible revision of the Community Right of First Refusal (ROFR) aspects of the program.*
3. *Industry-initiated improvements to the Binding Arbitration process.*

Concerning crew issues, the Coalition wishes to note that Congress has recently appropriated the funds necessary for the crew loan program; in addition, there is currently a provision in the Agriculture bill that may expand a fishermen's ability to access government funds and guarantees to finance the crew acquisition of quota.

Finally, concerning emergency relief from regionalization, a proposal was made by St. Paul and the Committee asked that the community work with NMFS and the industry to refine that proposal because of regulatory concerns.

Ad Hoc Crab Coalition Members
Who Support This Position Paper

Crab-dependent Communities

The City of Saint Paul	Mayor Simeon Swetzof
The City of Unalaska	Frank Kelty
The City of Akutan	Joe Beriskin

NPFMC Crab Advisory Committee Members

Simeon Swetzof	Frank Kelty
Leonard Herzog	Kevin Kaldestad
Rob Rogers	Phil Hanson
Dave Hambleton	

Crab Harvesting Associations and Cooperatives

Alaska Crab Coalition	Arni Thomson
KBO Crab Coop	Louie Lowenberg
Alaska Fisherman's Crab Coop	Rick/Mike Shelford
Alaska King Crab Harvesters Coop	Leonard Herzog
Fishing Associates Coop	Gretar Gudmundsson
Mariner Crab Coop	Kevin Kaldestad
Professional Crab Harvesters Coop	Jim Stone
R & B Coop	Rick/Mary Mezich
Sea Boat Coop	Edward Poulsen
Alaska Crab Harvesting Coop (Yardarm Knot)	Al Chaffee
Trident Coop (Trident Seafoods Inc.)	Dave Hambleton
Aleutian Island Coop (Starbound Inc.)	Craig Cross
Crab Producers and Harvesters (Icicle Sfds.)	Rob Rogers

CDQ Groups

Coastal Villages Region Fund (CVRF)	Morgen Crow
Central Bering Sea Fishermen's Association (CBSFA)	Phillip Lestenkof

Processors

North Pacific Crab Association	
Alyeska Seafoods	Alec Brindle Jr.
Icicle Seafoods	Don Giles

UniSea Inc	Terry Shaff
Trident Seafoods	Dave Hambleton
Westward Seafoods	Greg Baker
Peter Pan Seafoods	Dale Schwarzmiller
SnoPac Seafoods	Greg Blakey
YardArm Knot	Al Chaffee
Kanaga Island Fisheries Inc. MVs Baranof and Courageous	Douglas Wells

June 2002
NPFMC Crab Rationalization
Purpose and Needs Statement

BSAI Crab Rationalization Problem Statement

Vessel owners, processors and coastal communities have all made investments in the crab fisheries, and capacity in these fisheries far exceeds available fishery resources. The BSAI crab stocks have also been highly variable and have suffered significant declines. Although three of these stocks are presently under rebuilding plans, the continuing race for fish frustrates conservation efforts. Additionally, the ability of crab harvesters and processors to diversify into other fisheries is severely limited and the economic viability of the crab industry is in jeopardy.

Harvesting and processing capacity has expanded to accommodate highly abbreviated seasons, and presently, significant portions of that capacity operate in an economically inefficient manner or are idle between seasons. Many of the concerns identified by the NPFMC at the beginning of the comprehensive rationalization process in 1992 still exist for the BSAI crab fisheries. Problems facing the fishery include:

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

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

MICHAEL A. D. STANLEY ATTORNEY AT LAW
P.O. BOX 020449, JUNEAU, ALASKA 99802 TELEPHONE: (907) 586-6077 FACSIMILE: (907) 463-2511

January 29, 2008

Sent via Facsimile Only

Eric Olson, Chairman
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Re: Golden King Crab Fisheries

Dear Chairman Olson and Council Members:

I am writing on behalf of the Golden King Crab Harvesters Association (GKCHA), a group of crab harvesters who hold quota share for the Eastern Aleutian Islands golden king crab fishery (EAG) and the Western Aleutian Islands golden king crab fishery (WAG). These comments pertain to issues you will be taking up at your upcoming meeting in relation to Bering Sea and Aleutian Islands crab fisheries (agenda item C-1), in particular your ongoing review of the crab rationalization program and the work of the Crab Advisory Committee (CAC).

Since your December meeting, we have attended both meetings of the CAC. Our general position is summarized by the following proposed revision to the Council's problem statement for the crab rationalization program, which we presented to the CAC earlier this month:

> The Eastern Aleutian Islands golden king crab fishery (EAG) and the Western Aleutian Islands golden king crab fishery (WAG) present a unique set of issues under the BSAI crab rationalization program due to their relatively small TACs, small numbers of harvesters and processors, and specific markets. These fisheries were generally stable prior to rationalization, but have experienced problems under the program, including inability to harvest and deliver the full TAC (WAG) and significant consolidation of IPQ (EAG). The Council intends to consider the effects of the rationalization program in the EAG and WAG fisheries, with the intention of promoting (1) full harvest of the TAC, (2) participation by a sufficient number of viable processors to ensure competitive pricing, and (3) maximizing the market value of golden king crab.

For the reasons outlined in this letter, we encourage the Council to adopt this problem statement specific to the golden king crab fisheries and to move forward with analysis of options that will address the problems identified.

Western Aleutian Islands

Fifty percent of the WAG quota share (QS) is west-designated and must be delivered west of 174 ° W. longitude. This regional delivery requirement was intended to facilitate development of crab processing in the western Aleutians, particularly on Adak Island. Under the rationalization program, however, the processor on Adak received a very small allocation of processor quota share (PQS); most of the PQS went to processors in Dutch Harbor that bought WAG crab in the late 1990s, before the plant on Adak had fully geared up to participate in the fishery. The problem is that these PQS holders are unable or unwilling to take delivery of crab in the west region or to make arrangements to transfer their IPQ to the Adak plant. As a result, substantial quantities of crab have not been able to be harvested because there is no processor available who can legally take delivery of west-designated crab. Last season, the foregone harvest exceeded 400,000 pounds of golden king crab. Absent a change in current circumstances, a similar shortfall is shaping up again this year.

As reflected in the minutes of its January meeting, one of the few points on which the CAC reached consensus was that the WAG fishery "has problems that are different from all others and could be addressed separately." Although there is no consensus among all the stakeholders on how to solve the problems in this fishery, there appears to be agreement that a range of options should be examined. The members of GKCHA believe that the solution is to designate all QS and IFQ in the fishery as B shares, without regional delivery requirements. Such a move would, we believe, effectively return the fishery to the status it was in prior to rationalization – a small number of boats would deliver the quota over a lengthy season; the plant on Adak would receive a significant portion of this quota due to its proximity to the fishing grounds; and the traditional golden king crab processors in Dutch Harbor would also take delivery of a significant portion of the harvest, particularly when the harvesting vessels returned to port for supplies or short lay-ups (*e.g.* for the holidays) or when the plant on Adak was focused on other species, such as cod. An all B share system would promote an orderly fishery and full harvest of the TAC, with competitive pricing and improved market value for golden king crab.

Eastern Aleutian Islands

The problem in the EAG fishery is consolidation of PQS and IPQ, most of which is held by two major companies. Because of this limited number of processors, there has not been much incentive for them to explore different markets to increase the value of our crab. In fact, last year, one of the major PQS holders did not even apply for its IPQ, and as a result, one plant received most of the TAC. The program was not intended to result in only one major processor operating in a fishery. This year, another major processor pre-sold its golden king crab pack, at a price considerably below what the market is now showing for golden king crab. As a result of these circumstances, the ex-vessel price for golden king crab has suffered. The ex-vessel price the last year before rationalization

was around $ 3.30 per pound, but under rationalization it has dropped substantially – last year it was around $ 2.45 per pound – even though the retail value of golden king crab is relatively high.

There has been one bright spot. A smaller processor has been actively purchasing B shares and a small of amount of A shares that it holds or has been able to lease. This company has successfully sought out new markets for this product and has been able to offer a good price. But the amount of IFQ it is able to buy is simply too small to have any effect on the price offered by the two large PQS holders.

The members of GKCHA advocate the same solution in the EAG fishery as for the WAG fishery – all B shares. This will introduce a degree of competition for deliveries that is missing from the current system, and will result in a fishery that operates in much the same way it did just prior to rationalization – a small number of boats delivering most of their catch to plants in Dutch Harbor and Adak that have traditionally processed EAG crab, but which will now have incentive to pursue new markets and obtain top dollar for their product. This is entirely consistent with the Council's intent in adopting the rationalization program.

We understand that the Council's review of the rationalization program is generating considerable controversy, particularly in relation to the large-TAC fisheries for Bristol Bay red king crab and *opilio*. But the Council has indicated that it intends to review the various crab fisheries separately, and we encourage you not to delay fixing the problems in the EAG and WAG fisheries.

Thank you for considering these comments. I intend to testify at the Council meeting and will be happy to answer any questions you may have on the position of the GKCHA as outlined above.

Sincerely,

Michael A. D. Stanley

North Pacific Fishery Management Council
Agenda C-1(a) 7-Feb-2008
Presented by Jim Stone, Owner/Operator F/V Retriever

This Chart shows what Harvesters gain if the A/B split is changed based on actual price differences paid on the most recent seasons.
A share Processor prices are averages, B share Processor prices are the highest paid.
This makes the unlikely assumption that **up to** 100% of the B shares would find buyers at these higher prices as the B share percentage rises.

	A Processor	B Processor Price	Gain at 90/10	Gain at 80/20	Gain at 70/30	Gain at 60/40	Gain at 50/50	Gain at 0/100
BBR 07	$4.45	$4.65	0.00%	0.45%	0.90%	1.35%	1.80%	4.04%
BSS 07	$1.73	$1.92	0.00%	1.10%	2.20%	3.29%	4.39%	9.88%

For every 10% gain of B shares Harvesting sector can expect a gain of .45% to 1.1% of gross income.

Kozak

SUPPORT FOR THE 90/10 ANALYSIS

The North Pacific Council voted in October of 2007 to task staff to prepare an analysis of the Bering Sea/Aleutian Islands crab rationalization program for review at the October 2008 meeting, examining the effects of a change in the A share/B share split on the distribution of benefits between harvesters and processors.

We, the undersigned, representing crab harvesters, communities, processors, and CDQ, agree with the Council that the analytical process will enable us to find answers to some difficult questions. We support the ongoing analysis.

Linda Freed - City of Kodiak and Kodiak Island Borough
Clem Tillion - City of Adak
Ernie Weiss - City of King Cove
Beth Stewart - Aleutians East Borough

Dave Woodruff - Alaska Fresh Seafoods
John Moller - Adak Fisheries
Ken Dorris - Harbor Crown Fisheries

Robin Samuelsen – BBEDC

Kale Garcia - The Crab Group of Independent Harvesters
Jeff Stephan - United Fishermen's Marketing Association

Tim Longrich - Member of Advanced Harvesters Cooperative
Margaret Hall - Member of Bering Sea Crab Cooperative
Mike Stone – The Fury Group
Russ Moore – Member of the Crab Cooperative
Jonathan Hillstrand – Member of the Alaska Fishermen's Cooperative
Dick Powell – Member of the Aleutian Gold Cooperative
Walt Casto – Member of the Alaska Crab Producers Cooperative
Jerry Bongen – Member of the Crab Advisory Committee
Florence Colburn – Member of the Crab Advisory Committee

JERRY BONGEN PRESENTATION

January 15' 2008

To: The North Pacific Fisheries Management Council

We are active crab fishermen who would like to explicitly comment on problems with the BSAI crab rationalization program that need to be addressed. We believe that the Council's analysis will bear out these problems.

Consolidation among processors has made delivering crab the newest version of the derby. Mandated delivery schedules have taken any fishing efficiencies away from the harvester, and made it more expensive to deliver crab, as well as more dangerous. In the past the decision where to deliver was left to the captain. In the rationalized fishery, the regulations and processors dictate when, where, and how much we deliver. This has become a hazard especially in the winter delivering to St. Paul where dangerous conditions have almost claimed vessels in first two seasons of fishing opilio.

Prices have remained stagnant even in rising markets, with increasing consumer demand. B shares have had little effect in achieving a fair dock price.

Lease rates have been driven to ridiculously high levels by affiliated and vertically integrated vessel owners that have made it impossible for some vessels to compete.

It is our hope that the current Council analysis, and future action will help remedy these problems.

Captain Jonathan Hillstrand
Owner F/V Time Bandit.

Please change 90-10 split!

Fisherman	Vessel	Cooperative
John+ * [signature]	Time Bandit owner operator	
Andrew [signature]	Time Bandit owner operator	
* Keith Colburn	Wizard	ACP
Peter Lathourakis	Pacific Fury	Ocean [illegible]
James A. Nordin	Harbor Crown	SEDS.
Sig Hansen [signature]	Northwestern	
[signature]	[illegible]	
[signature]	N.W.	
[signature] Newberry	Time Bandit	
Josh Tosvig * [signature]	F/V Diligence	
Phillip Neal Hillstrand	F/V Time Bandit	

SHAWN DOCHTERMANN
C-1

Due to BS/AI Crab Rationalization's lack of data the Crewman's Association propose to the NPFMC to make it mandatory for all BS/AI crab fishing vessels and IFQ holders to submit their crews contracts, settlement data, and 1099s to the NMFS/NOAA to promote better data gather to better evaluate the CR crab program. All information will be held strictly confidential for government use only.

North Pacific Fishery Management Council
604 West 4th Avenue Suite #306
Anchorage, Alaska 99501

186th Plenary Session – February 6-12, 2008
Renaissance Hotel Seattle, Washington

Testimony: **Shawn C. Dochtermann**

Public Comment re: C-1 (a, b, & c) BSAI Crab Issues

By: Mr. Shawn C. Dochtermann
Kodiak, Alaska
Tel: (907) 486-8777

Mr. Secretary, Chairman Olson, Council members, and Honorable Citizens of the United States,

My name is Shawn Dochtermann, a 30-year commercial fisherman with 22 years crab fishing in the Bering Sea. I am here representing myself as well as many Bering Sea crab fisherman, some disenfranchised, and others that still have the opportunity to be active participants. At this moment the crab crews in the Bering Sea are prosecuting the Opilio and/or Tanner crab fisheries. Not one of them has the chance to give testimony today, so I will speak for the group overall.

The CRAB CREWMEN in the BS/AI are better know as the STRANDED HUMAN CAPITAL of the CR Crab Rationalization program.

We were left out of the gifting of approximately 1 BILLION DOLLARS of IFQs to Boat Owners & Investors after

investing our lives and backs in the fisheries.

We had a huge historical stake in the BS/AI crab fisheries, as previous to rationalization the crew and skippers were compensated with between 35 and 40% of the gross delivery values after deducting bait, fuel, grub, and pot loss. Now the crews are lucky to receive 1/5 of their previous earning percentages.

We are waiting for the Council to acknowledge that there is a problem with greatly diminished crew compensation, intolerable royalties rates, and that the access to ascend in the crab fishery is almost zero as result of any unbalanced crab rationalization program.

Former Chairman Stephanie Madsen went on the record in April of 2007 admitting that crewmen were harmed by

CRAB RATZ. Former Governor Tony Knowles also came clean as he acknowledged that there is a crisis with crew jobs and boats gone from the industry forever. He goes on to state, quote, "we must make steps to correct it," and admits he we part of the problem and, quote "pleads guilty", to it being his fault.

The city and borough of Kodiak, our local state representative and senator, and a representative from Homer all wrote this council letters urging all of you to address modifying the program to include reallocating quota shares to crewmen.

We keep hearing that there is not enough data to move forward with changing any aspect of CR crab. The data collection would be greatly improved by requiring all vessel owners to furnish crew contracts, settlement sheets, and 1099s to the NMFS/NOAA. This would be almost perfect data (empirical). United States law requires all vessels over 20 tons to draw up a contract with their crewmen, 46 U.S.C. section 10601 Fishing Agreements, and the recovery of wages and share of fish under agreement, Section

10602. Why the council did not require crew contracts to be submitted for data collection before crab IFQs were initially handed out, it unbelievable.

Attached is a proposal for the council to require all BS/AI vessels and IFQ owners to submit crew contracts at the end of every calendar year. This would enable the federal government to track crewmen/skipper, their compensation, royalty rates, and all expenses & fees are deducted in a fair manner. We'd like this to be retroactive to 1998, 2001, 2004, 2005, 2006, and 2007.

We'd like to refer the council to the May 2002 Bering Sea Crab program alternatives-Public Review Draft. {Page 8}

1.1.2.5 Sustainable Fisheries Act of 1996

Requirement for the New IFQ Programs-

(A) **establish procedures and requirements for review and revision of the terms of any such program (including any revisions that may be necessary once a national policy with respect to**

individual fishing quota programs is implemented), and, if appropriate, for the renewal, **Reallocation,** or *re-issuance of individual fishing quotas;*

(C) provides for a fair and equitable initial allocation of individual fishing quotas, *prevents any person from acquiring an excess share of the individual fishing quotas issued*, and **consider** the allocation of a portion of the annual harvest in the fishery for entry-level fisherman, small vessel owners, and crewmembers who do not qualify for individual fishing quotas.

3.2.6.2. Stewardship {page 164}

The NRC report discusses .....Another component is stewardship is who owns the quota. Due to the ownership structure of the BSAI crab fisheries, the majority of the quota will be issued to vessel owners who do not fish. Proponents of the initial allocation of skipper/crew shares and owner-on-board provisions advocate that these options would improve stewardship because fishers will have ownership in the resource.

3.3.2 Initial Allocation of QS (or Cooperative shares) {page 193}

National Research Council Report Recommendations

The NRC report on IFQs, "Sharing the Fish", advises that an initial allocation should widely distribute shares to avoid granting windfalls to a few participants in the fishery. .....Share distribution should consider investments of time and capital (human) in the development of the fishery. Crew exposed to safety risks might also be considered to have invested in the fishery. *A broad distribution might consider the distribution of shares to skippers, crews and processors.*

Catch history is frequently relied on for determining the distribution of shares because it is perceived to be a fair measure of participation. Allocation based on catch history, however, can have unintended or onerous consequence.

3.6.4 Regionalization of Skipper and Crew Shares {page 342}

This section describes the difficulty in regionalizing crew and skipper quota.

***4*.2 section 303 (a)(9)-Fisheries Impact Statement {page 423}**

Under the alternatives, allocations would be based on historical participation of eligible participants.

******If the crewmen aren't eligible participants what the heck are we? Slaves? Skippers were eligible and they are part of the crew.******

We urge the council to examine the included sections of May 2002 CR crab alternatives with due diligence, as we have been harmed unjustly in the process.

Gifting the investor/boat owners with 97% of the IFQs did not fit the requirements of National Standard #4, {refer to page 17 &18 of NS 36 page document}.

Sec. 600.325 Allocations
(c) Allocation of fishing privileges. AN FMP may contain management measures that allocate fishing privileges if such measures are necessary of helpful in furthering legitimate objectives or in achieving the OY, and if the measures conforms with paragraphs (c) (3) (i) through (c) (3) (iii) of this section.

(1)Definition. An "allocation" or assignment" of fishing privileges is a direct and deliberate distribution of the opportunity to participate in a fishery among identifiable, discrete user groups, or individuals. Any management measure (or lack of measurement) has incidental allocative effects, but only those measures that result in direct distributions of fishing privileges will be judged against the allocation requirements of Standard 4. **Adoption of an FMP that merely perpetuates existing fishing practices may resulting an allocation, if those practices directly distribute the opportunity to participate in the fishery.** Allocations of fishing privileges include, for example, per-vessel catch limits, quotas by vessel class and gear type, different quotas or fishing seasons for recreational and commercial fishermen, assignment of ocean areas to different gear users, and limitations of permits to a certain number of vessels or fishermen.

(3) Factors in making allocations. An allocation of fishing privileges must be fair and equitable, must be reasonably calculated to promote conservation, and must be avoid excess

shares. The tests are explained in (c) (3) (i) through (c) (3) (iii) of this section.

(i) **Fairness and equity.** (A) An allocation of fishing privileges should be **rationally connected to the achievement of OY or with the furtherance of a legitimate FMP objective.** Inherent in an allocation is the advantaging of one group to the detriment of another. **The motive for making a particular allocation should be justified in the terms of the objective of the FMP;** otherwise the disadvantaged user group or individuals would suffer without cause. **For instance, an FMP objective to preserve [[Page 36]] the economic status quo cannot be achieved by excluding a group of long-time participants in the fishery.** On the other hand, there is a rational connection between an objective of harvesting shrimp at their maximum size and closing a nursery area to trawling.

(ii) **Avoidance of excess shares. An allocation scheme must be designed to any person or other entity from acquiring an excessive share of fishing privileges, and to avoid creating conditions fostering inordinate control, by buyers or sellers, that would not otherwise exist.**

(iii)

(iv) Other factors. In ***designing*** and allocation scheme, a Council should ***consider*** other factors relevant to the FMP's objectives. Examples **are economic and social consequences** of the scheme, food production, consumer interests, **dependence on the fishery by present participants and coastal communities**, efficiency of various types of gear used in the fishery, transferability of effort to and impact on the fisheries, opportunity for new

participants to enter the fishery, and the enhancement of opportunities for recreational fishing.

After extensive review of the May 2002 BS Crab Rationalization Program alternatives we find that it is necessary to reallocate the historical shares of IFQs to skipper and crews. Initial allocations were recommended by SFA, and crew were easily trackable through vessel owners documents, but in their greed they chose to prevent us from receive our fair and equitable share of IFQs for the BS/AI Crab Rationalization Plan.

We have a very strong proposal to fix Crab Rationalization, that if initiated will bring back balance into the industry. Therefore, we ask for a place on the April 2008 Council agenda or a separate public hearing to explain said proposal.

Thank you for your careful consideration.

|Shawn C. Dochtermann
Secretary-Crewman's Association
Kodiak, Alaska

Terry Leitzell C-1
Dcicle
Seaford
2/08

DRAFT Council Motion for Item C-5 BSAI Crab Rationalization
June 10, 2002

Prologue: The following motion incorporates the preferred portions of the "Draft Council Motion for item C-5 BSAI Crab Rationalization," dated April 14, 2002, as outlined in the Bering Sea Crab Rationalization Program Alternatives – Public review Draft (pages 12-33) issued in May 2002. For ease of reference, the numbering system of the April 14, 2002 motion is retained here. However, only those preferred elements of the April motion are included here. This motion advances a VOLUNTARY THREE PIE COOPERATIVE, designed to recognize the prior economic interests and importance of the partnership between harvesters, processors and communities.

C-5 BSAI Crab Rationalization

BSAI Crab Rationalization Problem Statement

Vessel owners, processors and coastal communities have all made investments in the crab fisheries, and capacity in these fisheries far exceeds available fishery resources. The BSAI crab stocks have also been highly variable and have suffered significant declines. Although three of these stocks are presently under rebuilding plans, the continuing race for fish frustrates conservation efforts. Additionally, the ability of crab harvesters and processors to diversify into other fisheries is severely limited and the economic viability of the crab industry is in jeopardy. Harvesting and processing capacity has expanded to accommodate highly abbreviated seasons, and presently, significant portions of that capacity operate in an economically inefficient manner or are idle between seasons. Many of the concerns identified by the NPFMC at the beginning of the comprehensive rationalization process in 1992 still exist for the BSAI crab fisheries. Problems facing the fishery include:

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

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

Elements of the Crab Rationalization Program

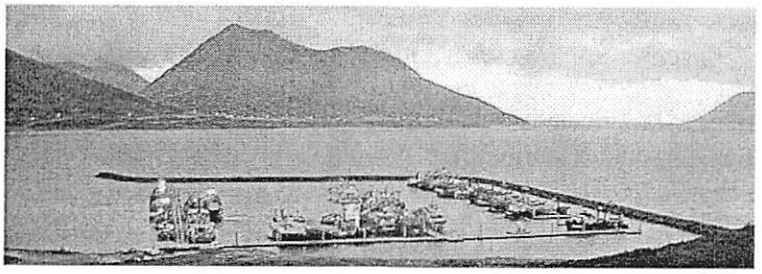
Harvesting Sector Elements

Harvester shares shall be considered a privilege and not a property right.

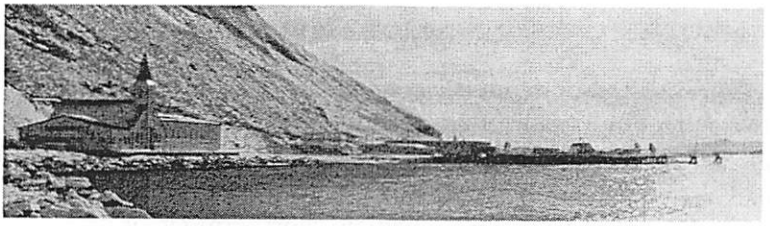
1.1 Crab fisheries included in the program are the following fisheries subject to the Federal FMP for BSAI crab:

Bristol Bay red king crab
Brown king (AI Golden king) crab
Adak (WAI) red king crab – West of 179° W
Pribilof Islands blue and red king crab
St. Matthew blue king crab
Opilio (EBS snow) crab
Bairdi (EBS Tanner) crab

ERNIE WEISS



Economic and Social Impacts of BSAI Crab Rationalization on the Communities of King Cove, Akutan and False Pass



Prepared by

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and

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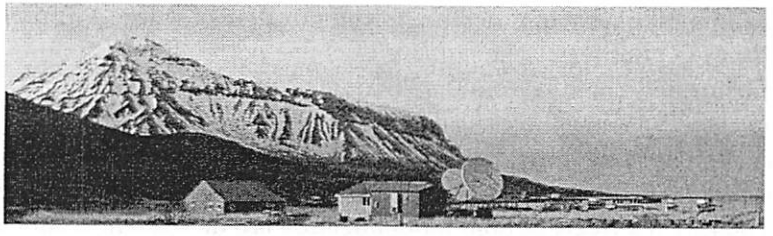


Prepared for

Aleutians East Borough
City of King Cove

November 2007

EXECUTIVE SUMMARY ONLY
Entire report available at http://www.kingcoveview.com/aebcrabratzreport.pdf

ECONOMIC AND SOCIAL IMPACTS OF BSAI CRAB RATIONALIZATION ON THE COMMUNITIES OF KING COVE, AKUTAN AND FALSE PASS

EXECUTIVE SUMMARY

This report examines economic and social impacts of the first two years of crab rationalization on the Aleutians East Borough communities of King Cove, Akutan and False Pass. The study was conducted by the University of Alaska Institute of Social and Economic Research (ISER) for the Aleutians East Borough (AEB) and the City of King Cove.

The report is based on a literature review, interviews conducted during visits to each study community, analysis of federal and state and local fisheries data and community data, and a household survey conducted by the City of King Cove. The primary focus of the study is on King Cove, because it is a larger community which has experienced greater effects of crab rationalization.

Crab rationalization resulted in dramatic consolidation in Bering Sea crab fisheries. During the first two years of rationalization, consolidation reduced the number of boats participating in the Bristol Bay Red King Crab fishery and the Bering Sea Snow Crab fishery by about two-thirds. This consolidation in the fleet, and the corresponding reduction in crab fishing jobs and crab boat spending, was a major immediate short-term factor driving economic impacts on the three study communities to date. Longer-term concerns of community residents extend beyond these immediate economic impacts to many other issues.

King Cove residents have a long history of participation in many fisheries. Residents have fished primarily in salmon, crab, groundfish and halibut fisheries, mostly from smaller boats (less than 60'). In the census year 2000, when the resident population was about 500, 62 King Cove residents held commercial fishing permits, and another 165 held crew licenses. A 2006 survey found that two-thirds of all King Cove households had a family member who had fished commercially within the past five years, and one-third had a family member who had participated in a crab fishery.

There has been a disturbing long-term decline in fishery participation by King Cove residents, reflected particularly in a decline in the number of salmon limited entry permit holders and halibut IFQ holders. The number of active permit holders participating in at least one fishery declined from 88 in 2003 to 47 in 2005. The number of Alaska Peninsula salmon drift gillnet permits held by King Cove residents declined from 39 in 1981 to 14 in 2005. The number of Alaska Peninsula purse seine permits held by King Cove residents fell from 39 in 1981 to 24 in 2005. The number of King Cove residents holding halibut IFQ decreased from 40 in 1995 to 14 in 2004. The effects of crab rationalization are more significant because they are part of and add to this broader long-term decline in fishery participation and access.

The most important short-term direct economic impacts of crab rationalization on King Cove to date have been a loss of crab fishing jobs and a decline in the use of the King Cove large boat harbor by crab vessels:

- **About twenty King-Cove residents lost crab fishing jobs.** The number of King Cove households with residents participating in the rationalized crab fisheries declined by about two-thirds.

- **The number of crab vessels using the King Cove harbor, which was built specifically to accommodate large crab-fishing boats, declined from about 50-60 prior to rationalization to about 10-15 after rationalization.** During the fall and winter crab fishing months, harbor revenues from pot onloading/offloading fees declined by about two-thirds and revenues from transient moorage fees declined by about one-third.

- King Cove sales tax data do not show any clear effect of crab rationalization on King Cove businesses, with the clear exception of one company which is very dependent on the crab fishery and which experienced a dramatic reduction in sales.

Only one King Cove resident received Catcher Vessel Owner quota share. Three residents received small allocations of Catcher Vessel Crew quota share. Together, these residents total IFQ for the 2005-06 season represented about 0.13% (about 1/750th) of the total IFQ pounds for all fisheries.

King Cove is heavily dependent on the Peter Pan Seafoods (PPSF) processing plant. The processing plant is by far the largest local taxpayer. Between FY 02 and FY 06, fisheries-based taxes—based overwhelmingly on the value of landings for processing at the plant--accounted for more than half of city revenues. In addition, the company's fuel sales, company store, hardware and custom processing operations accounts for more than half of non-fish sales tax revenues. In recent years crab accounted for about one-third of the ex-vessel value of fishery landings in King Cove, and correspondingly about one-third of the value of King Cove fisheries-related revenues and about one-fifth of total city revenues.

In the first two years of rationalization, city fisheries tax data do not suggest that rationalization had any significant effect on King Cove crab landings. However, with the longer crab fishing season, King Cove is potentially more vulnerable to a shift in crab processing out of King Cove to other facilities owned by PPSF's parent company. Such a shift would clearly have a major effect on city revenues and harbor use. (The study did not address whether any such shift is likely or planned.)

The community-protection mechanisms of crab rationalization are not protecting King Cove. According to the National Marine Fisheries Service, under the crab rationalization program "community interests are protected by Community Development Quota (CDQ) allocations and regional landing and processing requirements, as well as by several community protection measures."[1] Unlike Akutan and False Pass, King Cove is not a CDQ community. Other "community-protection" measures did not prevent a significant loss of crab fishing jobs for King Cove residents or a significant decline in the use of the King Cove harbor by crab

[1] Source: "What is Crab Rationalization," from "Crab Rationalization Program Overview and Frequently Asked Questions," National Marine Fisheries Service Crab Rationalization Program website, www.fakr.noaa.gov/sustainablefisheries/crab/rat/progfaq.htm.

fishing vessels. They do not protect against any potential future shift in crab processing away from King Cove.

The communities of Akutan and False Pass have been less directly affected by crab rationalization than King Cove—although some individuals in those communities were clearly affected. Akutan and False Pass are much smaller communities than King Cove. Both communities are also heavily dependent on the fishing industry, and their residents also have long histories of participation in multiple fisheries. However, only a few residents of Akutan and False Pass worked in the rationalized crab fisheries, and neither community had a harbor used by large numbers of crab vessels prior to rationalization. As CDQ communities, Akutan and False Pass continue to benefit from their CDQ groups' crab allocations.

A longer-term view is needed to understand the full economic and social effects of crab rationalization on the study communities. To an outside observer, the effects of crab rationalization may not seem that large by themselves. But the combined effects of the changes in many fisheries over time from multiple rationalization programs are very significant.

A few decades ago, study community residents could and did participate in a wide variety of local fisheries over the course of a year, focusing on those for which local abundance and markets were favorable. For example, many King Cove fishermen fished for salmon in the summer on their own boats and crewed on larger boats for crab in the winter. This pattern of participation in multiple season fisheries persists but has been weakened. Successive rationalization programs—including salmon limited entry, halibut and sablefish IFQs, and most recently crab rationalization—have limited participation in these fisheries to holders of permits and quotas.

Initially the majority of permits and IFQs were distributed to non-local residents. Over time, more permits and IFQs have been sold to non-local residents able to pay a higher price for them. Acquiring high-priced permits and quotas creates barriers for entry into these fisheries for many young people, making becoming a diversified fisherman no longer a realistic option for many young fishermen. Meanwhile, consolidation has reduced the total number of crew jobs in many fisheries, and with fewer local permit and IFQ holders it is harder for local residents to get crew jobs. Although seasonal patterns of participation in a wide variety of fisheries persist, the number of residents participating in fisheries has declined.

Put simply, crab rationalization is one more of many changes which have made it harder and harder for residents of these communities to participate in and make a living from commercial fishing—the activity which defined their communities for generations.

In general, study community residents perceived management programs that keep participation local as helpful and those that don't as harmful. Key informants perceived these programs in different ways, reflecting different ways in which they and other community residents had participated in these fisheries and were affected by these programs. For example, King Cove residents perceived the effects of salmon limited entry as relatively favorable because of the high number of local boat owners who received permits. In contrast, they perceived halibut IFQs unfavorably because very few residents received enough halibut quota to fish

economically. They perceived crab rationalization very unfavorably because most community participation in the fishery was as crew and support industry personnel, and many crewmen lost their jobs and support business income declined.

Community residents expressed a variety of concerns about a long-run decline in fishing opportunities, effects of crab rationalization, and potential implications of future rationalization. Broad concerns which emerged in conversations with key informants included:

- Quota allocation and loss of jobs in IFQ Programs. Informants expressed concerns about job losses under IFQ programs resulting from quota leasing and fleet consolidation, and lack of recognition of historical participation in IFQ fisheries for crew and captains in allocation of quota.

- Reduction in fishing options. Informants indicated that the most important perceived effect of rationalization might be associated with a restriction in their option to participate in crab fisheries in the future.

- Lack of entry-level opportunities. Informants were concerned about a lack of entry-level opportunities in restricted access fisheries and barriers for younger generations in participating in these fisheries.

- Complexity of rationalization plans and perceived lack of transparency in NPFMC process. Interviews conducted in the study communities demonstrated that the complexity of rationalization programs made them difficult to understand, and that study community residents felt there was a lack of transparency in the rationalization process.

- Processor quota share. Informants expressed concerns over the processor quota share feature of crab rationalization. Specific concerns expressed included perceptions that processor quotas contributed to reduced competition and lower prices, and could be transferred out of the community

- Future programs modeled on crab rationalization. King Cove fishermen expressed apprehension about new IFQ programs in other fisheries modeled after crab rationalization, particularly proposed Gulf of Alaska groundfish rationalization. Concerns included the perception that the majority of the quota would be awarded to fishing interests outside of the local area, that the leasing of quota would reduce the number of local jobs and there would be few provisions made for local entry-level opportunities.

Study community youth face declining local options and difficult choices. Interviews and focus groups provided insights into the current lives of study community youth and their options, perceptions and aspirations for the future. Youth originating in the study communities were culturally oriented towards outdoor and subsistence activities and especially those that involve a relationship with the sea. They place an importance on family and their home communities. They value occupations with which they are familiar in their own communities such as air piloting, fishing, construction/trades, city or entrepreneurial business. (In contrast, local youth

originating from outside the region place more value on occupations that are dominant in greater American society such as computers and health care.) With diminishing opportunities in the fishing industry, young people face alternatives of leaving their communities and/or seeking higher education or training for other careers. However, it is difficult for local schools to fully prepare them for these other options. Youth face challenges adjusting to life outside of their small communities without familiar support and social networks.

ARNI THOMSON
FRANK KELTY

January 29, 2008

Mr. Eric A. Olson, Chairman
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, Alaska 99501-2252

Re: Comments on Agenda Item C-1(a) Report from Crab Committee

The attached position paper is being submitted by the **Ad Hoc Crab Coalition**, a large group that represents major crab-dependent communities, crab harvesting cooperatives and fishing associations, crab processing companies, several Crab Advisory Committee members, and some Western-Alaska CDQ organizations.

The communities, cooperatives and processors listed in the attachment represent 75 per cent of the total crab landings, 60 per cent of the total IFQ holdings, and over 90 per cent of the total IPQ holdings.

Sincerely,

Ad Hoc Crab Coalition (as listed in the attached position paper)

Ad Hoc Crab Coalition
Recommendations to the North Pacific Fishery Management Council
January 29, 2008

The Ad Hoc Crab Coalition is a large group that represents major crab-dependent communities, crab harvesting Cooperatives, crab processing companies, several Crab Advisory Committee members, and some Western-Alaska CDQ organizations.

Coalition position:

The BSAI Crab rationalization program is largely achieving its intended purpose, as described in the original program Problem Statement (see attached).

The Crab Advisory Committee has identified important technical fixes to the program and requests the Council's involvement to set aside the time and resources necessary to address these.

The Coalition also believes that the Crab Advisory Committee has not received any evidence to date that would require changes to the main elements of the BSAI Crab Rationalization program.

Therefore, the Council's Problem Statement should be limited to the current and specific problems identified below; and all other issues should be incorporated and analyzed as part of the 36-month review, which is already established in this program.

Technical fixes/housekeeping changes:

1. *Under-utilization of West-designated Western Aleutian Islands Golden King Crab.*
2. *Review and possible revision of the Community Right of First Refusal (ROFR) aspects of the program.*
3. *Industry-initiated improvements to the Binding Arbitration process.*

Concerning crew issues, the Coalition wishes to note that Congress has recently appropriated the funds necessary for the crew loan program; in addition, there is currently a provision in the Agriculture bill that may expand a fishermen's ability to access government funds and guarantees to finance the crew acquisition of quota.

Finally, concerning emergency relief from regionalization, a proposal was made by St. Paul and the Committee asked that the community work with NMFS and the industry to refine that proposal because of regulatory concerns.

Ad Hoc Crab Coalition Members
Who Support This Position Paper

Crab-dependent Communities

The City of Saint Paul	Mayor Simeon Swetzof
The City of Unalaska	Frank Kelty
The City of Akutan	Joe Beriskin

NPFMC Crab Advisory Committee Members

Simeon Swetzof	Frank Kelty
Leonard Herzog	Kevin Kaldestad
Rob Rogers	Phil Hanson
Dave Hambleton	

Crab Harvesting Associations and Cooperatives

Alaska Crab Coalition	Arni Thomson
KBO Crab Coop	Louie Lowenberg
Alaska Fisherman's Crab Coop	Rick/Mike Shelford
Alaska King Crab Harvesters Coop	Leonard Herzog
Fishing Associates Coop	Gretar Gudmundsson
Mariner Crab Coop	Kevin Kaldestad
Professional Crab Harvesters Coop	Jim Stone
R & B Coop	Rick/Mary Mezich
Sea Boat Coop	Edward Poulsen
Alaska Crab Harvesting Coop (Yardarm Knot)	Al Chaffee
Trident Coop (Trident Seafoods Inc.)	Dave Hambleton
Aleutian Island Coop (Starbound Inc.)	Craig Cross
Crab Producers and Harvesters (Icicle Sfds.)	Rob Rogers

CDQ Groups

Coastal Villages Region Fund (CVRF)	Morgen Crow
Central Bering Sea Fishermen's Association (CBSFA)	Phillip Lestenkof

Processors

North Pacific Crab Association	
Alyeska Seafoods	Alec Brindle Jr.
Icicle Seafoods	Don Giles

UniSea Inc	Terry Shaff
Trident Seafoods	Dave Hambleton
Westward Seafoods	Greg Baker
Peter Pan Seafoods	Dale Schwarzmiller
SnoPac Seafoods	Greg Blakey
YardArm Knot	Al Chaffee
Kanaga Island Fisheries Inc. MVs Baranof and Courageous	Douglas Wells

June 2002
NPFMC Crab Rationalization
Purpose and Needs Statement

BSAI Crab Rationalization Problem Statement

Vessel owners, processors and coastal communities have all made investments in the crab fisheries, and capacity in these fisheries far exceeds available fishery resources. The BSAI crab stocks have also been highly variable and have suffered significant declines. Although three of these stocks are presently under rebuilding plans, the continuing race for fish frustrates conservation efforts. Additionally, the ability of crab harvesters and processors to diversify into other fisheries is severely limited and the economic viability of the crab industry is in jeopardy.

Harvesting and processing capacity has expanded to accommodate highly abbreviated seasons, and presently, significant portions of that capacity operate in an economically inefficient manner or are idle between seasons. Many of the concerns identified by the NPFMC at the beginning of the comprehensive rationalization process in 1992 still exist for the BSAI crab fisheries. Problems facing the fishery include:

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

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

ARNI THOMSON
FRANK KELTY

February 6, 2008

Eric Olson, Chairman
North Pacific Fishery Management Council
605 4th Avenue Suite306
Anchorage, Alaska 99501

Subject: C-1(a) Report from Crab Advisory Committee

Dear Chairman Olson:

On behalf of the City of Unalaska, I submit the following comments on C-1 (a) Report from the Crab Advisory Committee. The City of Unalaska is a member of the Ad-Hoc Crab Coalition and is in support of the coalition's position paper on this issue, as well as yesterday's NPFMC Advisory Panel motion on this issue.

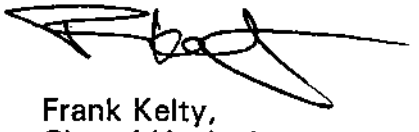
Unalaska is the largest crab processing community in the State of Alaska and has been a major supporter of the crab rationalization plan since its inception. We feel that the plan is achieving its intended purpose as laid out in the 2002 problem statement. As a result of the crab rationalization plan, crab revenues in our community have increased, and over the past two years, TACs on Red King Crab and Opilio Snow Crab have also increased. An additional benefit of the plan is that it has profited the local support sector businesses through the longer seasons and increased economic activity in the community.

Many of the goals of the crab rationalization plan are being met: the arbitration system is working, and the harvesters are getting a fair price for their product. The plan has seen the development of a thriving new processing plant in Unalaska that is buying B, C, and share crab, as well as leasing other quantities of crab. We are seeing the development of new marketing ventures, and fresh cooked, frozen and live crab are being flown out of Unalaska airport. Safety in the BSAI crab fishery has been greatly improved during the first three years of the plan, in that not one vessel has been lost and not one life has been lost on the fishing grounds. We believe the health of the resource will also benefit greatly as a result of this plan with less by-catch of small crab due to longer soak times and fewer pots on the grounds. An additional benefit is that the fleet does not have to work in sub-freezing weather that will kill crab. We believe, in the next few years, we will see the position impacts on the resource from this plan.

In conclusion, we believe at this time there is a lack of data to make major changes to the plan. We heard testimony at the AP yesterday that to date, only 18 months of information since the plan's inception has been collected and prepared for study. That simply is not enough information on a plan as complicated as this one; more data

is needed if warranted conclusions are to be drawn. Unalaska supports the AP motion and the coalition position that says the problems listed as 1, 2 and 3 in their coalition document will be addressed by the crab advisory committee, and that all other major issues be incorporated into the 36-month review that is already scheduled. Thank you for the consideration of my comments.

Sincerely



Frank Kelty,
City of Unalaska
Resource Analyst

C-1(a-c)
S. Davis-Berman

comprehensive study of IFQs by the NAS, and (4) required, after October 1, 2000, that Councils and the SOC consider the NAS study and recommendations for any new IFQ programs. These last three provisions of the SFA are summarized briefly below. The actual findings and recommendations of the NAS study on IFQ programs are discussed in more detail in Section 2.3 of this analysis. The legal implications of the moratorium on new IFQ programs are discussed in Section 1.3 which addresses several legal considerations relevant to the proposed crab rationalization program.

Clarifications on IFQs - The SFA clarified that IFQs (1) shall be considered permits, (2) may be revoked or limited at any time in accordance with procedures under the MSA, (3) shall not confer the right of compensation to the holder if revoked or limited, and (4) shall not create a private property right to the fish before the fish are harvested.

NAS Study on IFQ Programs - The study on IFQs is intended to provide Congress with guidance needed to assess IFQs as a fishery management tool and, if necessary, allow Congress to develop a broadly supported national policy on IFQs. The SFA directed the NAS to consider many of the unresolved issues regarding IFQs, including transferability, duration, processor quotas, conservation impacts, fishery characteristics, and potential social and economic costs and benefits to the Nation and to participants in the fishery. The SFA also directed NAS to study mechanisms to prevent foreign control of U.S. fishery resources and mechanisms to ensure that vessel owners, vessel operators, crew members, and U.S. fish processors are treated fairly and equitably in initial allocations.

Requirements for New IFQ Programs - The SFA requires, after the moratorium on new IFQ programs expires, that Councils and the SOC consider the NAS report on IFQs and the report's recommendations for any new IFQ programs. The SFA also requires the Councils and SOC to ensure that any new IFQ program:

> *(A) establishes procedures and requirements for the review and revision of the terms of any such program (including any revisions that may be necessary once a national policy with respect to individual fishing quota programs is implemented), and, if appropriate, for the renewal, reallocation, or re-issuance of individual fishing quotas;*
>
> *(B) provides for the effective enforcement and management of any such program, including adequate observer coverage, and for fees under section 304(d)(2) to recover actual costs directly related to such enforcement and management; and*
>
> *(C) provides for a fair and equitable initial allocation of individual fishing quotas, prevents any person from acquiring an excessive share of the individual fishing quotas issued, and considers the allocation of a portion of the annual harvest in the fishery for entry-level fishermen, small vessel owners, and crew members who do not hold or qualify for individual fishing quotas.*

Finally, the SFA included several provisions with respect to CDQ programs. First, it amended the MSA to include the western Alaska CDQ program that the North Pacific Council had already established. The amendment authorized the North Pacific Council and the SOC to "*establish a western Alaska CDQ program under which a percentage of the total allowable catch (TAC) of any Bering Sea fishery is allocated to the program.*" Secondly, the SFA authorized the Western Pacific Council to establish a CDQ program for any fishery under its jurisdiction in order to provide access to such fishery for western Pacific communities. Thirdly, the SFA commissioned an NAS study of the CDQ program to investigate the implications of the program for the Native Alaskan communities and fishery participants.

A provision was included to phase in the CDQ allocation percentage for the Bering Sea crab fisheries by allocating 3.5 percent of the TAC in 1998, 5 percent in 1999 and 7.5 percent in 2000 and thereafter, unless

processors would be "*prohibited from processing, in the aggregate for each calendar year, more than the percentage of the total catch of each species of crab in directed fisheries under the [Council's] jurisdiction ... than facilities operated by such owners processed of each such species in the aggregate, on average, in 1995, 1996 [and]1997.*" Since the primary inseason management for the BSAI crab fisheries is delegated to the State, NMFS has worked closely with the Alaska Department of Fish and Game (ADF&G) to develop a management program to implement the crab processing sideboards. Meanwhile, in the emergency interim rule published on January 28, 2000, NMFS established for each BSAI crab fishery entity-wide crab processing caps for each AFA inshore or mothership entity. These crab processing caps applied to all crab processed by the associated AFA crab processing facilities including any "custom processing" activity.

At its April 2000 meeting, the Council received testimony from crab fishermen who opposed the crab processing caps implemented in 2000 through the emergency interim rule. Some crab fisherman testified that AFA crab processing limits were restricting markets for crab fishermen and having a negative effect on ex-vessel prices. At its September 2000 meeting, the Council voted to revise the base years used to calculate crab processing sideboard amounts by adding 1998 and giving it double weight. In other words, 1995 to 1998 would be used to determine crab processing history with the 1998 year counting twice. By adding 1998 and by giving it a double weight, the Council believed that the crab processing limits would more accurately reflect the status of the crab processing industry at the time of passage of the AFA. This change was implemented in the emergency interim rule published on January 22, 2001.

1.1.2.5 Sustainable Fisheries Act of 1996 - Moratorium on New IFQ Programs

The Sustainable Fisheries Act (SFA), enacted by Congress on October 11, 1996, re-authorized and made significant amendments to the Magnuson Fishery Conservation and Management Act of 1976 (renamed the Magnuson-Stevens Fishery Conservation and Management Act). While the original focus of the Magnuson-Stevens Act (MSA) was to Americanize the fisheries off the coasts of the U.S., the SFA included provisions aimed at the development of sustainable fishing practices in order to guarantee a continued abundance of fish and continued opportunities for the U.S. fishing industry. The SFA included provisions to prevent overfishing, ensure the rebuilding of overfished stocks, minimize bycatch, and address impacts on fish habitat. The SFA also placed a four-year moratorium (until October 1, 2000) on the implementation of new IFQ programs and commissioned a comprehensive study of IFQ programs by the National Academy of Sciences (NAS).[6] Finally, the SFA codified the Alaskan community development quota (CDQ) program already adopted by the North Pacific Council but also commissioned an NAS study of the CDQ program.

The moratorium on new IFQ programs came about largely because of the high degree of controversy surrounding the four IFQ programs that had been implemented in the U.S., particularly the North Pacific halibut and sablefish IFQ programs that went into effect in 1995. IFQ programs raised concerns regarding potential negative and unknown effects. For example, concerns were raised regarding the new level of capital required for entry, whether fisheries would become investor owned under IFQs, the impact of IFQs on fishing communities, and potential foreign control of IFQs and the fisheries themselves. On the other hand, because of their potential to address many of the problems associated with the race for fish (including overcapacity, high bycatch rates and safety) IFQ programs were recognized as promising fishery management tools that should be available to Fishery Management Councils for their consideration.

To address the concerns raised with respect to IFQs, the SFA (1) established a moratorium on new IFQ programs until October 1, 2000, (2) clarified certain rights associated with IFQs, (3) commissioned a

[6] The Consolidated Appropriations Act of 2001 extended the moratorium on new IFQ programs until October 1, 2002.

many vessels are in fear of bankruptcy. This is illustrated in the fleet request to Congress for assistance through a "buy-back" program. Consolidation may not, in and of itself, benefit the resource because a smaller number of vessels can still harvest the TAC and could engage in fishing practices that are detrimental to the stock, such as highgrading.

3.2.6.2 Stewardship

The NRC report discusses stewardship in terms of a fisher's increased incentives for stock conservation motivated by the belief that a healthy resource will increase the value of each fisher's individual quota. However, as the NRC report points out, each fisher gets all of the benefits from his illegal actions but shares the costs of his action with the pool of quota share holders. Another component of stewardship is who owns the quota. Due to the ownership structure of the BSAI crab fisheries, the majority of quota will be issued to vessel owners that do not fish. Proponents of initial allocation of skipper/crew shares and owner-on-board provisions advocate that these options would improve stewardship because the fishers will have ownership in the resource. Stewardship is a difficult issue to analyze for a future program because human behavior is difficult to predict. The crab fisheries under rationalization will need to be more closely monitored to determine actual fishers' behavior.

Rationalization improves the fishers's ability to make choices due to a guaranteed allocation of harvest share and additional time to harvest his share. But, for analysis, we have no way of predicting if he will make the choice that benefits the environment. To the extent that rationalization provides economic incentives for conservation choices, a fisher could make those choices. For example, a fisher could have greater economic incentive to move off a congregation of female crabs and find a congregation of large male crabs in a rationalized fishery. This choice would have conservation benefits by reducing bycatch. However, no aspect of this rationalization program directly requires a fisher to move off a congregation of female crabs. Likewise, if economic incentives exist for fishers to highgrade, a fisher could choose to highgrade, which has a negative effect on crab stocks. At this stage, we do not see additional stewardship benefits from adding a processor quota component or from the regionalization, binding arbitration, or CDQ options.

3.2.6.3 Changes in Season Timing and Length

To be successful in slowing the pace of the fisheries, new seasons must be specified that permit fishers the opportunity to extend fishing temporally. Extending season, however, can affect the biological impacts of fishing. Although no options provide explicit changes in season lengths and the development of concurrent, multi-species fisheries, the following paragraph in the Council motion requests that the analysis include a discussion of changes in seasons that may result from implementation of a rationalization program:

> 1.8.4 Discussion in the analysis of season opening dates under an IFQ program and the potential for concurrent seasons and multi-species fishing to reduce bycatch.

Crab fishing seasons will be lengthened through the BOF process. The BOF would likely lengthen crab fishing seasons as a result of an IFQ (with or without processor shares) or cooperative program. New seasons will still be within the biological constraints established in the FMP to avoid fishing during mating and molting periods. Currently, crab fishing seasons are closed once the GHL is caught. When GHLs are low, seasons have been as short as several days. Under rationalization, seasons can be longer because there will no longer be a race to harvest as much crab as fast as possible.

The BOF will make decisions on fishing seasons after a rationalization program is selected by the Council and adopted by the Secretary. Fishing seasons are a Category 2 measure under the crab FMP, which requires

board. The categorization of QS (or cooperative shares) as a CP shares functions in a similar manner the CP designation of an LLP endorsement.

3.3.2 Initial Allocation of QS (or Cooperative Shares)

Paragraphs 1.2 and 1.4 of the list of elements and options define options for the initial allocation of harvesting QS (or cooperative shares). The initial allocation is of critical importance to a rationalization program since it is the foundation for the distribution of interests in the resource in the new management regime.

National Research Council Report Recommendations.
The National Research Council report on IFQs, "Sharing the Fish" advises that an initial allocation should widely distribute shares to avoid granting excessive windfalls to a few participants in the fishery. Broader initial allocations might be favored because they will distribute benefits more equitably and compensate more individuals as shares become concentrated. In addition, payment for initial allocations (thorough either windfall taxes or auctions) should be considered as a method of distributing the benefits of the resource to the public.

Share distributions should consider investments of time and capital in the development of the fishery. Crew exposed to safety risks might also be considered to have invested in a fishery. A broad distribution might consider the distribution of shares to skippers, crews, and processors.

Catch history is frequently relied on for determining the distribution of shares because it is perceived to be a fair measure of participation. Allocation based on catch history, however, can have unintended or onerous consequences. Reliance on participation in a single fishery can be detrimental to fishers that move between fisheries. These transient fishers might be deprived of an interest in a fishery even though their movement between fisheries may have resulted in a better distribution of effort across fisheries. Catch history can also reward speculative behavior of fishers that enter a fishery in hopes of obtaining an interest in the fishery under a future rationalization program and fishers that overexploit stocks to obtain larger initial allocations of shares. Alternatively, a portion of the initial allocation could be distributed equally to all participants or could be based on vessel size.

In addition to the issues raised in the NRC report, NOAA GC has emphasized that the failure of the halibut and sablefish IFQ program to give sufficient consideration to recent participation was an important issue in the lawsuit filed against that program.

3.3.2.1 Eligibility to Receive an Initial Allocation of QS (or Cooperative Shares)

Paragraph 1.2 defines the following two options and one suboption governing persons eligible to receive an initial allocation of QS (or cooperative shares)[20]:

[20] In addition to the options discussed here, section 1.8 of the Council motion includes an option for the initial allocation of QS to skippers and crewmembers. That provision is analyzed in Section 3.8.

3.6.4 Regionalization and Skipper and Crew Shares

The application of regionalization to skipper and crew share could complicate the use of those shares significantly reducing the benefit of those shares to skippers and crew. This added burden to skippers and crewmembers holding IFQs would need to be balanced against the community interests that are intended to benefit from the regionalization program.

If skipper and crew shares do not have a regional designation, those shares will be usable on any vessel for deliveries in any location. Adding the regional designation to those shares, however, could restrict the ability of skippers and crew to make use of the shares and will likely require some persons to make transfers to ensure the shares are used. If a crewmember holds shares designated for a region that the vessel he or she works on does not intend to deliver crab in, that person will need to sell those shares (particularly if skipper and crew are subject to a "use it or lose it" clause). Forcing these transfers is likely to diminish the effectiveness of skipper and crew shares in attaining their purpose. While sellers will receive compensation for their shares, these transfers could limit the protection the shares provide to crew without significant resources, who are most in need of protection.

In addition, regional designations on skipper and crew shares could decrease the mobility of skippers and crew, reducing the effectiveness of those shares in protecting their interests. Each skipper or crewmember will adjust his or her share holdings to conform with those used on the vessel on which he or she works. So, if a skipper works on a vessel making only deliveries in the North will make transfers to only hold North shares. If the crewmember believe better working conditions can be found on another vessel, he or she will only be able to move to vessels that make North deliveries. The extent of this constraint cannot be determined.

3.6.5 Catcher/Processors and Regionalization

The Council motion contains the following provisions concerning the regionalization of shares issued to catcher/processors:

1.7.1	c.	"A" or "B" class CV-QS initially issued to a catcher/processor shall not be regionally or community designated.
	d.	"A" or "B" class CV-QS purchased or obtained by catcher/processors shall retain their regional or community designation.

The first option provides that the initial allocation of catcher vessel QS issued to catcher/processors for harvests that were delivered to inshore processors would not be classified by region. The second option provides that in the event catcher/processors are permitted to purchase catcher vessel QS, those shares would retain their regional designation.

The Council motion also contains the following options concerning transfers of PQS between catcher/ processors and shore-based processors.

representatives) could be needed. If it is an advisory board, it may trigger the FACA and require public notice of meetings and other strictures about composition and duties.

A substantial concern about implementation is whether the draft language of the agreement, if adopted by the Council, would be inserted into a regulation. A regulation establishing the terms of the agreement would have to be promulgated under the APA. This would require notice and comment prior to implementation of the agreement and any changes to the terms. Notice and comment rule-making normally requires up to 90 days of notice and comment periods using proposed and final rules. Usually much longer time periods are required for rule-making. At this juncture, it should be assumed that the agreement terms are unalterable by the parties unless there is a rule-making doing so. This delay in changing the terms may undermine the needs of the parties and the viability of making binding arbitration a part of the FMP.

3.8 Options for Skippers and Crew

This section analyzes the alternatives in the Council motion that are intended to address concerns of skippers and crew by allocating a portion of the initial allocation to skippers and crew, providing a first right of refusal to skippers and crew on a portion of any share transfer, creating an owner on board requirement for a portion of each allocation, preserving historical crew shares, or providing low interest loans to skippers and crew for the purchase of QS. The Sustainable Fisheries Act is pertinent to the Council's action concerning skipper and crew protections. The Act requires, in part, that any new IFQ program:

> *considers the allocation of a portion of the annual harvest in the fishery for entry-level fishermen, small vessel owners, and crew members who do not hold or qualify for individual fishing quotas.*

National Research Council Report Recommendations.
The NRC report "Sharing the Fish"recommends that regional councils "consider including hired skippers and crew in the initial allocation of IFQs where appropriate to the fishery and goals of the specific IFQ program." The report concludes that even though crew may invest minor amounts of capital in comparison to vessel owners, crew may have undertake significant financial and physical risks to participate in a fishery. Crew assume financial risks in fisheries where skippers and crew are paid with crew shares. In addition, crew may assume substantial physical risks in certain fisheries. These risks justify the consideration of crew interests in designing an IFQ program and could justify an initial allocation of shares to skippers and crew.

Alternatively, the report recommends that councils consider developing programs that ensure the availability of QS for crew purchase, such as the block program in the halibut IFQ program, and loan programs that assist skippers and crew in purchasing QS.

3.8.1 Initial Allocation to Crewmembers

The following option from the Council motion is intended to benefit skippers and crewmembers by distributing a portion of the initial allocation to skippers and crew:

1.8.1 Options for skippers and crews members:

Option 1.

I. Percentage to Captains and/or crew:

A range of percentages for initial allocation from 0% to 20% should be analyzed. (i.e. 0%, 10%, 20%)

A crewman is defined as a US citizen who held a a commercial fishing landing permit or crew license during the qualifying period.

II. Species specific:

As with vessels.

Under this option, skippers or crew would be allocated between 0 and 20 percent of the initial allocation of harvest quota shares. In addition to the considerations raised by the NRC report, a few other factors should be considered in determining whether and how large an initial allocation should be made to skippers and crew. First, the influence of any skipper or crew allocation on the different interests in the fishery should be considered in the context of the rationalization program selected. For example, if a two-pie rationalization program is adopted the influence of the crew or skipper allocation on the relationship between harvesters and processors should be considered. Although crew and vessel or LLP owners are likely to have similar interests, the allocation of harvest shares to crew could influence the price negotiations between harvesters and processors by introducing new participants to this process. The ability of crew to move between vessels could also alter the negotiating leverage of the different vessel owners. Since it is the ability of crew members to offer shares to the person who they work for that provide crew with a more permanent interest in the fishery, this influence is intended and is not necessarily a negative influence. The influence, however, should be considered in the context of the rationalization program as a whole.

A second factor that should be considered in assessing the options for allocating shares to crew is whether to include owner-operators in the crew allocation. Owner-operators could be argued to receive a double allocation if they are included in the crew allocation. If the provision is intended to protect crew interests under rationalization, one could argue that owner-operators, who will already receive an allocation based on their activity as owners, are not subject to the same loss of interest as crews under rationalization.

Owner-operators interested receiving an allocation may argue that omitting them from the crew allocation has the potential to decrease the interest of their fishing operations. For example, if owner-operators do not receive a crew initial allocation, the allocation associated with a vessel or LLP of an owner-operator would decline, since the owner-operator would not receive a share of the crew allocation. The allocation associated with a vessel or LLP that is not owner-operated would increase since both the owner and the hired crew would receive an allocation. In some of the smaller fisheries under consideration for rationalization, the impact of excluding owner operators could substantially change the distribution of interests among participating vessels, as the harvest allocation could be made to less than 20 LLP or vessel owners.

It also could be argued that including owner-operators in the initial allocation may encourage the practice of having owner-operated vessels. The provision that requires crew shares be fished on a vessel that the quota holder is onboard would ensure that the owner-operator continue working onboard the vessel to utilize the quota. Otherwise they would be required to divest themselves of the quota or forgo its use. In addition, if crew quota is utilized, it may be in the interest of the owner to hire skippers with quota to operate their vessel rather than operating the vessel themselves. This could make economic sense depending on the

amount of quota held by the skipper and value the vessel owner can derive from harvesting those crab after paying the skipper, versus operating the vessel himself.

When vessel or LLP owners share an ownership interest in a vessel with an owner-operator, the balance of power among the owners could be changed by having a crew allocation that includes owner-operators. Partnerships are usually carefully structured to establish clear rules for decision making and authority. A vessel or LLP owner that shares ownership with an owner-operator could find that the allocation to owner-operators offsets the balance that they have constructed in their agreements with owner-operators. At the extreme, a majority owner could effectively lose power and become a minority owner in the event that owner-operators receive an initial allocation. Given our current knowledge of ownership structures it is not known if there are any cases where this could potentially occur.

The exclusion of owner-operators from the initial allocation, however, could erase the investment of those skippers that recently purchased an interest in a vessel for the purpose of gaining an interest in the fishery. For example, a skipper that anticipated the rationalization of the fishery might have chosen to invest in a vessel and its history to ensure that he or she would gain an interest in the fishery after rationalization. If the investment is relatively small, that skipper could end up with less quota shares than if he or she did not purchase an interest in the fishery. For example, if a skipper chose to purchase a 5 percent interest in a vessel and its history and owner-operators are excluded from a 10 percent skipper allocation, it is conceivable that the skipper could receive a 5 percent interest in the vessels QS, rather than the 10 percent allocation he or she would be entitled to as a hired skipper.

Under this option, 0, 10, or 20 percent of the initial allocation of QS could be made to qualified skippers and crewmembers. Any allocation would be on a fishery basis, so eligibility and qualification for an initial allocation in each fishery is determined independently of eligibility and qualification in any other fishery. The Council motion contains the following provision for determining eligibility of skippers and crew to receive an allocation:

> III. Eligibility:
> (a) Determined on a fishery by fishery basis by 1) having at least one landing in the qualifying years used by the vessels and 2) having recent participation in the fishery as defined by at least one landing per year in the fishery in the last two years prior to adoption of a rationalization program by the Council.
>
> (b) As a second option, eligibility could be determined by a point system modeled after that used by the State of Alaska in SE Alaska for limited entry in the Dungeness, King, and Tanner crab fisheries there.
> (c) Eligibility will include:
>
> 1. Skippers only
> 2. All crew

Two alternatives for determining eligibility to receive an initial allocation are proposed. Under the first alternative, qualification would be based on having at least one landing in the fishery in the qualifying years used for determining the initial allocation for vessels and having at least one landing per year in the last two years that the fishery was open prior to the adoption of the rationalization. Analysis of this alternative is complicated by the potential inclusion of crew in this initial allocation. If only skippers are included in the program, participation in landings can be verified by ADF&G fish tickets (if we assume that the permit holder was the skipper of the vessel), which identify the permit holder making the landing. Table 3.8-1 shows

the number of skippers (permit holders) that would eligible for an initial allocation under option (a) in each of the fisheries considered for rationalization.

Table 3.8-1: Number of Skippers Eligible for an Initial Allocation Under Section 1.8 Option 1, III. a.

Fishery	Number of Eligible Skippers
WAI golden king crab	10
WAI red king crab	2
Bristol Bay red king crab	192
Bering Sea *C. Opilio*	188
Bering Sea *C. Bairdi*	130
EAI golden king crab	13
Pribilof blue king crab	33
Pribilof red king crab	34
St. Matthew blue king crab	81

Source: ADF&G fishticket data

For crew other than skippers, participation cannot be verified by ADF&G fish tickets. Verification of participation for determining crew eligibility for initial allocations would be by affidavit. Eligibility of crew therefore cannot be accurately projected in this analysis. Anecdotal evidence from participants in the fishery suggests that approximately one-half of each crew returns to a vessel each year. Many of those who do not return to a vessel do not leave the fishery but move to another vessel. With average crew sizes of approximately 5 or 6 persons, one may estimate that at least 3 persons per vessel would be eligible for an initial allocation in each fishery. Assuming that 3 persons per vessel applies for an initial allocation, the number of eligible crew can be approximated based on the number of vessels participating in each fishery. Table 3.8-2 shows the estimated number of crew eligible to receive an initial allocation based on the assumption that 3 persons per vessel are eligible for an allocation.

Table 3.8-2: The Estimated Number of Crew Eligible to Receive an Initial Allocation Under Section 1.8 Option 1, III. a.

Fishery	Most Recent Year*	Number of Vessels in Most Recent Year	Estimated Number of Eligible Crew
WAI Brown King Crab	2000-2001	12	36
WAI Red King Crab	1995-1996	4	12
Bristol Bay Red King Crab	2000	244	734
Bering Sea *C. Opilio*	2000	228	684
Bering Sea *C. Bairdi*	1996	188	564
EAI Brown King Crab	2000-2001	15	45
Pribilof Blue King Crab	1998	56	168
Pribilof Red King Crab	1998	57	171
St. Matthew Blue King Crab	1998	131	393

* Most recent year for which ADF&G fish ticket data are available.

The second option would determine the eligibility of crew to receive an initial allocation based on a point system of the type used by the State of Alaska in its Southeastern Alaska crab pot fisheries. A copy of the applications for those fisheries is attached hereto as Appendix 3-4. Generally, the program awards points to participants based on their participation in the fisheries, with recent participation and consistent participation receiving higher numbers of points.[62] Under the program, participation as a skipper is awarded substantially greater points than participation as a crewmember. Additional points are awarded for consistent participation, which is reflected by the quantity of harvests or the number of months in a season in which deliveries are made. Since some of the BSAI crab fisheries are single delivery fisheries, consistent participation could be based on participation in multiple fisheries in a single year. Points are also awarded

[62] The State program also awards points for vessel ownership and gear purchases, which are generally inappropriate for purposes of awarding points for crew allocations.

based on the percentage of a person's income that is derived from the fishery. Skippers and crew that derive a substantial share of their income from the fisheries are awarded additional points. Below is an outline of a possible point structure that could be used for determining eligiblility of skippers and crew for an initial allocation. The determination of points awarded for each level of participation and for determining eligibility are put forth strictly as an example and should be fully evaluated if this program is adopted. Particularly, the Council must consider whether to award different points for participation as a skippers than for participation as a crewmember.

Past Participation

An award of points could be made to skippers and crew based on their participation, with greater points for more recent participation. Points are based on participation in seasons since the seasons in some fisheries, such as the Aleutian Islands golden king and red king crab fisheries, extend over two calendar years.

Participation in the season that opened in:	as a skipper	as a crewmember
2001	7	4
2000	7	4
1999	7	4
1998	6	3
1997	6	3
1996	5	3
1995	5	2
1994	4	2
1993	4	2
1992	3	1
1991	3	1

Consistent Participation

An award of points could be made to skippers and crew based on making multiple landings in a fishery or based on their participation in multiple fisheries.

Participation in multiple landings:	As a skipper	As a crewmember
in the most recent year of the target fishery	10	7
in the second most recent year of the target fishery	9	6
Participation in more than one BSAI crab fishery (including the target fishery)	**As a skipper**	**As a crewmember**
in the most recent year of the target fishery	10	7
in the second most recent year of the target fishery	9	6

Economic Dependence

An award of points could be made to skippers and crew based on their income dependence on the fishery. Income dependence could be shown by submission of tax records showing income from the fisheries and other sources. RAM division has advised that measures of economic dependence could be especially difficult to prove. In addition, participants in the fishery have advised that most persons who would accumulate a significant number of points under the measures of participation are likely to satisfy any reasonable income dependence test. In short, income dependence estimates may be costly to administer and add little information concerning dependence on the fisheries that is not contained in the other measures.

Level of Income Dependence on the Target Fishery	As a skipper	As a crewmember
Less than 10 percent	0	0
Greater than or equal to 10 percent and less than 20 percent	10	10
Greater than 20 percent	20	20

Points for eligibility

The number of points necessary for a person to be eligible for an initial allocation must be decided if the point system is to be used. A simple way is to select a threshold that is a percentage of the total available points in a fishery. Point thresholds will likely differ across the different fisheries, as some fisheries (such as the Aleutian Islands golden king crab fisheries) have been open regularly with seasons that last most or all of the year, while others (such as the Bristol Bay red king crab and the Bering Sea *C. opilio* fisheries) have occasionally been closed for a season and when open have had seasons as short as a few days or weeks. Table 3.8-3 below shows the total possible number of points for skippers and crew based on the above point schedules and shows the number of points that would be needed for eligibility, if 75 percent of the total possible crewmember points were required for a person to be eligible for an initial allocation. The table is presented as an example of a set of eligibility point thresholds for the fisheries. The threshold number of points for eligibility for the different fisheries should be selected based on the points awarded for participation and dependence and the number of persons that the Council wishes to include in the distribution and whether the Council wishes to include both skippers and crew in the distribution. Because of the lack

of availability of data on crewmember participation and the uncertainty of the point award schedules and eligibility thresholds, quantitative analysis of the alternatives is not included in this draft.

Table 3.8-3 An example of point thresholds for eligibility to receive an initial allocation for skippers and crewmembers.

Fishery	Total possible points for a skipper	Total possible points for a crewmember	Points needed for eligibility (75% of total possible points for a crewmember)
WAI Golden King Crab	109	71	53
WAI Red King Crab	77	54	41
Bristol Bay Red King Crab	100	67	50
Bering Sea *C. Opilio*	109	71	53
Bering Sea *C. Bairdi*	70	53	40
EAI Golden King Crab	109	71	53
Pribilof Blue King Crab	74	53	40
Pribilof Red King Crab	82	57	43
St. Matthew Blue King Crab	88	59	44

Once the requirements for eligibility for skippers and crew are identified, the distribution of skipper and crew shares to those persons must be determined. The following options are included in the Council motion for determining the distribution of skipper and crew allocations:

IV. Qualification period:
As with vessels.

V. Distribution per Captain:
- i) Shares based on landings (personal catch history based on ADF&G fish tickets).
- ii) Shares distributed equally among qualified participants.
- iii) distribution based on a point system
- iv) A mix of one or more of the above, with a range of 0-50% distributed equally and the balance based on landings and/or points

VI. Distribution for All Crew:
- i) Shares distributed equally among qualified participants.
- ii) distribution based on a point system
- iii) A mix of one or more of the above, with a range of 0-50% distributed equally and the balance based on points

Four possible methods for allocating shares are set out in the motion. The first, which applies only to skippers, would base the allocation on landings as shown by ADF&G fish tickets on which the skipper was assumed to be the permit holder. This provision applies only to skippers because a single permit holder will be identified by each fish ticket. Landings for crew would be very difficult to verify. This method of determining allocations is consistent with the proposed methods for determining allocations to harvesters and processors. To the extent that the Council believes that the allocation should be based on participation and that historical landings are a good representation of that participation this method might be favored. The shortcoming of this method is that only skippers would be included in an allocation that relies solely on fish tickets for determining the distribution. The distribution under this method would be based on the same qualification years used for making the distribution to vessels. Because of the number of options for years

that could be used for determining the distribution, one example is given for the distribution using landings, which appears in Appendix 3-5.

The second method proposed for determining the distribution of skipper and crew shares is to distribute shares to each eligible skipper and crewmember equally. This method might be favored for its equity and simplicity. This method might be appropriate if satisfaction of the eligibility criteria is believed to be an adequate measure of participation and no other distinction in levels of participation are believed to be pertinent to making the distribution. Equal distribution, however, could be rejected if the Council believes that different levels of participation among eligible skippers and crew should be recognized in the distribution. An equal distribution could overlook substantial differences in participation among skippers and crew, particularly in some of the smaller fisheries, where some skippers are likely to have substantially more landings than others.

The third method proposed would base the allocation to skippers and crew on points accumulated under the point system. This method might be favored if the Council believes that the point system is a good representation of participation and reliance on the fishery and those factors are believed to be the most appropriate for determining the initial allocation to skippers and crew. The lack of data and the uncertainty of the point system that would be adopted are barriers to the quantitative analysis of this option at this time.

The fourth proposed method for determining the initial allocation to eligible skippers and crew would be to allocate shares based on a combination of the other proposed methods, with between 0 and 50 percent of the allocation made equally to all eligible persons. This method might be favored if the Council believes that the distribution should be based partially on historical participation with the remainder distributed equally to all eligible participants. This method has the effect of ensuring that each eligible person receives some minimum share distribution -- an equal share of that portion of the allocation that is split equally among eligible participants. At the same time, historical participation is rewarded with shares beyond those subject to the equal distribution.

RAM division has advised Council staff that programs allocating shares to both skippers and crew are workable and could be administered by that office. They, however, caution that any measure of participation other than ADF&G fish tickets has the potential to substantial increase administration time and costs and will likely lead to substantially more disputes. Affidavits are a dubious method of verifying participation because they are difficult or impossible to verify. RAM division would instead favor the use of other forms of evidence of participation (such as plane ticket receipts or verification of payment for crewing) to demonstrate qualifying participation.

Use restrictions on skipper and crew shares could greatly impact the effect of these shares. The Council motion contains the following options concerning use of the skipper and crew shares:

VII. Skipper/Crew on Board requirements
- a) No onboard requirement for skipper/crew with QS
- b) Initial issuees of QS would not be required to be onboard the vessel, subsequent tranferees would be required to be onboard the vessel when harvesting QS.
- c) Requirement for skipper/crew to be onboard vessel when harvesting QS.

Three options concerning the use of skipper and crew shares are contained in the motion. The first would have no requirement that the QS owner be onboard the vessel harvesting the allocation. The second provision would not require persons receiving initial allocations to be onboard the vessel harvesting the shares, but would require any subsequent transferee to be onboard the vessel harvesting the shares. The third provision would require any owner of skipper or crew shares to be onboard the vessel harvesting the shares.

Owner onboard requirements might be favored as a way to ensure that skipper and crew shares are used to protect the interests of active skippers and crew. Absent these requirements, the shares could be purchased by vessel owners or LLP license holders, who are not active on vessels in the fishery. A provision that exempts persons receiving initial allocations from the owner onboard requirement might be favored as a means to reward skippers and crew that historically participated in the fishery but still provided an avenue for entering skippers and crew to buy into the fishery. By not including an onboard requirement for persons receiving an initial allocation, the provision creates a potential gap between the time that the initial issues retire from crewing in the fisheries and the new entrants are able to purchase shares in the fishery. This time gap could be detrimental to skipper and crew interests since the new entrants that do not own shares would have less of an interest in the fishery.

The transferability of skipper and crew shares could also influence their effectiveness in protecting crewmember interests. The Council motion contains the following provisions concerning the transferability of skipper and crew shares:

VI. Transferability criteria:

(1) Sale of QS
- a) QS is fully transferable
- b) QS is only transferable to active participants

(2) IFQ leasing
- a) IFQ is fully leasable
- b) IFQ is only leasable to active participants
- c) IFQ is leasable to smaller, distant fisheries (i.e. St. Mathew, Pribilof and Adak King Crab)
- d) No leasing of IFQ

Use it or lose it would apply to all skipper/crew QS, with a one year hardship provision. If the skipper/crew QS holder does not maintain active status in the fishery they would be required to transfer their QS to another active participant in the fishery.

An active participant is defined by participation in at least one delivery in a crab fishery included in the proposed rationalization program in the last year as evidenced by ADF&G fish ticket or affidavit from the

The motion contains two options concerning the sale of skipper and crew QS. The first option would permit any transfer of QS to any party. The second option would allow transfers of QS only to active participants, where active participants are defined as skippers and crew that have participated in at least one delivery in a fishery included in the proposed rationalization program in the last year. This participation could be demonstrated by either an ADG&G fish ticket or an affidavit of the vessel owner.

Permitting transfer of skipper and crew QS to any person could limit the effect of these shares in protecting the rights of crewmembers. These shares are likely to protect only skippers and crewmembers that receive

an allocation, and not entering skippers and crewmembers or skippers and crew wishing to increase their interests in the fisheries. Allowing transfer and use only by active skippers and crew would create a separate class of shares that could result in a lower share price, making the shares more affordable to crew wishing to purchase shares, but also decreasing the benefit to those crewmembers that received an initial allocation. This separate class of shares would only be available to active skippers and crew, increasing the likelihood that their interests are protected by these shares.

The Council motion contains four options concerning the leasing of skipper and crew QS. The first option would permit any lease of QS to any person. The second option would permit leasing only to active participants, defined as persons that participate in a delivery in the last season of a fishery included in the proposed rationalization program. These two provisions are parallel to the provisions concerning the sale of QS. As in the case of sales, the free leasing of skipper and crew QS to any person could result in the shares being transferred to vessel owners, limiting the effectiveness of these shares in protecting entering crew or crew that wished to increase their interests in the fishery. The third provision would permit leasing only in the smaller, distant fisheries. This provision would be premised on the idea that these fisheries are less accessible and have fewer participants. As such, it is possible that not all skippers and crew would participate in these fisheries in every year, or that consolidation of the fleet would occur under a rationalization program and fewer vessels and crew would be used to harvest the quota. Leasing would permit a skipper or crewmember to maintain an interest in the fishery in the event that he or she is unable (or it is not economical for him or her) to participate in the fishery in a given year. The last option for leasing would prohibit any leasing of skipper or crew QS. This provision might be favored if it is thought that only persons that remaining active at all times should be permitted to own skipper and crew shares. It would, however, force crew that could not find employment to divest shares, where few opportunities may exist to divest their shares.

The last provision relates to leasing is a "use it or lose it" clause, which would require a skipper or crewmember to be active in the fishery each year to be entitled to hold QS. A one year hardship provision would be included to accommodate persons unable to participate for a single season. The provision would require transfer of the shares to an active participant in the fishery. This provision is intended to reinforce the requirement that only persons active in a fishery should be entitled to hold skipper and crew shares.

3.8.2 Crewmember First Right of Refusal on QS Transfers and Owner On Board Requirements

The Council motion contains an options for a crewmember first right of refusal on QS transfers and for owner on board requirements. Since these two provisions operate in a very similar manner and have very similar effects, their discussion is consolidated in a single subsection. Both of these provisions would result in a portion of each person's initial allocation being designated for sale exclusively to skippers and crew. Their similarities would allow the Council to combine various provisions from each proposal into a single option to protect crewmember interests.

The First Right of Refusal.

The following first right of refusal provision is contained in Section 1.8.1 of the Council motion:

1.8.1 Option 2: First Right of Refusal on Quota Share Transfers

(1) A range of 0-20% of initially issued QS would be designated as crew shares, these shares would remain as a separate class of QS. Transfer of initially issued QS must include transfer of 0-20% crew shares for which there will be a first right of refusal for eligible crew to buy. The owner of the QS being offered for sale would have to give notice to NMFS RAM division of the impending sale. RAM in turn could then notify the fleet of the available QS. After this initial transfer crew QS will be available for transfer to any active participant in the fishery.

(2) If a qualified buyer cannot be found then 50% of the 0-20% crew QS offered for sale would have to be gifted to a pool available to qualified buyers and the remaining 50% of the 0-20% could then be offered for sale on the open market to any buyer.

(3) The crew pool of QS would be overseen by RAM. The proceeds from the sale of this QS by auction to the highest qualified bidder would go into a dedicated low interest loan program for crew.

(4) Time frame for the first right of refusal is 1-3 months.

(5) Eligibility of a U.S. citizen to purchase crew shares would be defined by participation in at least one delivery in the subject crab fishery in the last year as evidenced by ADF&G fish ticket or affidavit from the vessel owner.

Under this option, eligible crewmembers would be provided with a first right of refusal on a portion of any transfer of QS. Depending on the Council's choice, the provision could provide eligible crewmembers with a first right of refusal on between 0 and 20 percent of any transfer of QS. This first right of refusal would require that the holder of the QS sell the shares to an eligible crewmember regardless of the price that could be obtained for the shares from persons not qualified as crew.

Eligible crewmembers wishing to purchase the shares would have between 1 and 3 months in which to make an offer on the shares. The ability of crewmembers to submit offers on short notice should be considered in determining an appropriate period for the exercise of the first right of refusal. If crew are active at sea, learning of the availability of shares and organizing financing may be difficult suggesting that a longer period for submitting offers should be favored.

Under the option, only active participants (persons with at least one landing in the most recent fishery) would be permitted to purchase shares. Participation requirements could be verified with an overseeing agency, in the same manner as the RAM office currently oversees crew requirements for purchase of halibut and sablefish IFQs. Since several persons would have a right to bid on these shares, competition among those persons could be relied on to determine the price.

To implement the provision, the QS owner that wishes to sell QS would be required to announce their intent to sell a specific amount of QS. For a specific period (1 to 3 months) eligible crew would be permitted to respond to the notice by expressing an intent to purchase the crewmember portion of the QS and the offer price. The owner would be free to accept any offer from an eligible crewmember at any time. If no sale is made during the specified period, at the end of the period any offer from an eligible crewmember must be accepted (if the owner still wishes to sell the QS). If no offer is made by an eligible crewmember, the crew QS may be sold to any person eligible to purchase QS.

The option also contains a provision that in the event no crew offers are made for the share during the first right of refusal period, the owner would be required to transfer 50 percent of the shares offered on the first right of refusal to a crew share pool to be administered by the RAM office. The other 50 percent could be offered for sale to any buyer. RAM would offer its shares for sale by auction to any qualified crewmember. The proceeds of that sale would be dedicated to a low interest loan program to be used to finance purchase of shares by crewmembers. The intention of this provision is to ensure that shares offer to crew on a first right of refusal basis benefit crew even in circumstances where a crewmember eligible to purchase those shares cannot be found.

Owner On Board Option.

The Council motion contains the following option for an owner on board requirement to protect crewmember interests:

Option 5. Owner On Board Option

a.	A portion (range of 5-50%) of the quota shares initially issued to fishers / harvesters would be designated as "owner on board."
b.	All initial issuees (individual and corporate) would be grandfathered as not being required to be aboard the vessel to fish shares initially issued as "owner on board" shares
c.	Shares transferred to initial issuees in the first (range of 3-7 years) of the program would be considered the same as shares initially issued
d.	"owner on board" shares transferred by initial issuees, after the grace period, would require the recipient to be aboard the vessel to harvest the IFQ/ITQ
e.	In cases of hardship (injury, medical incapacity, loss of vessel, etc.) a holder of "owner on board" quota shares may, upon documentation and approval, transfer / lease his or her shares for the term of the hardship / disability or a maximum of (Range 1-3 years)
f.	Shares issued to CDQ groups are exempt from owner on board requirements
Suboption:	Any transfer of QS designated at initial allocation as "owner on board" quota would count against "1st refusal" requirement.

Under this option between 5 and 50 percent of the QS initially allocated to the harvest sector would be designated as "owner on board". This designation would require that the owner of the shares be on board the vessel that fishes the shares. Any person receiving shares in the initial allocation would be exempt from the requirement for those shares. In addition, any shares acquired by initial issuees during a specified exemption period, that would be between 3 and 7 years in length, would be subject to the same exemption from the requirement. The exemption from the owner on board requirement granted to initial issuees make the requirement very similar to the first right of refusal provision. The first right of refusal provides more protection to crews since any shares transferred from an initial issuee at any time are subject to the first right of refusal. The owner on board provision would only apply to purchase made after a 3 to 7 year exemption period. In addition, the first right of refusal provision not only requires that the owner of the shares be on board the vessel but also requires a person to meet specific participation requirements to be eligible to purchase the shares. Those eligibility requirements would protect current participants more than a simple owner on board requirement.

The owner on board provision contains a hardship provision that would permit a person to lease shares during the term of any verified hardship up to a maximum of 1 to 3 years. This provision also could be applied to the first right of refusal if that option is selected by the Council. CDQ shares are explicitly exempt

from the owner on board requirement. This exemption would also apply to the first right of refusal provision implicitly.

Both the "first right of refusal" option and the "owner on board" designation would create a second class of shares that would likely sell for a lower price than unrestricted shares. The magnitude of the price difference cannot be predicted but would depend on several factors including the number of vessel owners that typically directly participate in the fisheries and the availability of funding for crew shares.

If either of these provisions is selected by the Council, the Council must also decide whether regional designations would apply to these shares and whether these shares will be subject to any "class A/class B" distinction. Applying either of these additional designations to the shares will restrict the ability of crew to use the shares and could restrict the ability of crew holding these shares to change vessels. To the extent that creating these shares is intended to empower crews, that empowerment would be decreased by these designations by limiting crew mobility. In addition, any further designation of these shares would also create additional classes of shares, each of which would have its own price in the market. For example, it is likely that a "Class A North First Right of Refusal" share would trade at a lower price than a "Class B First Right of Refusal" share, because of the different restrictions on the deliveries of crab caught with those different shares.

The suboption would apply only if the Council chose to adopt both an owner on board option and a first right of refusal option. In that case, any shares transferred as owner on board shares would be credited toward the obligation of a QS holder to offer shares on a first right of refusal basis. This provision would effectively limit the percent of shares designated as crew shares to the higher of the percent subject to the first right of refusal and the percent subject to the owner on board requirements.

3.8.3 Protection of Traditional Crew Shares

The Council motion contains the following option intended to protect traditional crew shares:

1.8.1		Option 3.	Protection of traditional and historical crew share percentages with no sunset based on the Canadian Groundfish Development Authority Code of Conduct.
6.2.3	(i)	Option for skipper and crew members: Protection of traditional and historical crew share percentages with no sunset.	

The first option is contained in the IFQ program alternatives. The second provision is contained in the cooperative program alternatives.

The Code of Conduct (CoC) of the Canadian Groundfish Development Authority (GDA) is designed to protect the interest of the crews. Under the Groundfish Trawl Long-Term Management Plan, 80 percent of the groundfish trawl TAC is allocated as Individual Vessel Quotas (IVQ). The remaining 20 percent is set aside for allocation by the Minister of Fisheries on the advice of the GDA. The portion related to the CoC is 10 percent, while the remaining 10 percent is allocated for regional development, market and employment stabilization, and sustainable fishing practices. The GDA is composed of seven voting members (Board of Directors) and nine non-voting, ex-officio members, who provide expertise and background information to the voting members.

The primary purpose of the CoC is ensure fair treatment of crew and safe vessel operation. Under the CoC, crew share arrangements are not to be negatively impacted by the IVQ program. Specifically, the program provides that vessel owners will not require crew to contribute to the vessel's original IVQ costs or costs related to replacing quota shares shifted to other vessels and crew will not be coerced into contributing to the leasing of IVQ, or any other non-traditional costs related to the operation of the vessel. In addition, any adverse changes in crew size or vessel maintenance operations related to the IVQ system are not allowed.

The provisions of the CoC are enforced only on receipt of a complaint from a crewmember. In the absence of a CoC complaint that has been found valid, the Division of Fisheries and Oceans will allocate CoC quota at the beginning of each quota year to each licensed vessel according the vessels' IVQ holdings. If a CoC complaint is found valid, the GDA can recommend to the Division of Fisheries and Oceans that the violating vessel's CoC quota be withheld.

The complaints procedure is straightforward. A crewmember, the fishers legal representative, or a third party who believes he or she has been unfairly treated or who believes his or her safety has been jeopardized, may file a complaint with the GDA. Complaints should be accompanied by evidence and are kept confidential.

The success of the CoC has been limited. Over the fours years the program has been operational, there has only been one complaint, which was found invalid. The GDA has not recommended any withholdings of CoC quota. One reason for the limited success of the program is that its enforcement could hurt the very people it is intended to protect. If a crewmember files a valid complaint, GDA could recommend withholding 10 percent of the violating vessel's quota. Withholding this quota, however, punishes not only the violating vessel owner but also the crew of that vessel (including the harmed person). Anecdotal evidence from fishery participants also suggests that vessel owners have found ways to overcome the limits on crew contributing to the cost of leased quota. Owners who have sold quota leave crew in a position of having to agree to lower crew shares or forgo fishing. Facing this decision crew have willingly fished for lower shares. Since crew have consented to the lower shares, the CoC enforcement provisions have not been implemented to protect their interests.

The provision to protect traditional and historic crew shares with no sunset is not well defined and cannot be analyzed in the absence of additional guidance from the Council. In general, any provision that is intended to protect crew shares should be carefully crafted to provide meaningful protection to crew and also allow the rationalization program to function.

3.8.4 Low Interest Loan Program for Crew QS Purchases

The Council motion contains the following option for the development of a low interest loan program for the purchase of QS by skippers and crew:

1.8.1	Option 4.	A low-interest rate loan program for skipper and crew purchases of QS would be established or made part of the existing loan program for IFQ purchases.

Under this option, a loan program for skipper and crew purchases of QS would be developed or loans to crab skippers and crew would be incorporated into the existing loan program for halibut and sablefish IFQs. That program is currently funded with cost recovery funds from the halibut and sablefish IFQ program. A similar funding program could be developed in the crab fishery to assist with the purchase of crab shares by crewmembers. The Sustainable Fisheries Act currently requires the collection of fees to disburse the costs of management and enforcement of any new IFQ programs. In addition, some or all of the vessel buyback program is intended to be funded from the collection of fees from participants in the fishery. In determining

the extent of any loan program, the Council will need to consider the burden that each of these fees will impose on fishery participants.

In some cooperative program options a loan program may not be appropriate or adequate to protect the interests of skippers and crew. An effective program depends on the ability of skippers and crew to purchase shares in the fishery. For the loan program to be effective shares must be available in the market in relatively small quantities which would be affordable to skippers and crew.

The Halibut and Sablefish IFQ Loan Program.

The Sustainable Fisheries Act amended section 1104A(a)(7) of Title X1 of the Merchant Marine Act and Section 303(d)(4) and 304(d)(2) of the Magnuson-Stevens Fishery Conservation and Management Act to allow a loan program for entry-level fishers or fishers who fish from small vessels. Title X1 of the Merchant Marine Act of 1936 is the credit authority under which NMFS will make these loans. This authority is subject to the Federal Credit Reform Act of 1990.

In 1998, the NMFS announced the availability of long-term loans for financing or refinancing the purchase cost of quota share (QS) in the halibut and sablefish fisheries. Eligible applicants include any entry-level fisher or a fisher who fishes from a small vessel and is a U.S. citizen. Applicants who fish from a small vessel must be eligible to receive (hold) the QS and at the time of the loan may not own QS that results in more than 50,000 lb of IFQ during the year of the loan. Entry-level fishermen cannot own QS that results in more than 8,000 lb of IFQ during the year of the loan. The amount of IFQ the applicant would possess after purchasing the QS is not considered. In addition, applicants cannot own freezer vessels or vessels over 60 feet in length and must be a crew member aboard the vessel that harvests the IFQ.

Applicants financing QS must fund 20 percent of the purchase price from funds other than the loan. The interest rate for the loan will be 2 percent higher than the U.S. Treasury's costs of borrowing public funds of an equivalent maturity. As of February 7, 1999, the interest rate for a 20-year loan would have been 7.65 percent. Interest is simple interest. The maximum maturity for these loans is 25 years. However, the maturity can be less than 25 years. Payments are made quarterly in equal installments. The purchase QS is collateral for the loan. Additional collateral may be required. The application fee is 0.5 percent of the loan amount, which goes to pay for the processing fees.

The Sustainable Fisheries Act amended sections 303(d)(4) and 304(d)(2) of the Magnuson-Stevens Act authority to reserve up to 25 percent of any fees collected from the fishery to be used for the loan program. Starting in 2000, 1.8 percent of halibut and sablefish exvessel value was collected for future loan disbursements. RAM division is currently permitted to collect up to a maximum of 3 percent of exvessel value. Prior to collection of funds from the exvessel proceeds, Congress appropriated $5 million for loan disbursements annually.

Anecdotal evidence suggests the program has had some success. During the four years the loan program has been functioning, an average of 35 to 50 loans have been made annually. Generally, the maximum loan amount has been approximately $350,000 made in multiple disbursements and the minimum has been $20,000. To date there have been no defaults of loans and few late payments (most of which have occurred during the November to March period when the fishery is closed).

BSAI Crab Economic Data Report Database METADATA

This is a DRAFT (02/01/08): metadata fields are partially populated and document is provided for illustrative purposes. Please address comments to Dr. Brian Garber-Yonts (contact information provided below).

This spreadsheet provides metadata documentation of the BSAI Crab Economic Data Report database. The database is a panel, with time series collected from vessels and processing plants participating in the BSAI Crab fishery, during the years 1998, 2001, 2004, and annually in subsequent years. These data represent a census of all participants in the fishery for these years. The dataset has four components corresponding to the separate sectors of the crab fishery: 1) catcher vessels, 2) catcher/processor vessels, 3) stationary floating processing plants, and 4) shoreside processing plants. Annual data submission forms for each sector solicit data on vessel and plant activity and financial management, including detailed tables of input costs and quantities, production and earnings, labor compensation and crew participation, and vessel and plant operations. These data elements are described in detail on the separate worksheets of this document.

The data collection program is managed by NOAA Fisheries, Alaska Fisheries Science Center, Economics and Social Science Research Program. The data collection and relational database is administered under contract by a third-party data collection agent, Pacific States Marine Fisheries Commission.

The principal contact for the database is:
Dr. Brian Garber-Yonts
NOAA Fisheries, Alaska Fisheries Science Center
email: brian.garber-yonts@noaa.gov
phone: (206) 526-6301

Metadata Organization

The worksheets in this document provide metadata information on each variable in the EDR database. The database is structured as a relational model, with separate tables containing information organized according to the stratification structure of the data collection. The base unit of observation in the database is the vessel or plant. Data are reported at the vessel/plant level, and in some cases are further stratified by separate crab fishery.

Metadata fields included in the document are the following:

metadata field	description
table	relational database table identifier
variable_id	variable identifier
variable description	brief variable description
edr form source tables - by sector/year CP/98-04 CP/2005 CP/2006 SP_FP/98-04 SP_FP/2005 SP_FP/2006 CV/98-04 CV/2005 CV/2006	these fields identify the sectors and years for which the variable was collected and for which the database is populated; for variables for which the database is populated, the source table in the EDR form is identified
data structure notes	provides explanation of database structural issues pertaining to the variable, including cross-references to associated variables, deviations from original structure in EDR forms, variable recoding, etc.
year-version changes	identifies any inconsistencies in variable definition across years of sector versions of EDR forms
data quality notes	identifies known data quality issues with the variable and suggests guidance on use and interpretation of variable in analysis
Validated Against Secondary Data	Identifies data elements that have been validated against secondary source and the source used.
audit results - by sector/year	summmary of validation audit results for selected variables, including:
years variable audited	years for which variable was audits
number of observations audited	number of observations for this variable in the audit sample; for variables collected by fishery, this can be larger than the number of unique vessel or plant EDRs in the audit sample
% supported (see Table 11 in Appendix A)	percent of observations audited for this variable for which sufficient information was provided to auditors to permit validation

mean % error	Error calculated as corrected (audited) value - original value; % error is calculated as (100*error/corrected value); can be positive or negative value; mean value of % error over all observations in audit sample provides measure of direction of total error (bias) for data element
SD(% error)	Standard deviation of % error; provides measurement of dispersion of %error
mean abs[% error]	Absolute value of % error measures magnitude of error by observation, not direction; mean value of abs[%error] over the audit sample provides measure of the total magnitude of measurement error for data element
SD(abs[% error])	Calculated for all supported observations; calculated as mean percent error divided by standard deviation of percent error. This provides a measure of estimated dispersion in measurement error for the data element.

Metadata Contents:

MAIN_DATA
Reports metadata for the primary set of variables, reported on the vessel/plant or fishery basis.

PRODUCTION_DETAIL
process, size and grade, and are structured differently in the relational model from other variables.

LABOR_DETAIL
Reports metadata for crew participation, residence, and compensation details.

APPENDIX_A
Lists tables of all variable code values included in the EDR database

N, BY YEAR_VERSION
Summary of dataset population size and audit samples, by sector and year

table	variable_id	description	EDR FORM SOURCE TABLES - SECTOR/YEAR								
			Catcher/Processor			Floating & Shoreside Processors			Catcher Vessel		
			98, 01, 04	2005	2006	98, 01, 04	2005	2006	98, 01, 04	2005	2006
EDR	booklet_id	Identifier for individual EDR	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC
	submitter_id	coded submitter identifier, denotes unique person or company for use in linking EDRs by common submitter	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC	PSMFC
	ucode	use restriction code. 0 - no restrictions, 1 - consult UR notes	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC
	ut	use restrictions, text field describing restrictions on use of one or more variable	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC
	datamods	number of edits of raw EDR data record to correct reporting error	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC	AFSC
	year	year of report	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	sector	CV, C/P, or SP/FP	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	owner_id	link to confidential 'Person' table	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	cp_info_id	link to confidential 'CP_info' table	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	reported_by	code for person reporting (Owner, Leaseholder, or Representative)	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	reported_person_id	link to confidential 'Person' table	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	owner_operated	code for reporting category, 1-5, Certification page 2	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	submit_type	code for certification only or entire EDR	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	edr_signature_flag	EDR signed?	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	date_signed	date signed	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	notes										
vessel_plant_value	booklet_id	Identifier for individual EDR									
	vess_equip_mkt_value	Current estimated market value of vessel and equipment	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	vess_equip_repl_value	Replacement value of vessel and equipment	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page	Cert. page
	plant_equip_assess_value	Borough assessed value of plant and equipment	-	-	-	Cert. page	Cert. page	Cert. page	-	-	-
	plant_equip_est_value	Estimated value of plant and equipment	-	-	-	Cert. page	Cert. page	Cert. page	-	-	-
crab_activity	booklet_id	Identifier for individual EDR									
	fishery_code	code for rationalized crab fishery									
	begin_date_1	dates covered from, first period	Table 1.1	Table 1.1	Table 1.1	Table 1.0	Table 1.a	Table 1.a	-	-	-
	end_date_1	dates covered to, first period	Table 1.1	Table 1.1	Table 1.1	Table 1.0	Table 1.a	Table 1.a	-	-	-
	begin_date_2	dates covered from, second period	Table 1.1	Table 1.1	Table 1.1	Table 1.0	Table 1.a	Table 1.a	-	-	-
	end_date_2	dates covered to, second period	Table 1.1	Table 1.1	Table 1.1	Table 1.0	Table 1.a	Table 1.a	-	-	-
	days_at_sea	days at sea	Table 1.1	-	-	-	-	-	Table 1.0	-	-
	days_fishing	days fishing	-	Table 1.1	Table 1.1	-	-	-	-	Table 1.0	Table 1.0
	days_travel_offload	days traveling and offloading		Table 1.1	Table 1.1	-	-	-		Table 1.0	Table 1.0
	days_processing	crab processing days	Table 1.1	Table 1.1	Table 1.1	Table 1.0	Table 1.a	Table 1.a	-	-	-
	pots_lost	pots lost	Table 1.1	-	-	-	-	-	Table 1.0	-	-
fish_tickets	booklet_id	Identifier for catcher/processor	-	-	-	-	-	-	-	-	-
	fishery	code for rationalized crab fishery	-	-	-	-	-	-	-	-	-
	fish ticket number	CFEC fish ticket numbers, by fishery	-	-	-	-	-	-	Table 1.0	Table 1.0	Table 1.0

table	variable_id	data structure notes	year-version changes
EDR			
	booklet_id	encodes sector, year, and entity ID	
	submitter_id	aggregation key. users should review data and analyses reported for aggregations of EDR submitters to ensure that at least three owner_id values are included in a strata before disseminating to unauthorized persons or the public	
	urcode	0 indicates no use restrictions. 1 indicates data quality notes should be reviewed. 2 indicates data record should not be used for most analyses	
	ur		
	datamods	details of individual edits of data record are reported in the purplesheets file, referenced by booklet_id	
	year	extracted from *booklet_id*	
	sector	extracted from *booklet_id*	
	owner_id	PSMFC access only - removed from blind dataset	
	cp_info_id	PSMFC access only - removed from blind dataset	
	reported_by	PSMFC access only - removed from blind dataset	
	reported_person_id	PSMFC access only - removed from blind dataset	
	owner_operated	PSMFC access only - removed from blind dataset	
	submit_type	PSMFC access only - removed from blind dataset	
	edr_signature_flag	PSMFC access only - removed from blind dataset	
	date_signed	PSMFC access only - removed from blind dataset	
	notes	PSMFC access only - removed from blind dataset	
vessel_plant_value			
	booklet_id		
	vess_equip_mkt_value	vessels and floating processors	
	vess_equip_repl_value	vessels and floating processors	
	plant_equip_assess_value	shore plants, only	
	plant_equip_est_value	shore plants, only	
crab_activity			
	booklet_id		
	fishery_code	All variables in this table reported on by-fishery basis	
	begin_date_1	Some processors included two date ranges for single fisheries, where a fishery spans Jan1. To accommodate this, two additional fields for date range have been defined. If single date range entered on EDR, begin date is begin_date_a and end date is end_date_b, else date ranges are coded as entered in EDR form	
	end_date_1		
	begin_date_2		
	end_date_2		
	days_at_sea		Days at sea collected in historical data collection, changed to days fishing and days travelling and offloading for 2005 and later years. Days at sea includes travel to/from fishing grounds and excludes travel to/from out-of-state port and days offloading at processors. days fishing is days operating on fishing grounds. Days travelling and offloading includes days steaming to/from fishing grounds and days offloading at processors. All years exclude days travelling to/from out-of-state port, however, this was not explicit in directions in 2005 EDR. Note that days fishing and days travelling/offloading do not sum to days at sea which differ by number of days offloading
	days_fishing		
	days_travel_offload		
	days_processing		
	pots_lost		pots lost dropped from 2005 and later EDRs
fish_tickets			
	booklet_id	encodes sector, year, entity ID	
	*fishery_*		
	fish ticket number		fish tickets data can be linked to CFEC catch accounting data

table	variable_id	data quality notes	Audit Results: years	number of observations audited: 1998	2001	2004	2005	2006	% supported (See Table 11 in Appendix A): 1998	2001	2004	2005	2006
EDR	booklet_id												
	submitter_id												
	ucode												
	ur												
	datamods												
	year												
	sector												
	owner_id												
	cp_info_id												
	reported_by												
	reported_person_id												
	owner_operated												
	submit_type												
	edr_signature_flag												
	date_signed												
	notes												
vessel_plant_value	booklet_id												
	vess_equip_mkt_value												
	vess_equip_repl_value												
	plant_equip_assess_value												
	plant_equip_est_value												
crab_activity	booklet_id												
	fishery_code												
	begin_date_1												
	end_date_1												
	begin_date_2												
	end_date_2												
	days_at_sea	Analysts should use caution when comparing days at sea from 1998, 2001, and 2004 EDR data to 2005 and 2006 data for days fishing and days travelling/offloading. As collected, these data are not directly comparable. It is recommended that historical data series be supplemented with estimates of days fishing by fishery from CFEC fish ticket database to provide consistent measurement of days fishing through entire data time series. Validation audit indicated that documented basis for EDR entries for days fishing is most commonly fish ticket dates. Basis for data entered for days travelling and offloading is much less consistent and is often estimated. Analysts are advised to use days fishing by fishery as consistent prorating factor	1998, 2001	63	53	57	44		48%	60%	58%	39%	
	days_fishing		2005, 2006				31.00	49.00				74.19	100.00
	days_travel_offload		2005, 2006				31.00	49.00				70.97	100.00
	days_processing	No known data quality concerns	1998-2006										
	pots_lost	Inconsistently reported in 1998-2004 data. Data quality is limited and variable dropped from 2005 EDR											
fish_tickets	booklet_id												
	fishery												
	fish ticket number	1998 through 2005 fish tickets are entered inconsistently as including or not including full fish ticket id with year code. When using to merge with CFEC fish ticket data, analysts should use the six-digit numeric portion of the fish ticket number recorded in the EDR database.										

table	variable_id	mean (% error) 1998	2001	2004	2005	2006	SD(% error) 1998	2001	2004	2005	2006	mean(abs[%error]) 1998	2001	2004	2005	2006	SD(abs[%error]) 1998	2001	2004	2005	2006
EDR																					
	booklet_id																				
	submitter_id																				
	urcode																				
	ur																				
	datamods																				
	year																				
	sector																				
	owner_id																				
	cp_info_id																				
	reported_by																				
	reported_person_id																				
	owner_operated																				
	submit_type																				
	edr_signature_flag																				
	date_signed																				
	notes																				
vessel_plant_value																					
	booklet_id																				
	vess_equip_mkt_value																				
	vess_equip_repl_value																				
	plant_equip_assess_value																				
	plant_equip_est_value																				
crab_activity																					
	booklet_id																				
	fishery_code																				
	begin_date_1																				
	end_date_1																				
	begin_date_2																				
	end_date_2																				
	days_at_sea	-2.02	0.00	2.15			5.93	0.00	29.85			2.02	0.00	12.48			5.93	0.00	27.12		
	days_fishing				-0.93	-1.34				6.21	20.71				2.63	5.43				5.68	20.02
	days_travel_offload				0.09	7.19				3.13	40.60				0.92	16.79				2.99	37.60
	days_processing																				
	pots_lost																				
fish_tickets																					
	booklet_id																				
	fishery																				
	fish ticket number																				

			EDR FORM SOURCE TABLES - SECTOR/YEAR								
			Catcher/Processor			Floating & Shoreside Processors			Catcher Vessel		
table	variable_id	description	98, 01, 04	2005	2006	98, 01, 04	2005	2006	98, 01, 04	2005	2006
crab_landing_revenue											
	booklet_id	Identifier for individual EDR									
	fishery_code	code for rationalized crab fishery									
	evsale_pounds	Pounds Sold, by fishery							Table 2.0	Table 2.0	
										Table 2.0	
	evsale_deadloss	Deadloss Pounds, by fishery							Table 2.0	Table 2.0	
	evsale_revenue	Gross revenue from exvessel sale, by fishery									Table 2.0
	evsale_ifqa_pounds	Pounds Sold, A-Class Shares, by fishery									Table 2.0
	evsale_ifqa_deadloss	Deadloss Pounds, A-Class Shares, by fishery									Table 2.0
	evsale_ifqa_revenue	Gross revenue from exvessel sale, A-Class Shares, by fishery									Table 2.0
	evsale_ifqb_pounds	Pounds Sold, B-Class Shares, by fishery									Table 2.0
	evsale_ifqb_deadloss	Deadloss Pounds, B-Class Shares, by fishery									Table 2.0
	evsale_ifqb_revenue	Gross revenue from exvessel sale, B-Class Shares, by fishery									Table 2.0
	evsale_ifqc_pounds	Pounds Sold, C-Class Shares, by fishery									Table 2.0
	evsale_ifqc_deadloss	Deadloss Pounds, C-Class Shares, by fishery									Table 2.0
	evsale_ifqc_revenue	Gross revenue from exvessel sale, C-Class Shares, by fishery									
owner_ifq_allocation											
	booklet_id	Identifier for individual EDR									
	fishery_code	code for rationalized crab fishery									
	qt_h_cpo_lb	Vessel owner's quota harvested on vessel, pounds harvested, Catcher Processor		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_h_a_lb	Vessel owner's quota harvested on vessel, pounds harvested, IFQ A Class Shares		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_h_b_lb	Vessel owner's quota harvested on vessel, pounds harvested, IFQ B Class Shares		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_l_cpo_lb	Vessel owner's quota leased/transferred from vessel, pounds transferred, Catcher		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_l_cpo_rev	Vessel owner's quota leased/transferred from vessel, revenue, Catcher Processor		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_l_a_lb	Vessel owner's quota leased/transferred from vessel, pounds transferred, IFQ A		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_l_a_rev	Vessel owner's quota leased/transferred from vessel, revenue, IFQ A Class Shares		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_l_b_lb	Vessel owner's quota leased/transferred from vessel, pounds transferred, IFQ B		Table 3.1	Table 3.1					Table 3.1	Table 3.1
	qt_l_b_rev	Vessel owner's quota leased/transferred from vessel, revenue, IFQ B Class Shares (IFQ-B), by fishery		Table 3.1	Table 3.1					Table 3.1	Table 3.1
quota_lease_costs											
	booklet_id	Identifier for individual EDR									
	fishery_code	code for rationalized crab fishery									
	qt_l_cdq_lb	Quota leased for use on vessel, pounds leased, Community Development Quota	Table 4.2	Table 3.2	Table 3.2				Table 3.0	Table 3.2	Table 3.2
	qt_l_cdq_cost	Quota leased for use on vessel, total cost, Community Development Quota (CDQ),	Table 4.2	Table 3.2	Table 3.2				Table 3.0	Table 3.2	Table 3.2
	qt_l_cpo_lb	Quota leased for use on vessel, pounds leased, Catcher Processor Owners Quota		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_cpo_cost	Quota leased for use on vessel, total cost, Catcher Processor Owners Quota (CPO-		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_a_lb	Quota leased for use on vessel, pounds leased, IFQ A Class Shares (IFQ-A), by		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_a_cost	Quota leased for use on vessel, total cost, IFQ A Class Shares (IFQ-A), by fishery		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_b_lb	Quota leased for use on vessel, pounds leased, IFQ B Class Shares (IFQ-B), by		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_b_cost	Quota leased for use on vessel, total cost, IFQ B Class Shares (IFQ-B), by fishery		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_c_lb	Quota leased for use on vessel, pounds leased, Crew Shares (IFQ-C), by fishery		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_c_cost	Quota leased for use on vessel, total cost, IFQ C Class Shares (IFQ-C), by fishery		Table 3.2	Table 3.2					Table 3.2	Table 3.2
	qt_l_c_ncrw	Quota leased for use on vessel, number of crew contributing, IFQ C Class Shares		Table 3.2	Table 3.2					Table 3.2	Table 3.2
crab_labor											
	booklet_id	Identifier for individual EDR									
	fishery_code	code for rationalized crab fishery									
	avg_crew_size	average number of crew members on vessel during the fishery, including captain							Table 1.0		
	crew_earning_shares	crab harvesting labor, no. of paid harvest crew, by fishery	Table 2.1	Table 4.1	Table 4.1				Table 4.1	Table 4.1	Table 4.1
	crew_share_payment	crab harvesting labor, total crew labor payment, by fishery	Table 2.1	Table 4.1	Table 4.1				Table 4.1	Table 4.1	Table 4.1
	captain_share_payment	crab harvesting labor, captain's labor payment, by fishery	Table 2.1	Table 4.1	Table 4.1				Table 4.1	Table 4.1	Table 4.1
	num_processing_crew	crab processing labor, no. of crew with pay determined by processing work, by	Table 2.2	Table 4.2	Table 4.2						
	avg_num_proc_positions	crab processing labor, average no. of crab processing positions, by fishery	Table 2.2	Table 4.2	Table 4.2	Table 2.1	Table 3.1	Table 3.1			
	proc_man_hrs	crab processing labor, total man-hours, by fishery				Table 2.1	Table 3.1	Table 3.1			
	total_proc_labor_payment	crab processing labor, total processing labor payment, by fishery	Table 2.2	Table 4.2	Table 4.2	Table 2.1	Table 3.1	Table 3.1			

table	variable_id	data structure notes	year-version changes
crab_landing_revenue			
	booklet_id		
	fishery_code		
	evsale_pounds		Ex-vessel pounds landed and gross revenue was reported by fishery in 1998-2004 EDR. Pounds, revenue, and dealloss were reported by fishery in 2005. Pounds, revenue and dealoss by fishery were disaggregated by IFQ type in 2006 EDR. Aggregating 2006 pounds, revenue and dealoss data, respectively, across IFQ type, provides total figures by fishery that are directly comparable to pounds, revenue and dealloss (2005 only) data from 1998-2005
	evsale_dealloss		
	evsale_revenue		
	evsale_ifqa_pounds		
	evsale_ifqa_dealloss		
	evsale_ifqa_revenue		
	evsale_ifqb_pounds		
	evsale_ifqb_dealloss		
	evsale_ifqb_revenue		
	evsale_ifqc_pounds		
	evsale_ifqc_dealloss		
	evsale_ifqc_revenue		
owner_ifq_allocation			
	booklet_id		Monitoring EDR submitters use of harvest quota began in 2005. Both the use of the owner's vessel and lease/transfer to other harvesters is collected by fishery and by quota type. Monitoring of quota lease revenues is proposed to be conducted in separate quota owner survey instrument beginning 2008
	fishery_code		
	qt_h_cpo_lb		
	qt_h_a_lb		
	qt_h_b_lb		
	qt_l_cpo_lb		
	qt_l_cpo_rev		
	qt_l_a_lb		
	qt_l_a_rev		
	qt_l_b_lb		
	qt_l_b_rev		
quota_lease_costs			
	booklet_id		Pounds and cost of leased harvest quota by fishery and quota type began in 2005
	fishery_code		
	qt_l_cdq_lb		
	qt_l_cdq_cost		
	qt_l_cpo_lb		
	qt_l_cpo_cost		
	qt_l_a_lb		
	qt_l_a_cost		
	qt_l_b_lb		
	qt_l_b_cost		
	qt_l_c_lb		
	qt_l_c_cost		
	qt_l_c_now		
crab_labor			
	booklet_id		
	fishery_code		
	avg_crew_size		dropped from EDR starting 2005
	crew_earning_shares		1998-2004 defined as number of harvest crew earning shares. 2005 and later EDRs defined as number of paid harvest crew
	crew_share_payment		1998-2004 defined as harvest crew share payment. 2005 and later EDRs defined as harvest crew labor payment
	captain_share_payment		1998-2004 defined as captain harvest payment. 2005 and later EDRs defined as captain labor paymentsa
	num_processing_crew		
	avg_num_proc_positions		
	proc_man_hrs		
	total_proc_labor_payment		

table	variable_id	data quality notes	Audit Results: years	number of observations audited: 1998	2001	2004	2005	2006	% supported (See Table 11 in Appendix A): 1998	2001	2004	2005	2006
crab_landing_revenue													
	booklet_id												
	fishery_code												
	evsale_pounds	Pounds landed by fishery and ifq type are validated against CFEC fish ticket data. Audit results also indicate basis for data entered for pounds landed and landing revenue by fishery and IFQ type is well documented and comprises basis for crew settlent data											
	evsale_deadloss												
	evsale_revenue												
	evsale_ifqa_pounds												
	evsale_ifqa_deadloss												
	evsale_ifqa_revenue												
	evsale_ifqb_pounds												
	evsale_ifqb_deadloss												
	evsale_ifqb_revenue												
	evsale_ifqc_pounds												
	evsale_ifqc_deadloss												
	evsale_ifqc_revenue												
owner_ifq_allocation													
	booklet_id	Validation audit for 2005 and 2006 EDR data indicated that pound and revenue data for owner quota transfers to other harvestors are of limited quality, although accuracy and support improved in 2006. In both years, documentationa and terms of lease agreements are highly heterogenous. For 2005, 15 (34%) of audited EDR submitters were found to have leased out quota, of which 7 provided documented basis. In audit of 2006 data, 15 (54%) of vessel EDR submitters were found to have leased out quota. All provided basis for subitted data. A small number of gross outliers are the source of most error in 2006 data. Note revenue for quota lease represents a separate revenue stream from harvest revenue for quota owners, and is independent of all other revenue and cost figures represented in EDR and are unlikley of be used in analysis of vessel harvest cost and income. As source of data for analysis of quota lease market, these data can be used with careful attention to outliers. RAM quota transfer application data can be used to validate quota pounds transfered data											
	fishery_code												
	qt_h_cpo_lb												
	qt_h_a_lb												
	qt_h_b_lb												
	qt_l_cpo_lb		2006					1					100%
	qt_l_cpo_rev		2006					1					100%
	qt_l_a_lb		2006					16					113%
	qt_l_a_rev		2005, 2006				13	15				54%	100%
	qt_l_b_lb		2006					20					95%
	qt_l_b_rev		2005, 2006				7	19				43%	100%
quota_lease_costs													
	booklet_id	2005 Audit found documented basis for quota lease costs were unavailable for most reported leases and lease agreements were of different types, from arms-length, market transactions, to in-kind trades. 2006 audit found improved documented support, with 100% of audit leases documented in sufficient details to permit validation. In 2005, 81 of 165 EDRs reported one or more quota leases. In 2006, 86 of 98 EDRs reported one or more quota leases. Pounds of leased quota can be aggregated with pounds of owner quota harvested on vessel, by fishery and type, and comareed with pounds landed by fishery, as internal validity check. Analysts should use caution interpreting the lease cost data for 2005. Validation results for 2006 lease pounds and cost indicate these data to have minimal measurement error											
	fishery_code												
	qt_l_cdq_lb		2006					6					100%
	qt_l_cdq_cost		2006					6					100%
	qt_l_cpo_lb		2006					4					100%
	qt_l_cpo_cost		2006					4					100%
	qt_l_a_lb		2006					35					100%
	qt_l_a_cost		2005, 2006				7	35				57%	100%
	qt_l_b_lb		2006					30					100%
	qt_l_b_cost		2005, 2006				6	30				50%	100%
	qt_l_c_lb		2006					34					100%
	qt_l_c_cost		2006					34					100%
	qt_l_c_conv		2006					34					100%
crab_labor													
	booklet_id												
	fishery_code												
	avg_crew_size	Change in definition of harvest crew from number of crew earning shares to paid crew members may introduce systematic undercount of paid crew in 1998-2004 data where some crew did not receive shares. Use average number of crew variable as comparable to number of paid harvest crew plus captain											
	crew_earning_shares	Audit found harvest crew count and total payment to crew and captain data to be well supported by crew settlement records	1998-2006	63	53	60	41	47	63%	75%	70%	59%	100%
	crew_share_payment		1998-2006	63	53	60	41	47	57%	75%	70%	59%	100%
	captain_share_payment		1998-2006	63	53	60	41	47	57%	75%	68%	56%	100%
	num_processing_crew		1998-2006										
	avg_num_proc_positions												
	proc_man_hrs												
	total_proc_labor_payment												

le	variable_id	mean (% error) 1998	2001	2004	2005	2006	SD(% error) 1998	2001	2004	2005	2006	mean(abs(%error)) 1998	2001	2004	2005	2006	SD(abs(%error)) 1998	2001	2004	2005	2006
b_landing_revenue																					
	booklet_id																				
	fishery_code																				
	evsale_pounds																				
	evsale_deadloss																				
	evsale_revenue																				
	evsale_ifqa_pounds																				
	evsale_ifqa_deadloss																				
	evsale_ifqa_revenue																				
	evsale_ifqb_pounds																				
	evsale_ifqb_deadloss																				
	evsale_ifqb_revenue																				
	evsale_ifqc_pounds																				
	evsale_ifqc_deadloss																				
	evsale_ifqc_revenue																				
ner_ifq_allocation																					
	booklet_id																				
	fishery_code																				
	qt_h_cpo_lb																				
	qt_h_a_lb																				
	qt_h_b_lb																				
	qt_t_cpo_lb					0.00										0.00					
	qt_t_cpo_rev					0.00										0.00					
	qt_t_a_lb					137.03					432.94					137.27					432.80
	qt_t_a_rev				-57.14	179.71				53.45	469.50				57.14	179.71				53.45	469.50
	qt_t_b_lb					0.91					3.98					0.93					3.98
	qt_t_b_rev				-66.67	11.10				57.74	42.58				66.67	11.10				57.74	42.58
ota_lease_costs																					
	booklet_id																				
	fishery_code																				
	qt_l_cdq_lb					-0.15					0.38					0.15					0.38
	qt_l_cdq_cost					0.02					0.06					0.02					0.06
	qt_l_cpo_lb					0.00					0.00					0.00					0.00
	qt_l_cpo_cost					0.00					0.00					0.00					0.00
	qt_l_a_lb					1.25					5.90					1.51					5.84
	qt_l_a_cost				0.00	2.67				0.00	8.06				0.00	2.89				0.00	8.05
	qt_l_b_lb					-2.64					13.91					2.64					13.91
	qt_l_b_cost				-21.33	-0.89				36.94	14.72				21.33	4.21				36.94	14.11
	qt_l_c_lb					-0.49					2.61					0.51					2.61
	qt_l_c_cost					0.41					11.46					3.95					10.73
	qt_l_c_nzrw					40.20					116.64					43.14					117.57
ab_labor																					
	booklet_id																				
	fishery_code																				
	avg_crew_size																				
	crew_earning_shares	-0.10	0.19	0.24		1.63	3.33	1.22	1.54		7.96	0.73	0.19	0.24		2.84	3.25	1.22	1.54		7.61
	crew_share_payment	4.10	-1.87	-0.46		3.01	38.51	6.01	9.65		30.51	10.41	1.87	3.46		7.99	37.27	6.04	9.01		29.58
	captain_share_payment	2.07	-0.61	3.94		17.23	8.08	2.30	18.21		82.92	3.09	0.61	4.48		18.53	7.75	2.30	18.08		82.63
	num_processing_crew																				
	avg_num_proc_positions																				
	proc_man_hrs																				
	total_proc_labor_payment																				

			EDR FORM SOURCE TABLES - SECTOR/YEAR								
			Catcher/Processor			Floating & Shoreside Processors			Catcher Vessel		
table	variable_id	description	98, 01, 04	2005	2006	98, 01, 04	2005	2006	98, 01, 04	2005	2006
crab_only_cost_general	booklet_id	Identifier for individual EDR									
	fishery_code	code for rationalized crab fishery									
	co_insprem_cost	BSAI crab-specific costs, insurance premiums	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	co_insdeduct_cost	BSAI crab-specific costs, insurance deductible fees	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	co_pots_quant	BSAI crab-specific costs, quantity of pots purchased	Table 6.1						Table 5.1		
	co_pots_cost	BSAI crab-specific costs, cost of pots purchased	Table 6.1						Table 5.1		
	co_hgear_cost	BSAI crab-specific costs, line and other crabbing gear purchases	Table 6.1						Table 5.1		
	co_crew_food_cost	BSAI crab-specific costs, food and provisions for crew	Table 6.1	Table 7.1 calculated from Table 7.1	Table 7.1 calculated from Table 7.1					Table 5.1	Table 5.1
	co_crew_other_cost	BSAI crab-specific costs, other crew costs							Table 5.1	Calculated from Table 5.1	Calculated from Table 5.1
	co_other_labor_cost	BSAI crab-specific costs, non-wage labor costs for crab harvest/processing crew	Table 6.1			Table 6.1	Table 6.1	Table 6.1	Table 5.1		
	co_supply_freight_cost	BSAI crab-specific costs, freight costs for supplies to the	Table 6.1	Table 7.1	Table 7.1	Table 6.1	Table 6.1	Table 6.1	Table 5.1	Table 5.1	Table 5.1
	co_crab_freight_cost	BSAI crab-specific costs, freight and handling costs for crab and crab products	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	co_gearstorage_cost	BSAI crab-specific costs, gear storage	Table 6.1	Table 7.1	Table 7.1	Table 6.1	Table 6.1	Table 6.1			
	co_prodstorage_cost	BSAI crab-specific costs, product storage	Table 6.1	Table 7.1	Table 7.1	Table 6.1	Table 6.1	Table 6.1	Table 5.1	Table 5.1	Table 5.1
	co_tax_cost	BSAI crab-specific costs, total of fisheries taxes		Table 7.1	Table 7.1					Table 5.1	Table 5.1
	co_coop_cost	BSAI crab-specific costs, harvest cooperative membership and Inter Coop	Table 6.1	Table 7.1	Table 7.1	Table 6.1	Table 6.1	Table 6.1			
	co_process_mati_cost	BSAI crab-specific costs, packaging, materials, equipment and supply costs for	Table 6.1	Table 7.1	Table 7.1	Table 6.1	Table 6.1	Table 6.1			
	co_repack_cost	BSAI crab-specific costs, crab product re-packing costs	Table 6.1	Table 7.1	Table 7.1	Table 6.1	Table 6.1	Table 6.1			
	co_broker_cost	BSAI crab-specific costs, brokerage and promotions costs for crab sales				Table 6.1	Table 6.1	Table 6.1			
	co_waste_cost	BSAI crab-specific costs, water, sewer, and waste disposal									
co_cost_other_crew_detail	booklet_id	Identifier for individual EDR									
	co_other_crew_desc	BSAI crab-specific costs, other crew-related expense, open-ended description		Table 7.1	Table 7.1					Table 5.1	Table 5.1
	co_other_crew_coded	BSAI crab-specific costs, other crew-related expense, classified description		code created from Table 7.1	code created from Table 7.1					code created from Table 5.1	code created from Table 5.1
	co_other_crew_cost	BSAI crab-specific costs, other crew-related expense, cost		Table 7.1	Table 7.1					Table 5.1	Table 5.1
co_cost_other_crab_detail	booklet_id	Identifier for individual EDR									
	co_other_crab_desc	BSAI crab-specific costs, other crab related expense, open-ended description	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	co_other_crab_coded	BSAI crab-specific costs, other crab related expense, classified description	code created from Table 6.1	code created from Table 7.1	code created from Table 7.1				code created from Table 5.1	code created from Table 5.1	code created from Table 5.1
	co_other_crab_cost	BSAI crab-specific costs, other crab related expense, cost	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
crab_only_cost_bylocation	booklet_id	Identifier for individual EDR									
	co_cost_citystate	BSAI crab-specific costs, open-ended descriptions of location(s) of purchase		Table 7.1	Table 7.1					Table 5.1	Table 5.1
	co_cost_localecode	BSAI crab-specific costs, category code for city, state - See Table 3 in Appendix A		code created from Table 7.1	code created from Table 7.1					code created from Table 5.1	code created from Table 5.1
	co_pots_count	BSAI crab-specific costs, quantity of pots purchased		Table 7.1	Table 7.1					Table 5.1	Table 5.1
	co_pots_cost	BSAI crab-specific costs, cost of pots purchased		Table 7.1	Table 7.1					Table 5.1	Table 5.1
	co_hgear_cost	BSAI crab-specific costs, other crab harvest gear cost		Table 7.1	Table 7.1					Table 5.1	Table 5.1

table	variable_id	data structure notes	year-version changes
crab_only_cost_general			
	booklet_id		
	fishery_code		
	co_insprem_cost	annual insurance premiums are reported separately, see annual_costs_general table	2005 and later EDR directions included cost of insurance pool participation
	co_insdeduct_cost		
	co_pots_quant	see crab_only_cost_byloc relational table for additional data for this variable	pre-2005 forms reported this variable as aggregate, 2005 and later forms reported by location
	co_pots_cost	see crab_only_cost_byloc relational table for additional data for this variable	pre-2005 forms reported this variable as aggregate, 2005 and later forms reported by location
	co_hgear_cost	see crab_only_cost_byloc relational table for additional data for this variable	pre-2005 forms reported this variable as aggregate, 2005 and later forms reported by location
	co_crew_food_cost	see harv_labor_pay_detail relational table for additional data on this variable	
	co_crew_other_cost		1998-2004 EDRs elicited Other Crew Costs as single aggregate variable, 2005 and later EDRs elicited multiple "other crew cost" with space for open-ended descriptions of crew
	co_other_labor_cost		
	co_supply_freight_cost		
	co_crab_freight_cost		
	co_gearstorage_cost		
	co_prodstorage_cost		
	co_tax_cost		
	co_coop_cost		
	co_process_matl_cost		
	co_repack_cost		
	co_broker_cost		
	co_waste_cost		
co_cost_other_crew_detail			
	booklet_id		
	co_other_crew_desc		1998-2004 EDRs elicited Other Crew Costs as single variable, 2005 and later EDRs elicited multiple "other crew cost" with space for open-ended descriptions of crew cost elements
	co_other_crew_coded	This variable is derived from coding open-ended responses to "other crew costs" descriptions, see Appendix A, Table 2 for correspondence to NAICS codes, also see data quality notes	
	co_other_crew_cost		
co_cost_other_crab_detail			
	booklet_id		
	co_other_crab_desc		
	co_other_crab_coded	This variable is derived from coding open-ended responses to "other crab-specific costs" descriptions; see Appendix A, Table 3 for correspondence to NAICS codes, also see data quality notes	
	co_other_crab_cost		
crab_only_cost_bylocation			
	booklet_id		
	co_cost_citystate		
	co_cost_localecode	This variable is derived from coding open-ended responses to"City, State" descriptions, see Appendix A, Table 1 for classification values	
	co_pots_count		
	co_pots_cost		
	co_hgear_cost		

table	variable_id	data quality notes	Audit Results: years	number of observations audited: 1998	2001	2004	2005	2006	% supported (See Table 11 in Appendix A): 1998	2001	2004	2005	2006
crab_only_cost_general	*booklet_id*												
	fishery_code												
	co_insprem_cost	98-04 data may undercount insurance pool costs, 2005 audit examined crab-only costs and excluded annual insurance costs reported separately As a result, most reporting error found in audit resulted from reported value of zero insurance cost compared to audit finding of positive insurance cost, this overstates error rates Data quality analysis should be updated to compare audited insurance values with summed crab-only and pro-rated annual insurance costs 2006 audit results reflect both crab-only and annual insurance cost with findings of high degree of support and accuracy.	1998-2006										
	co_insdeduct_cost	Deductible costs are reported by small number of EDR submitter's due to incidental nature of costs Audit indicates that reporting error is largely a function of zero reported insurance deductible cost comapred to audit finding of positive deductible costs, where deductible cost is reported, it is generally accurate. Use of this vriable in analysis should reflect the probabilistic and incidental nature of this cost element	1998-2006										
	co_pots_quant	no known data quality issues specific to this variable											
	co_pots_cost	no known data quality issues specific to this variable											
	co_hgear_cost	no known data quality issues specific to this variable	1998-2004										
	co_crew_food_cost	data should be validated against crew pay deduction data in hary_labor_pay_detail table											
	co_crew_other_cost												
	co_other_labor_cost												
	co_supply_freight_cost												
	co_crab_freight_cost												
	co_gearstorage_cost												
	co_prodstorage_cost		1998-2005										
	co_tax_cost												
	co_coop_cost												
	co_process_matl_cost												
	co_repack_cost												
	co_broker_cost												
	co_waste_cost												
co_cost_other_crew_detail	*booklet_id*												
	co_other_crew_desc												
	co_other_crew_coded												
	co_other_crew_cost												
co_cost_other_crab_detail	*booklet_id*												
	co_other_crab_desc		2006										
	co_other_crab_coded												
	co_other_crab_cost		2006										
crab_only_cost_bylocation	*booklet_id*												
	co_cost_citystate		2006										
	co_cost_locatecode												
	co_pots_count		2006										
	co_pots_cost		2006										
	co_hgear_cost		2006										

table	variable_id	mean (% error) 1998	2001	2004	2005	2006	SD(% error) 1998	2001	2004	2005	2006	mean(abs(%error)) 1998	2001	2004	2005	2006	SD(abs(%error)) 1998	2001	2004	2005	2006
crab_only_cost_general																					
	booklet_id																				
	fishery_code																				
	co_insprem_cost																				
	co_insdeduct_cost																				
	co_pots_quant																				
	co_pots_cost																				
	co_hgear_cost																				
	co_crew_food_cost																				
	co_crew_other_cost																				
	co_other_labor_cost																				
	co_supply_freight_cost																				
	co_crab_freight_cost																				
	co_gearstorage_cost																				
	co_prodstorage_cost																				
	co_tax_cost																				
	co_coop_cost																				
	co_process_mail_cost																				
	co_repack_cost																				
	co_broker_cost																				
	co_waste_cost																				
co_cost_other_crew_detail																					
	booklet_id																				
	co_other_crew_desc																				
	co_other_crew_coded																				
	co_other_crew_cost																				
co_cost_other_crab_detail																					
	booklet_id																				
	co_other_crab_desc																				
	co_other_crab_coded																				
	co_other_crab_cost																				
crab_only_cost_bylocation																					
	booklet_id																				
	co_cost_olystate																				
	co_cost_locatecode																				
	co_pots_count																				
	co_pots_cost																				
	co_hgear_cost																				

			EDR FORM SOURCE TABLES - SECTOR/YEAR								
			Catcher/Processor			Floating & Shoreside Processors			Catcher Vessel		
table	variable_id	description	98, 01, 04	2005	2006	98, 01, 04	2005	2006	98, 01, 04	2005	2006
crab_only_cost_by_fishery											
	booklet_id										
	fishery_code										
	co_bait_total_cost	total cost of bait, by fishery	Table 6.1	calculated from Table 7.1	calculated from Table 7.1				Table 5.1	calculated from Table 5.1	calculated from Table 5.1
	co_bait_citystate	BSAI crab-specific costs, open-ended descriptions of location(s) of bait purchases, by fishery		Table 7.1	Table 7.1					Table 5.1	Table 5.1
	co_bait_localecode	BSAI crab-specific costs, location(s) of bait purchases classified per Appendix A, Table 1		code created from Table 7.1	code created from Table 7.1					code created from Table 5.1	code created from Table 5.1
	co_observ_cost	BSAI crab-specific costs, observer costs, by fishery	Table 6.1	Table 7.1	Table 7.1	Table 6.1	Table 6.1	Table 6.1	Table 5.1	Table 5.1	Table 5.1
crab_only_cost_bait_detail											
	booklet_id										
	fishery_code		Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	co_bait_spp	open-ended description of bait species/type	code created from Table 6.1	code created from Table 7.1	code created from Table 7.1				code created from Table 5.1	code created from Table 5.1	code created from Table 5.1
	co_bait_sppcode	bait species - classified description									
	co_bait_ppounds	bait pounds, by species/type	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	co_bait_cost	total bait cost, by species/type	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
crab_only_cost_fuel_detail											
	booklet_id	Identifier for individual EDR									
	fishery	code for rationalized crab fishery	Table 6.1						Table 5.1		
	co_lube_cost	BSAI crab-specific costs, lubrication and fluids			Table 7.1						Table 5.1
	co_fuel_lube_flag	BSAI crab-specific costs, binary code indicating inclusion of lubrication/fluids cost in		Table 7.1						Table 5.1	
	co_fuel_lube_flag_fshy	BSAI crab-specific costs, binary code indicating inclusion of lubrication/fluids cost in		Table 7.1	Table 7.1					Table 5.1	Table 5.1
	co_fuel_citystate	BSAI crab-specific costs, location(s) of fuel purchases		code created from Table 7.1	code created from Table 7.1					code created from Table 5.1	code created from Table 5.1
	co_fuel_localecode	BSAI crab-specific costs, location(s) of fuel purchases classified per Appendix A, Table 1									
	co_fuel_gal	BSAI crab-specific costs, gallons of fuel used, by fishery	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	co_fuel_cost	BSAI crab-specific costs, cost of fuel used, by fishery	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
annual_costs_general											
	booklet_id	Identifier for individual EDR			Table 7.2	Table 6.2	Table 6.2	Table 6.2			Table 5.2
	ac_fuel_cost	annual costs, fuel, electricity, lubrication and fluids, cost			Table 7.2	Table 6.2	Table 6.2	Table 6.2			Table 5.2
	ac_fuel_collag	annual costs, fuel, electricity, lubrication and fluids, crab-only cost indicator			Table 7.2						Table 5.2
	ac_fuel_lube_flag	annual costs, fuel, electricity, lubrication and fluids, lubrication and fluids included		Table 7.2	Table 7.2					Table 5.2	Table 5.2
	ac_ins_cost	annual costs, hull, P&I, and pollution insurance premium costs		Table 7.2	Table 7.2					Table 5.2	Table 5.2
	ac_ins_collag	annual costs, hull, P&I, and pollution insurance premium crab-only cost indicator									
	ac_salary_cost	annual costs, wages and salaries of employees not engaged in harvest or	Table 6.2	Table 7.2	Table 7.2	Table 6.2	Table 6.2	Table 6.2			
	ac_salary_num	annual costs, wages and salaries, number of employees not engaged in harvest or	Table 6.2	Table 7.2	Table 7.2	Table 6.2	Table 6.2	Table 6.2			
	ac_salary_collag	annual costs, wages and salaries, crab-only cost indicator	Table 6.2	Table 7.2	Table 7.2	Table 6.2	Table 6.2	Table 6.2			
annual_costs_by_location											
	booklet_id										
	ac_citystate										
	ac_localecode		Table 6.2	Table 7.2	Table 7.2	Table 6.2	Table 6.2	Table 6.2	Table 5.2	Table 5.2	Table 5.2
	ac_capinv_cost	annual costs, capital investment cost	Table 6.2	Table 7.2	Table 7.2	Table 6.2	Table 6.2	Table 6.2	Table 5.2	Table 5.2	Table 5.2
	ac_capinv_collag	annual costs, capital investment, crab-only cost indicator	Table 6.2	Table 7.2	Table 7.2	Table 6.2	Table 6.2	Table 6.2	Table 5.2	Table 5.2	Table 5.2
	ac_rnm_cost	annual costs, repair and maintenance cost	Table 6.2	Table 7.2	Table 7.2	Table 6.2	Table 6.2	Table 6.2	Table 5.2	Table 5.2	Table 5.2
	ac_rnm_collag	annual costs, repair and maintenance, crab-only cost indicator									
annual_costs_other_detail											
	booklet_id	Identifier for individual EDR	Table 6.1	Table 7.1	Table 7.1				Table 5.1	Table 5.1	Table 5.1
	ac_other_crab_desc	BSAI crab-specific costs, other crab related expense, open-ended description	code created from Table 6.1	code created from Table 7.1	code created from Table 7.1				code created from Table 5.1	code created from Table 5.1	code created from Table 5.1
	ac_other_crab_coded	BSAI crab-specific costs, other crab related expense, classified description									
	ac_other_crab_cost	BSAI crab-specific costs, other crab related expense, cost									
annual_totals											
	booklet_id	Identifier for individual EDR									
	total_days_processing	Annual totals for all fisheries, processing days	Table 8.0	Table 8.0	Table 8.0	Table 8.0	Table 7.0	Table 7.0			
	total_days_at_sea	Annual totals for all fisheries, days at sea	Table 8.0	Table 8.0	Table 8.0				Table 7.0	Table 6.0	Table 6.0
	total_fob_revenue	Annual totals for all fisheries, product sales, FOB revenue		Table 8.0	Table 8.0	Table 8.0	Table 7.0	Table 7.0			
	total_fob_localecode	Annual totals for all fisheries, product sales, FOB port location code							Table 7.0	Table 6.0	Table 6.0
	total_gross_land_revenue	Annual totals for all fisheries, landings, gross revenue	Table 8.0	Table 8.0	Table 8.0	Table 8.0	Table 7.0	Table 7.0			
	finished_pounds_processed	Annual totals for all fisheries, finished pounds processed	Table 8.0	Table 8.0	Table 8.0				Table 7.0	Table 6.0	Table 6.0
	round_pounds_caught	Annual totals for all fisheries, round pounds caught	Table 8.0	Table 8.0	Table 8.0	Table 8.0	Table 7.0	Table 7.0	Table 7.0	Table 6.0	Table 6.0
	total_labor_costs	Annual totals for all fisheries, labor costs									

table	variable_id	data structure notes	year-version changes
crab_only_cost_by_fishery			
	booklet_id		
	fishery_code		
	co_bait_total_cost		
	co_bait_citystate		
	co_bait_locatecode	This variable is derived from coding open-ended responses to"City, State" descriptions, see Appendix A, Table 1 for classification values	
	co_observ_cost		
crab_only_cost_bait_detail			
	booklet_id		
	fishery_code		
	co_bait_spp		
	co_bait_sppcode	This variable is derived from coding open-ended responses to "bait species" descriptions, see Appendix A, Table 4 for bait codes	
	co_bait_pounds		
	co_bait_cost		
crab_only_cost_fuel_detail			
	booklet_id		
	fishery		
	co_lube_cost		
	co_fuel_lube_flag		
	co_fuel_lube_flag_fshy		
	co_fuel_citystate		
	co_fuel_locatecode		
	co_fuel_gal		
	co_fuel_cost		
annual_costs_general			
	booklet_id		
	ac_fuel_cost		
	ac_fuel_coflag		
	ac_fuel_lube_flag		
	ac_ins_cost		
	ac_ins_coflag		
	ac_salary_cost		
	ac_salary_num		
	ac_salary_coflag		
annual_costs_by_location			
	booklet_id		
	ac_citystate		
	ac_locatecode		
	ac_capinv_cost		
	ac_capinv_coflag		
	ac_rnm_cost		
	ac_rnm_coflag		
annual_costs_other_detail			
	booklet_id		
	ac_other_crab_desc		
	ac_other_crab_coded	This variable is derived from coding open-ended responses to "other crab specific costs" descriptions; see Appendix A, Table 3 for correspondence to NAICS codes, also see data quality	
	ac_other_crab_cost		
annual_totals			
	booklet_id		
	total_days_processing		
	total_days_at_sea		
	total_fob_revenue		
	total_fob_locatecode		
	total_gross_land_revenue		
	finished_pounds_processed		
	round_pounds_caught		
	total_labor_costs		

table	variable_id	data quality notes	Audit Results: years	number of observations audited 1998	2001	2004	2005	2006	% supported (See Table 11 in Appendix A) 1998	2001	2004	2005	2006
crab_only_cost_by_fishery													
	booklet_id												
	fishery_code												
	co_bait_total_cost		2005				22					73%	
	co_bait_citystate												
	co_bait_localecode												
	co_observ_cost												
crab_only_cost_bait_detail													
	booklet_id												
	fishery_code												
	co_bait_spp												
	co_bait_sppcode												
	co_bait_pounds												
	co_bait_cost		1998-2004	26	28	34			58%	71%	71%		
crab_only_cost_fuel_detail													
	booklet_id												
	fishery												
	co_lube_cost												
	co_fuel_lube_flag												
	co_fuel_lube_flag_fshy												
	co_fuel_citystate		2006										
	co_fuel_localecode												
	co_fuel_gal		2006					42					95%
	co_fuel_cost		1998-2006	27	27	34	22	42	59%	74%	68%	68%	98%
annual_costs_general													
	booklet_id												
	ac_fuel_cost		2006										
	ac_fuel_collag												
	ac_fuel_lube_flag												
	ac_ins_cost		2006										
	ac_ins_collag		2006										
	ac_salary_cost												
	ac_salary_num												
	ac_salary_collag												
annual_costs_by_location													
	booklet_id												
	ac_citystate												
	ac_localecode												
	ac_capinv_cost		2006										
	ac_capinv_collag												
	ac_mm_cost		2006										
	ac_mm_collag												
annual_costs_other_detail													
	booklet_id												
	ac_other_crab_desc		2006										
	ac_other_crab_coded												
	ac_other_crab_cost		2006										
annual_totals													
	booklet_id												
	total_days_processing												
	total_days_at_sea		1998-2006										
	total_fob_revenue												
	total_fob_localecode												
	total_gross_land_revenue		2006										
	finished_pounds_processed												
	round_pounds_caught		2006										
	total_labor_costs		2006										

table	variable_id	mean (% error) 1998	2001	2004	2005	2006	SD(% error) 1998	2001	2004	2005	2006	mean(abs(%error)) 1998	2001	2004	2005	2006	SD(abs(%error)) 1998	2001	2004	2005	2006
crab_only_cost_by_fishery																					
	booklet_id																				
	fishery_code																				
	co_bait_total_cost				5.79					15.48					6.20					15.29	
	co_bait_citystate																				
	co_bait_locatecode																				
	co_observ_cost																				
crab_only_cost_bait_detail																					
	booklet_id																				
	fishery_code																				
	co_bait_spp																				
	co_bait_sppcode																				
	co_bait_pounds																				
	co_bait_cost	0.99	51.98	28.83			35.86	182.09	175.02			15.51	70.48	46.52			32.08	175.42	171.00		
crab_only_cost_fuel_detail																					
	booklet_id																				
	fishery																				
	co_lube_cost																				
	co_fuel_lube_flag																				
	co_fuel_lube_flag_fshy																				
	co_fuel_citystate																				
	co_fuel_locatecode																				
	co_fuel_gal					1.34					9.87					2.24					9.70
	co_fuel_cost	-12.94	-9.68	-8.65	6.88	-1.47	29.15	30.34	32.63	45.29	8.69	12.94	11.06	14.42	23.83	1.82	29.147	29.843	30.415	38.646	8.6207
annual_costs_general																					
	booklet_id																				
	ac_fuel_cost																				
	ac_fuel_coflag																				
	ac_fuel_lube_flag																				
	ac_ins_cost																				
	ac_ins_coflag																				
	ac_salary_cost																				
	ac_salary_num																				
	ac_salary_coflag																				
annual_costs_by_location																					
	booklet_id																				
	ac_cityslate																				
	ac_localecode																				
	ac_capinv_cost																				
	ac_capinv_coflag																				
	ac_rnm_cost																				
	ac_rnm_coflag																				
annual_costs_other_detail																					
	booklet_id																				
	ac_other_crab_desc																				
	ac_other_crab_coded																				
	ac_other_crab_cost																				
annual_totals																					
	booklet_id																				
	total_days_processing																				
	total_days_at_sea																				
	total_fob_revenue																				
	total_fob_localecode																				
	total_gross_land_revenue																				
	finished_pounds_processed																				
	round_pounds_caught																				
	total_labor_costs																				

			EDR FORM SOURCE TABLES - SECTOR/YEAR					
			Catcher/Processor			Floating & Shoreside Processors		
table	variable_id	description	98, 01, 04	2005	2006	98, 01, 04	2005	2006
crab_raw	edr_id							
	fishery_code							
	raw_crab_processed_pounds	pounds of raw crab processed by the vessel/plat	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	raw_crab_supplied_to_custom_pounds	pounds of raw crab sent for custom processing	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	raw_crab_purchased_pounds	pounds of raw crab purchased from delivering vessels	calculated from Table 4.1	calculated from Table 6.a-e	calculated from Table 6.a-e	calculated from Table 4.0	calculated from Table 5.a-e	calculated from Table 5.a-e
crab_production_bal	edr_id							
	fishery_code		Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	product_code	product code, see Appendix A, Table 6 for code values	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	process_code	process code, See Appendix A, Table 7 for code values	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	crab_size_code	crab size code; see Appendix A Table 8 for code values	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	crab_grade_code	crab grade code; see Appendix A, Table 9 for code values	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	box_size	box size	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	box_lb_flag	box size units (kg or lb)						
	cust_proc_flag	custom processed flag, indicating raw crab was processed for other licensed registered crab receiver	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
	finished_lbs	finished pounds for product form identified by code values	Table 1.2	Table 1.2a-e	Table 1.2a-e	Table 1.0	Table 1.a-e	Table 1.a-e
crab_process_sales	edr_id							
	spp_code	crab species code, see Appendix A, Table 10 for species code values	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	product_code	product code; see Appendix A, Table 6 for code values	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	process_code	process code, See Appendix A, Table 7 for code values	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	crab_size	crab size code; see Appendix A Table 8 for code values	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	crab_grade	crab grade code, see Appendix A, Table 9 for code values	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	box_size	box size	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	box_lb_kg	box size units (kg or lb)	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	finished_pounds_sold	finished pounds sold for product form identified by code values	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	fob_revenues	total revenues for finished pounds of product form identified by code values	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	fob_port	port of lading for FOB value, Seattle or Alaska	Table 5.0	Table 2.1a-b	Table 2.1a-b	Table 5.0	Table 2.1a-b	Table 2.1a-b
	affiliated_sale_flag	identifier for sales to affiated entities, 0=not affiliated/ 1=affiliated						
custom_process_provided	edr_id							
	fishery_code		Table 7.0	Table 2.2	Table 2.2	Table 7.0	Table 2.2	Table 2.2
	product_code	product code, see Appendix A, Table 6 for code values	Table 7.0	Table 2.2	Table 2.2	Table 7.0	Table 2.2	Table 2.2
	process_code	process code, See Appendix A, Table 7 for code values						
	custom_process_pounds	pounds processed, by fishery and product/process	Calculated from Table 1.2	Calculated from Table 1.2	Calculated from Table 1.0	Calculated from Table 1.2	Calculated from Table 1.2	Calculated from Table 1.2
	custom_process_revenue	revenue recived for custom processing the specified product	Table 7.0	Table 2.2	Table 2.2	Table 7.0	Table 2.2	Table 2.2
custom_process_hired	edr_id							
	fishery_code		Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	product_code	product code, see Appendix A, Table 6 for code values	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	process_code	process code, See Appendix A, Table 7 for code values	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	crab_size	crab size code, see Appendix A Table 8 for code values	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	crab_grade	crab grade code, see Appendix A, Table 9 for code values	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	box_size	box size	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	box_lb_kg	box size units (kg or lb)						
	cust_hired_finished_pounds	finished pounds of specified product produced by custom processor	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
	cust_hired_process_cost	total cost paid for specified product produced by custom processor	Table 3.0	Table 5.a-e	Table 5.a-e	Table 3.0	Table 4.a-e	Table 4.a-e
crab_purchased	edr_id							
	fishery_code							
	ifq_code	code for IFQ type used for landing of purchased crab; See Appendix A Table 5 for code values						Table 5.a-e
	crab_size	crab size code, see Appendix A Table 8 for code values	Table 4.1	Table 6.a-e	Table 6.a-e	Table 4.0	Table 5.a-e	Table 5.a-e
	crab_grade	crab grade code; see Appendix A, Table 9 for code values	Table 4.1	Table 6.a-e	Table 6.a-e	Table 4.0	Table 5.a-e	Table 5.a-e
	pounds_purchased	total pounds of raw crab purchased, by crab grade and size	Table 4.1	Table 6.a-e	Table 6.a-e	Table 4.0	Table 5.a-e	Table 5.a-e
	gross_cost	total gross cost of raw crab purchased, by crab grade and size	Table 4.1	Table 6.a-e	Table 6.a-e	Table 4.0	Table 5.a-e	Table 5.a-e

table	variable_id	data structure notes	year-version changes
crab_raw	edr_id		
	fishery_code		
	raw_crab_processed_pounds		SP/FP historical and 05 EDR forms identified variable as "raw crab purchased" but table included custom processing by the plant. changed to be consistent with CP form in 05, see data quality notes
	raw_crab_supplied_to_custom_pounds		
	raw_crab_purchased_pounds	variable sums across all size/grade types reported by fishery in EDR, variable created in crab_raw relational table to provide complete view of raw crab inputs to processing	
crab_production_out	edr_id		
	fishery_code		
	product_code		
	process_code		
	crab_size_code		
	crab_grade_code		
	box_size		
	box_lb_flag		
	cust_proc_flag		
	finished_lbs		
crab_process_sales	edr_id		
	spp_code		
	product_code		
	process_code		
	crab_size		
	crab_grade		
	box_size		
	box_lb_kg		
	finished_pounds_sold		
	fob_revenues		
	fob_port		
	affiliated_sale_flag		
custom_process_provided	edr_id		
	fishery_code		
	product_code		
	process_code		
	custom_process_pounds	pounds of custom processed crab is recorded in Table 1.2(CP) and 1.0 (SP/FP) and must be summed by fishery code over size/grade/box size values to derive this variable	
	custom_process_revenue		
custom_process_hired	edr_id		
	fishery_code		
	product_code		
	process_code		
	crab_size		
	crab_grade		
	box_size		
	box_lb_kg		
	cust_hired_finished_pounds		
	cust_hired_process_cost		
crab_purchased	edr_id		
	fishery_code		
	ifq_code		disaggregated SP/FP crab purchases by IFQ type beginning in 2006; did not disaggregate for CP sector
	crab_size		
	crab_grade		
	pounds_purchased		
	gross_cost		

table	variable_id	data quality notes	Audit Results: years variable	number of observations audited: 1998	2001	2004	2005	2006	% supported (See Table X in Appendix): 1998	2001	2004	2005	2006
crab_raw	edr_id												
	fishery_code												
	raw_crab_processed_pounds												
	raw_crab_supplied_to_cus tom_pounds												
	raw_crab_purchased_pounds												
crab_production_out	edr_id												
	fishery_code												
	product_code												
	process_code												
	crab_size_code												
	crab_grade_code												
	box_size												
	box_lb_flag												
	cust_proc_flag												
	finished_lbs												
crab_process_sales	edr_id												
	spp_code												
	product_code												
	process_code												
	crab_size												
	crab_grade												
	box_size												
	box_lb_kg												
	finished_pounds_sold												
	fob_revenues												
	fob_port												
	affiliated_sale_flag												
custom_process_provided	edr_id												
	fishery_code												
	product_code												
	process_code												
	custom_process_pounds												
	custom_process_revenue												
custom_process_hired	edr_id												
	fishery_code												
	product_code												
	process_code												
	crab_size												
	crab_grade												
	box_size												
	box_lb_kg												
	cust_hired_finished_pounds												
	cust_hired_process_cost												
crab_purchased	edr_id												
	fishery_code												
	dq_code												
	crab_size												
	crab_grade												
	pounds_purchased												
	gross_cost												

table	variable_id	mean (% error) 1998	2001	2004	2005	2006	SD(% error) 1998	2001	2004	2005	2006
crab_raw	edr_id										
	fishery_code										
	raw_crab_processed_pounds										
	raw_crab_supplied_to_custom_pounds										
	raw_crab_purchased_pounds										
crab_production_out	edr_id										
	fishery_code										
	product_code										
	process_code										
	crab_size_code										
	crab_grade_code										
	box_size										
	box_lb_flag										
	cust_proc_flag										
	finished_lbs										
crab_process_sales	edr_id										
	spp_code										
	product_code										
	process_code										
	crab_size										
	crab_grade										
	box_size										
	box_lb_kg										
	finished_pounds_sold										
	fob_revenues										
	fob_port										
	affiliated_sale_flag										
custom_process_provided	edr_id										
	fishery_code										
	product_code										
	process_code										
	custom_process_pounds										
	custom_process_revenue										
custom_process_hired	edr_id										
	fishery_code										
	product_code										
	process_code										
	crab_size										
	crab_grade										
	box_size										
	box_lb_kg										
	cust_hired_finished_pounds										
	cust_hired_process_cost										
crab_purchased	edr_id										
	fishery_code										
	ifq_code										
	crab_size										
	crab_grade										
	pounds_purchased										
	gross_cost										

table	variable_id	description	EDR FORM SOURCE TABLES - SECTOR/YEAR								
			Catcher/Processor			Floating &Shoreside			Catcher Vessel		
			98, 01,	2005	2006	98, 01,	2005	2006	98, 01,	2005	2006
harv_labor_pay_detail	booklet_id	Identifier for entity filing EDR									
	lpd_fuel	vessel costs treated in crew payment, fuel and lubrication costs		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_food	vessel costs treated in crew payment, food and provisions		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_bail	vessel costs treated in crew payment, bail		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_tax	vessel costs treated in crew payment, fish taxes		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_observ	vessel costs treated in crew payment, observer program costs		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_cdq	vessel costs treated in crew payment, CDQ lease costs		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_ifq	vessel costs treated in crew payment, IFQ lease costs		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_ipq	vessel costs treated in crew payment, IPQ lease costs		Table 4.3	Table 4.3					-	-
	lpd_travel	vessel costs treated in crew payment, travel costs		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_gear	vessel costs treated in crew payment, lost gear costs		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_ccdues	vessel costs treated in crew payment, alaska crab coalition dues		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_arbfee	vessel costs treated in crew payment, arbitration association fee		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_bshf	vessel costs treated in crew payment, bering sea fisheries research		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_admin	vessel costs treated in crew payment, administrative and management		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_landingfees	vessel costs treated in crew payment, crab landing (buyback, cost		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_health	vessel costs treated in crew payment, health insurance and medical		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_coop	vessel costs treated in crew payment, fishing cooperative costs		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_permit	vessel costs treated in crew payment, license and permits		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_ins_vessel	vessel costs treated in crew payment, insurance - vessel, cargo,		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_ins_pi	vessel costs treated in crew payment, insurance - protection &		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_payroll	vessel costs treated in crew payment, payroll tax, unemployment		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_personal	vessel costs treated in crew payment, personal charges		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_tags	vessel costs treated in crew payment, pot tags		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_storage	vessel costs treated in crew payment, equipment storage and transport		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_rental	vessel costs treated in crew payment, rental truck/ equipment		Table 4.3	Table 4.3					Table 4.2	Table 4.2
	lpd_fines	vessel costs treated in crew payment, fines		Table 4.3	Table 4.3					Table 4.2	Table 4.2
revenue_shares	booklet_id	Identifier for entity filing EDR									
	fishery	code for rationalized crab fishery									
	revshare_owner	Vessel owner's percentage of net share, by fishery		Table 4.4						Table 4.3	Table 4.3
	revshare_crew	Harvest crew percentage of net share, by fishery		Table 4.4						Table 4.3	Table 4.3
	revshare_capt	Captain's percentage of net share, by fishery		Table 4.4						Table 4.3	Table 4.3

table	variable_id	data structure notes	year-version changes
harv_labor_pay_detail			
	booklet_id	encodes sector, year, entity ID	
	lpd_fuel	cost category specified in form	
	lpd_food	cost category specified in form	
	lpd_bait	cost category specified in form	
	lpd_tax	cost category specified in form	
	lpd_observ	cost category specified in form	
	lpd_edq	cost category specified in form	
	lpd_ifq	cost category specified in form	
	lpd_ipq	cost category specified in form	
	lpd_travel	cost category specified in form	
	lpd_gear	cost category specified in form	
	lpd_ccdues	cost category interpreted by classifying open-ended "other" entries	
	lpd_albfee	cost category interpreted by classifying open-ended "other" entries	
	lpd_bstr	cost category interpreted by classifying open-ended "other" entries	
	lpd_admin	cost category interpreted by classifying open-ended "other" entries	
	lpd_landinglees	cost category interpreted by classifying open-ended "other" entries	
	lpd_health	cost category interpreted by classifying open-ended "other" entries	
	lpd_coop	cost category interpreted by classifying open-ended "other" entries	
	lpd_permit	cost category interpreted by classifying open-ended "other" entries	
	lpd_ins_vessel	cost category interpreted by classifying open-ended "other" entries	
	lpd_ins_pi	cost category interpreted by classifying open-ended "other" entries	
	lpd_payroll	cost category interpreted by classifying open-ended "other" entries	
	lpd_personal	cost category interpreted by classifying open-ended "other" entries	
	lpd_tags	cost category interpreted by classifying open-ended "other" entries	
	lpd_storage	cost category interpreted by classifying open-ended "other" entries	
	lpd_rental	cost category interpreted by classifying open-ended "other" entries	
	lpd_fines	cost category interpreted by classifying open-ended "other" entries	
revenue_shares			
	booklet_id	encodes sector, year, entity ID	
	fishery		
	revshare_owner		
	revshare_crew		
	revshare_capt		

table	variable_id	data quality notes	Audit Results: years audited	number of observations audited: 1998	2001	2004	2005	2006	% supported (See Table 11 in): 1998	2001	2004	2005	2006
harv_labor_pay_detail													
	booklet_id												
	lpd_fuel												
	lpd_food												
	lpd_bait												
	lpd_tax												
	lpd_observ												
	lpd_cdq												
	lpd_ifq												
	lpd_ipq												
	lpd_travel												
	lpd_gear												
	lpd_ccdues												
	lpd_arbfee												
	lpd_bsfd												
	lpd_admin												
	lpd_landingfees												
	lpd_health												
	lpd_coop												
	lpd_permit												
	lpd_ins_vessel												
	lpd_ins_pi												
	lpd_payroll												
	lpd_personal												
	lpd_tags												
	lpd_storage												
	lpd_rental												
	lpd_fines												
revenue_shares													
	booklet_id												
	fishery												
	revshare_owner												
	revshare_crew												
	revshare_capt												

table	variable_id	mean (% error)					SD(% error)					mean(abs(%error))					SD(abs(%error))				
		1998	2001	2004	2005	2006	1998	2001	2004	2005	2006	1998	2001	2004	2005	2006	1998	2001	2004	2005	2006
harv_labor_pay_detail																					
	booklet_id																				
	lpd_fuel																				
	lpd_food																				
	lpd_bait																				
	lpd_lax																				
	lpd_observ																				
	lpd_cdq																				
	lpd_ifq																				
	lpd_ipq																				
	lpd_travel																				
	lpd_gear																				
	lpd_ccdues																				
	lpd_arbfee																				
	lpd_bsfi																				
	lpd_admin																				
	lpd_landingfees																				
	lpd_health																				
	lpd_coop																				
	lpd_permit																				
	lpd_ins_vessel																				
	lpd_ins_pi																				
	lpd_payroll																				
	lpd_personal																				
	lpd_tags																				
	lpd_storage																				
	lpd_rental																				
	lpd_fines																				
revenue_shares																					
	booklet_id																				
	fishery																				
	revshare_owner																				
	revshare_crew																				
	revshare_capt																				

table	variable_id	description	EDR FORM SOURCE TABLES - SECTOR/YEAR								
			Catcher/Processor			Floating &Shoreside			Catcher Vessel		
			98, 01,	2005	2006	98, 01,	2005	2006	98, 01,	2005	2006
crew_residence											
	booklet_id	Identifier for entity filing EDR		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_adk	Number of harvest crew officially residing in Adak, AK		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_aku	Number of harvest crew officially residing in Akulan, AK		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_dut	Number of harvest crew officially residing in Dutch Harbor/Unalaska, AK		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_kco	Number of harvest crew officially residing in King Cove, AK		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_kod	Number of harvest crew officially residing in Kodiak, AK		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_stp	Number of harvest crew officially residing in St Paul, AK		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_oac	Number of harvest crew officially residing in all other AK locations		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_ous	Number of harvest crew officially residing in US cities outside of Alaska		Table	Table 4 4				Table 4 2	Table	
	hcrew_res_nus	Number of harvest crew officially residing outside of US		Table	Table 4 4				Table 4 2	Table	
	crew_res_adk	Number of harvest and processing crew officially residing in Adak, AK	Table 2 3								
	crew_res_aku	Number of harvest and processing crew officially residing in Akutan, AK	Table 2 3								
	crew_res_dut	Number of harvest and processing crew officially residing in Dutch	Table 2 3								
	crew_res_kco	Number of harvest and processing crew officially residing in King Cove,	Table 2 3								
	crew_res_kod	Number of harvest and processing crew officially residing in Kodiak, AK	Table 2 3								
	crew_res_stp	Number of harvest and processing crew officially residing in St Paul, AK	Table 2 3								
	crew_res_oac	Number of harvest and processing crew officially residing in all other AK	Table 2 3								
	crew_res_ous	Number of harvest and processing crew officially residing in US cities	Table 2 3								
	crew_res_nus	Number of harvest and processing crew officially residing outside of US	Table 2 3								
	pcrew_res_adk	Number of processing employees officially residing in Adak, AK		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_aku	Number of processing employees officially residing in Akulan, AK		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_dut	Number of processing employees officially residing in Dutch		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_kco	Number of processing employees officially residing in King Cove, AK		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_kod	Number of processing employees officially residing in Kodiak, AK		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_stp	Number of processing employees officially residing in St Paul, AK		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_oac	Number of processing employees officially residing in all other AK		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_ous	Number of processing employees officially residing in US cities outside		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
	pcrew_res_nus	Number of processing employees officially residing outside of US		Table	Table 4 5	Table 2 2	Table 3 2	Table 3 2			
harv_crew_lic_permit_n											
	booklet_id	Identifier for entity filing EDR		Table	Table 4 4					Table	Table
	crew_lic_nums	Harvest crew license numbers		Table	Table 4 4					Table	Table
	crew_year_permit_nu	CFEC gear operator permit numbers for captain and crew members									

table	variable_id	data structure notes	year-version changes
crew_residence	booklet_id	encodes sector, year, entity ID	
	hcrew_res_adk	Data is converted from original open-ended city/state/country responses	Data for CV harvest crew residence used counts by open-
	hcrew_res_aku	Data is converted from original open-ended city/state/country responses	
	hcrew_res_dut	Data is converted from original open-ended city/state/country responses	
	hcrew_res_kco	Data is converted from original open-ended city/state/country responses	
	hcrew_res_kod	Data is converted from original open-ended city/state/country responses	
	hcrew_res_stp	Data is converted from original open-ended city/state/country responses	
	hcrew_res_oac	Data is converted from original open-ended city/state/country responses	
	hcrew_res_ous	Data is converted from original open-ended city/state/country responses	
	hcrew_res_nus	Data is converted from original open-ended city/state/country responses	
	crew_res_adk	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_aku	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_dut	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_kco	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_kod	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_stp	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_oac	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_ous	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	crew_res_nus	Data is converted from original open-ended city/state/country responses	Data is from 1998-2001 CP EDRs only and combines counts of
	pcrew_res_adk	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_aku	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_dut	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_kco	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_kod	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_stp	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_oac	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_ous	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
	pcrew_res_nus	Data is converted from original open-ended city/state/country responses	Processing employees on CPs were combined with harvest
harv_crew_lic_permit_n	booklet_id	encodes sector, year, entity ID	
	crew_lic_nums	comma-delimited list of all crew license numbers recorded, link to ADF&G	2005 CV and CP EDRs required recording of licence number or
	crew_gear_permit_nu	comma-delimited list of all gear operator permit numbers recorded, link to	

table	variable_id	data quality notes	Audit Results: years audited	number of observations audited: 1998	2001	2004	2005	2006	% supported (See Table 11 in: 1998	2001	2004	2005	2006
crew_residence													
	booklet_id												
	hcrew_res_adk												
	hcrew_res_aku												
	hcrew_res_dul												
	hcrew_res_kco												
	hcrew_res_kod												
	hcrew_res_stp												
	hcrew_res_oac												
	hcrew_res_ous												
	hcrew_res_nus												
	crew_res_adk												
	crew_res_aku												
	crew_res_dul												
	crew_res_kco												
	crew_res_kod												
	crew_res_stp												
	crew_res_oac												
	crew_res_ous												
	crew_res_nus												
	pcrew_res_adk												
	pcrew_res_aku												
	pcrew_res_dul												
	pcrew_res_kco												
	pcrew_res_kod												
	pcrew_res_stp												
	pcrew_res_oac												
	pcrew_res_ous												
	pcrew_res_nus												
harv_crew_lic_permit_n													
	booklet_id												
	crew_lic_nums												
	crew_gear_permit_nu												

able	variable_id	mean (% error)					SD(% error)					mean(abs(%error))					SD(abs(%error))				
		1998	2001	2004	2005	2006	1998	2001	2004	2005	2006	1998	2001	2004	2005	2006	1998	2001	2004	2005	2006
rew_residence																					
	booklet_id																				
	hcrew_res_adk																				
	hcrew_res_aku																				
	hcrew_res_dut																				
	hcrew_res_kco																				
	hcrew_res_kod																				
	hcrew_res_slp																				
	hcrew_res_oac																				
	hcrew_res_ous																				
	hcrew_res_nus																				
	crew_res_adk																				
	crew_res_aku																				
	crew_res_dul																				
	crew_res_kco																				
	crew_res_kod																				
	crew_res_slp																				
	crew_res_oac																				
	crew_res_ous																				
	crew_res_nus																				
	pcrew_res_adk																				
	pcrew_res_aku																				
	pcrew_res_dul																				
	pcrew_res_kco																				
	pcrew_res_kod																				
	pcrew_res_slp																				
	pcrew_res_oac																				
	pcrew_res_ous																				
	pcrew_res_nus																				
anv_crew_lic_permit_n																					
	booklet_id																				
	crew_lic_nums																				
	crew_gear_permit_nu																				

Table 1: Location Codes

code	location
AKU	Akutan, AK
ATK	Atka, AK
DUT	Dutch Harbor/Unalaska, AK
KCO	King Cove, AK
KOD	Kodiak, AK
STP	St. Paul, AK
OAC	All Other Alaska Cities
OOS	All Out-Of-State Cities

Table 2: Bait Codes	
pcod	cod, cod heads
hlbt	halibut
pik	pollock
salm	salmon
sard	sardine
sqid	squid
tuna	tuna
other	all other species

Table 3: Other Crew Cost Categories	
travel	crew travel cost
dues	membership and association dues
admin	administrative costs related to crew
payroll	payroll tax and unemployment insurance for crew
safety	safety and medical costs for crew
permits	license and permit costs for crew
personal	personal sundries for crew
insurance	protection and indemnity insurance costs for crew
misc	miscellaneous costs for crew

Table 4: Other crab related costs	
permits	vessel/gear licensing, permitting and inspections
port	moorage, towing, other port services
nh_labor	non-harvest labor
admin	office/admin/accounting and management costs
crab_gear_ren	harvest gear rental
dues	trade/marketing/safety association dues
communicatio	communication
other_rental	non-harvest equipment rental, maintenance, and purchase
misc	miscellaneous

Table 5. IFQ Type Codes	
IFQ Type Code	Harvest Quota
A	CVO-IFQ A Class shares
B	CVO-IFQ B Class shares, CPO-IFQ, CDQ, and Adak WAG IFQ
C	CVC-IFQ, CPC-IFQ

Table 6: Crab Product Codes Used for EDRs	
Code	Description
1	Whole crab
80	Crab sections
81	Crab meats
82	Crab claws
83	Crab tails
84	Crab legs
97	Other crab product (specify):

Table 7. Crab Process Codes.	
Process Code	Description
0	Other (specify):
1	Fresh
2	Frozen
3	Salted/brined
6	Cooked
7	Live
18	Fresh/vacuum pack
21	Frozen/block
22	Frozen/shatter pack
28	Frozen/vacuum pack

Table 8. Crab Size Codes.	
Size Code	Description
1	Standard or large sized crab or crab sections
2	Smaller size crab or crab sections, e.g., *opilio* crab less than 4 inches.
3	Mixed crab size or "ocean run"

Table 9: Crab Grade Codes	
Grade Code	Description
1	Standard or premium quality crab or crab sections
2	Lower quality product, e.g., dirty shelled crab or a pack that is of lower quality than No. 1 crab.
3	Mixed crab grade or "ocean run"

Table 10. Crab Species Codes

Species Code	Common Name	Scientific Name
900	Box	*Lopholithodes mandtii*
910	Dungeness	*Cancer magister*
921	Red king crab	*Paralithodes camtschaticus*
922	Blue king crab	*Paralithodes platypus*
923	Golden (brown) king crab	*Lithodes aequispinus*
924	Scarlet king crab	*Lithodes couesi*
931	Tanner crab	*Chionoecetes bairdi*
932	Snow crab	*Chionoecetes opilio*
933	Grooved Tanner crab	*Chionoecetes tanneri*
934	Triangle Tanner crab	*Chionoecetes angulatus*
940	Korean horsehair crab	*Erimacrus isenbeckii*
951	Multispinus crab	*Paralomis multispinus*
953	Verrilli crab	*Paralomis verrilli*

Table 11: **Audit support classifications**

The validation audits performed by Alrich, Kilbride and Tattone, LLC classified data submitted in EDRs according to the quality of documented records or estimation methods used to support the v auditors.

upport Analysis	Support Summary
1 Data supported	1
2 Immaterial difference	1
3 Material difference	1
4 Unsupported Data	2
5 Estimate reasonable	1
6 Estimate not reasonable	2
7 No basis	2
8 No data reported	0
9 Not applicable to vessel	
10 Corrected by vessl	1

upport Summary
0 No data reported
1 Support available
2 Unsupported

n, by year_version

	Completed EDR Forms/Data Records/Year					Audit Sample/Year	
Sector	1998	2001	2004	2005	2006	1998-2005	2006
Catcher Vessel	218	218	237	166	96	33	28
Catcher Processor	8	7	10	8	5	3	2
Shoreside Processor	13	17	14	13	11	3	4
Stationary Floating Processor	12	6	6	4	2	1	1

SUPPORT FOR THE 90/10 ANALYSIS

The North Pacific Council voted in October of 2007 to task staff to prepare an analysis of the Bering Sea/Aleutian Islands crab rationalization program for review at the October 2008 meeting, examining the effects of a change in the A share/B share split on the distribution of benefits between harvesters and processors.

We, the undersigned, representing crab harvesters, communities, processors, and CDQ, agree with the Council that the analytical process will enable us to find answers to some difficult questions. We support the ongoing analysis.

Linda Freed - City of Kodiak and Kodiak Island Borough
Clem Tillion - City of Adak
Ernie Weiss - City of King Cove
Beth Stewart - Aleutians East Borough

Dave Woodruff - Alaska Fresh Seafoods
John Moller - Adak Fisheries
Ken Dorris - Harbor Crown Fisheries

Robin Samuelsen – BBEDC

Kale Garcia - The Crab Group of Independent Harvesters
Jeff Stephan - United Fishermen's Marketing Association

Tim Longrich - Member of Advanced Harvesters Cooperative
Margaret Hall - Member of Bering Sea Crab Cooperative
Mike Stone – The Fury Group
Russ Moore – Member of the Crab Cooperative
Jonathan Hillstrand – Member of the Alaska Fishermen's Cooperative
Dick Powell – Member of the Aleutian Gold Cooperative
Walt Casto – Member of the Alaska Crab Producers Cooperative
Jerry Bongen – Member of the Crab Advisory Committee
Florence Colburn – Member of the Crab Advisory Committee

Pacific States Marine Fisheries Commission

Alaska Crab Economic Data Report Data Validation

1998 2001 2004 2005

May 2007

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PACIFIC STATES MARINE FISHERIES COMMISSION

ALASKA CRAB ECONOMIC DATA REPORT DATA VALIDATION

Executive Summary

BACKGROUND

The Bering Sea and Aleutian Islands (BSAI) Crab Rationalization Program was developed to create a quota system that grants exclusive harvesting and processing rights to crab harvesters, processors and coastal communities. Economic data reports (EDRs) were developed to aid the North Pacific Management Council (Council) and National Marine Fisheries Service (NMFS) in assessing the success of the program and developing amendments necessary to mitigate any unintended consequences. In order to ensure that the data submitted by respondents in the EDRs is accurate, Pacific States Marine Fisheries Commission (PSMFC) developed a process to review the data contained within submitted EDRs, including verification audits for those EDRs containing odd or suspicious data values, and conducting random audits for a certain percentage of submitted EDRs.

SCOPE OF WORK

In order to perform the verification audits, the following procedures were requested to be performed:

1. *Critical Review of Economic Data Reports* – This procedure was performed by NMFS. Information from the EDR database was synthesized and analyzed to identify data outside of relevant ranges. The results of this analysis were used as the basis of the outlier audits.
2. *Random audits* – Review and verification of a subset of the data values reported in randomly selected EDRs.
3. *Outlier audits* – Review of records or estimates of EDRs that contained multiple outliers in the analytical analysis outlined in step 1.

CONCLUSION

The quality of the information submitted in the EDRs is important as information is used to analyze the impact of the crab rationalization program and consider similar programs in different fisheries. Overall, the audits found that the information submitted was supported by documentation and records. If an error was identified, there was generally not a directional bias in the submission of the data, i.e. no direct intention to misreport the information. Despite the specific definitions included in the EDRs, there is still variability in how information is reported based upon the ability to break down information in the manner requested and sophistication of accounting systems. In addition, there is significant variability in the quality of supporting documentation to information submitted in the EDRs.

Introduction

BACKGROUND

The Bering Sea and Aleutian Islands (BSAI) Crab Rationalization Program was developed to create a quota system that grants exclusive harvesting and processing rights to crab harvesters, processors, and communities. Beginning in 2005, the rationalization began, granting quota based upon historical data. Because of the expected impact on the industry, an economic data collection program was developed to better understand the economic impacts on the industry.

Economic data reports (EDRs) were developed to obtain information about the crab operations of harvesters and processors to help monitor how costs and economic returns of various stakeholders in BSAI crab fisheries are affected by rationalization. In order to ensure that the data submitted by respondents in the EDRs is accurate, Pacific States Marine Fisheries Commission (PSMFC) was asked to develop and implement an EDR review and verification system, which involves reviewing the data contained within submitted EDRs, conducting verification audits for those EDRs containing odd or suspicious data values, and conducting random audits for a certain percentage of submitted EDRs.

The EDRs were developed to help determine the effects of the rationalization program, including changes to the costs of production and the effect of consolidation. NMFS sought to understand the general trends over the years and the effects of rationalization to translate to other fisheries that are beginning similar programs.

In summary, the purpose of the economic data report and data validation is to:

1. Aid the Council and NMFS in assessing the success of the Program
2. Understand the economic performance of crab fisherman;
3. Understand how the economic performance has changed after rationalization;
4. Isolate the effects attributable to the crab rationalization program;
5. Assess the quality of the EDR data; and
6. Provide guidance to improve future versions of the EDR.

KEY PARTICIPANTS/ROLES

The key participants in the project include:

- *National Marine Fisheries Service (NFMS)* – driver of the audit and end-user of information contained in the EDR
- *Pacific States Marine Fisheries Commission (PSMFC)* – collector and manager of data collected through the EDRs
- *Aldrich Kilbride & Tatone (AKT)* – independent accountants to audit and validate the information
- Participants in the crab rationalization program

Scope of Work

The following procedures were requested to be performed in the scope of work:

1. *Critical Review of Economic Data Reports* – This procedure was performed by NMFS. Information from the EDR database was synthesized and analyzed to identify data outside of relevant ranges. The results of this analysis were used as the basis of the outlier audits.
2. *Random audits* – Review and verification of a subset of the data values reported in randomly selected EDRs.
3. *Outlier audits* – Review of records or estimates of EDRs that contained multiple outliers in the analytical analysis outlined in step 1.

The methodology to address the procedures above are outlined later in this report.

Based upon our conversations with NMFS and PSMFC, the key objectives of the audits were outlined as follows:

- Validate key data
- Identify problems with the data or EDR instructions and make suggestions for future reporting
- Develop incentives for submitters to provide accurate information
- Identify appropriate changes to data when missing or inaccurate
- Characterize, and in some cases quantify, the level of accuracy associated with particular data elements

These objectives evolved throughout the process as the audit process and objectives were defined. The overriding objective of the audit was to verify the data submitted in the EDR process.

Key Information

The BSAI crab rationalization program collected data from participants in the industry for the years 1998, 2001, 2004, and 2005. A statistical sample was determined based upon a total submitted population of 268, which was comprised of all unique submitters of information. The sample was determined based upon achieving a 95% confidence level with a precision level of 15% in terms of assessing the accuracy of the submitted data. (See Appendix A for detailed discussion of the statistical basis of the sample). Once an EDR was selected for validation, data was analyzed across all years in which information was submitted. The following table summarizes the number of EDRs submitted by type and the resulting sample size.

	# EDRs submitted				Sample
	1998	2001	2004	2005	2006
Catcher Vessel	225	220	237	164	33
Catcher Processor	8	7	9	8	3
Stationary Floating & Shoreside Processors	24	23	20	17	5

Methodology

AKT, PSMFC, and NMFS worked together to determine the best process to analyze the data submitted through the EDR process and determine the methodology to sample and audit the data submitted in the EDRs. The process evolved as data was analyzed and outcomes and expectations of the data validation were solidified. The following is a summary of the steps taken throughout the audit process.

1. *Ensure EDR database contains accurate information from EDR.* NMFS and PSMFC worked together to clean up the data and clear outstanding questions (i.e. blank or missing data fields).

2. *Perform analytical review of data to identify outlier data points.* NMFS took responsibility for identifying expected relationships of submitted data to enable identification of outlier information. This step required significant processing of the data into a manageable format. The methodology to identify outliers varied relative to the variable being analyzed.

3. *Compare submitted data against fish tickets and other external data.* In coordination with the outlier analysis, NMFS compared the data collected against the CFEC published fish tickets (which include post-seasonal revenue adjustments) and other available external data. In the analysis, the relationship of EDR data to fish tickets was close to one, indicating limited variations in revenue reporting on the EDR.

4. *Determine appropriate variables to validate.* The significance of the data for further analysis and available audit evidence were considered when determining the appropriate variables to validate.

5. *Define objectives of audit.* The overall objectives of the audits were to validate key data and understand the reliability of the database. The information collected in the EDR process will be used by NMFS to determine the effect of the rationalization program. An additional benefit is to demonstrate to the participants in the BSAI crab rationalization program the importance of submitting accurate information and to ensure accurate information is submitted.

6. *Determine population subject to random audit.* The sample size was determined using a statistical model with 95% confidence level and 15% precision. All EDRs were considered one population and the selection was stratified based upon the number of EDRs for each category to the total number of EDRs. The selection was based upon each unique EDR submitted, and once selected, the vessel was asked to submit information for all years in operation. The sample size and resulting precision level does not change significantly when an individual year is reviewed vs. the total population. Non-replies were considered an important part of the analysis, and did not change the sample population. See Appendix A for discussion on the statistical basis for selection.

7. *Request information subject to audit.* Selected vessels were given 3 weeks to submit information. Due to the timing of the request, which was postponed as data was analyzed and synthesized into a manageable format, most vessels were granted extensions for submitting of data.

8. *Determine outlier audit population and request information subject to audit.* Based upon its analysis, NMFS identified the population that it desired to validate through outlier audit. The initial intention was to complete the outlier audits first followed by the random audits. Due to the amount of time required to analyze the database and ensure information submitted was reliable, the outlier audits were begun after the random audits. The outlier audits focused on EDRs that had a significant number of outliers in the analytical review. Once a vessel was identified as an outlier audit, it was subject to validation of the same variables as the random audits. The outlier audits focused on the catcher vessels as the processors did not have enough data to truly identify outliers within the population.

9. *Validate information by comparing to supporting documentation.* This process involved review of data submitted as supporting data for each vessel selected. Detailed notes as to the basis of information were maintained in order to evaluate the validity of selected data.

10. *Summarize results of audit verification process.* The available audit evidence by EDR variable selected for audit was classified into categories to enable an overall analysis of the validity of data. These results are reported in "Findings" below.

AUDIT METHODOLOGY

AKT selected vessels or processors for audit based upon the statistical sample outlined in Appendix A. For each vessel or processor selected, detailed support was examined for each year in which the selected vessel or processor submitted an EDR. The selection was made based upon information submitted in 2004. AKT worked with NMFS and PSMFC to determine the appropriate variables to validate. From this selection, the variables for audit were further reduced by those that could be validated by outside support, such as fish tickets or COAR data. Because the external validation is a strong form of assurance, AKT did not include these variables in the audit analysis or results.

For each data variable requested, AKT critically evaluated the support provided by the selected vessel or processor. Information was evaluated against third party support, such as invoices or fish tickets; internally-generated information, such as crew settlement sheets, general ledger details, detailed internal reports, or financial statements; and estimates made, including the reasonableness of assumptions. AKT also noted when no support was available to evaluate the information.

Findings

AKT developed the following classifications to describe audit evaluations and summarize the results of the audit:

Data is supported and reasonable:

- *Data supported* - Data and transactions are supported by third-party documentation and/or internal documentation.
- *Immaterial difference* - Data is generally supported by documentation, but with differences that were not material to the overall variable.
- *Reasonable estimate* – Data is based upon an estimate using a clearly articulated method. Based upon our evaluation of the method, the estimate is reasonable.

Unsupported data

- *Unsupported data* – Data has no supporting documentation and no explanation was given for the way in which the data were derived. Note, that this does not indicate that the information is incorrect.
- *Estimate – no basis* - Data is based upon an estimate for which there is no method to assess the reasonableness.
- *Not applicable* – Data element does not appear to be applicable to the vessel. This classification was only used for reporting of IFQ transferred revenue or total cost.

No data reported

- *No data* – EDR is blank, either because it was purposefully not reported or the actual amount is zero.

SUMMARY OF FINDINGS

There are four basic populations that we evaluated during the course of the audit:

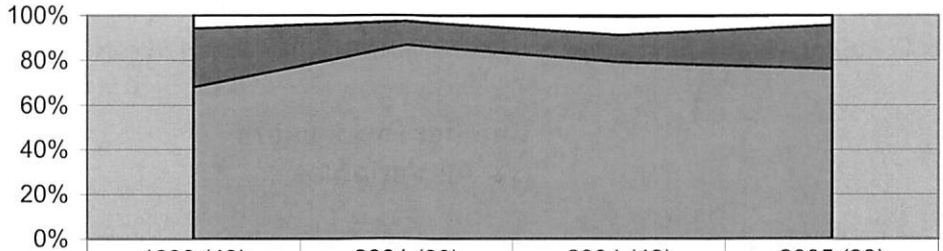
- Catcher vessels
- Catcher processors
- Processors, both stationary floating and shoreside
- Catcher vessels selected based upon outliers identified during the analytical review (outlier audits)

A summary of findings related to each population is further described below.

Catcher Vessels

The Catcher Vessels were the largest participants in the random audit process. The records of 33 vessels were requested, and AKT received 26 responses at the time this report was written. The following graphs highlight the overall summary of the data evaluated. The graphs are separated into two categories: data reported by fishery and data reported by vessel. Additional details are included in Appendix B, summarizing the results by data variable for the catcher vessels.

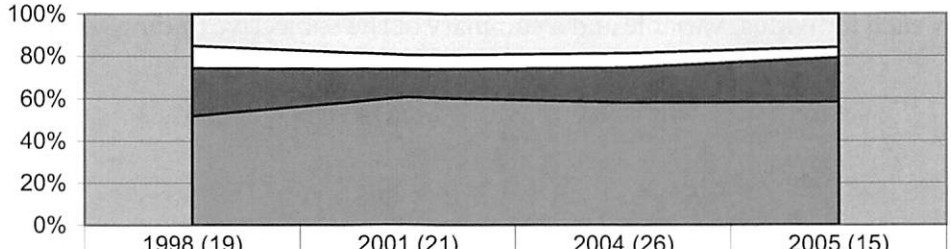
Catcher Vessels
All Variables - by Fishery



	1998 (43)	2001 (38)	2004 (43)	2005 (29)
No Data	0%	0%	1%	0%
Incorrect	6%	3%	8%	4%
Unsupported Data	26%	11%	12%	20%
Supported	68%	87%	79%	76%

The results indicate that with 95% confidence, the true population of data that is supported and correct lies +/- 15% of 76% (61% - 91%). The incidence of unsupported data frequently lies with one or two variables requested. The results by fishery were also analyzed, however, there was no indication that the data was better or worse by fishery. Please refer to Appendix B for the results by each individual variable and a summary of the subjective findings of the audit.

Catcher Vessels
All Variables - by Vessel

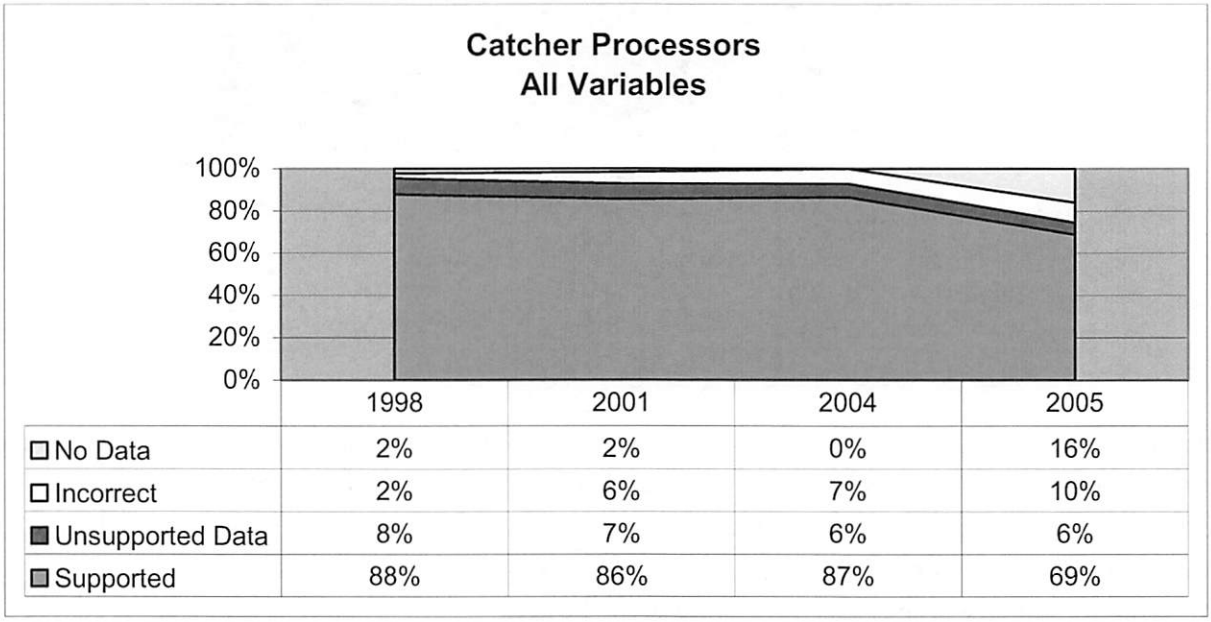


	1998 (19)	2001 (21)	2004 (26)	2005 (15)
No Data	15%	20%	19%	16%
Incorrect	11%	7%	7%	5%
Unsupported Data	22%	13%	16%	21%
Supported	52%	61%	58%	58%

The results indicate that with 95% confidence, the true population of data that is supported and correct lies +/- 15% of 58% (43% - 73%). The incidence of unsupported data frequently lies with one or two variables requested. For instance, the annual days at sea for the vessel (including all fisheries) were rarely supported with detailed information and would therefore have a significant effect on the overall results. Please refer to Appendix B for the results by each individual variable and a summary of the subjective findings of the audit.

Catcher Processors

The Catcher Processors were a smaller percentage of the random audit process. The records of 3 catcher processors were requested, and AKT received 3 responses. The following graph highlights the overall summary of the data evaluated for the Catcher Processors. Additional details are included in Appendix C, summarizing the results by data variable for the catcher vessels.

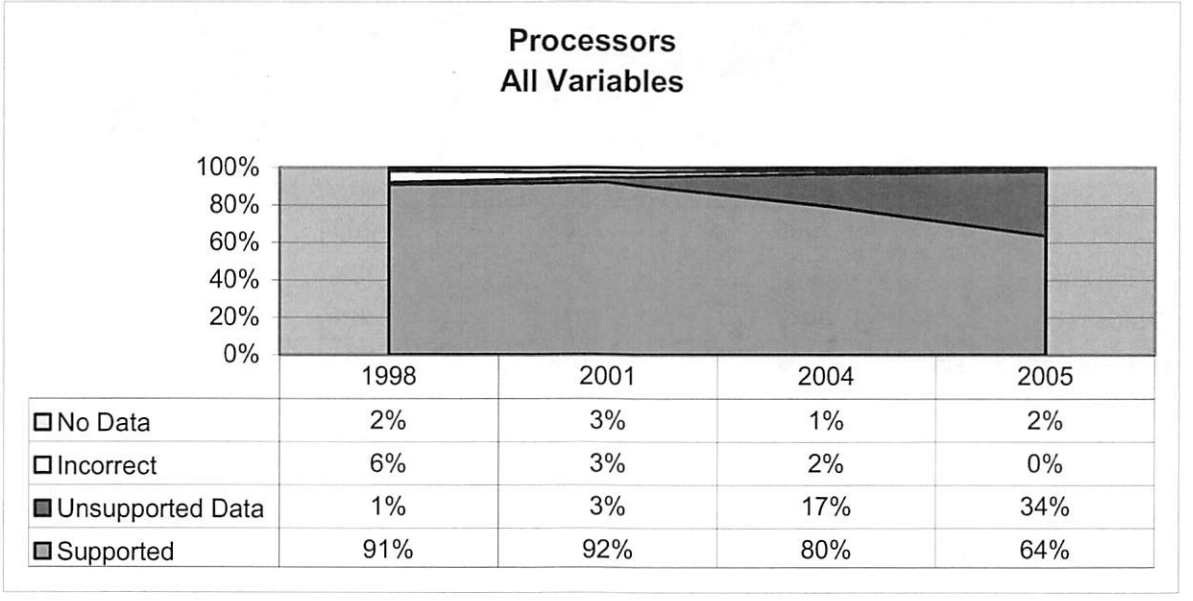


	1998	2001	2004	2005
No Data	2%	2%	0%	16%
Incorrect	2%	6%	7%	10%
Unsupported Data	8%	7%	6%	6%
Supported	88%	86%	87%	69%

The results indicate that with 95% confidence, the true population of data that is supported and correct lies +/- 15% of 69% (54% - 84%). Less supporting data was received for the 2005 EDR than the previous years, due to late submission of data for audit purposes. Please refer to Appendix C for the results by each individual variable and a summary of the subjective findings of the audit.

Processors (Stationary Floating and Shoreside)

The Processors were also a small percentage of the random audit process. Because of similar data requests, the stationary floating and shoreside processors were combined for analysis purposes. The records of 5 processors were requested, and AKT received 4 responses at the time this report was written. The following graph highlights the overall summary of the data evaluated for the Processors. Additional details are included in Appendix D, summarizing the results by data variable for the catcher vessels.



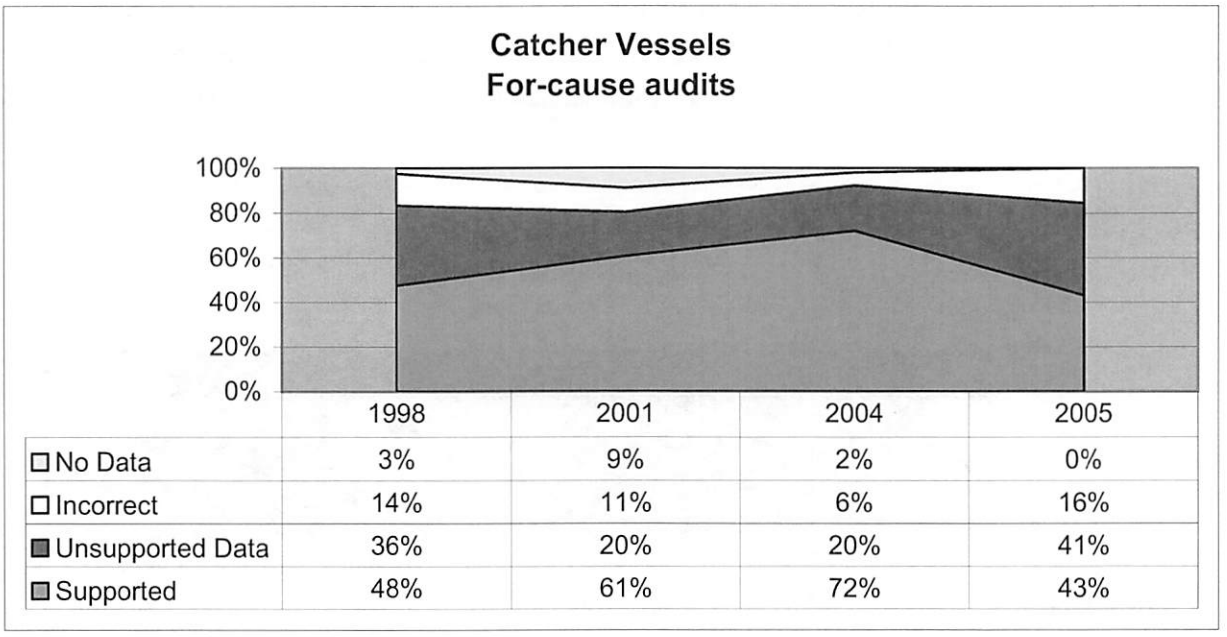
	1998	2001	2004	2005
No Data	2%	3%	1%	2%
Incorrect	6%	3%	2%	0%
Unsupported Data	1%	3%	17%	34%
Supported	91%	92%	80%	64%

The results indicate that with 95% confidence, the true population of data that is supported and correct lies +/- 15% of 64% (59% - 79%). Less supporting data was received for the 2005 EDR than the previous years due to late submission of data for audit purposes. Please refer to Appendix D for the results by each individual variable and a summary of the subjective findings of the audit.

Outlier Audits (Catcher Vessels)

In addition to the random audits AKT conducted, 11 catcher vessels were selected for audit based upon an outlier analysis performed by NMFS. Out of the 11 catcher vessels contacted, 7 responses were received at the time this report was written. These vessels were chosen due to a higher number of outliers identified in the analytical analysis than other vessels. Because of the nature of selection, we expected to have a higher percentage of unsupported or incorrect data.

The following graph highlights the overall summary of the data evaluated for the outlier audits. Additional details are included in Appendix E, summarizing the results by data variable for the catcher vessels.



	1998	2001	2004	2005
No Data	3%	9%	2%	0%
Incorrect	14%	11%	6%	16%
Unsupported Data	36%	20%	20%	41%
Supported	48%	61%	72%	43%

The above results show that there is a higher incident of unsupported and/or incorrect data than in the randomly selected population.

Conclusion

The quality of the information submitted in the EDRs is important since the information will be used to analyze the impact of the crab rationalization program. Overall, the audits found that the information submitted was supported by documentation and records. However, despite the specific definitions included in the EDRs, there is still variability in how information is reported based upon the ability to break down information in the manner requested. In addition, there is significant variability in the quality of the documentation supporting information submitted in the EDRs, generally due to sophistication of accounting records. Most vessel owners and processors strive to submit accurate information, however, the quality and detail of records maintained differs significantly among the group.

The findings discussed in Appendix B-E discuss specific variables that were subject to audit. By understanding the implications of the results to the overall population, several observations are worth considering.

1. *The quality of the records differ by vessel.* As anticipated, the quality of the supporting records differs widely by vessel and whether or not an outside (or internal) accountant/consultant is responsible for the submission of the EDR. The processors generally had more sophisticated accounting records and were able to provide supporting documentation for their EDR submissions.

2. *Most vessel owners are doing their best to submit accurate information.* Respondents wanted to comply. The difficulties encountered were due to the timing of the request for historical information and the level of detail maintained. Information requested in the EDR is frequently fishery-specific. Many vessels did not maintain the information at this level of detail in earlier years, resulting in more estimates early and improved data collection in later years.

3. *Errors in submitted information do not indicate a directional bias in the data.* The errors identified as a result of the audit do not indicate a bias in reporting of information. Generally, an equal amount of errors are greater or less than the reported amount. One or two significant errors for a given variable could skew the overall results.

4. *Unsupported data generally appears reasonable relative to other data submitted by the vessel or plant or in relation to the remaining population.* The unsupported data was subjectively analyzed, based upon relationship of variable to other information submitted and quality of supported data for the vessel or plant. The majority of the data appeared reasonable, suggesting that the submitted data was accurate.

5. *Historical data (1998) is not always supportable.* Due to the timing of the request for audit and even for the submission of EDR, information to support 1998 data was not always available.

6. *Current data (2005) was not always supported, either.* Many respondents did not submit supporting documentation for the most recent EDR year, which was due in June of 2006. This was partially due to timing of the request and information received after the initial request.

7. *Industry members are protective of their information.* The data requested on the EDR is very sensitive data for the industry. Many individuals were very protective of the data and wanted to ensure the confidential nature of the information submitted for the audit.

Commendation

AKT worked collaboratively with members of the PSMFC and NMFS staff and would like to thank you for your commitment and time.

Name	*Organization*
Dave Colpo	Pacific States Marine Fisheries Commission
Geana Tyler	Pacific States Marine Fisheries Commission
Curtis McLain	Pacific States Marine Fisheries Commission
Ron Felthoven	National Marine Fisheries Service
Brian Garber-Yonts	National Marine Fisheries Service
Audit participants	Individual vessels and/or processors

Appendix A

STATISTICAL SAMPLE

In order to determine an appropriate sample size as the basis of selection for the random audits, the main criteria to consider are the level of precision desired, the level of confidence or risk, and the degree of variability in the attributes being measured. These elements are defined as follows:

- *Level of Precision* – Also referred to as the margin of error, this is the range in which the true point value of the population is estimated to be. This is expressed as a percentage ± the true value (e.g., ± 5%). Thus, if it is found from the sample that on average 15% of the fisherman did not submit data then is could be concluded, that for the total population, between 10% and 20% of the fisherman have not submitted data.

- *Confidence Level* – The degree to which we are certain that a result, or estimate, obtained from the study includes the true population percentage, when the precision is taken into account. In a normal distribution 95% of the sample values are within two standard deviations of the true population value. If 100 vessels were sampled 95 would have the true population values within the range specified.

- *Degree of Variability* – This measures the variability within the population (e.g. Catcher Vessels, Catcher / Processor Vessels, Shore / Floating Processors, Large Vessels, Small Vessels). The more heterogeneous a population, the larger the sample size required to obtain a given level of precision. The more homogenous a population the smaller the sample size required. A variability of 50% signifies the greatest variability.

Due to the variability within the industry and the variability of the data being analyzed, there is not one specific variable that can be used to create a statistical model that would enable AKT to calculate a standard deviation and regression analysis for the project. This fact places the project in a similar category as a questionnaire, political poll, surveys, and extension program impacts.

While there are no statistical analyses that can be applied directly, there are similar projects that derive statistical sampling methods relating to extension program impact. In these projects the samples are used to evaluate a change made to the extension programs.

The sampling formulas derived for such projects and to ensure a statistical basis for the samples chosen are the following:

$$n_0 = \frac{Z^2(p)(q)}{(e)^2} \qquad n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

n_0 = Sample size
n = Sample size with finite population correction for proportions
Z = The number of standard deviations a point x is from the mean. It is a scaled value.
p = population variability
q = 1 – p
e = the desired level of precision
N = total population

For this project p (variability) equal .5 to account for maximum variability in the population.

This type of sampling methodology takes into account errors and missing information in the data. The precision level quantifies the tolerable level of error based on the sample size. This error level is then projected to the total population.

The samples were stratified based on the proportion of the group vs the total population. The reasoning behind this is that by sampling each individual population there would be no statistical basis for both the Catcher/Processor and Stationary/Floater Processors. The only way to have a statistical basis for this population would be to census the population. Because this is not a reasonable approach, AKT suggested that the population include all groups and then additional random audits be performed for the Catcher/Processor and Stationary/Floater Processor populations.

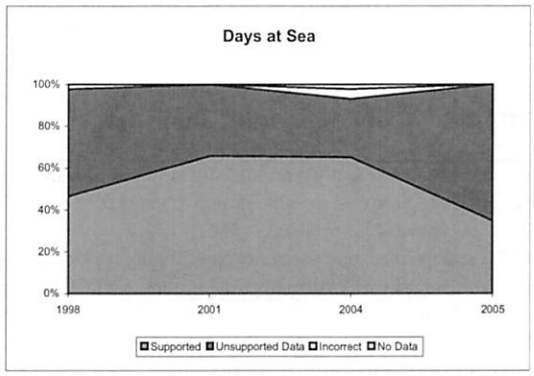
The sample population was ultimately chosen based upon a 95% confidence level with 15% precision and variability of 50% (due to the variability of the information requested). This method would ensure the data is correct (outlier audits) and it would also give a good idea for future projects how good the data is (random audits). This sampling method provides a statistical basis for future studies and gives the agencies a basis to measure the accuracy of the population data.

APPENDIX B

CATCHER VESSEL DETAIL - FISHERY SPECIFIC

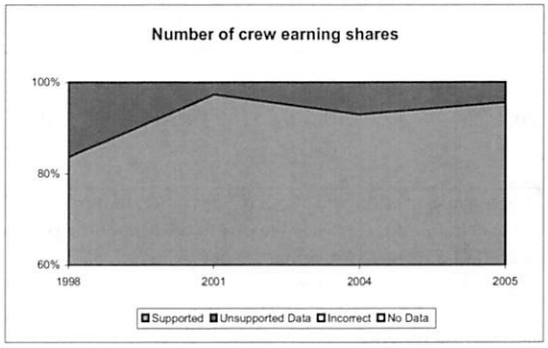
Year	Supported	Unsupported Data	Incorrect	No Data
Number of days at sea				
1998	47%	51%	2%	0%
2001	66%	34%	0%	0%
2004	65%	28%	5%	2%
2005	35%	65%	0%	0%

The mean deviation of supported data across all years is 0.914; the standard deviation of the normalized error is 0.266.
Support and calculation for this variable varied by vessel. Support included crew settlement sheets, fish tickets, estimates by company. Calculation is often inconsistent across vessels and years. Delivery, offloading and travel time were key variabilities. 2005 data did not include fisheries for which the IFQ was leased.



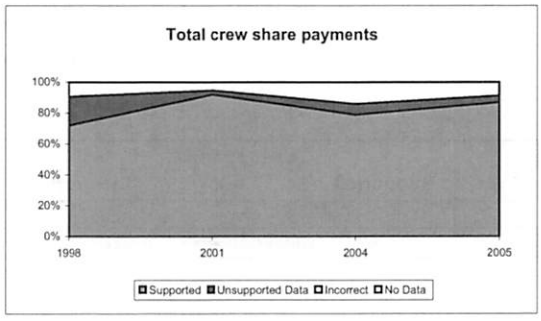
Number of crew earning shares				
1998	84%	16%	0%	0%
2001	97%	3%	0%	0%
2004	93%	7%	0%	0%
2005	96%	4%	0%	0%

The mean deviation of supported data across all years is 0.047; the standard deviation of the normalized error is 0.026.
Support for this variable was generally the number of crew settlement sheets. Variability could result from different crew on different trips. 2005 data did not include fisheries for which the IFQ was leased.



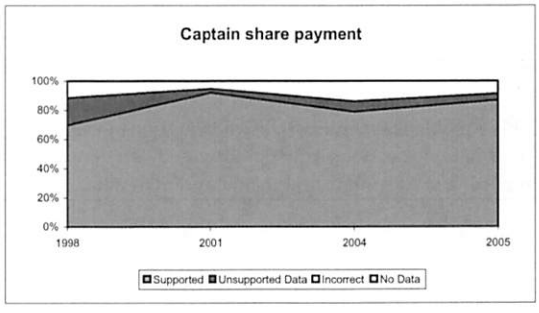
Total crew share payment				
1998	72%	19%	9%	0%
2001	92%	3%	5%	0%
2004	79%	7%	14%	0%
2005	87%	4%	9%	0%

The mean deviation of supported data across all years is $1,861.05; the standard deviation of the normalized error is 0.209.
Support for this variable was almost always the crew settlement sheets. 2005 data did not include fisheries for which the IFQ was leased.



Captain share payment				
1998	70%	19%	12%	0%
2001	92%	3%	5%	0%
2004	79%	7%	14%	0%
2005	87%	4%	9%	0%

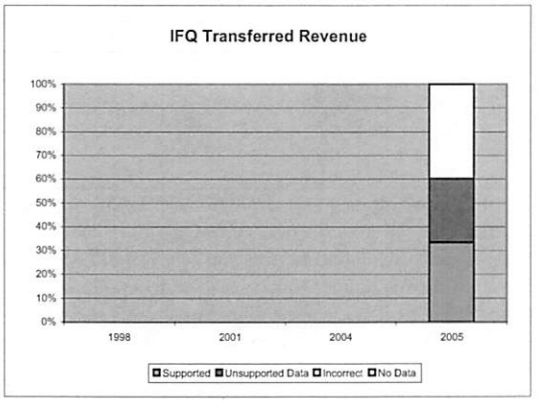
The mean deviation of supported data across all years is $517.19; the standard deviation of the normalized error is 0.116.
Support for this variable was almost always the crew settlement sheets. 2005 data did not include fisheries for which the IFQ was leased.



CATCHER VESSEL DETAIL - FISHERY SPECIFIC (Cont.)

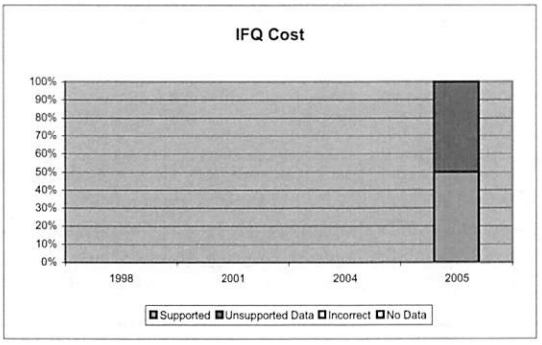
Year	Supported	Unsupported Data	Incorrect	No Data
IFQ Transferred Revenue (combined)				
1998	0%	0%	0%	0%
2001	0%	0%	0%	0%
2004	0%	0%	0%	0%
2005	33%	27%	40%	0%

The mean deviation and standard deviation of normalized error were not calculated for this variable due to the size of the population sampled with IFQ transferred revenue.
IFQ transferred revenue was not consistently reported, and frequently did not contain supporting documentation or the amount reported did not match the supporting documentation provided. Often, there was no formal agreement supporting the transferred revenue.



Year	Supported	Unsupported Data	Incorrect	No Data
IFQ Cost (combined)				
1998	0%	0%	0%	0%
2001	0%	0%	0%	0%
2004	0%	0%	0%	0%
2005	50%	50%	0%	0%

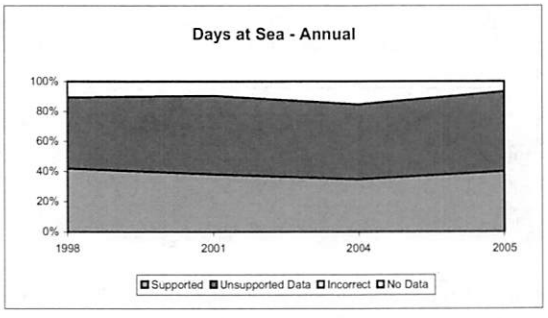
The mean deviation and standard deviation of normalized error were not calculated for this variable due to the size of the population sampled with IFQ transferred revenue.
IFQ cost was not consistently reported, and frequently did not contain supporting documentation. Often there was no formal agreement supporting the cost.



CATCHER VESSEL DETAIL - VESSEL SPECIFIC

Year	Supported	Unsupported Data	Incorrect	No Data
Days at Sea - Annual				
1998	42%	47%	11%	0%
2001	38%	52%	10%	0%
2004	35%	50%	15%	0%
2005	40%	53%	7%	0%

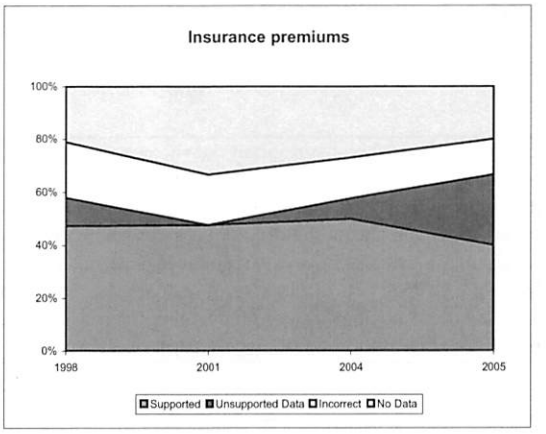
The mean deviation of supported data across all years is 26.21; the standard deviation of the normalized error is 0.224.
This variable was the most difficult variable to validate as supporting information was frequently not provided. There was also variability in reporting of this number in the definition of days.



CATCHER VESSEL DETAIL - VESSEL SPECIFIC (Cont.)

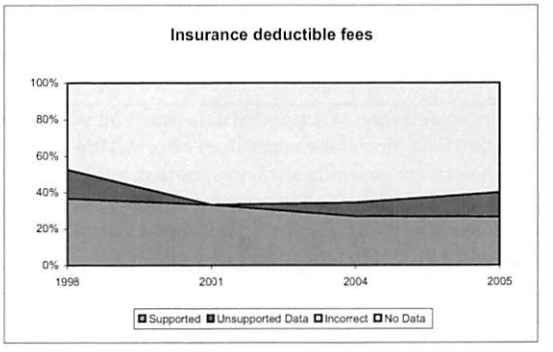
Year	Supported	Unsupported Data	Incorrect	No Data
Insurance premiums				
1998	47%	11%	21%	21%
2001	48%	0%	19%	33%
2004	50%	8%	15%	27%
2005	40%	27%	13%	20%

The mean deviation of supported data across all years is $23,937; the standard deviation of the normalized error is 0.494.
Support for this variable was generally vendor invoices and or internal financial statements detail. There is variability whether or not the reported amount is the entire premium or an estimate has been made to allocate to the BSAI crab fishery. Frequently this data element was left blank, either because the proportion to allocate to the crab fisheries would be minimal or they submitter did not know how to fill out the information.



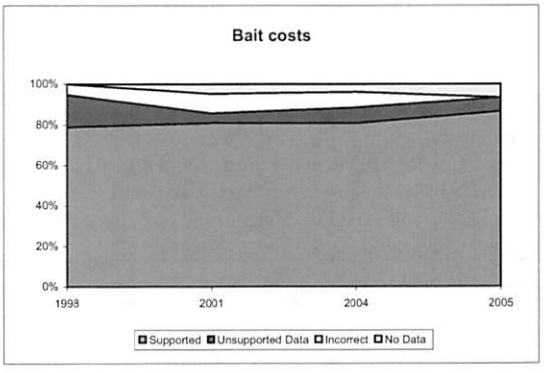
Insurance deductible fees				
1998	37%	16%	0%	47%
2001	33%	0%	0%	67%
2004	27%	8%	0%	65%
2005	27%	13%	0%	60%

The mean deviation of supported data across all years is $1,108.47; the standard deviation of the normalized error is 0.325.
Support for this variable was generally internal support; email documentation that there were no claims in the current year, or was not reported. Uncertain if the non report was due to no expense or to lack of understanding of the request.



Bait costs				
1998	79%	16%	5%	0%
2001	81%	5%	10%	5%
2004	81%	8%	8%	4%
2005	87%	7%	0%	7%

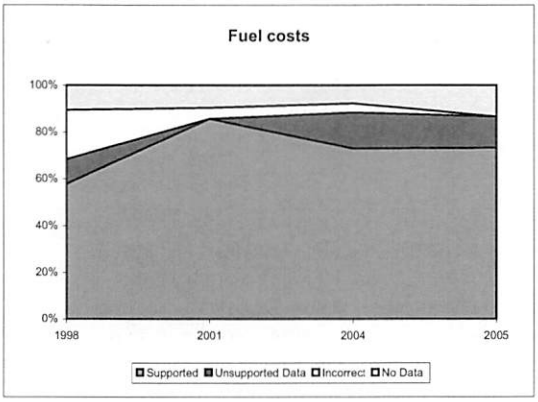
The mean deviation of supported data across all years is $4,762.34; the standard deviation of the normalized error is 1.007.
Support for bait costs varied, but included general ledger detail (financial statement detail), final crew settlement sheets, invoices and/or receipts or internal calculations. Variability also resulted because of uncertainty as to how to allocate to the crab fishery vs. overall operations.



CATCHER VESSEL DETAIL - VESSEL SPECIFIC (Cont.)

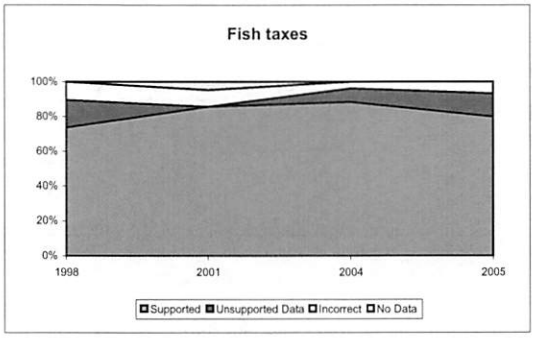
Year	Supported	Unsupported Data	Incorrect	No Data
Fuel costs				
1998	58%	11%	21%	11%
2001	86%	0%	5%	10%
2004	73%	15%	4%	8%
2005	73%	13%	0%	13%

The mean deviation of supported data across all years is $18,624.53; the standard deviation of the normalized error is 0.311.
Support for fuel costs varied, but included general ledger detail, final crew settlement sheets, vendor invoices and/or receipts, and internal calculations based upon an average number of gallons per day and price per gallon. Difficult to determine if amount was over or underestimated (cannot determine if all of the gas included on the receipt was used for the crab fishery trip).



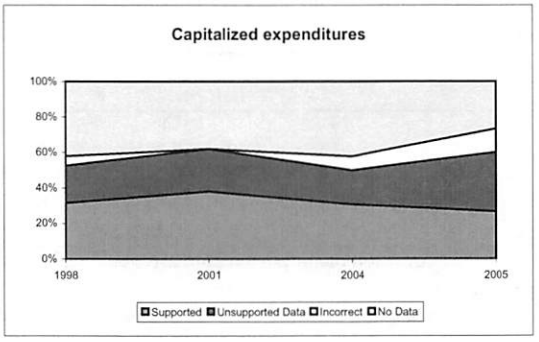
Fish taxes				
1998	74%	16%	11%	0%
2001	86%	0%	10%	5%
2004	88%	8%	4%	0%
2005	80%	13%	7%	0%

The mean deviation of supported data across all years is $848.77; the standard deviation of the normalized error is 0.594.
Fish taxes were generally always supported, but by a variety of methods. Some information came from general ledger detail, financial statements, fish tickets, or settlement sheets. Generally, amount reported matched the support exactly.



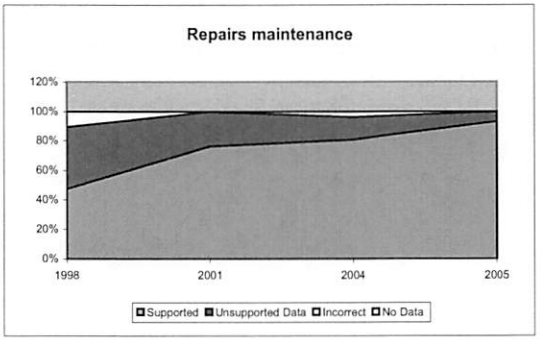
Capitalized expenditures				
1998	32%	21%	5%	42%
2001	38%	24%	0%	38%
2004	31%	19%	8%	42%
2005	27%	33%	13%	27%

The mean deviation of supported data across all years is $20,718; the standard deviation of the normalized error is 0.298.
Support for capitalized expenditures generally included general ledger detail, financial statements or fixed asset detail. Frequently, no information was reported, which could have been the result of no capital expenditures in the applicable year.



Repairs maintenance				
1998	47%	42%	11%	0%
2001	76%	24%	0%	0%
2004	81%	15%	0%	4%
2005	93%	7%	0%	0%

The mean deviation of supported data across all years is $8,420.55; the standard deviation of the normalized error is 0.879.
Support for repair and maintenance costs was generally the general ledger detail or specific vendor receipts. Some estimated the cost based upon an allocation to the fishery, but more frequently, respondents entered entire costs for the year.

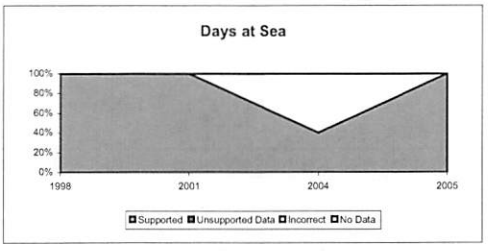


APPENDIX C

CATCHER PROCESSOR DETAIL - FISHERY SPECIFIC

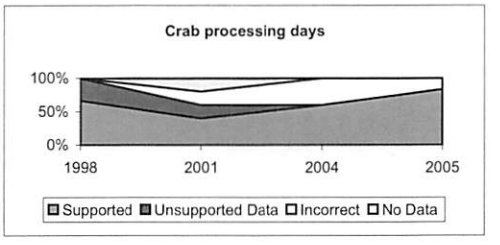
Year	Supported	Unsupported Data	Incorrect	No Data
Days at sea				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	40%	0%	60%	0%
2005	100%	0%	0%	0%

Support for this variable was generally settlement sheets or summary of settlement sheets.



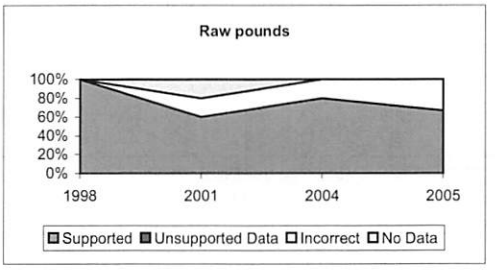
Crab processing days				
1998	67%	33%	0%	0%
2001	40%	20%	20%	20%
2004	60%	0%	40%	0%
2005	83%	0%	17%	0%

Support for this variable was generally settlement sheets.



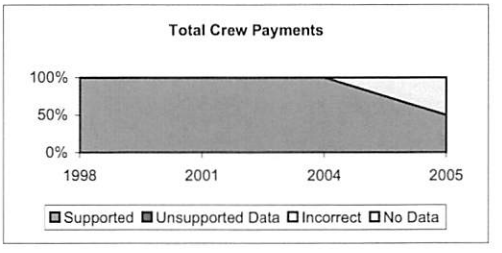
Raw pounds				
1998	100%	0%	0%	0%
2001	60%	0%	20%	20%
2004	80%	0%	20%	0%
2005	67%	0%	33%	0%

Support for this variable was internal detail of fish tickets or other internal calculations.



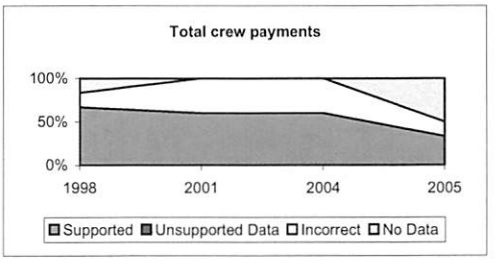
Crew earning shares				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	50%	0%	0%	50%

Support for this variable was generally crew logs or settlement sheets.



Total crew payments				
1998	67%	0%	17%	17%
2001	60%	0%	40%	0%
2004	60%	0%	40%	0%
2005	33%	0%	17%	50%

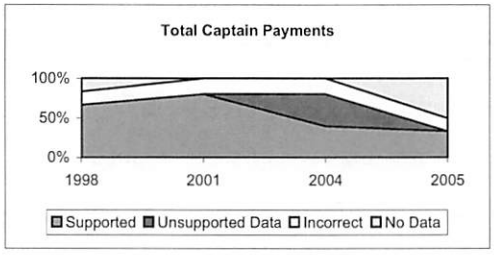
Support for this variable was generally crew logs or settlement sheets.



CATCHER PROCESSOR DETAIL - FISHERY SPECIFIC (cont.)

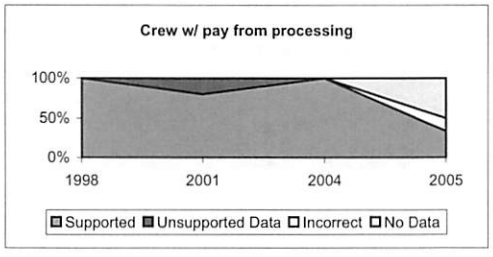
Year	Supported	Unsupported Data	Incorrect	No Data
Total captain payments				
1998	67%	0%	17%	17%
2001	80%	0%	20%	0%
2004	40%	40%	20%	0%
2005	33%	0%	17%	50%

Support for this variable was generally crew logs or settlement sheets.



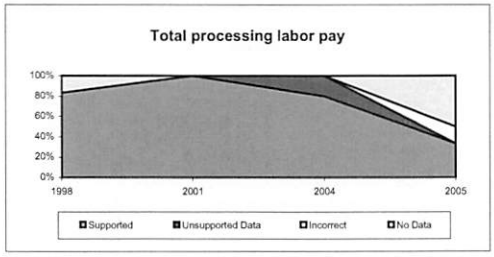
Crew w/ pay from processing				
1998	100%	0%	0%	0%
2001	80%	20%	0%	0%
2004	100%	0%	0%	0%
2005	33%	0%	17%	50%

Support for this variable was generally crew logs or settlement sheets.



Total processing labor pay				
1998	83%	0%	0%	17%
2001	100%	0%	0%	0%
2004	80%	20%	0%	0%
2005	33%	0%	17%	50%

Support for this variable varied and included internal financial statements or an allocation based upon total crew and captain payments.

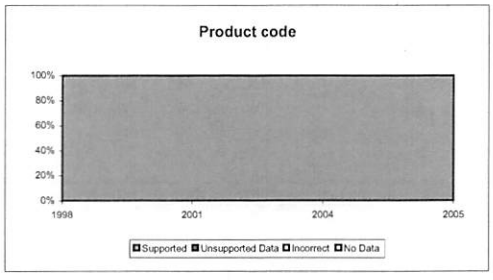


APPENDIX C

CATCHER PROCESSOR DETAIL - PRODUCT SPECIFIC

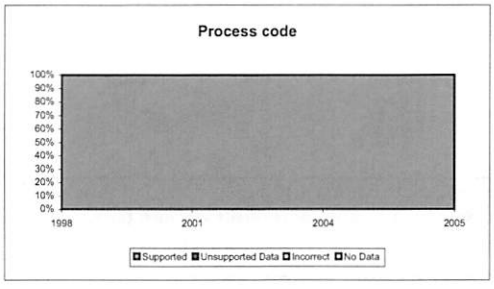
Year	Supported	Unsupported Data	Incorrect	No Data
Product code				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	100%	0%	0%	0%

Support for this variable was difficult to validate and was often based upon representation of catcher processor; sometimes it was difficult to match the product code or process code to detail. One processor was able to provide annual report of crab production.



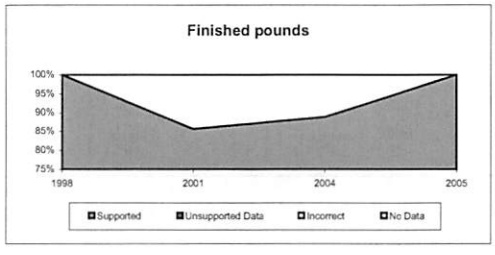
Process code				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	100%	0%	0%	0%

Support for this variable varied depending on the data provided for other variables. Sometimes, it was difficult to match the product code or process code to detail. One processor was able to provide annual report of crab production



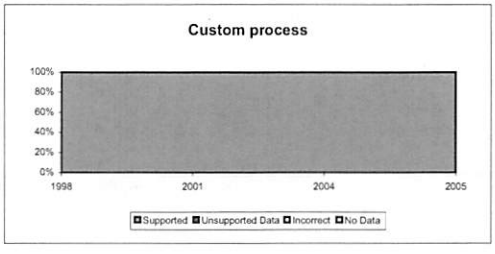
Finished pounds				
1998	100%	0%	0%	0%
2001	86%	0%	14%	0%
2004	89%	0%	11%	0%
2005	100%	0%	0%	0%

Support for this variable varied from production report to financial statements to fish tickets. One processor was able to provide annual report of crab production



Custom process				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	100%	0%	0%	0%

This variable was difficult to validate and was based upon representation of catcher processor.

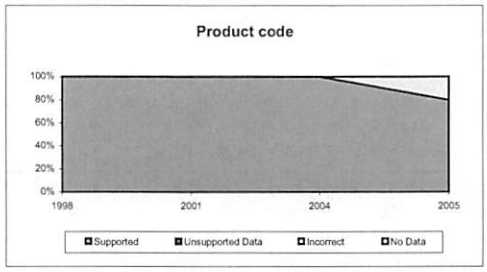


APPENDIX C

CATCHER PROCESSOR DETAIL - SPECIES AND PLANT SPECIFIC

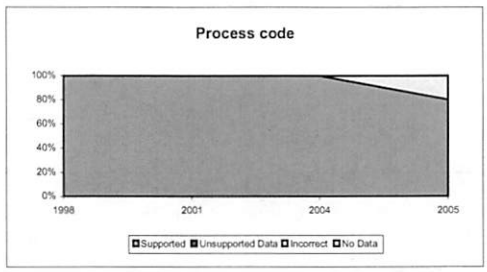
Year	Supported	Unsupported Data	Incorrect	No Data
Product code				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	80%	0%	0%	20%

Support for this variable was difficult to validate and was often based upon representation of catcher processor; sometimes it was difficult to match the product code or process code to detail. One processor was able to provide annual report of crab production.



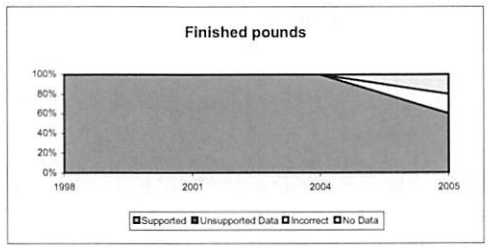
Process code				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	80%	0%	0%	20%

Support for this variable varied depending on the data provided for other variables. Sometimes, it was difficult to match the product code or process code to detail. One processor was able to provide annual report of crab production.



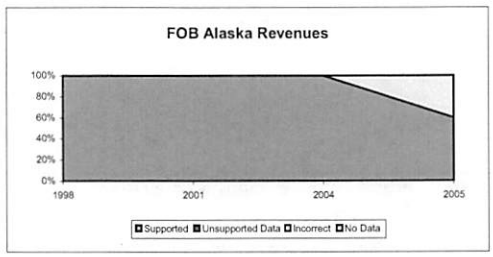
Finished pounds				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	60%	0%	20%	20%

Support for this variable varied from production report to financial statements to fish tickets. One processor was able to provide annual report of crab production.



FOB Alaska Revenues				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	60%	0%	0%	40%

Support for this variable was generally internal calculations, including an operator report.

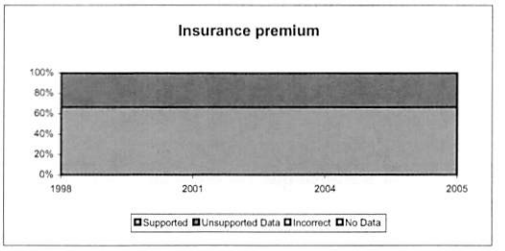


APPENDIX C

CATCHER PROCESSOR DETAIL - VESSEL SPECIFIC

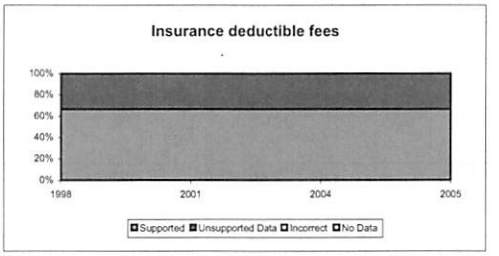
Year	Supported	Unsupported Data	Incorrect	No Data
Insurance premium				
1998	67%	33%	0%	0%
2001	67%	33%	0%	0%
2004	67%	33%	0%	0%
2005	67%	33%	0%	0%

Support for this variable was generally internal financial statements; some found it difficult to allocate to crab activities.



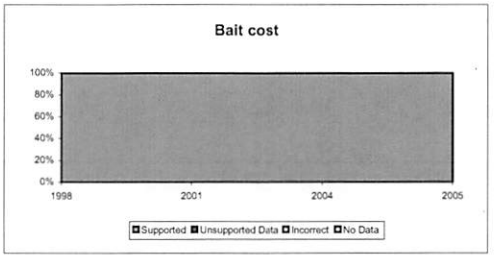
Insurance deductible fees				
1998	67%	33%	0%	0%
2001	67%	33%	0%	0%
2004	67%	33%	0%	0%
2005	67%	33%	0%	0%

Support for this variable was generally internal financial statements, if applicable; otherwise, no support was provided or they did not know how to allocate to crab.



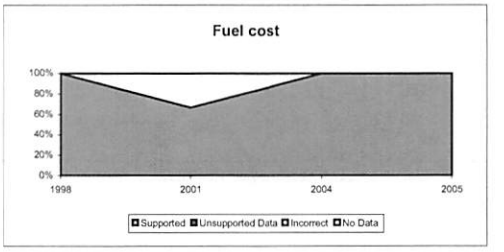
Bait cost				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	100%	0%	0%	0%

Support for this variable included internal financial statements, settlement sheets or invoices.



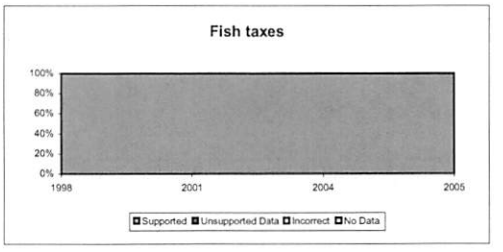
Fuel cost				
1998	100%	0%	0%	0%
2001	67%	0%	33%	0%
2004	100%	0%	0%	0%
2005	100%	0%	0%	0%

Support for this variable included internal financial statements, settlement sheets or invoices.



Fish taxes				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	100%	0%	0%	0%

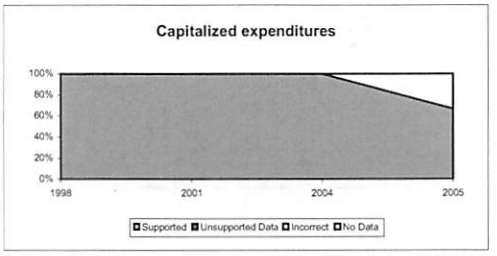
Support for this variable included internal financial statements, tax returns or other internal detail.



CATCHER PROCESSOR DETAIL - VESSEL SPECIFIC (Cont.)

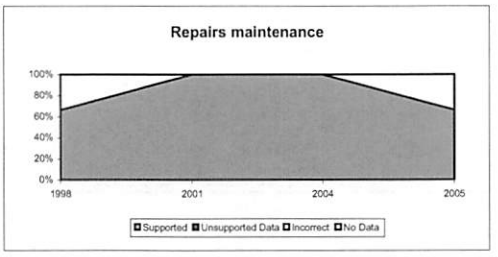
Year	Supported	Unsupported Data	Incorrect	No Data
Capitalized expenditures				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	67%	0%	33%	0%

Support for this variable included internal financial statements or internal detail of capital expenditures.



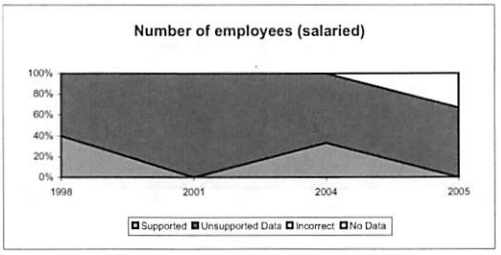
Repairs maintenance				
1998	67%	0%	33%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	67%	0%	33%	0%

Support for this variable included internal financial statements or general ledger.



Number of employees (salaried)				
1998	40%	60%	0%	0%
2001	0%	100%	0%	0%
2004	33%	67%	0%	0%
2005	0%	67%	33%	0%

There was minimal supporting data provided for this variable.

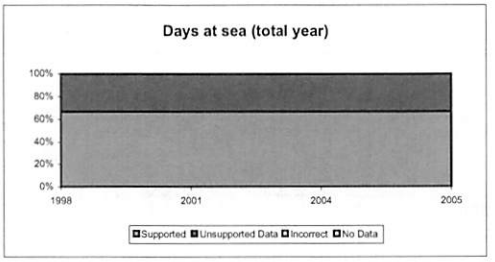


Total pay for salaried employees				
1998	67%	33%	0%	0%
2001	100%	0%	0%	0%
2004	100%	0%	0%	0%
2005	33%	33%	33%	0%

Support for this variable included internal finanical statements or general ledger detail.

Days at sea (total year)				
1998	67%	33%	0%	0%
2001	67%	33%	0%	0%
2004	67%	33%	0%	0%
2005	67%	33%	0%	0%

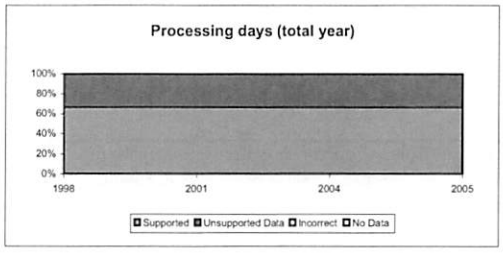
Support for this variable included summary of settlement sheets or log books; one did not provide supporting data.



CATCHER PROCESSOR DETAIL - VESSEL SPECIFIC (Cont.)

Year	Supported	Unsupported Data	Incorrect	No Data
Processing days (total year)				
1998	67%	33%	0%	0%
2001	67%	33%	0%	0%
2004	67%	33%	0%	0%
2005	67%	33%	0%	0%

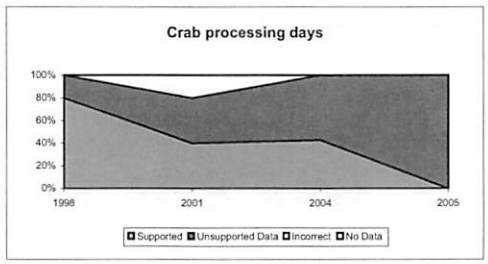
Support for this variable included summary of settlement sheets or log books; one did not provide supporting data.



PROCESSORS DETAIL - FISHERY SPECIFIC

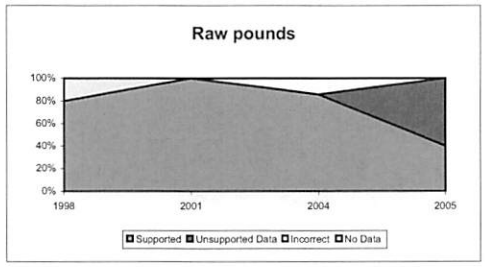
Year	Supported	Unsupported Data	Incorrect	No Data
Crab processing days				
1998	80%	20%	0%	0%
2001	40%	40%	20%	0%
2004	43%	57%	0%	0%
2005	0%	100%	0%	0%

Support for this variable included fish ticket reports, plant production report or other internal reports. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



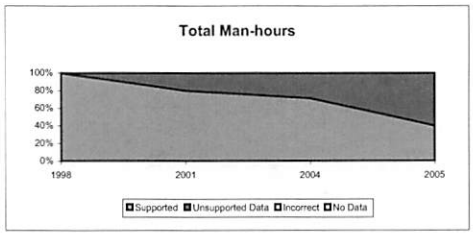
Raw pounds				
1998	80%	0%	0%	20%
2001	100%	0%	0%	0%
2004	86%	0%	14%	0%
2005	40%	60%	0%	0%

Support for this variable included a plant production report or other internal report. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



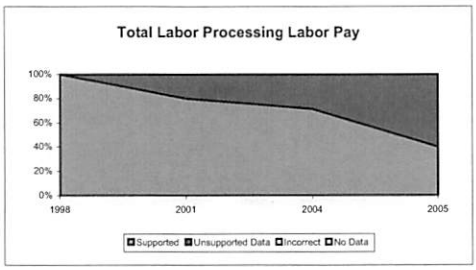
Total Man-hours				
1998	100%	0%	0%	0%
2001	80%	20%	0%	0%
2004	71%	29%	0%	0%
2005	40%	60%	0%	0%

Support for this variable was generally an internal plant labor report. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



Total Labor Processing Labor Pay				
1998	100%	0%	0%	0%
2001	80%	20%	0%	0%
2004	71%	29%	0%	0%
2005	40%	60%	0%	0%

Support for this variable included internal plant labor reports or other internal data. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



APPENDIX D

PROCESSORS DETAIL - PRODUCT AND FISHERY SPECIFIC

Year	Supported	Unsupported Data	Incorrect	No Data
Product code				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	91%	9%	0%	0%
2005	58%	42%	0%	0%

Support for this variable included internal sales or production report. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.

Process code				
1998	93%	0%	7%	0%
2001	100%	0%	0%	0%
2004	73%	27%	0%	0%
2005	58%	42%	0%	0%

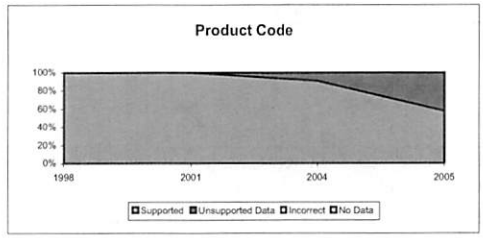
Support for his variable included internal sales or production report. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.

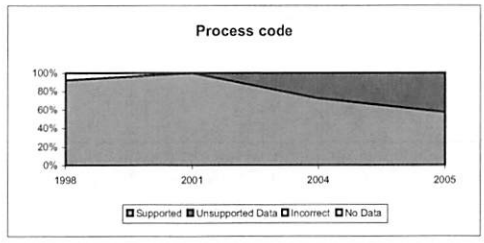
Finished pounds				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	91%	9%	0%	0%
2005	58%	42%	0%	0%

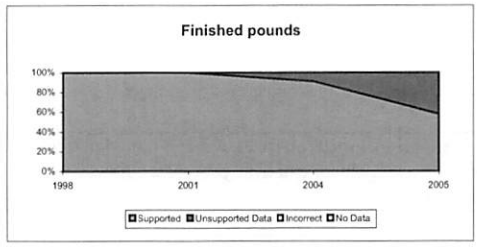
Support for this variable included internal sales or production report. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.

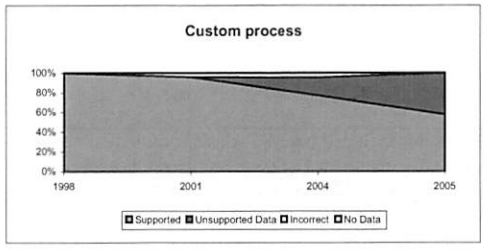
Custom process				
1998	100%	0%	0%	0%
2001	96%	0%	4%	0%
2004	77%	18%	5%	0%
2005	58%	42%	0%	0%

Difficult to determine if custom processing is appropriate - necessary to rely on information provided. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.







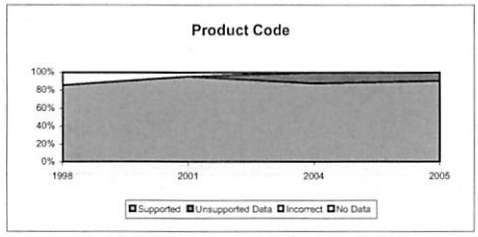


APPENDIX D

PROCESSORS DETAIL - SPECIES AND PROCESSOR SPECIFIC

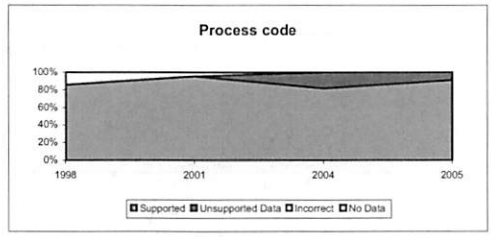
Year	Supported	Unsupported Data	Incorrect	No Data
Product code				
1998	86%	0%	14%	0%
2001	95%	0%	5%	0%
2004	88%	12%	0%	0%
2005	91%	9%	0%	0%

Support for this variable included internal sales or production reports. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



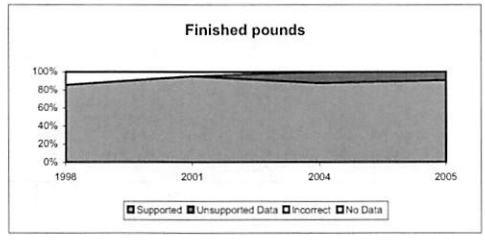
Process code				
1998	86%	0%	14%	0%
2001	95%	0%	5%	0%
2004	82%	18%	0%	0%
2005	91%	9%	0%	0%

Support for this variable included internal sales or production reports. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



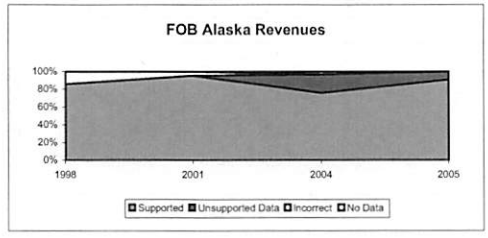
Finished pounds				
1998	86%	0%	14%	0%
2001	95%	0%	5%	0%
2004	88%	12%	0%	0%
2005	91%	9%	0%	0%

Support for this variable included internal sales or production reports. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



FOB Alaska Revenues				
1998	86%	0%	14%	0%
2001	95%	0%	5%	0%
2004	76%	21%	0%	3%
2005	91%	9%	0%	0%

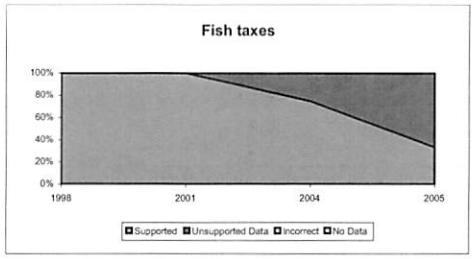
Support for this variable included internal sales or production reports. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



PROCESSORS DETAIL - PROCESSOR SPECIFIC

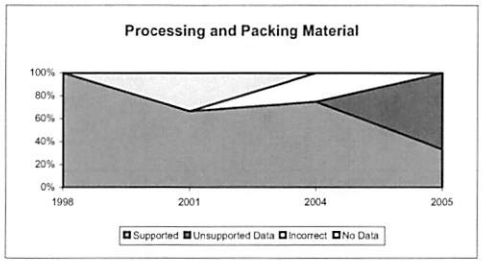
Year	Supported	Unsupported Data	Incorrect	No Data
Fish taxes				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	75%	25%	0%	0%
2005	33%	67%	0%	0%

Support for this variable included internal reports or Alaska fisheries tax return details. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



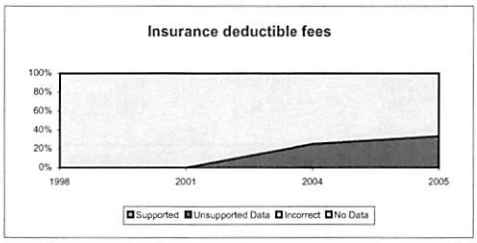
Processing and Packing Material				
1998	100%	0%	0%	0%
2001	67%	0%	0%	33%
2004	75%	0%	25%	0%
2005	33%	67%	0%	0%

Support for this variable included internal detail of packaging costs; may include allocated costs. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



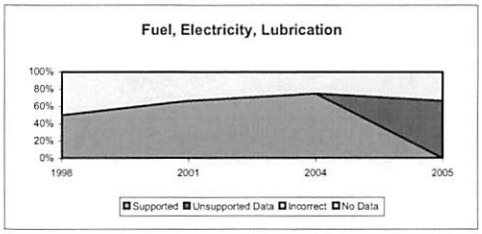
Insurance deductible fees				
1998	0%	0%	0%	100%
2001	0%	0%	0%	100%
2004	0%	25%	0%	75%
2005	0%	33%	0%	67%

This variable was difficult to validate as there was generally no support indicating if there were no deductible fees. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



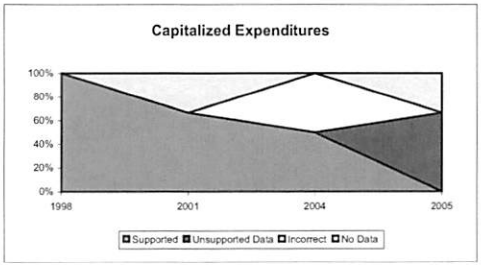
Fuel, Electricity, Lubrication				
1998	50%	0%	0%	50%
2001	67%	0%	0%	33%
2004	75%	0%	0%	25%
2005	0%	67%	0%	33%

Support for this variable was generally internal detail. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



Capitalized Expenditures				
1998	100%	0%	0%	0%
2001	67%	0%	0%	33%
2004	50%	0%	50%	0%
2005	0%	67%	0%	33%

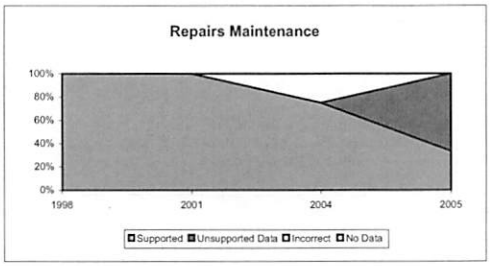
Support for this variable was generally an asset report or other internal detail. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



PROCESSORS DETAIL - PROCESSOR SPECIFIC (Cont.)

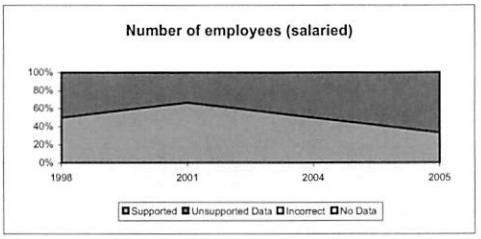
Year	Supported	Unsupported Data	Incorrect	No Data
Repairs Maintenance				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	75%	0%	25%	0%
2005	33%	67%	0%	0%

Support for this variable was generally internal detail or the general ledger. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



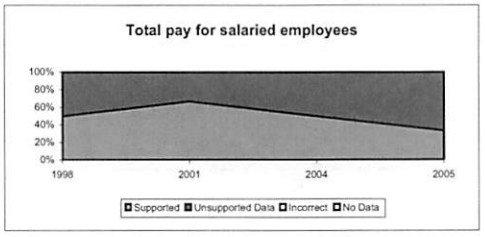
Number of employees (salaried)				
1998	50%	50%	0%	0%
2001	67%	33%	0%	0%
2004	50%	50%	0%	0%
2005	33%	67%	0%	0%

This variable was difficult to validate. Some provided count of employees per labor distribution report; otherwise reliant upon support provided by company.



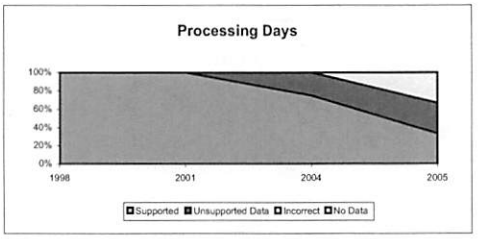
Total pay for salaried employees				
1998	50%	50%	0%	0%
2001	67%	33%	0%	0%
2004	50%	50%	0%	0%
2005	33%	67%	0%	0%

Support for this variable included internal detail. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.



Processing Days				
1998	100%	0%	0%	0%
2001	100%	0%	0%	0%
2004	75%	25%	0%	0%
2005	33%	33%	0%	33%

Support for this variable was a log or other internal worksheet. 2005 support was not available for 2 of the 5 processors, however information was reasonable relative to results from prior years.

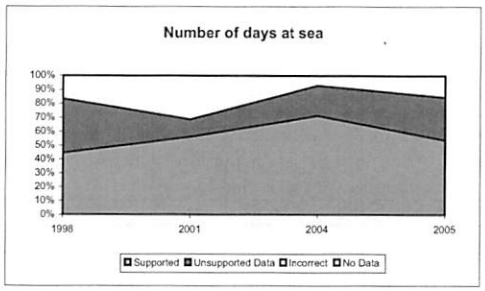


APPENDIX E

CATCHER VESSEL OUTLIER DETAIL - FISHERY SPECIFIC

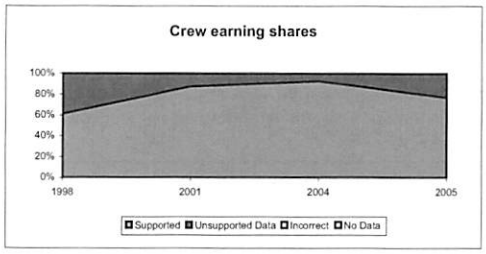
Year	Supported	Unsupported Data	Incorrect	No Data
Number of days at sea				
1998	44%	39%	17%	0%
2001	56%	13%	31%	0%
2004	71%	21%	7%	0%
2005	54%	31%	15%	0%

Support and calculation for this variable varied by vessel. Support included crew settlement sheets, fish tickets, estimates by company. Calculation is often inconsistent across vessels and years. Delivery, offloading and travel time were key variabilities. 2005 data did not include fisheries for which the IFQ was leased.



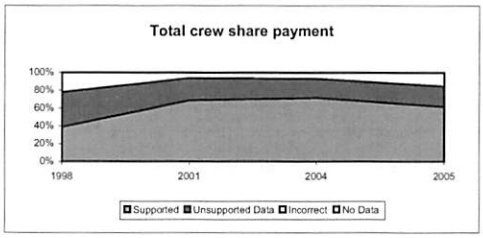
Crew earning shares				
1998	61%	39%	0%	0%
2001	88%	13%	0%	0%
2004	93%	7%	0%	0%
2005	77%	23%	0%	0%

Support for this variable was generally the number of crew settlement sheets. Variability could result from different crew on different trips. 2005 data did not include fisheries for which the IFQ was leased.



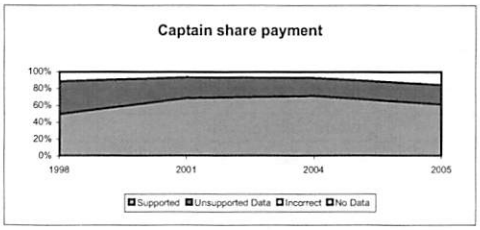
Total crew share payment				
1998	39%	39%	22%	0%
2001	69%	25%	6%	0%
2004	71%	21%	7%	0%
2005	62%	23%	15%	0%

Support for this variable was almost always the crew settlement sheets. 2005 data did not include fisheries for which the IFQ was leased.



Captain share payment				
1998	50%	39%	11%	0%
2001	69%	25%	6%	0%
2004	71%	21%	7%	0%
2005	62%	23%	15%	0%

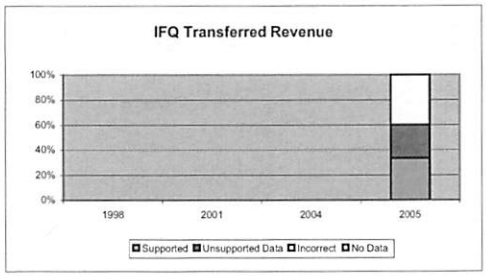
Support for this variable was almost always the crew settlement sheets. 2005 data did not include fisheries for which the IFQ was leased.



CATCHER VESSEL OUTLIER DETAIL - FISHERY SPECIFIC (Cont.)

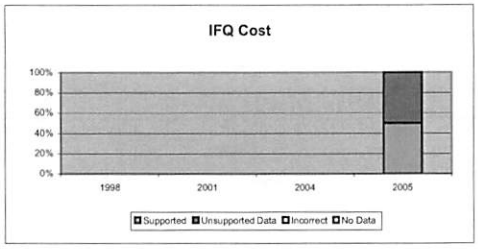
Year	Supported	Unsupported Data	Incorrect	No Data
IFQ Transferred Revenue (combined)				
1998	0%	0%	0%	0%
2001	0%	0%	0%	0%
2004	0%	0%	0%	0%
2005	33%	27%	40%	0%

IFQ transferred revenue was not consistently reported, and frequently did not contain supporting documentation or the amount reported did not match the supporting documentation provided. Often, there was no formal agreement supporting the transferred revenue.



Year	Supported	Unsupported Data	Incorrect	No Data
IFQ Cost (combined)				
1998	0%	0%	0%	0%
2001	0%	0%	0%	0%
2004	0%	0%	0%	0%
2005	50%	50%	0%	0%

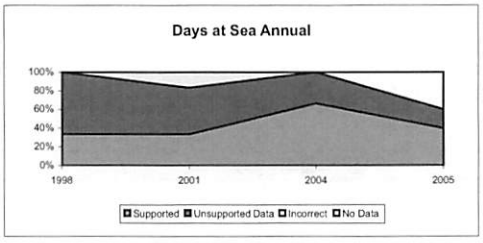
IFQ cost was not consistently reported, and frequently did not contain supporting documentation. Often there was no formal agreement supporting the cost.



CATCHER VESSEL OUTLIER DETAIL - VESSEL SPECIFIC

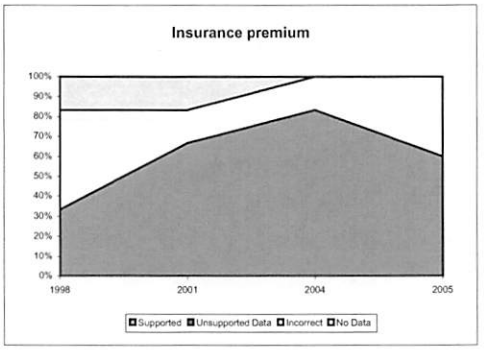
Year	Supported	Unsupported Data	Incorrect	No Data
Days @ Sea - Annual				
1998	33%	67%	0%	0%
2001	33%	50%	0%	17%
2004	67%	33%	0%	0%
2005	40%	20%	40%	0%

This variable was the most difficult variable to validate as supporting information was frequently not provided. There was also variability in reporting of this number in the definition of days.



Year	Supported	Unsupported Data	Incorrect	No Data
Insurance premium				
1998	33%	0%	50%	17%
2001	67%	0%	17%	17%
2004	83%	0%	17%	0%
2005	60%	0%	40%	0%

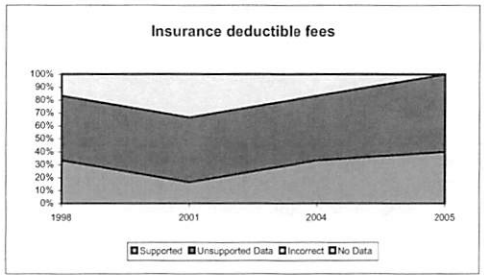
Support for this variable was generally vendor invoices and or internal financial statements detail. There is variability whether or not the reported amount is the entire premium or an estimate has been made to allocate to the BSAI crab fishery. Frequently this data element was left blank, either because the proportion to allocate to the crab fisheries would be minimal or they submitter did not know how to fill out the information.



CATCHER VESSEL OUTLIER DETAIL - VESSEL SPECIFIC (Cont.)

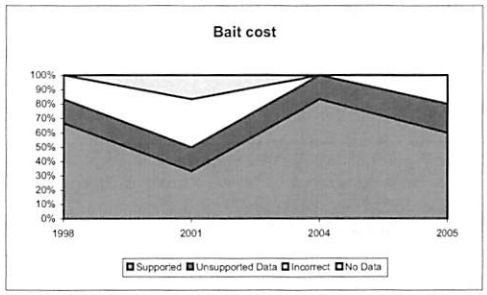
Year	Supported	Unsupported Data	Incorrect	No Data
Insurance deductible fees				
1998	33%	50%	0%	17%
2001	17%	50%	0%	33%
2004	33%	50%	0%	17%
2005	40%	60%	0%	0%

Support for this variable was generally internal support; email documentation that there were no claims in the current year, or was not reported. Uncertain if the non report was due to no expense or to lack of understanding of the request.



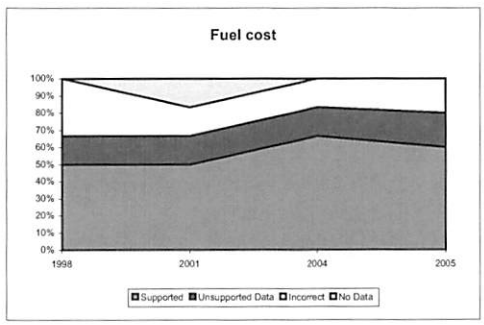
Bait cost				
1998	67%	17%	17%	0%
2001	33%	17%	33%	17%
2004	83%	17%	0%	0%
2005	60%	20%	20%	0%

Support for bait costs varied, but included general ledger detail (financial statement detail), final crew settlement sheets, invoices and/or receipts or internal calculations. Variability also resulted because of uncertainty as to how to allocate to the crab fishery vs. overall operations.



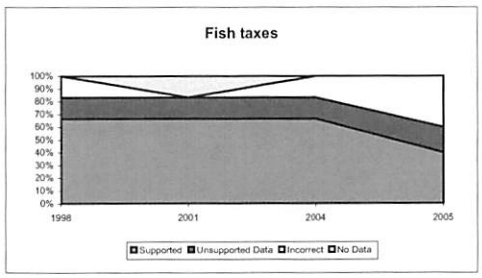
Fuel cost				
1998	50%	17%	33%	0%
2001	50%	17%	17%	17%
2004	67%	17%	17%	0%
2005	60%	20%	20%	0%

Support for fuel costs varied, but included general ledger detail (financial statement detail), final crew settlement sheets, vendor invoices and/or receipts, and internal calculations based upon an average number of gallons per day and price per gallon. Difficult to determine if amount was over or underestimated (cannot tell if all of the gas included on the receipt was used for the crab fishery trip).



Fish taxes				
1998	67%	17%	17%	0%
2001	67%	17%	0%	17%
2004	67%	17%	17%	0%
2005	40%	20%	40%	0%

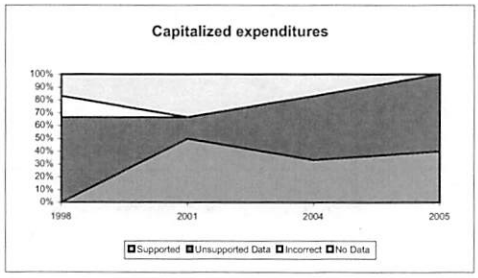
Fish taxes was generally always supported, but by a variety of methods. Some information came from general ledger detail, financial statements, fish tickets, or settlement sheets. Generally, amount reported matched the support exactly.



CATCHER VESSEL OUTLIER DETAIL - VESSEL SPECIFIC (Cont.)

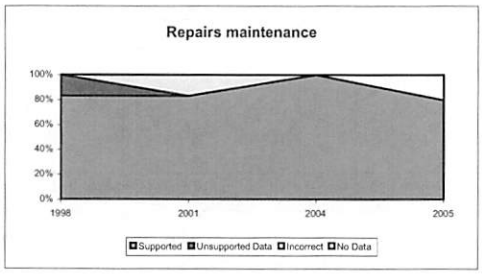
Year	Supported	Unsupported Data	Incorrect	No Data
Capitalized expenditures				
1998	0%	67%	17%	17%
2001	50%	17%	0%	33%
2004	33%	50%	0%	17%
2005	40%	60%	0%	0%

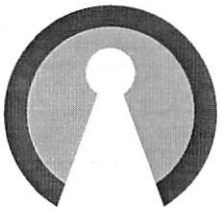
Support for capitalized expenditures generally included general ledger detail, financial statements or fixed asset detail. Frequently, no information was reported, which could have been the result of no capital expenditures in the applicable year.



Repairs maintenance				
1998	83%	17%	0%	0%
2001	83%	0%	0%	17%
2004	100%	0%	0%	0%
2005	80%	0%	20%	0%

Support for repair and maintenance costs was generally the general ledger detail or specific vendor receipts. Some estimated the cost based upon an allocation to the fishery, but more frequently, respondents entered entire costs for the year.





AKT

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ATK LLP

Alaska Crab Economic Data Report Data Validation

For the Year 2006

Report Prepared for Pacific States Marine Fisheries Commission

January 2008

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EXECUTIVE SUMMARY

BACKGROUND

The Bering Sea and Aleutian Islands (BSAI) Crab Rationalization Program was developed to create a quota system that grants exclusive harvesting and processing rights to crab harvesters, processors and coastal communities. Economic data reports (EDRs) were developed to aid the North Pacific Fishery Management Council (Council) and National Marine Fisheries Service (NMFS) in assessing the success of the program and developing amendments necessary to mitigate any unintended consequences. In order to ensure that the data submitted by respondents in the EDRs is accurate, Pacific States Marine Fisheries Commission (PSMFC) contracted AKT, LLP (AKT) to develop a process to review the data contained within submitted EDRs, including verification audits for those EDRs containing odd or suspicious data values, and conducting random audits for a certain percentage of submitted EDRs.

This project is a continuation of similar work done in 2006 for the years 1998, 2001, 2004 and 2005.

SCOPE OF WORK

In order to perform the verification audits, the following procedures were requested to be performed for the year 2006:

1) ***Random audits*** – Review and verification of a subset of the data values reported in randomly selected EDRs.

2) ***Outlier audits*** – Review and verification of a subset of the data values reported in EDRs that contained multiple outliers in the analysis performed by NMFS.

CONCLUSION

The quality of the information submitted in the EDRs is important as the information is used to analyze the impact of the crab rationalization program and similar programs in different fisheries. Overall, the audits found that the information submitted was supported by documentation and records. If an error was identified, there was generally not a directional bias in the submission of the data, i.e. no consistent or direct intention to misreport the information. Despite the specific definitions included in the EDRs, there is still variability in how information is reported based upon the ability to break down information in the manner requested and sophistication of accounting systems. The quality and completeness of supporting documentation to information submitted in the EDRs improved in comparison to the prior year project, though significant variability remains within the Catcher Vessel sample.

INTRODUCTION

BACKGROUND

The Bering Sea and Aleutian Islands (BSAI) Crab Rationalization Program was developed to create a quota system that grants exclusive harvesting and processing rights to crab harvesters, processors, and communities. The rationalized fishery began in the Fall of 2005, with quota allocated to harvesters and processors based on historical participation in the fishery. Because of the expected impact on the industry, an economic data collection program was developed to better understand the economic impacts on the industry.

Economic data reports (EDRs) were developed to obtain information about the crab operations of harvesters and processors to help monitor how costs and economic returns of various stakeholders in BSAI crab fisheries are affected by rationalization. In order to ensure that the data submitted by respondents in the EDRs is accurate, Congress and the Council specified that EDR data be subject to mandatory audits conducted by the third party collection agent, Pacific States Marine Fisheries Commission (PSMFC). PSMFC contracted AKT to develop and implement an EDR review and verification system, which involves reviewing the data contained within submitted EDRs, conducting verification audits for those EDRs containing data values outside of the expected range, and conducting random audits for a certain percentage of submitted EDRs.

The EDRs were developed to help determine the effects of the rationalization program, including changes to the costs of production and the effect of consolidation. NMFS sought to understand the general trends over the years and the effects of rationalization to translate to other fisheries that are beginning similar programs.

In summary, the purpose of the economic data report and data validation is to:

1) Aid the Council and NMFS in assessing the success of the Program.
2) Understand the economic performance of crab fisherman.
3) Understand how the economic performance has changed after rationalization.
4) Isolate the effects attributable to the crab rationalization program.
5) Assess the validity of data reported in submitted EDRs.
6) Provide guidance on improvements in the EDR process to improve the validity of future data reporting.

KEY PARTICIPANTS/ROLES

The key participants in the project include:

- *National Marine Fisheries Service (NFMS)* – driver of the audit and end-user of information contained in the EDR
- *Pacific States Marine Fisheries Commission (PSMFC)* – collector and manager of data collected through the EDRs
- *AKT, LLP* – independent accountants to audit and validate the information

- Participants in the crab rationalization program

Scope of Work

The following procedures were requested to be performed in the scope of work:

1) ***Random audits*** – Review and verification of a subset of the data values reported in randomly selected EDRs.

2) ***Outlier audits*** – Review and verification of a subset of the data values reported in EDRs that contained multiple outliers in the analysis performed by NMFS.

The methodology to address the procedures above is outlined later in this report.

Based upon our conversations with NMFS and PSMFC, the key objectives of the audits were outlined as follows:

- Validate key data
- Identify problems with the data or EDR instructions and make suggestions for future reporting
- Promote compliance with timely and accurate data reporting requirements
- Identify appropriate changes to data when missing or inaccurate
- Characterize, and in some cases quantify, the level of accuracy associated with particular data elements

Key Information

This project is a continuation of similar work done in 2006 for the years 1998, 2001, 2004 and 2005. The current analysis is based on the data collected from participants of the BSAI crab rationalization program for the year 2006. A statistical sample was determined based upon a total submitted population of 113, which was comprised of all unique submitters of information. The sample was determined based upon achieving a 95% confidence level with a precision level of 15% in terms of assessing the accuracy of the submitted data. (See Appendix A for detailed discussion of the statistical basis of the sample). The following table summarizes the number of EDRs submitted by type and the resulting sample size.

	# EDRs submitted	Sample
	2006	2006
Catcher Vessel	95	28
Processor (Catcher, Stationary Floating, Shoreside)	18	7

METHODOLOGY

AKT, PSMFC, and NMFS worked together to determine the best process to analyze the data submitted through the EDR process and determine the methodology to sample and audit the data submitted in the EDRs. The process was based on prior year experience with improvements made to benefit all participants. The following is a summary of the steps taken throughout the audit process.

1) ***Determine appropriate variables to validate.*** The significance of the data for random audits and available audit evidence were considered when determining the appropriate variables to validate.

2) ***Determine population subject to random audit.*** The sample size was determined using a statistical model with 95% confidence level and 15% precision. See Appendix A for discussion of the statistical basis for selection.

3) ***Determine outlier audit population and request information subject to audit.*** Based upon its analysis of the data without vessel identity, NMFS identified the population that it desired to validate through outlier audit. The outlier audits focused on EDRs that had a significant number of outliers in the analytical review. Once a vessel was identified as an outlier audit, it was subject to validation of the same variables as the random audits. Only 2 vessels were selected for analysis this year. Of those, one was removed due to having only 3 days of crab fishing activity. Therefore, 1 outlier vessel was audited in addition to the random sample.

4) ***Gather and crosscheck the EDR data to be audited.*** PSMFC put the EDR data into a spreadsheet format and transferred the spreadsheet to AKT. AKT validated the spreadsheet to the original EDR data.

5) ***Request information subject to audit.*** Selected vessels and processors were asked to provide supporting information for the selected variables for validation. They were given a month to respond, and if information was not received, they were contacted individually. Increased efforts were made in the current year to ensure each selected vessel and processor had the opportunity to respond. As a result, the support level was significantly improved from the prior year.

6) ***Validate information by comparing to supporting documentation.*** This process involved review of data submitted as supporting data for each vessel selected. Detailed notes as to the basis of information were maintained in order to evaluate the validity of selected data. If clarification on a discrepancy or additional supporting data was needed, the vessel or processor was contacted.

7) ***Summarize results of audit verification process.*** The available audit evidence by EDR variable selected for audit was classified into categories to enable an overall analysis of the validity of data. These results are reported in "Findings" below.

AUDIT METHODOLOGY

AKT selected vessels or processors for random audit based upon the statistical sample outlined in Appendix A. For each vessel or processor selected, detailed support was examined for each year in which the selected vessel or processor submitted an EDR. AKT worked with NMFS and PSMFC to determine the appropriate variables to validate.

For each data variable requested, AKT critically evaluated the support provided by the selected vessel or processor. Information was evaluated against third party support, such as invoices or fish tickets; internally-generated information, such as crew settlement sheets, general ledger details, invoices, detailed internal reports, or financial statements; and estimates made, including an assessment of the reasonableness of assumptions. Supporting documentation for internally-generated spreadsheets was

requested on a judgmental basis to validate the internal documentation. AKT also noted when no support was available to evaluate the information.

Many of the records provided to AKT were unique, especially for the vessels. The processor reporting was more formal and standardized, reflecting the large company nature of those operations. Because the material provided was unique, the audit process began with a detailed review of each information packet received while comparing totals for each variable to the original EDR entry. Each supporting document was assessed for accuracy and depth of support. Estimates were accepted as long as a reasonable explanation and/or calculation were also provided. Handwritten statements were also accepted only after discussion with the EDR preparer.

If the initially provided documentation was not deemed sufficient support, or if support was missing for a certain variable, AKT made phone calls to the vessel to ask for further documentation. Once documentation was received, it was assessed and validated.

FINDINGS

AKT developed the following classifications to describe audit evaluations and summarize the results of the audit:

Data are Supported and Reasonable

- ***Data supported*** - Data and transactions are supported by third-party documentation and/or internal documentation.
- ***Immaterial difference*** - Data are generally supported by documentation, but with differences to the original EDR submission that were not material to the overall variable. Differences were corrected in the audited values.
- ***Material difference*** - Data are generally supported by documentation, but with differences to the original EDR submission that were material to the overall variable. Reasons for the difference were generally provided during discussion with the data provider. Differences were corrected in the audited values.
- ***Reasonable estimate*** - Data are based upon an estimate using a clearly articulated method. Based upon our evaluation of the method, the estimate is reasonable.
- ***Corrected by vessel*** - Data were corrected by the provider when documentation was provided, either in the initial packet or subsequent request.

Unsupported Data

- ***Unsupported data*** - Data has no supporting documentation and no explanation was given for the way in which the data were derived. Note, that this does not indicate that the information is incorrect.
- ***Estimate – no basis*** - Data are based upon an estimate for which there is no method to assess the reasonableness.

No Data Reported

- ***No data*** – For a given variable, the EDR is blank. Specific practices vary by vessel, therefore, a blank entry was accepted.

SUMMARY OF FINDINGS

There are two basic populations that we evaluated during the course of the audit:

- Catcher vessels
- Processors: catcher, stationary floating, and shoreside

There were only two for-cause audits in this year's audit. One of the vessels had only three days crab fishing and was excluded from the analysis on that basis. The other vessel provided supporting data comparable to the random audit vessels. No significant difference was noted between the random and for cause audit populations.

Catcher Vessels

The Catcher Vessels were the larger participant group in the random audit process. The records of 28 vessels were requested, and AKT received 28 responses. Information requests for additional support was received by all vessels from whom it was requested, clearing most of the requests for additional support. Due to this high response rate, the support percentage is nearly 100% with only a few variables that have one or two instances of unsupported data. Accuracy of the originally reported EDR data are generally good. However, accuracy varies across the variables. This is especially true when one or two errors of large size skew the result for the entire group. Details are included in Appendix B, summarizing the results by data variable for the catcher vessels.

Processors – Catcher, Stationery Floating and Shore-side

The Processors were the smaller participant group in the random audit process. The records of 7 processors were requested, and AKT received 7 responses. Information requests for additional support was received by all processors from whom it was requested, clearing all of the requests for additional support. Due to this complete response rate, the support percentage is 100%. Accuracy of the originally reported EDR data is very good consistently across all variables. Details are included in Appendix C, summarizing the results by data variable for the processors.

CONCLUSION

The quality of the information submitted in the EDRs is important as the information will be used to analyze the impact of the crab rationalization program. Overall, the audits found that the information submitted was supported by documentation and records. However, despite the specific definitions included in the EDRs, there is still variability in how information is reported based upon the ability to break down information in the manner requested. In addition, there is significant variability in the quality of the supporting documentation submitted in the EDRs, generally due to sophistication of accounting records. Most vessel owners and processors strive to submit accurate information, however, the quality and detail of records maintained differs significantly among the group.

The findings in Appendix B and C discuss specific variables that were subject to audit. By understanding the implications of the results to the overall population, several observations are worth considering.

1) ***The quality of the records differ by vessel.*** The quality of the supporting records differs widely by vessel and whether or not an outside (or internal) accountant/consultant is responsible for the submission of the EDR. Many vessel owners estimated the original EDR entries. The correction rate (either self-identified or identified as a result of the audit) for catcher vessels was:

    - 11 vessels had fewer than 5 corrections
    - 15 vessels had between 5 to 10 corrections
    - 2 vessels had more than 10 corrections

2) ***The processors generally had more sophisticated accounting records and were able to provide supporting documentation for their EDR submissions.*** The correction rate (either self-identified or identified as a result of the audit) for processors was:

    - 6 processors had fewer than 5 corrections
    - 1 processor had between 5 to 10 corrections
    - No processor had more than 10 corrections

3) ***Vessel owners and processors supported compliance with the audit.*** The timing of this year's audit compared to last year helped the respondents comply with the request for information on a timely basis.

4) ***Errors in submitted information do not indicate a directional bias in the data.*** The errors identified as a result of the audit do not indicate a bias in reporting of information. Generally, an equal amount of errors are greater or less than the reported amount. One or two significant errors for a given variable could skew the overall results.

5) ***Industry members are protective of their information.*** The data requested on the EDR is very sensitive data for the industry. Many individuals were very protective of the data and wanted to ensure the confidential nature of the information submitted for the audit.

COMMENDATION

AKT worked collaboratively with members of the PSMFC and NMFS staff and would like to thank you for your commitment and time.

Name	Organization
Dave Colpo	Pacific States Marine Fisheries Commission
Geana Tyler	Pacific States Marine Fisheries Commission
Curtis McLain	Pacific States Marine Fisheries Commission
Ron Felthoven	National Marine Fisheries Service
Brian Garber-Yonts	National Marine Fisheries Service
Audit participants	Individual vessels and/or processors

APPENDIX A

STATISTICAL SAMPLE

In order to determine an appropriate sample size as the basis of selection for the random audits, the main criteria to consider are the level of precision desired, the level of confidence or risk, and the degree of variability in the attributes being measured. These elements are defined as follows:

- ***Level of Precision*** - Also referred to as the margin of error, this is the range in which the true point value of the population is estimated to be. This is expressed as a percentage ± the true value (e.g., ± 5%). Thus, if it is found from the sample that on average 15% of the fisherman did not submit data then is could be concluded, that for the total population, between 10% and 20% of the fisherman have not submitted data.

- ***Confidence Level*** - The degree to which we are certain that a result, or estimate, obtained from the study includes the true population percentage, when the precision is taken into account. In a normal distribution 95% of the sample values are within two standard deviations of the true population value. If 100 vessels were sampled 95 would have the true population values within the range specified.

- ***Degree of Variability*** - This measures the variability within the population (e.g. Catcher Vessels, Catcher / Processor Vessels, Shore / Floating Processors, Large Vessels, Small Vessels). The more heterogeneous a population, the larger the sample size required to obtain a given level of precision. The more homogenous a population the smaller the sample size required. A variability of 50% signifies the greatest variability.

Due to the variability within the industry and the variability of the data being analyzed, there is not one specific variable that can be used to create a statistical model that would enable AKT to calculate a standard deviation and regression analysis for the project. This fact places the project in a similar category as a questionnaire, political poll, surveys, and extension program impacts.

While there are no statistical analyses that can be applied directly, there are similar projects that derive statistical sampling methods relating to extension program impact. In these projects the samples are used to evaluate a change made to the extension programs.

The sampling formulas derived for such projects and to ensure a statistical basis for the samples chosen are the following:

$$n_o = \frac{Z^2(p)(q)}{(e)^2} \qquad n = \frac{n_o}{1 + \frac{(n_o - 1)}{N}}$$

n_0 = Sample size
n = Sample size with finite population correction for proportions
Z = The number of standard deviations a point x is from the mean. It is a scaled value.
p = population variability
q = 1 – p
e = the desired level of precision
N = total population

For this project p (variability) equals .5 to account for maximum variability in the population.

This type of sampling methodology takes into account errors and missing information in the data. The precision level quantifies the tolerable level of error based on the sample size. This error level is then projected to the total population.

The samples were stratified based on the proportion of the group vs the total population. The reasoning behind this is that by sampling each individual population there would be no statistical basis for both the Catcher/Processor and Stationary/Floater Processors. The only way to have a statistical basis for this population would be to census the population. Because this is not a reasonable approach, AKT suggested that the population include all groups and then additional random audits be performed for the Catcher/Processor and Stationary/Floater Processor populations.

The sample population was ultimately chosen based upon a 95% confidence level with 15% precision and variability of 50% (due to the variability of the information requested). This method would ensure the data are correct (outlier audits) and it would also give a good idea for future projects how good the data are (random audits). This sampling method provides a statistical basis for future studies and gives the agencies a basis to measure the accuracy of the population data.

APPENDIX B

CATCHER VESSELS

AKT received responses to the initial request from all the audit vessels. All vessels responded to requests for additional supporting documentation. Extensive email, fax, phone and mail dialogue took place with the vessel data preparers.

Graphs, statistical analysis and data summary for the EDR variables are provided below. Supported responses are plotted in the graphs. The number of responses varies for a number of reasons. Some variables included responses by location or fishery, generating more responses than the number of vessels reporting. A few variables did not have supporting documentation for all responses; unsupported EDR values were not included in the graphs. Explanation of the response profile is provided with each graph.

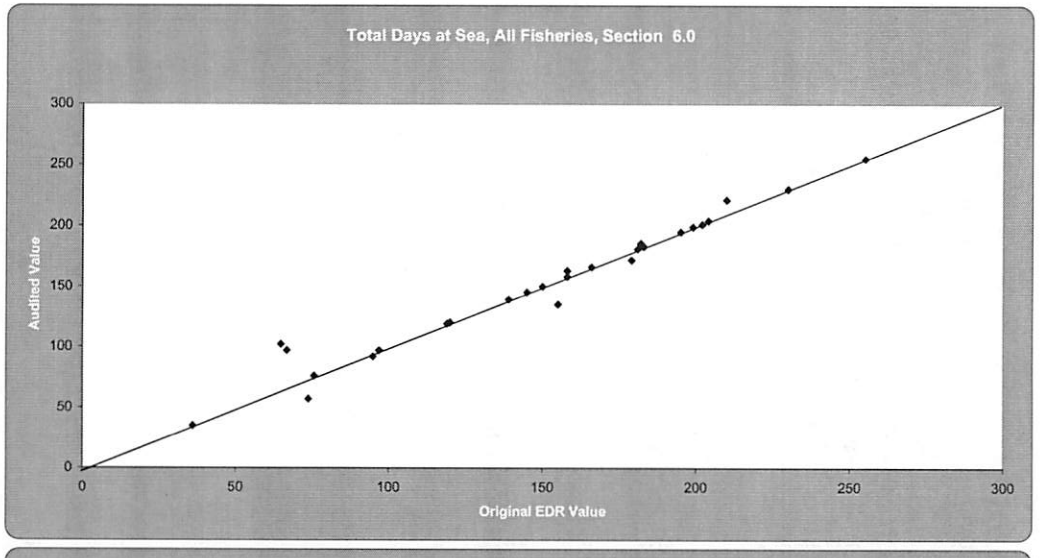
The data summary also describes the sources of supporting documentation provided. In some cases, vessels provided multiple sources of documentation for a variable, resulting in more documentation sources than the number of vessels reporting.

The graphs compare the original EDR values provided by the processors on the X axis with the audited values on the Y axis. The audited values were corrected to match supporting documentation. Where the EDR and audited are the same or similar, the plots fall along a 45 degree line bisecting the graph. Large corrections result in plots at a distance from the 45 degree line. Causes for corrections are noted in the data summary for each graph. The degree of EDR data accuracy is represented by how tightly the plots are clustered along the 45 degree line.

INSERT PDF OF PUBLIC 2006 EDR VESSEL BY VESSEL GRAPHS

INSERT PDF OF PUBLIC 2006 EDR VESSEL BY FISHERY GRAPHS

VARIABLES FOR ANNUAL VESSEL DATA - TOTAL AND CRAB ONLY

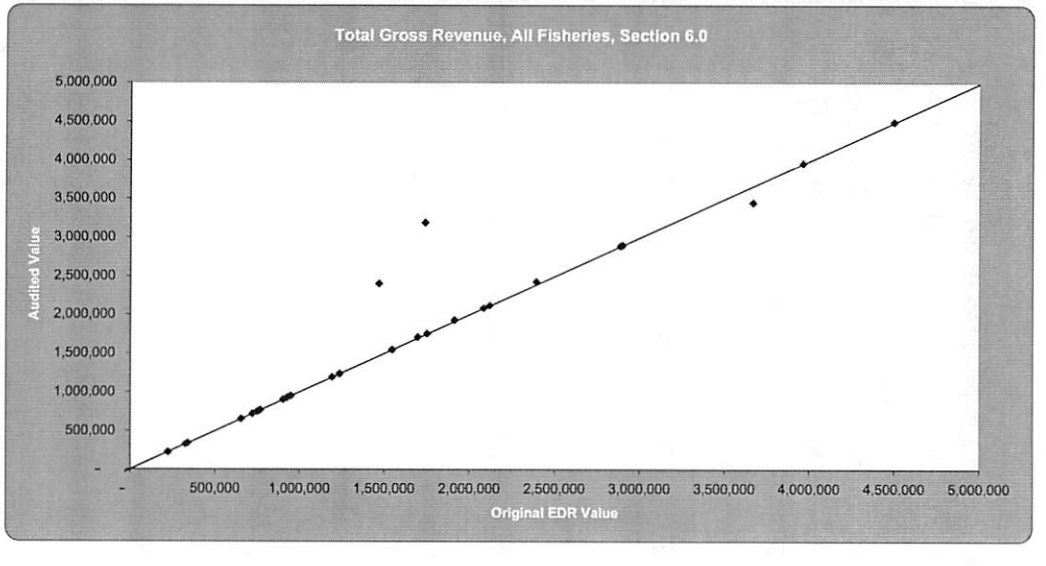


Statistical Analysis

n	28
% Supported	100.00
mean % error	-0.78
SD of % error	11.28

Data Summary

9 vessels provided vessel/ship log books
9 vessels provided handwritten documentation that was deemed adequate
8 vessels provided an internal log of all fishing days
6 vessels provided fish tickets
1 vessel tied the figure to a crew settlement
1 vessel provided an internal calendar used for documenting fishing trips
28 of the 28 vessels reported data for this variable
11 corrections were made across 28 vessels, primarily due to recalculation to tie to documentation provided.
It is reasonable to assume that most of the figures reported for this variable are reasonable estimates.

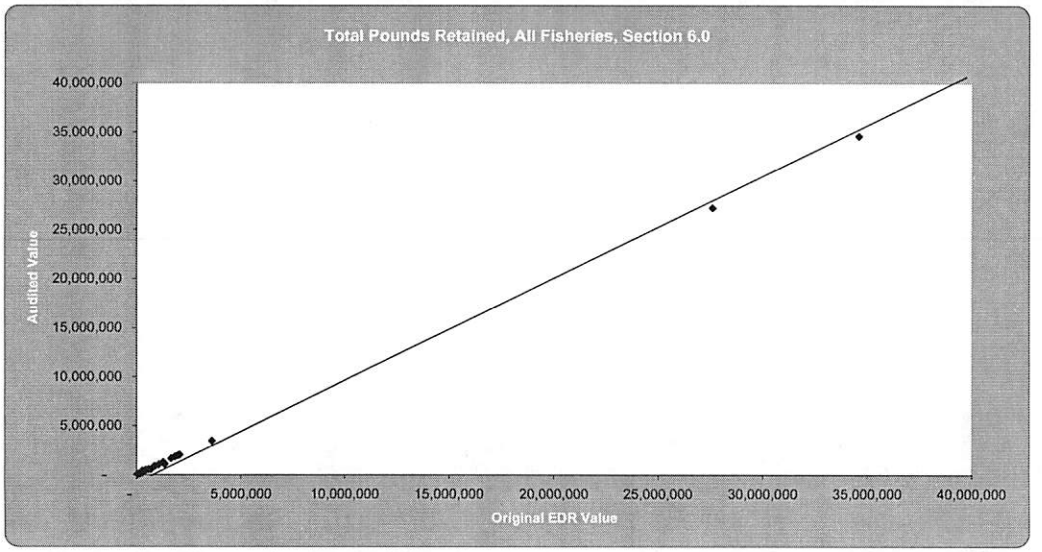


Statistical Analysis

n	28
% Supported	100.00
mean % error	-2.91
SD of % error	11.21

Data Summary

10 vessels provided general ledger account detail
9 vessels provided income statements
2 vessels provided well documented internal spreadsheets
2 vessels provided sales summaries
1 vessel provided handwritten documentation
1 vessel provided a Tax form 1065
1 vessel provided a Tax 1040 form
1 vessel provided a settlement sheet by each fishing trip
1 vessel provided a delivery detail log
28 of the 28 vessels reported data for this variable
5 corrections were made across 28 vessels. The largest corrections were due to missing income types, fisheries or portion of the year.

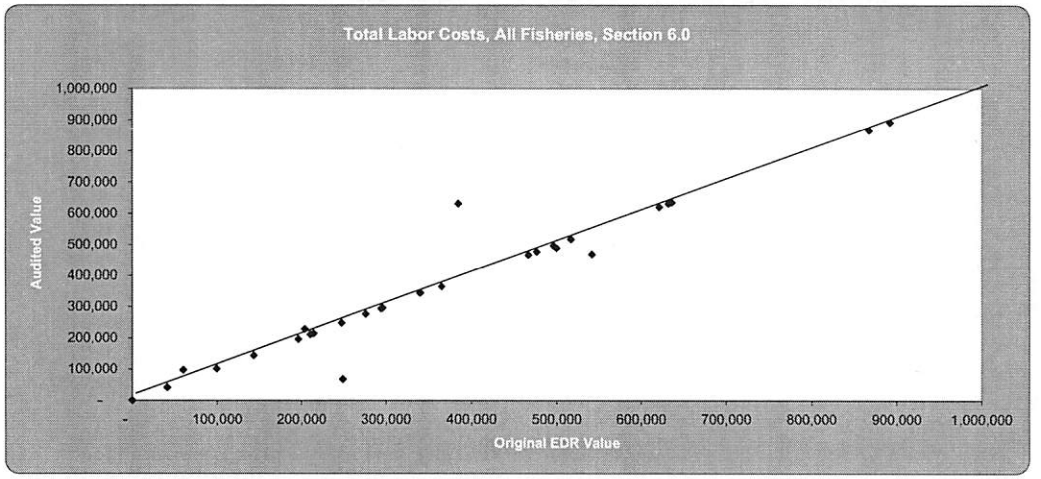


Statistical Analysis

n	28
% Supported	100.00
mean % error	0.18
SD of % error	9.46

Data Summary

7 vessels provided internal documentation compiling all pounds retained
6 vessels provided fish tickets
3 vessels tied the figure to an income statement
3 vessels provided general ledger account details
2 vessels provided fishing trip summary documents
2 vessels provided delivery detail settlements
2 vessels provided a sales summary of all fish sales
1 vessel tied the figure to a crew settlement
1 vessel provided a processor settlement
1 vessel provided a lease costing summary sheet
1 vessel provided a handwritten statement
1 vessel provided a consolidated settlement statement
28 of the 28 vessels reported data for this variable
12 corrections were made across 28 vessels. The largest corrections were due to the non-inclusion of all pounds retained (other than crab) for the year. Minor corrections were made to match given documentation.

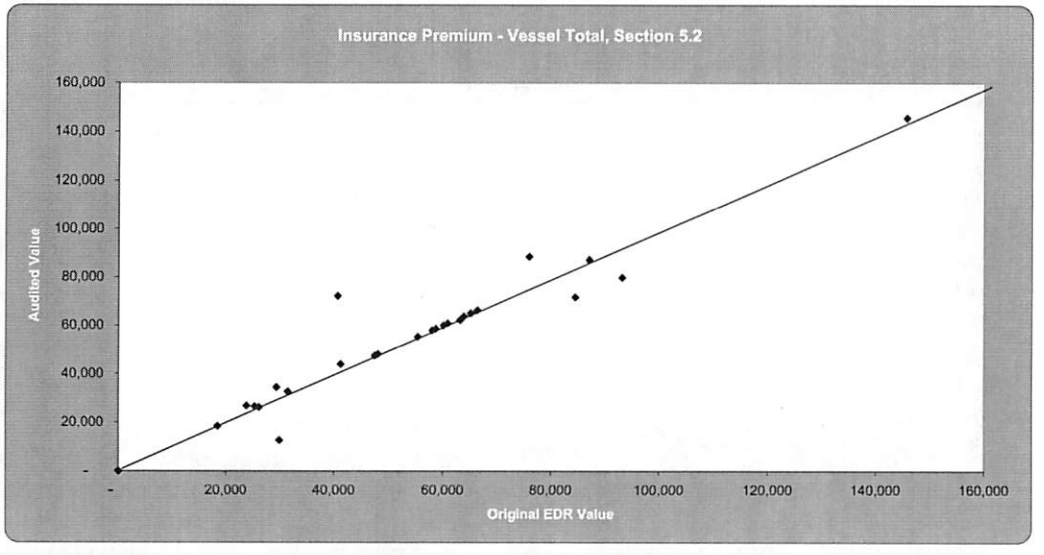


Statistical Analysis

n	27
% Supported	96.43
mean % error	7.08
SD of % error	52.74

Data Summary

12 vessels provided crew settlement sheets
7 vessels provided general ledger account details
5 vessels tied the figure to an income statement
2 vessels provided well documented internal spreadsheets
1 vessel provided a tax return
28 of the 28 vessels reported data for this variable
1 vessel reported an unsupported figure, reducing the number of plotted varibles
9 corrections were made across 28 vessels. The largest corrections were due to missing employees or recalculation to tie to documentation provided.

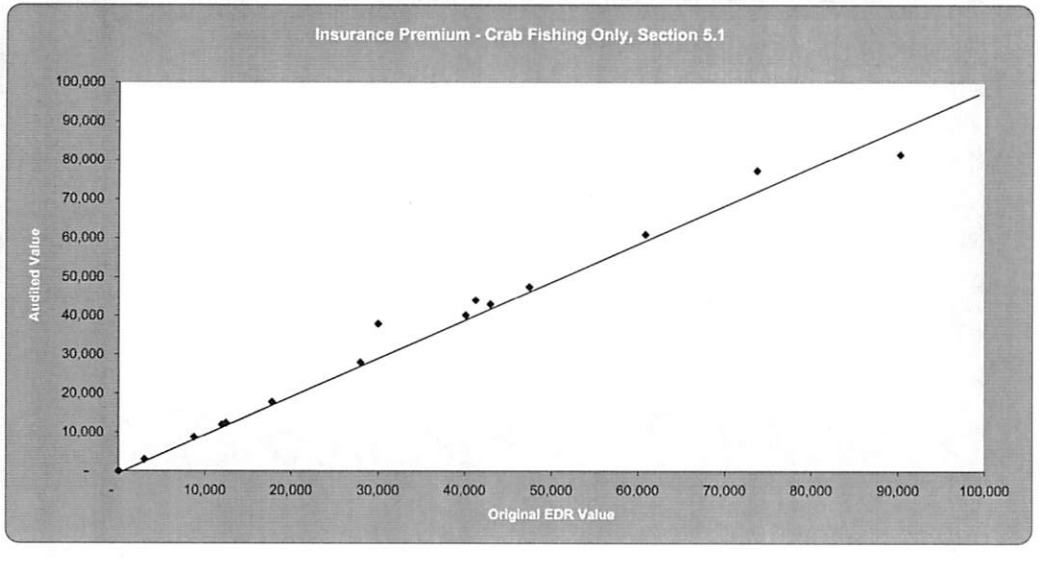


Statistical Analysis

n	26
% Supported	100.00
mean % error	2.92
SD of % error	29.48

Data Summary

14 vessels provided general ledger account details
5 vessels tied the cost to an income statement
4 vessels provided invoices from insurance companies
1 vessel provided an insurance renewal form
1 vessel provided a Tax 1065 form
1 vessel provided a Tax 1040 form
1 vessel provided a certificate of insurance
26 of the 28 vessels reported data for this variable
9 corrections were made across 26 vessels. The largest corrections were due to recalculation to tie to documentation provided. Original EDR values were estimates.

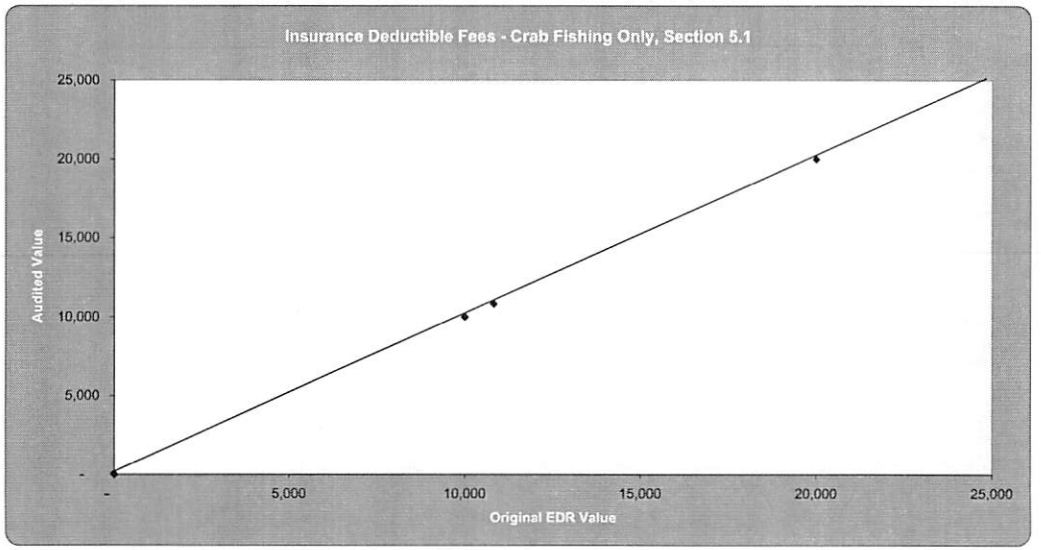


Statistical Analysis

n	14
% Supported	100.00
mean % error	-1.50
SD of % error	6.68

Data Summary

5 vessels provided Certificate of Insurance verification/Renewal summaries
4 vessels tied the cost to their general ledger account details
3 vessels tied the cost to their income statements
3 vessels provided invoices from insurance companies
1 vessel provided the backing for a reasonable estimation
14 of the 28 vessels reported data for this variable
5 corrections were made across 14 vessels. The largest corrections were due to removing non-crab fishing premium amounts and recalculation to tie to documentation provided.

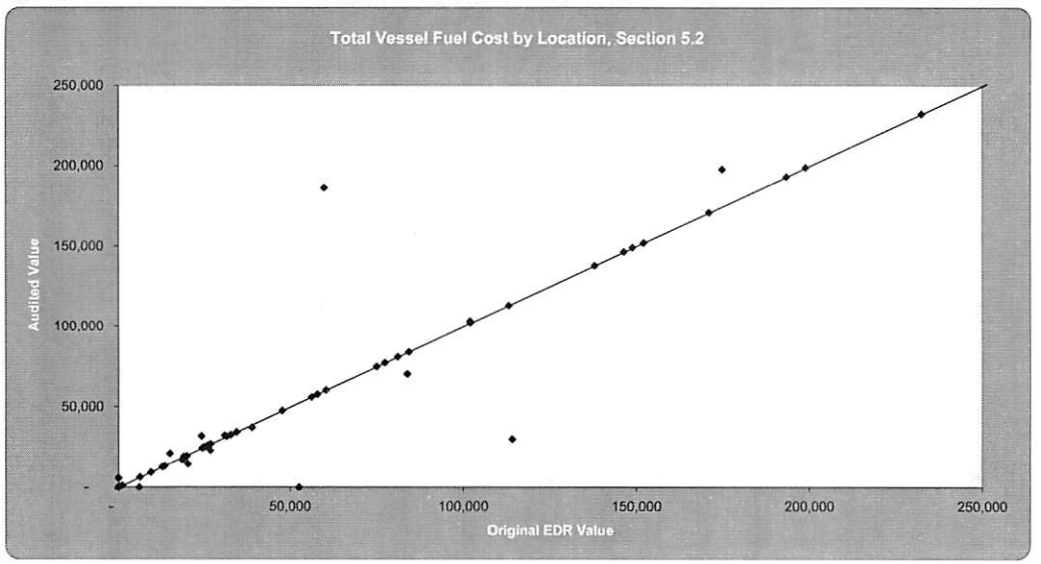


Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 vessel provided an invoice from the insurance company
1 vessel explained their deductible through a phone conversation. This was deemed adequate.
1 vessel tied the cost to a general ledger account detail
1 vessel provided an insurance renewal summary
4 of the 28 vessels reported data for this variable
0 corrections were made across 4 vessels

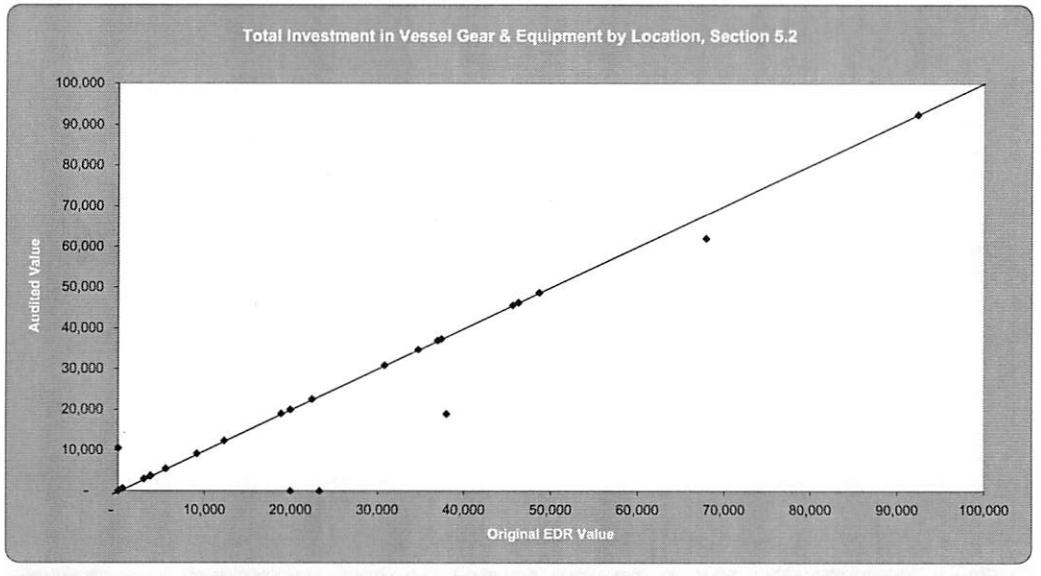


Statistical Analysis

n	49
% Supported	98.00
mean % error	2.65
SD of % error	44.88

Data Summary

17 vessels provided general ledger account details with invoices for larger purchases.
9 vessels provided invoices for fuel purchases
3 vessels tied the cost to an income statement
1 vessel provided additional support in a Tax 1065 form
1 vessel provided a well documented internal spreadsheet
1 vessel had an unsupported fuel cost for one location
28 of the 28 vessels reported data for this variable
17 vessels reported data for multiple locations, resulting in n = 49
17 of 28 vessels required corrections on one or more locations. The largest corrections were due to other expenses being included, mixed locations, completing partial year and recalculation to tie to documentation provided.

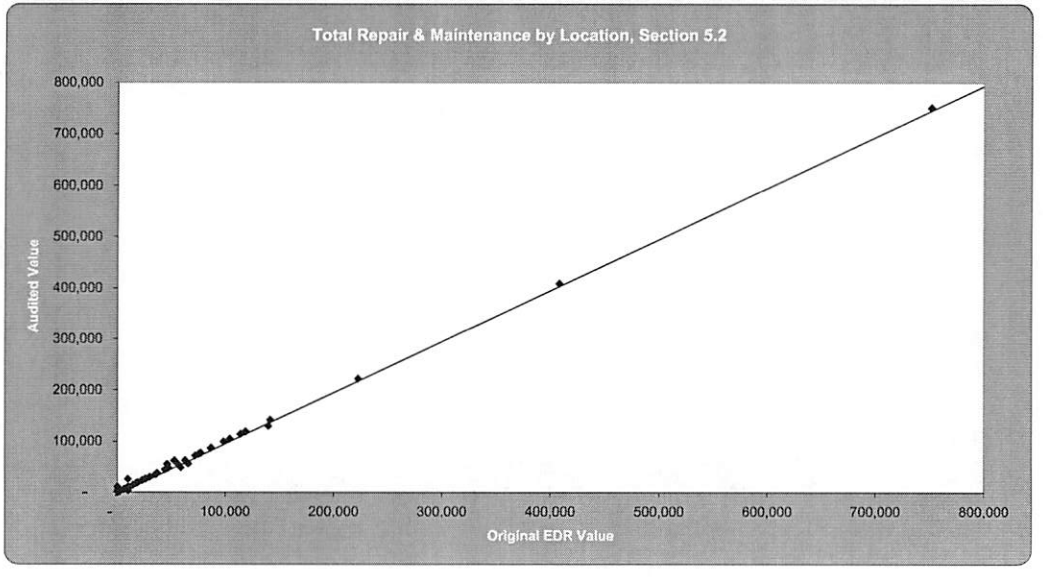


Statistical Analysis

n	23
% Supported	100.00
mean % error	-0.53
SD of % error	30.77

Data Summary

10 vessels provided general ledger account details
5 vessels provided invoices
2 vessels had a conversation with the auditor requesting to change their original entry to zero
2 vessels provided an internal fixed asset depreciation schedule
1 vessel tied the cost to a balance sheet
17 of the 28 vessels reported data for this variable
6 vessels reported data for multiple locations, resulting in n = 23
5 corrections were made across 17 vessels. The largest corrections were due to misclassification of EDR data and recalculation to tie to provided documentation.

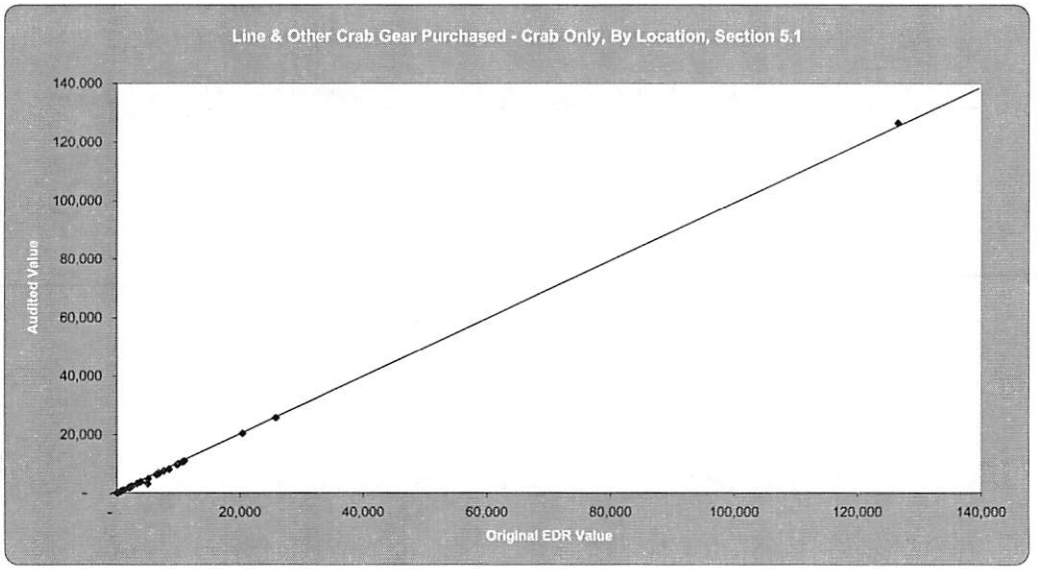


Statistical Analysis

n	45
% Supported	100.00
mean % error	-1.46
SD of % error	33.64

Data Summary

15 vessels provided general ledger account detail. Bigger purchases were backed up with invoices.
5 vessels tied the cost to an income statement
3 vessels provided invoices
2 vessels provided an internal fixed asset depreciation schedule
1 vessel provided a Tax summary sheet with a reasonable estimation
1 vessel provided a Tax 1065 form
1 vessel provided a Tax 1040 form
27 of the 28 vessels reported data for this variable
12 vessels reported data for multiple locations, resulting in n = 45
12 corrections were made across 27 vessels. Corrections were due to recalculations of expenses and matching data to given documents.

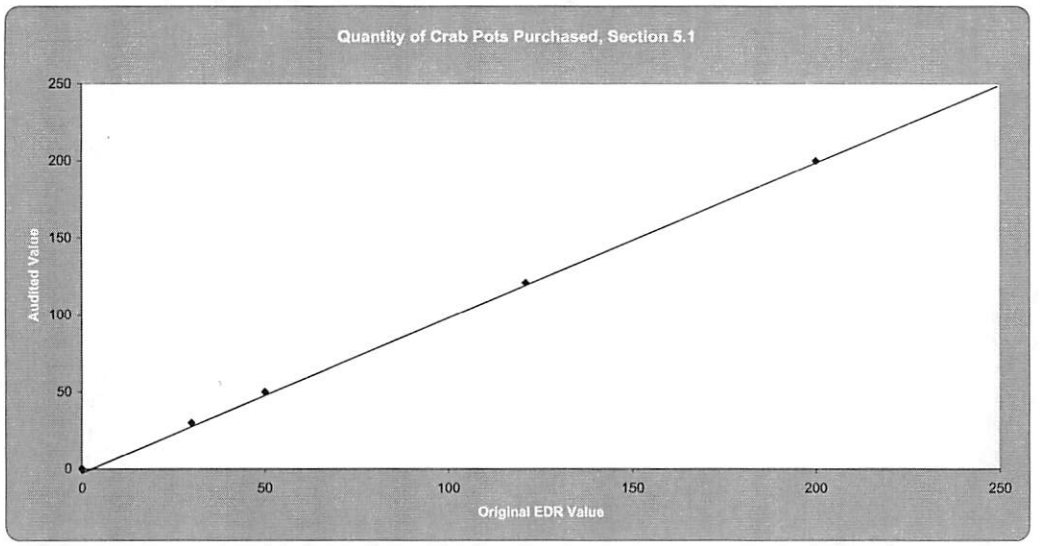


Statistical Analysis

n	28
% Supported	100.00
mean % error	2.98
SD of % error	10.83

Data Summary

9 vessels provided invoices for purchases
6 vessels tied the purchase to a general ledger account detail
2 vessels tied the purchase to an income statement
2 vessels provided reasonable explanations of estimations made for line and crab gear allocated to crab
2 vessels provided internal cost spreadsheets that were well documented
19 of the 28 vessels reported data for this variable
7 vessels reported data for multiple locations, resulting in n = 28
4 corrections were made across 19 vessels. Corrections were made to match data to given support. Misclassification of location was also a factor.

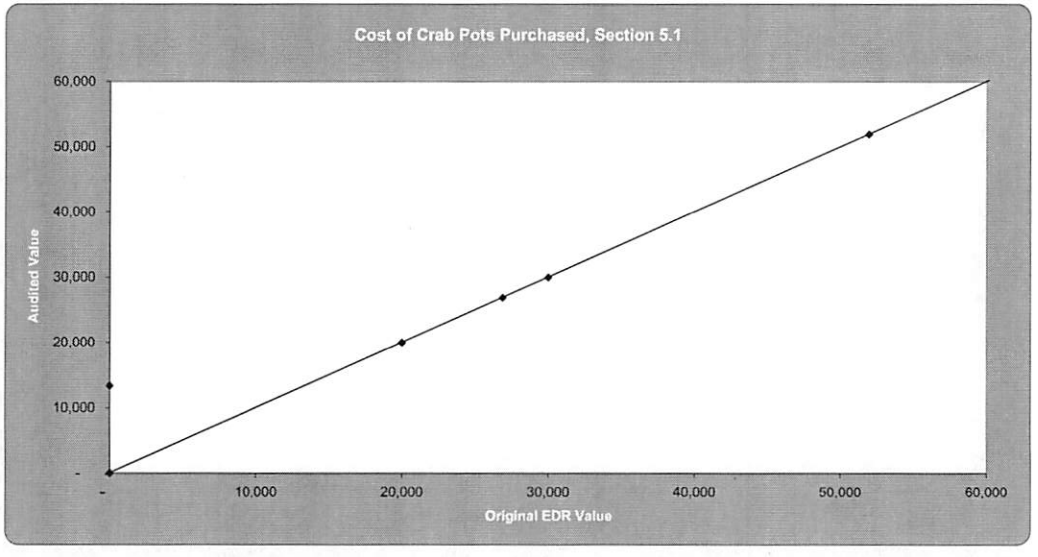


Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

3 vessels provided general ledger account details
1 vessel provided an invoice from the insurance company
1 vessel provided an internal cost data sheet
1 vessel explained their quantity purchased over a phone conversation, which confirmed the GL report
4 vessels out of 28 reported on this variable
0 corrections across 4 vessels were made

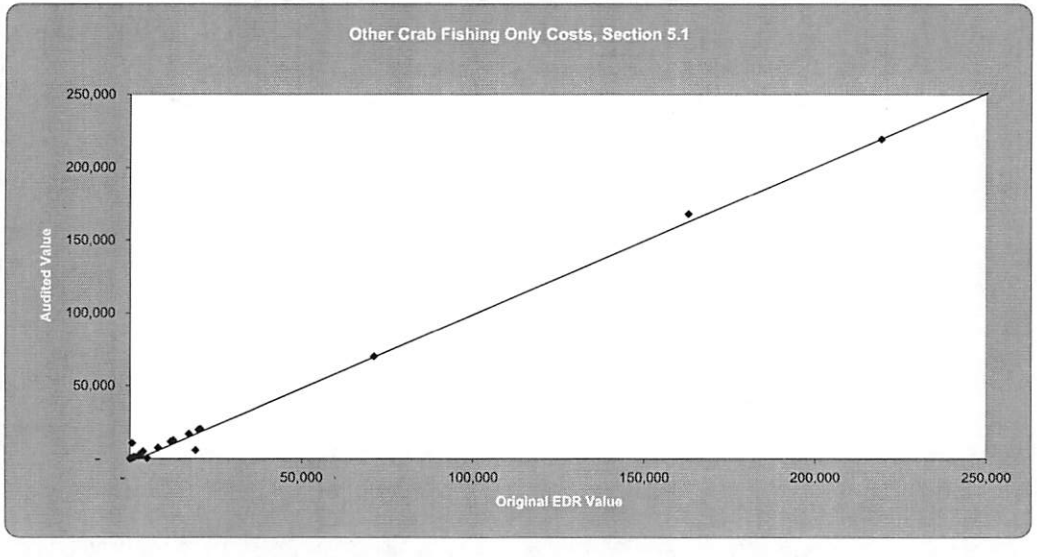


Statistical Analysis

n	5
% Supported	100.00
mean % error	-20.00
SD of % error	44.72

Data Summary

3 vessels provided general ledger account details
1 vessel provided an invoice from the insurance company
1 vessel provided an internal cost data sheet
1 vessel explained their cost of purchase over a phone conversation, which confirmed the GL report.
5 vessels out of 28 reported on this variable. 1 vessel was able to provide a cost of crab pots purchased, but nothing was reported for quantity purchased.
1 correction across 5 vessels was made. It was a large correction to tie to documentation provided.

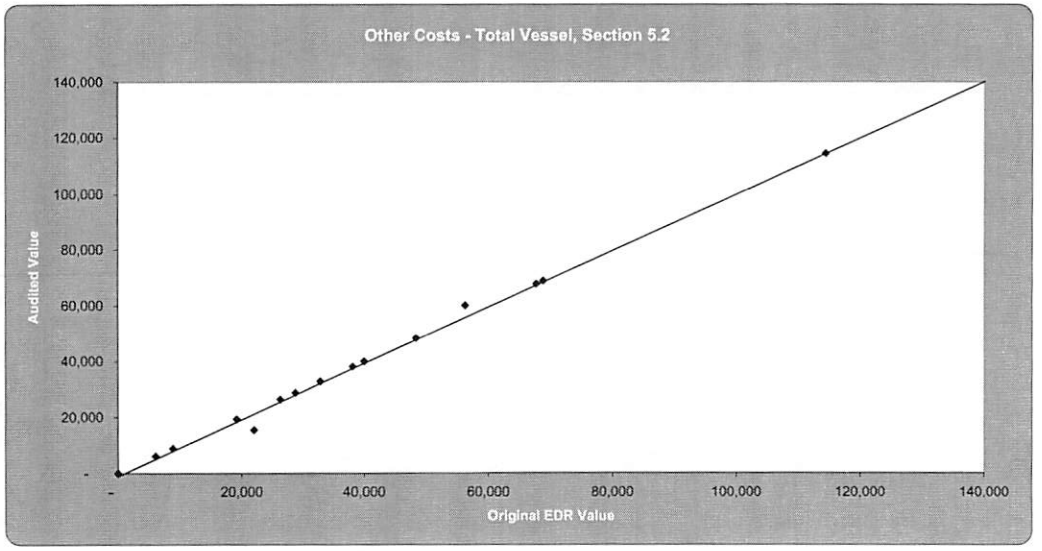


Statistical Analysis

n	19
% Supported	100.00
mean % error	53.28
SD of % error	212.95

Data Summary

11 vessels provided general ledger account details
4 vessels tied the cost to an income statement
3 vessels provided invoices
1 vessel provided well documented internal spreadsheets
1 vessel provided a NMFS enforcement fee assessment
1 vessel provided a handwritten general ledger account detail
1 vessel included a tax return stating dues and fees paid for the year
19 of the 28 vessels reported data for this variable
8 corrections were made across 19 vessels. Corrections were made to match data to given support.



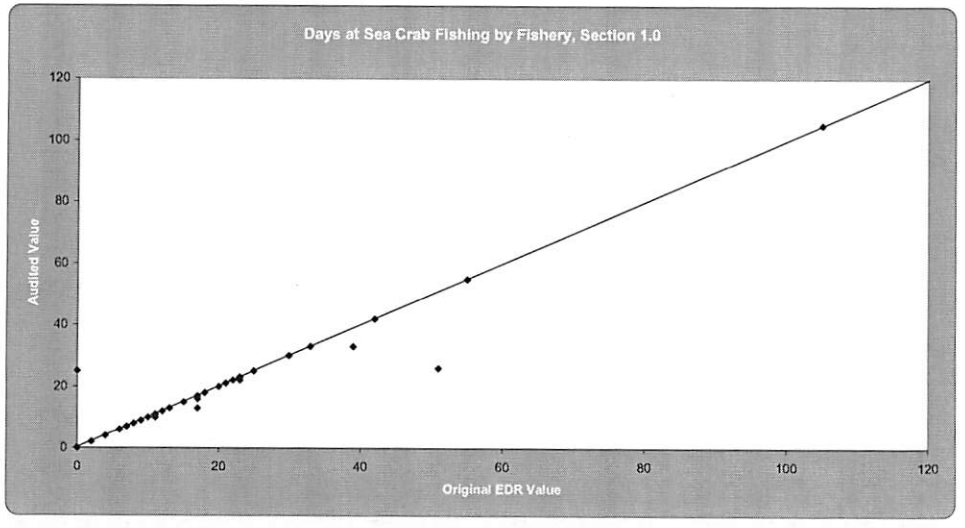
Statistical Analysis

n	14
% Supported	100.00
mean % error	2.56
SD of % error	11.61

Data Summary

7 vessels provided general ledger account details
5 vessels tied the cost to an income statement
1 vessel provided an invoice
1 vessel provided a well documented internal spreadsheet
1 vessel provided a tax return summary prep worksheet
14 of the 28 vessels reported data for this variable
4 corrections across 14 vessels. Corrections were made to match data to given support.

VARIABLES FOR ANNUAL VESSEL DATA BY FISHERY - CRAB ONLY

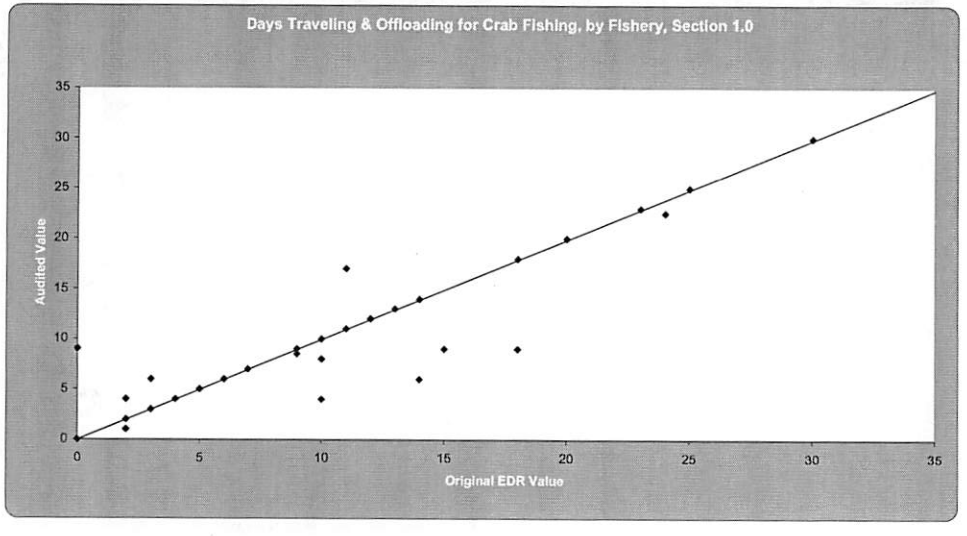


Statistical Analysis

n	49
% Supported	100.00
mean % error	1.34
SD of % error	20.71

Data Summary

24 vessels provided fish tickets
11 vessels provided ship/vessel logs
4 vessels provided well documented internal spreadsheets
3 vessels provided processor settlement sheets
2 vessels provided handwritten estimations
1 vessel provided a fish ticket settlement
1 vessel provided a crew settlement sheet
1 vessel provided a calendar showing all days fishing and/or at sea
28 vessels were to report data for this section and all did
18 vessels reportded data for multiple fisheries, resulting in n = 49
7 corrections were made across 28 vessels. The largest corrections were due to reclassification by fishery and recalculation to tie to documentation provided.



Statistical Analysis

n	49
% Supported	100.00
mean % error	7.19
SD of % error	40.60

Data Summary

24 vessels provided fish tickets
11 vessels provided ship/vessel logs
4 vessels provided well documented internal spreadsheets
3 vessels provided processor settlement sheets
2 vessels provided handwritten estimations
1 vessel provided a fish ticket settlement
1 vessel provided a crew settlement sheet
1 vessel provided a calendar showing all days fishing and/or at sea
28 vessels were to report data for this section and all did
18 vessels reportded data for multiple fisheries, resulting in n = 49
7 corrections were made across 28 vessels. The largest corrections were due to reclassification by fishery, estimate correction by the preparer and recalculation to tie to documentation provided.

NOTE: Due to confidentiality protocols, the graphical representation for this variable will not be presented.

Statistical Analysis

n	1
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 vessel provided internal spreadsheets and handwritten notes
1 out of 28 vessels reported data for this variable.
0 corrections were made

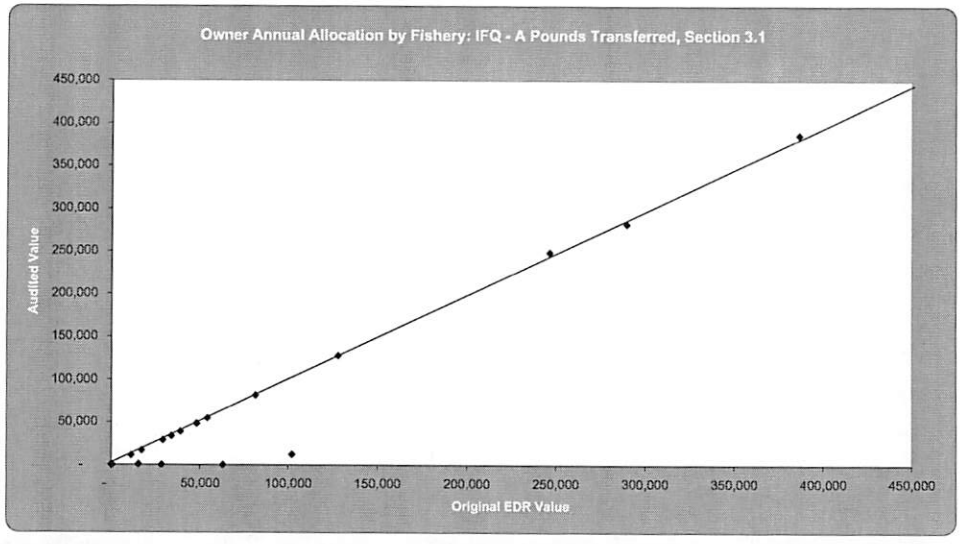
NOTE: Due to confidentiality protocols, the graphical representation for this variable will not be presented.

Statistical Analysis

n	1
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 vessel provided internal spreadsheets and handwritten notes
1 out of 28 vessels reported data for this variable.
0 corrections were made

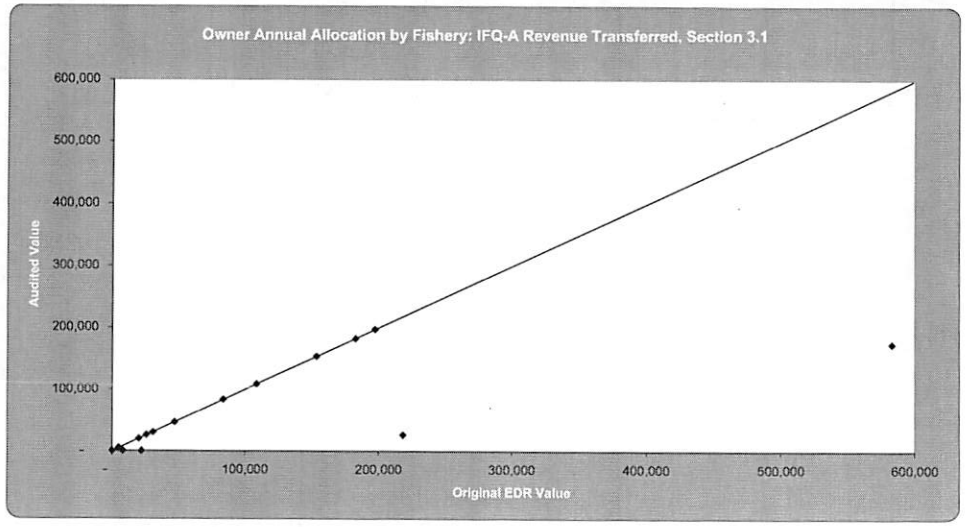


Statistical Analysis

n	18
% Supported	100.00
mean % error	137.03
SD of % error	432.94

Data Summary

3 vessels provided an explanation of their estimation or lack of documentation through a phone conversation with the auditor. After conversation, entries were deemed supported.
2 vessels provided processor settlement sheets
2 vessels provided handwritten lease agreements and/or explanations of their estimates.
2 vessels provided well documented estimations
1 vessel provided documentation of price adjustments made to the lease agreements
1 vessel provided additional support in the form of a general ledger revenue account detail.
1 vessel provided a summary of all leases and transfers
1 vessel provided a RAM co-op summary from a website print out
1 vessel provided an individual fishing quota summary
1 vessels provided internal IFQ allocation lease summary spreadsheets
1 vessel provided a print out from a NMFS database
1 vessel provided an official lease agreement
1 vessel provided official co-op transfer agreements
1 vessel provided a royalty analysis of all leases and transfers
11 out of the 28 vessels reported data for this section
4 vessels reported data for multiple fisheries, resulting in n = 18
5 corrections across 11 vessels were made. The largest corrections were due to 2007 catch reclassification and reclassification from transfer to harvest.

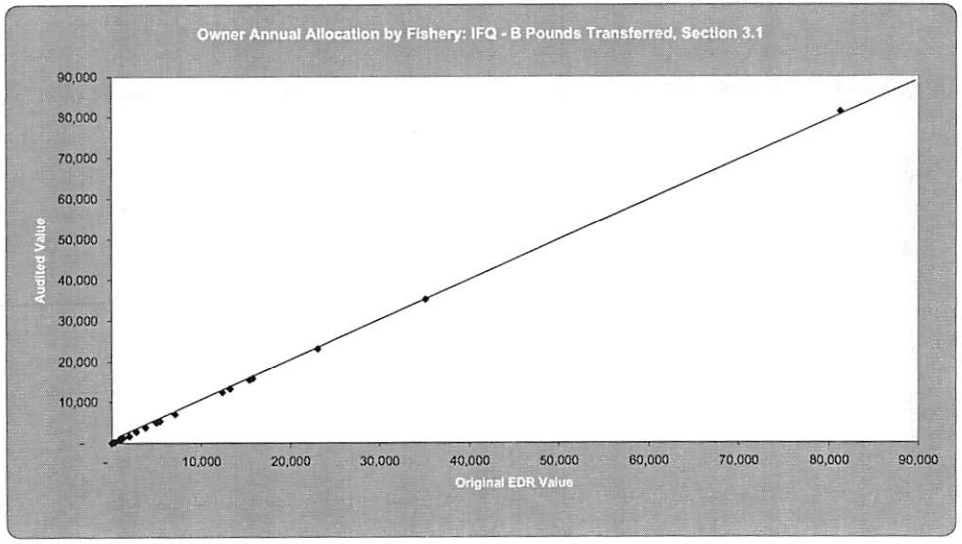


Statistical Analysis

n	15
% Supported	100.00
mean % error	179.71
SD of % error	469.50

Data Summary

3 vessels provided an explanation of their estimation or lack of documentation through a phone conversation with the auditor. After conversation, entries were deemed supported.
2 vessels provided well documented estimations
2 vessels provided handwritten lease agreements and/or explanations of their estimates.
2 vessels provided processor settlement sheets
1 vessel provided documentation of price adjustments made to the lease agreements.
1 vessel provided additional support in the form of a general ledger revenue account detail.
1 vessel provided a summary of all leases and transfers
1 vessel provided a RAM co-op summary from a website print out
1 vessel provided an individual fishing quota summary
1 vessels provided internal IFQ allocation lease summary spreadsheets
1 vessel provided a print out from a NMFS database
1 vessel provided an official lease agreement
1 vessel provided official co-op transfer agreements
1 vessel provided a royalty analysis of all leases and transfers
11 out of the 28 vessels reported data for this section
4 vessels reported data for multiple fisheries, resulting in n = 15
5 corrections across 11 vessels were made. The largest corrections were due to 2007 catch reclassification and reclassification from transfer to harvest.

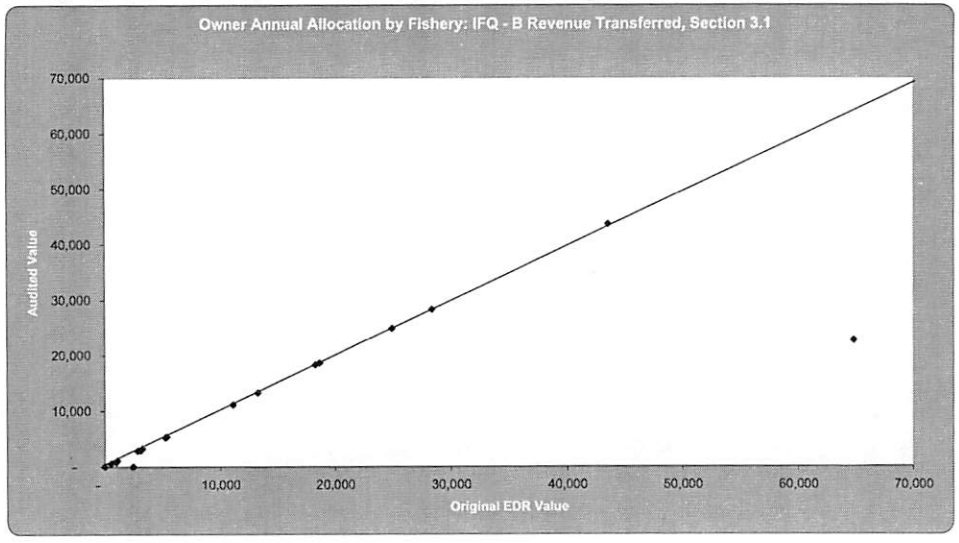


Statistical Analysis

n	19
% Supported	100.00
mean % error	0.91
SD of % error	3.98

Data Summary

- 2 vessels provided well documented estimations
- 2 vessels provided processor settlement sheets
- 2 vessels provided an explanation of their estimation or lack of documentation through a phone conversation with the auditor. After conversation, entries were deemed supported.
- 2 vessels provided handwritten lease agreements and/or explanations of their estimates.
- 1 vessel provided a summary of all leases and transfers
- 1 vessel provided a RAM co-op summary from a website print out
- 1 vessel provided an individual fishing quota summary
- 1 vessels provided internal IFQ allocation lease summary spreadsheets
- 1 vessel provided a print out from a NMFS database
- 1 vessel provided an official lease agreement
- 1 vessel provided official co-op transfer agreements
- 1 vessel provided a royalty analysis of all leases and transfers
- 1 vessel provided documentation of price adjustments made to the lease agreements.
- 1 vessel provided additional support in the form of a general ledger revenue account detail.
- 13 out of the 28 vessels reported data for this section
- 4 vessels reported data for multiple fisheries, resulting in n = 19
- 5 corrections across 13 vessels were made. Corrections were made in part to match documentation provided or owner miscalculation.

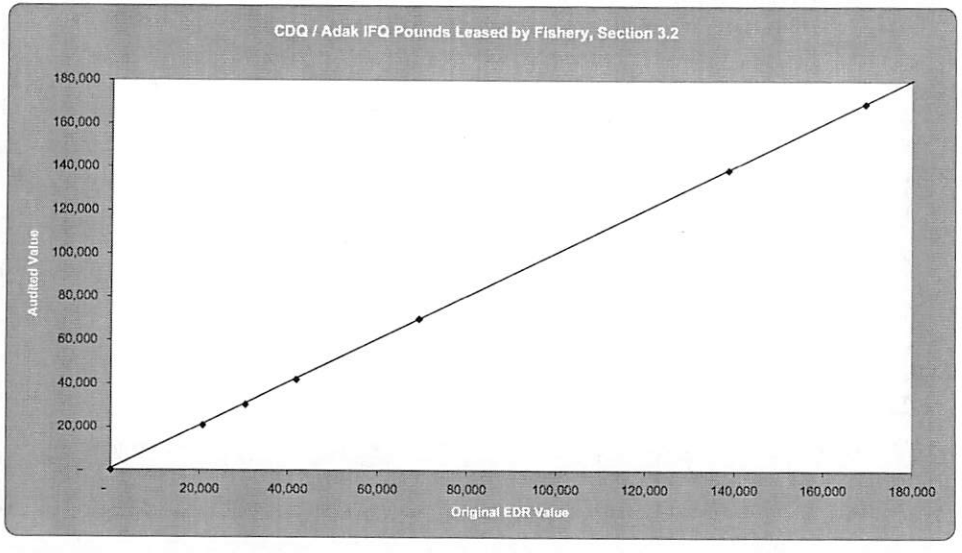


Statistical Analysis

n	19
% Supported	100.00
mean % error	11.10
SD of % error	42.58

Data Summary

- 2 vessels provided handwritten lease agreements and/or explanations of their estimates.
- 2 vessels provided well documented estimations
- 2 vessels provided processor settlement sheets
- 2 vessels provided an explanation of their estimation or lack of documentation through a phone conversation with the auditor. After conversation, entries were deemed supported.
- 1 vessel provided documentation of price adjustments made to the lease agreements
- 1 vessel provided additional support in the form of a general ledger revenue account detail
- 1 vessel provided a summary of all leases and transfers
- 1 vessel provided a RAM co-op summary from a website print out
- 1 vessel provided an individual fishing quota summary
- 1 vessels provided internal IFQ allocation lease summary spreadsheets
- 1 vessel provided a print out from a NMFS database
- 1 vessel provided an official lease agreement
- 1 vessel provided official co-op transfer agreements
- 1 vessel provided a royalty analysis of all leases and transfers
- 13 out of the 28 vessels reported data for this section
- 4 vessels reported data for multiple fisheries, resulting in n = 19
- 5 corrections across 13 vessels were made. The largest correction was due to recalculation to tie to documentation provided

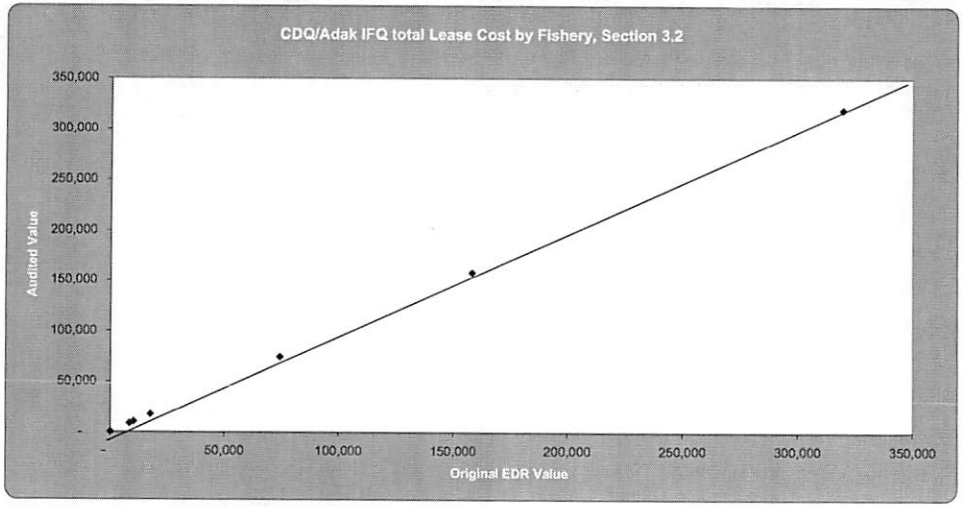


Statistical Analysis

n	6
% Supported	100.00
mean % error	-0.15
SD of % error	0.38

Data Summary

1 vessel provided a lease summary of all pounds leased and transferred
1 vessel provided a delivery detail report
1 vessel provided a consolidated settlement report
1 vessel provided a lease summary by category
1 vessel provided a well documented internal spreadsheet
1 vessel provided a processor settlement report
6 out of 28 vessels reported data for this variable
1 correction was made across 6 vessels. The correction was a small material misstatement due to miscalculation.

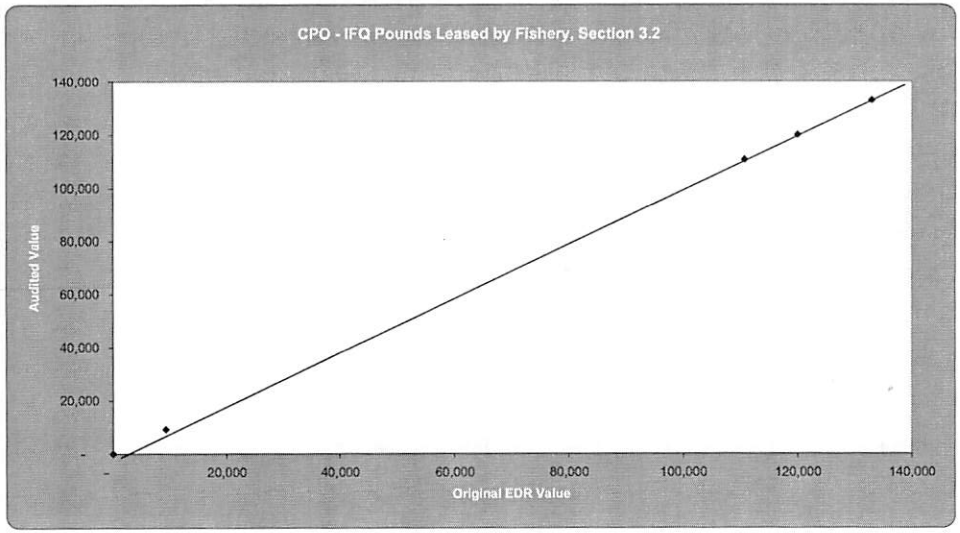


Statistical Analysis

n	6
% Supported	100.00
mean % error	0.02
SD of % error	0.06

Data Summary

1 vessel provided a lease summary of all pounds leased and transferred
1 vessel provided a delivery detail report
1 vessel provided a consolidated settlement report
1 vessel provided a lease summary by category
1 vessel provided a well documented internal spreadsheet
1 vessel provided a processor settlement report
6 out of 28 vessels reported data for this variable
1 correction was made across 6 vessels. The correction was a small material misstatement due to miscalculation.

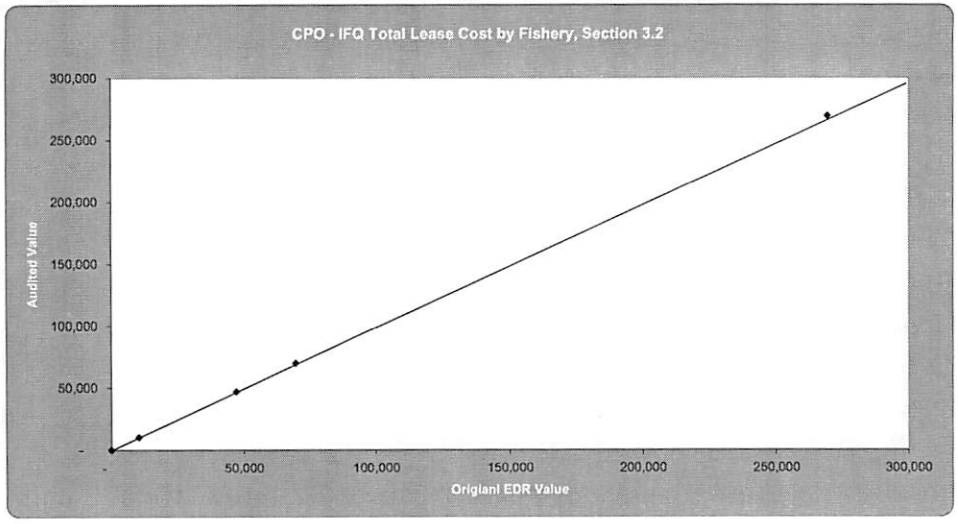


Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 vessel provided a handwritten lease summary analysis
1 vessel provided a delivery detail report
1 vessel proivded a well documented internal spreadsheet
3 out of 28 vessels reported data for this variable
1 vessel provided data for multiple fisheries, resulting in n = 4
0 corrections were made

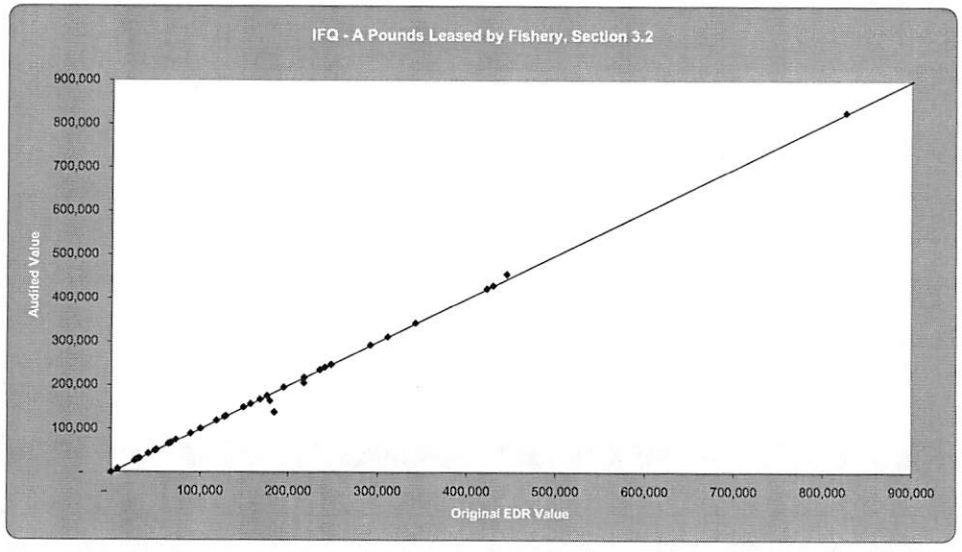


Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 vessel provided a handwritten lease summary analysis
1 vessel provided a delivery detail report
1 vessel proivded a well documented internal spreadsheet
3 out of 28 vessels reported data for this variable
1 vessel provided data for multiple fisheries, resulting in n = 4
0 corrections were made

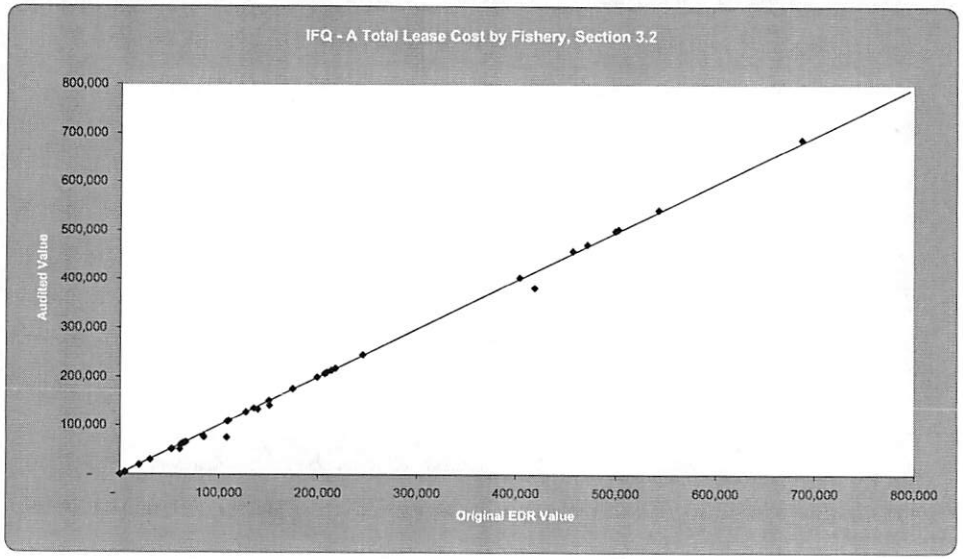


Statistical Analysis

n	35
% Supported	100.00
mean % error	1.25
SD of % error	5.90

Data Summary

14 vessels provided internal lease costing and poundage internal spreadsheets
3 vessels provided IFQ A Lease summary documents
2 vessels provided a consolidated settlement/processor settlement
2 vessels provided handwritten settlement statements for leased pounds
1 vessel provided a lease pounds summary report
1 vessel provided a verbal explanation of how their calculations tie to summary report
1 vessel provided a leased pounds category report
1 vessel provided a delivery detail log
22 out of 28 vessels reported data for this variable
12 vessels reported data for multiple fisheries, resulting in n = 35
4 corrections were made across 22 vessels. Corrections were due to preparer misstatement and were also made to match given documentaiton

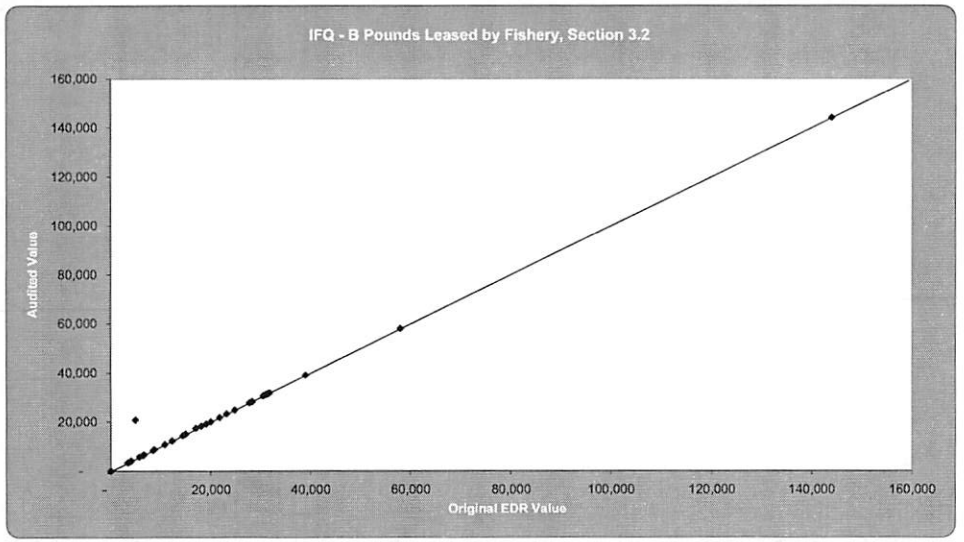


Statistical Analysis

n	35
% Supported	100.00
mean % error	2.87
SD of % error	8.06

Data Summary

14 vessels provided internal lease costing and poundage internal spreadsheets
3 vessels provided IFQ A Lease summary documents
2 vessels provided a consolidated settlement/processor settlement
2 vessels provided handwritten settlement statements for leased pounds
1 vessel provided a lease pounds summary report
1 vessel provided a verbal explanation of how their calculations tie to summary report
1 vessel provided a leased pounds category report
1 vessel provided a delivery detail log
spreadsheets
22 out of 28 vessels reported data for this variable
12 vessels reported data for multiple fisheries, resulting in n = 35
5 corrections were made across 22 vessels. Corrections were due to preparer misstatement and were also made to match given documentation

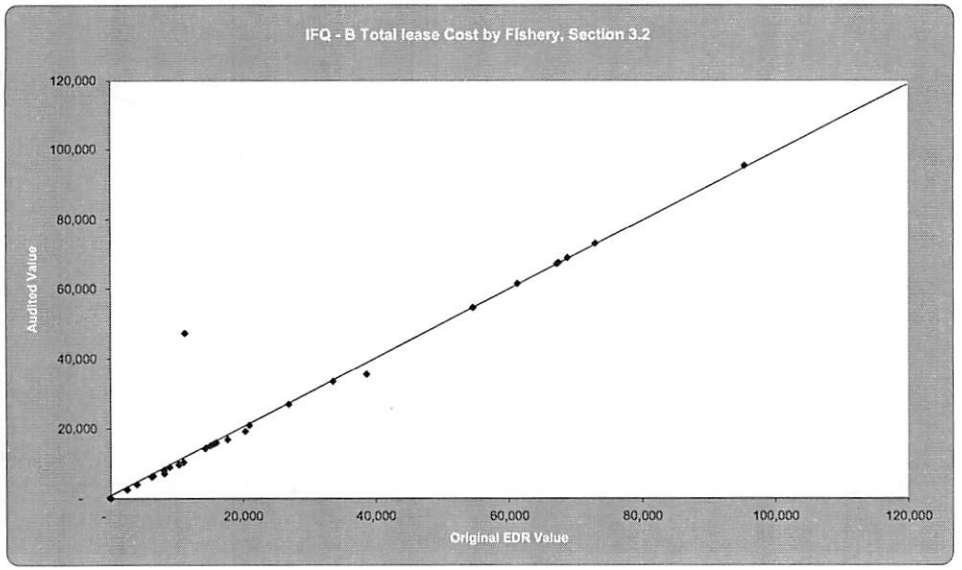


Statistical Analysis

n	30
% Supported	100.00
mean % error	-2.64
SD of % error	13.91

Data Summary

13 vessels provided internal leased pounds and costs documents
3 vessels provided IFQ B lease allocation summaries
2 vessels provided handwritten statements that were well documented
1 vessel provided a category report for leased pounds and cost
1 vessel provided a consolidated settlement report
1 vessel provided a delivery detail log
1 vessel provided a summary report
20 of the 28 vessels reported data for this variable
9 vessels reported data for multiple fisheries, resulting in n = 30
3 corrections across 20 vessels were made. Corrections were made to match data with given documentation

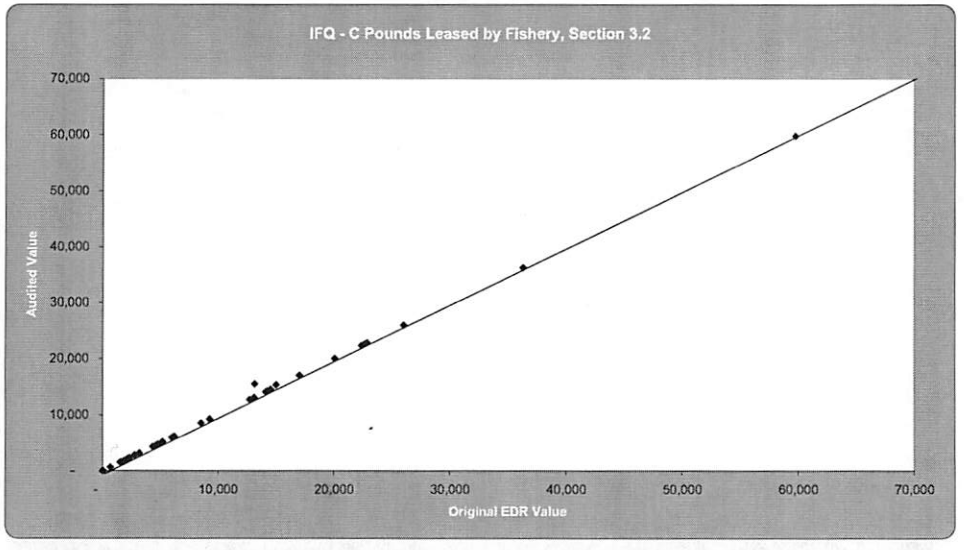


Statistical Analysis

n	30
% Supported	100.00
mean % error	-0.89
SD of % error	14.72

Data Summary

13 vessels provided internal leased pounds and costs documents
3 vessels provided IFQ B lease allocation summaries
2 vessels provided handwritten statements that were well documented
1 vessel provided a category report for leased pounds and cost
1 vessel provided a consolidated settlement report
1 vessel provided a delivery detail log
1 vessel provided a fishery income statement
1 vessel provided a summary report
1 vessel provided a verbal explanation of how their calculations matched the lease report
20 of the 28 vessels reported data for this variable
9 vessels reported data for multiple fisheries, resulting in n = 30
6 corrections across 20 vessels were made. The large correction was due to recalculation to tie to documentation provided.

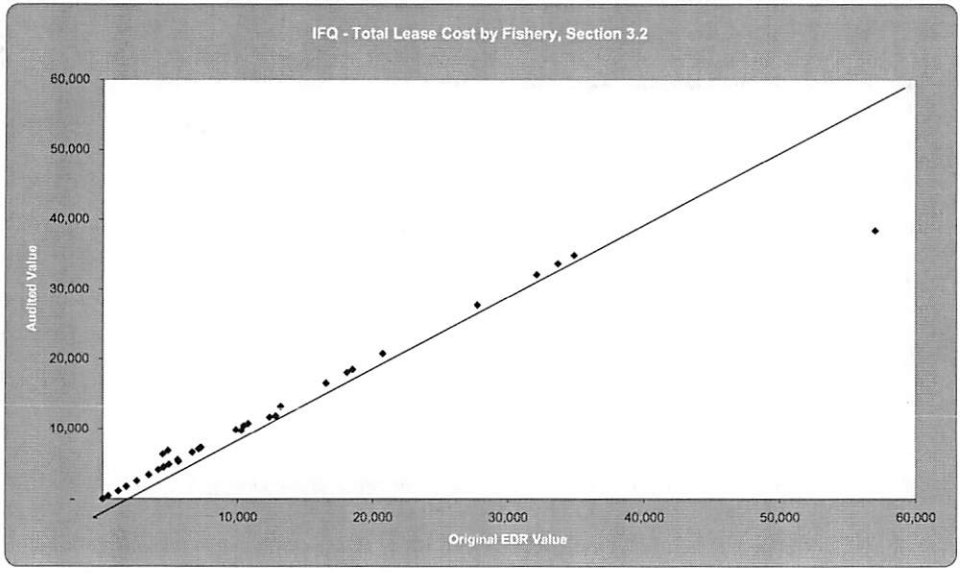


Statistical Analysis

n	34
% Supported	100.00
mean % error	-0.49
SD of % error	2.61

Data Summary

- 11 vessels provided internal lease costing and poundage reports
- 3 vessels provided IFQ C lease summary reports
- 2 vessels provided delivery detail logs
- 2 vessels provided consolidated settlements/processor settlements
- 2 vessels provided fish tickets/fish ticket summary reports
- 1 vessel provided a handwritten document that was well supported
- 1 vessel provided a lesae summary report
- 1 vessel provided a verbal explanation to explain how to tie their calculation to the lease summary.
- 21 vessels of 28 reported data for this variable
- 12 vessels provided data for multiple fisheries, resulting in n = 34
- 2 corrections were made across 21 vessels. Corrections were made to match given support to data.

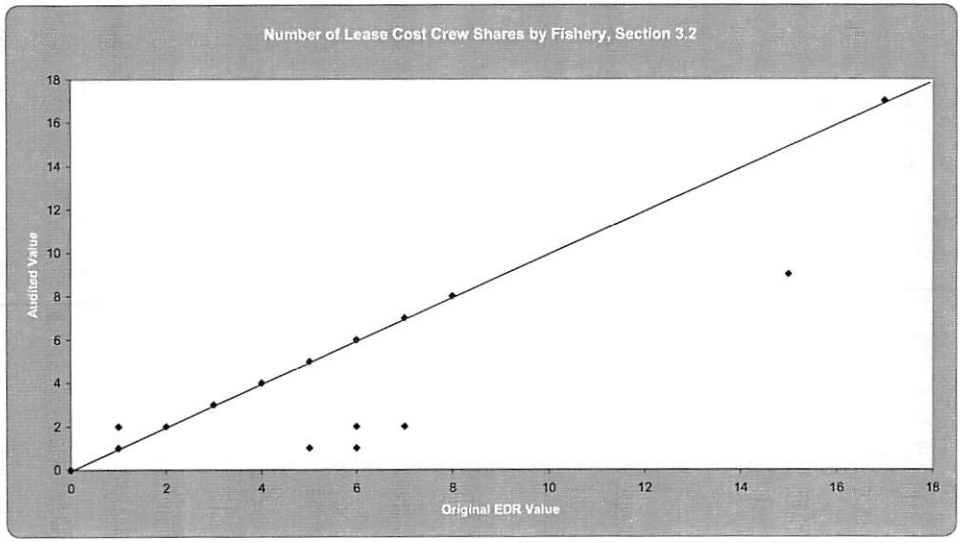


Statistical Analysis

n	34
% Supported	100.00
mean % error	0.41
SD of % error	11.45

Data Summary

- 11 vessels provided internal lease costing and poundage reports
- 3 vessels provided IFQ C lease summary reports
- 2 vessels provided delivery detail logs
- 2 vessels provided consolidated settlements/processor settlements
- 2 vessels provided fish tickets/fish ticket summary reports
- 2 vessel provided a verbal explanation to explain how to tie their calculation to the lease summary
- 1 vessel provided a handwritten document that was well supported
- 1 vessel provided a lesae summary report
- 1 vessel provided a fishery income statement
- 1 vessel tied the cost to an Income Statement
- 21 vessels of 28 reported data for this variable
- 12 vessels provided data for multiple fisheries, resulting in n = 34
- 6 corrections were made across 21 vessels. The large correction was due to recalculation to tie to documentation provided.

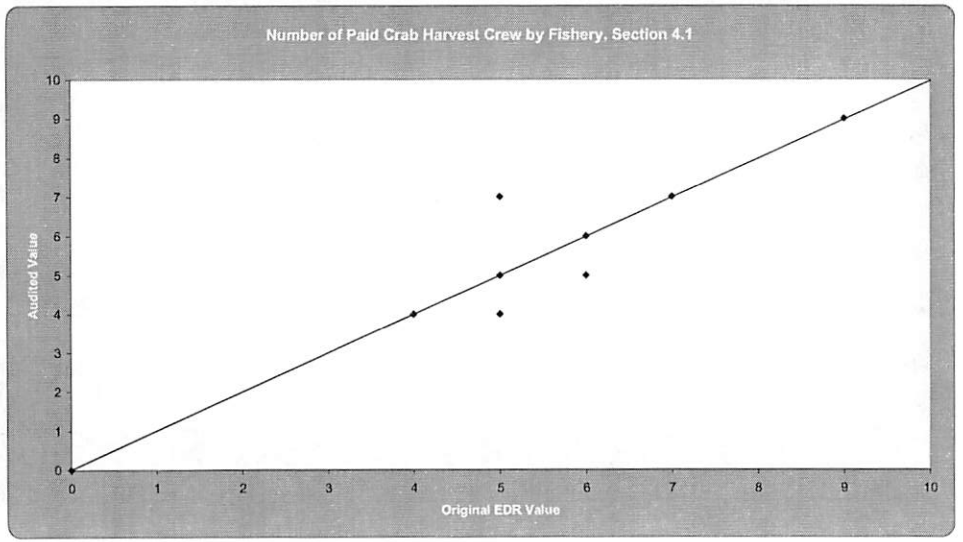


Statistical Analysis

n	34
% Supported	100.00
mean % error	40.20
SD of % error	118.64

Data Summary

- 11 vessels provided internal lease costing and poundage reports
- 3 vessels provided IFQ C lease summary reports
- 2 vessels provided delivery detail logs
- 2 vessels provided consolidated settlements/processor settlements
- 2 vessel provided a verbal explanation to explain how to tie their calculation to the lease summary
- 2 vessels provided fish tickets/fish ticket summary reports
- 1 vessel provided a handwritten document that was well supported
- 1 vessel provided a lesae summary report
- 1 vessel provided a fishery income statement
- 1 vessel tied the cost to an Income Statement
- 21 vessels of 28 reported data for this variable
- 11 vessels provided data for multiple fisheries, resulting in n = 34
- 5 corrections were made across 21 vessels. The largest corrections were due to owner corrections submitted with documentation and recalculation to tie to documentation provided.

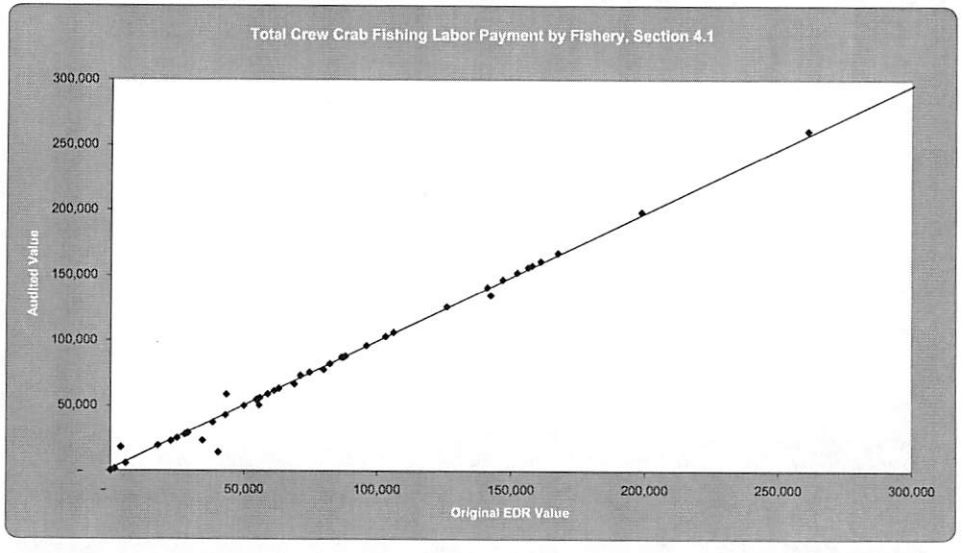


Statistical Analysis

n	47
% Supported	100.00
mean % error	1.63
SD of % error	7.96

Data Summary

- 23 vessels provided crew settlement sheets
- 3 vessels provided internal spreadsheets with support.
- 2 vessels provided reasonable estimations
- 1 vessel provided an income statement showing total crew payments
- 1 vessel provided an explanation of the calculation used to separate out total crew and captain payments to each fishery fished in.
- Many of the reported values were the same, resulting in a single plot for multiple observations.
- 28 vessels were to report data for this section and all did
- 16 vessels provided data for multiple fisheries, resulting in n = 47
- 6 corrections were made across 28 vessels. The largest corrections were due to recalculations to tie to documentation provided.

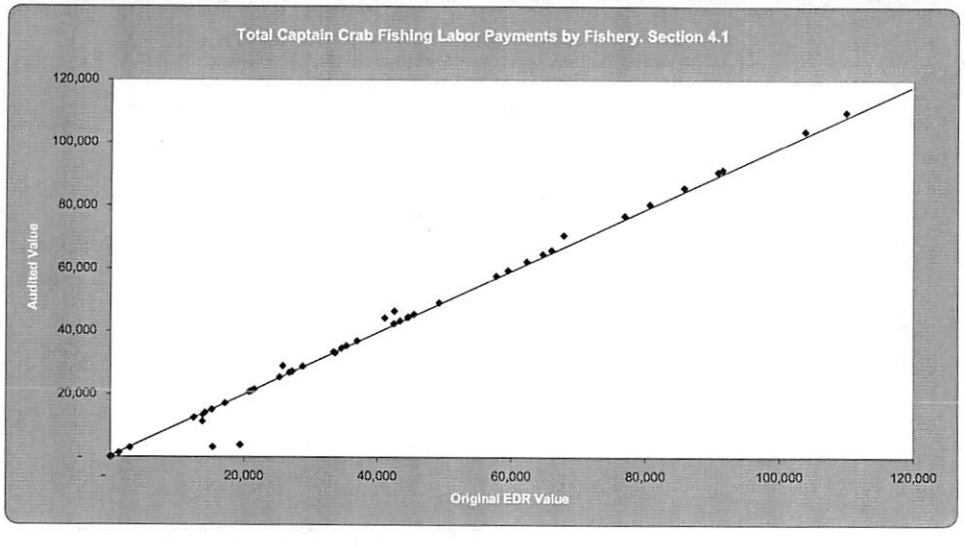


Statistical Analysis

n	47
% Supported	100.00
mean % error	3.01
SD of % error	30.51

Data Summary

23 vessels provided crew settlement sheets
3 vessels provided internal spreadsheets with support.
2 vessels provided reasonable estimations
1 vessel provided an income statement showing total crew payments
1 vessel provided an explanation of the calculation used to separate out total crew and captain payments to each fishery fished in.
28 vessels were to report data for this section and all did
16 vessels provided data for multiple fisheries, resulting in n = 47
13 corrections were made across 28 vessels. Corrections were made in large part to match data to given support.

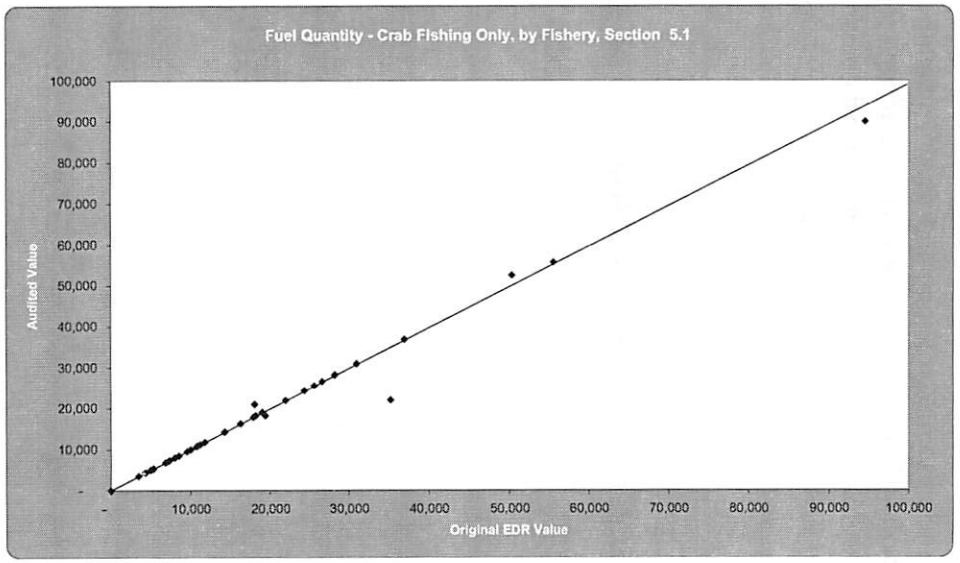


Statistical Analysis

n	47
% Supported	100.00
mean % error	17.23
SD of % error	82.92

Data Summary

23 vessels provided crew settlement sheets
3 vessels provided internal spreadsheets with support.
2 vessels provided reasonable estimations
1 vessel provided an income statement showing total crew payments
1 vessel provided an explanation of the calculation used to separate out total crew and captain payments to each fishery fished in.
28 vessels were to report data for this section and all did
16 vessels provided data for multiple fisheries, resulting in n = 47
13 corrections were made across 28 vessels. Corrections were made to match data to given support.

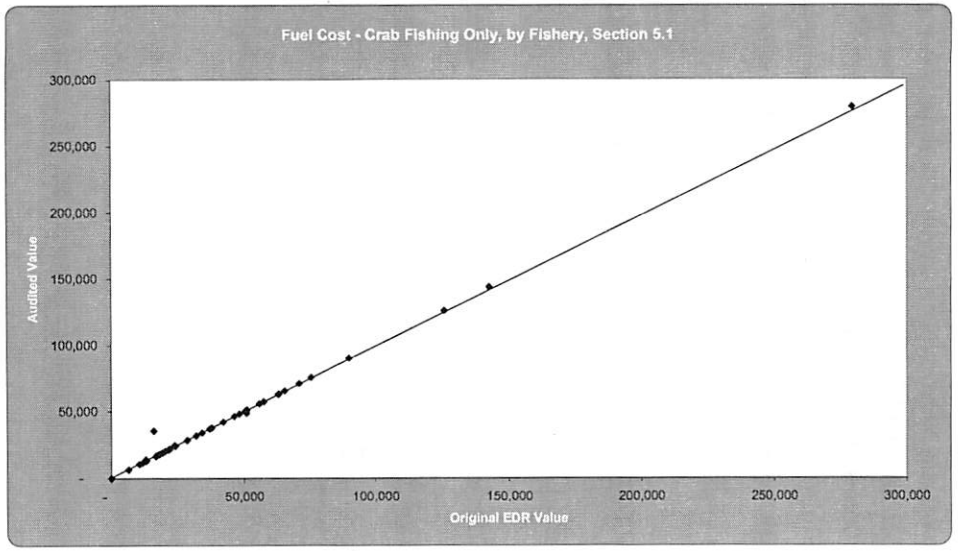


Statistical Analysis

n	40
% Supported	95.24
mean % erro	1.34
SD of % erro	9.87

Data Summary

13 vessels tied the cost and quantity to a general ledger account detail
8 vessels provided purchase invoices
4 vessels provided well documented internal spreadsheets
4 vessels provided explanations explaining how they allocated fuel costs to crab fishing only
2 vessels provided captains logs
1 vessel tied the cost and quantity to an income statement
1 vessel provided a settlement report
1 vessel provided a processor settlement sheet
1 vessel provided a fishing trip summary sheet
1 vessel provided a crew settlement sheet
27 of the 28 vessels reported data for this variable
14 vessels reported data for multiple variables, resulting in n = 40
5 corrections were made across 27 vessels. Corrections were made in large part to match data with given support.
2 fuel quantities were unsupported



Statistical Analysis

n	41
% Supported	97.62
mean % error	-1.47
SD of % error	8.69

Data Summary

13 vessels tied the cost and quantity to a general ledger account detail
8 vessels provided purchase invoices
4 vessels provided explanations explaining how they allocated fuel costs to crab fishing only.
4 vessels provided well documented internal spreadsheets
2 vessels provided captains logs
1 vessel provided a crew settlement sheet
1 vessel provided a fishing trip summary sheet
1 vessel provided a processor settlement sheet
1 vessel provided a settlement report
1 vessel tied the cost and quantity to an income statement
27 of the 28 vessels reported data for this variable
14 vessels reported data for multiple variables, resulting in n = 41
8 corrections were made across 27 vessels. Corrections were made in large part to match data with given support.
1 fuel cost was unsupported

APPENDIX C

PROCESSORS – CATCHER, STATIONERY FLOATING, AND SHORESIDE

AKT received responses to the initial request from all the audit processors. All of them responded to requests for additional supporting documentation. Significant email, fax, phone and mail dialogue took place with the data preparers.

Graphs, statistical analysis and data summary for the EDR variables are provided below. Supported responses are plotted in the graphs. The number of responses varies for a number of reasons. There are three types of processors and not all variables apply to each type. Some variables included responses by location or fishery, generating more responses than the number of processors reporting. Explanation of the response profile is provided with each graph.

The data summary also describes the sources of supporting documentation provided. In some cases, processors provided multiple sources of documentation for a variable, resulting in more documentation sources than the number of processors reporting.

The graphs compare the original EDR values provided by the processors on the X axis with the audited values on the Y axis. The audited values were corrected to match supporting documentation. Where the EDR and audited are the same or similar, the plots fall along a 45 degree line bisecting the graph. Large corrections result in plots at a distance from the 45 degree line. Causes for corrections are noted in the data summary for each graph. The degree of EDR data accuracy is represented by how tightly the plots are clustered along the 45 degree line.

INSERT PDF OF PUBLIC 2006 EDR PROCESSOR BY PROCESSOR GRAPHS

–INSERT PDF OF –PUBLIC 2006 EDR PROCESSOR BY PROCESSOR GRAPHS

VARIABLES FOR ANNUAL PROCESSOR DATA - TOTAL AND CRAB ONLY

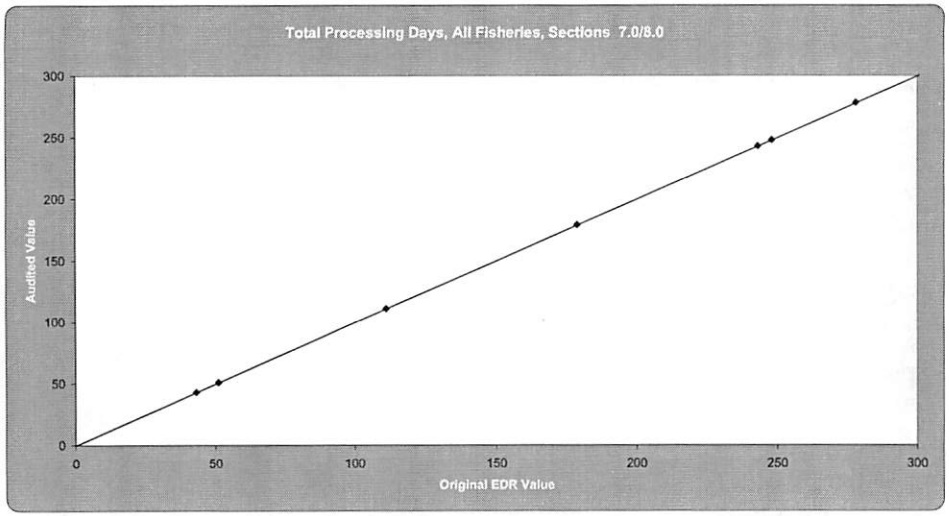
NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	2
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 catcher processor provided a proforma profit and loss statement
1 catcher processor provided a re-cap of all fishing trips
2 of the 2 catcher processors reported data for this variable
0 corrections were made

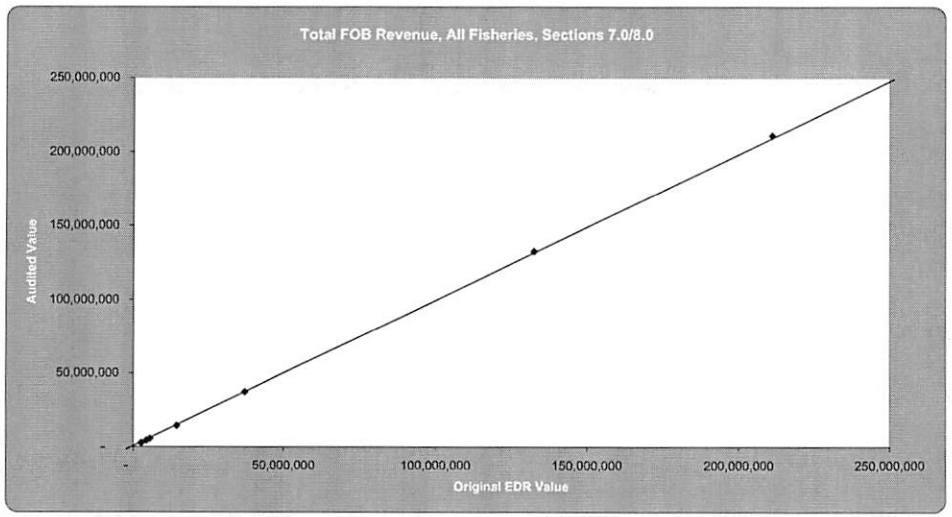


Statistical Analysis

n	7
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

3 processors provided a well documented internal spreadsheet
1 processor provided processing delivery log
1 processor provided an email exchanged between owner and ship captain
1 processor provided a re-cap of all fishing trips
1 processor provided a proforma profit and loss statement
7 of the 7 processors reported data for this variable
0 corrections were made

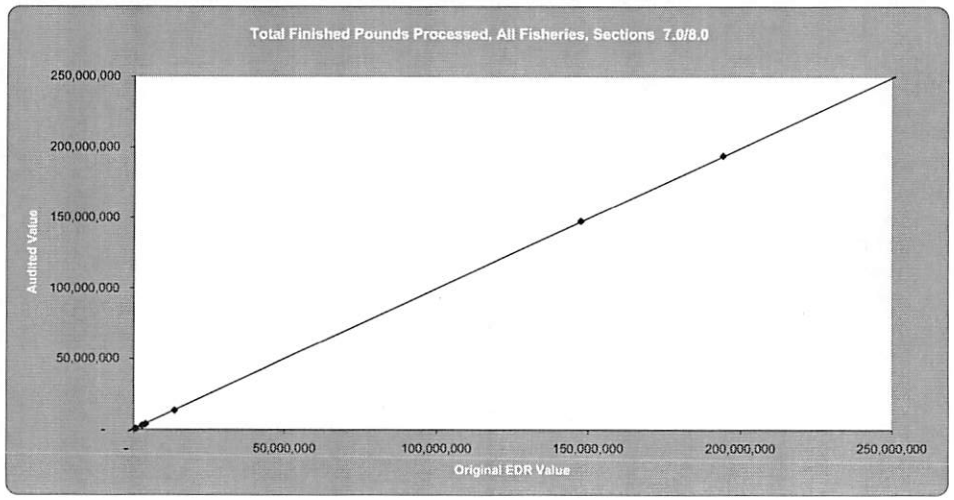


Statistical Analysis

n	7
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

2 processors provided a revenues summary sheet
2 processors provided a general ledger account detail
1 processor provided a re-cap of all fishing trips
1 processor provided a proforma profit and loss statement
1 processor provided a profit and loss summary sheet
7 of the 7 processors reported data for this variable
0 corrections were made



Statistical Analysis

n	7
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

2 processors provided production report print outs
1 processor provided an operating statement
1 processor provided a re-cap of all fishing trips
1 processor provided a proforma profit and loss statement
1 processor provided a profit and loss summary sheet
1 processor provided a general account ledger
7 of the 7 processors reported data for this variable
0 corrections were made

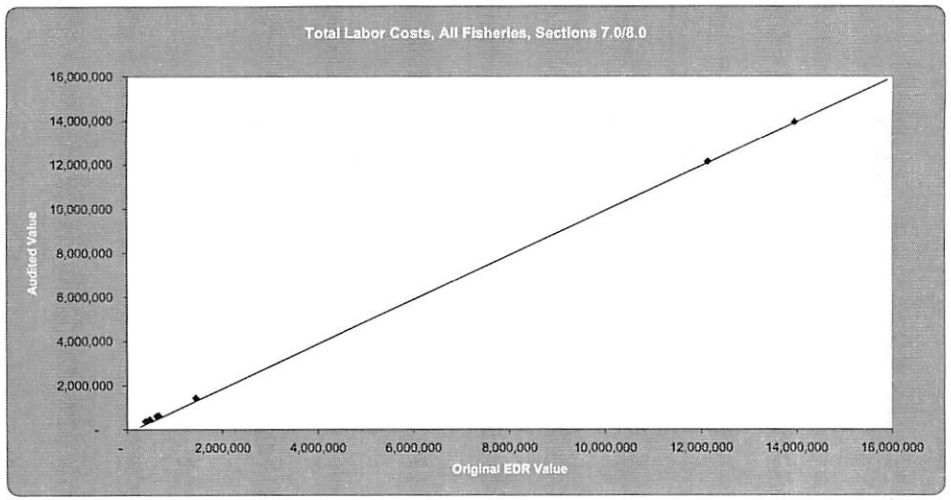
NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	2
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 catcher processor provided a proforma profit and loss statement
1 catcher processor provided a re-cap of all fishing trips
2 of the 2 catcher processors reported data for this variable
0 corrections were made

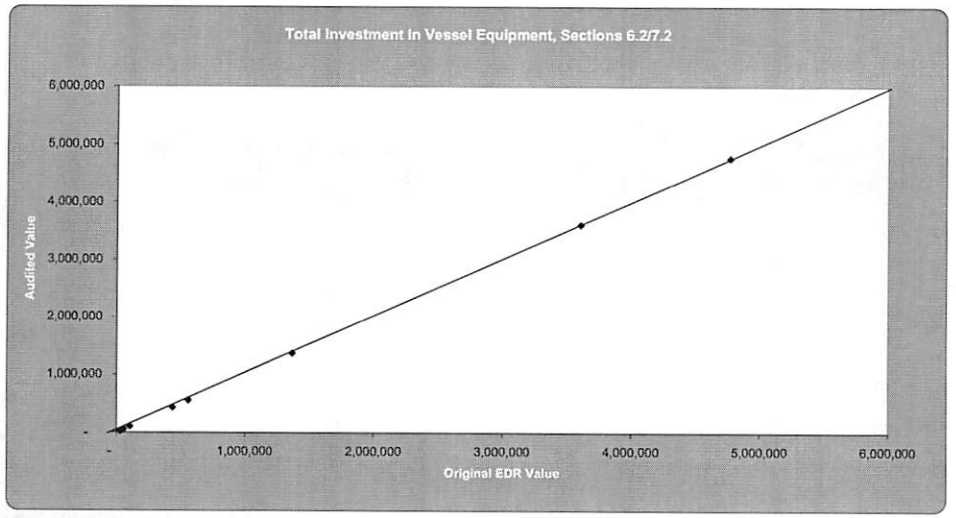


Statistical Analysis

n	7
% Supported	100.00
mean % error	0.34
SD of % error	0.91

Data Summary

3 processors provided general ledger account detail
1 processor provided crew settlement sheets
1 processor provided a re-cap of all fishing trips
1 processor provided a proforma profit and loss statement
1 processor provided a profit and loss summary sheet
7 of the 7 processors reported data for this variable
1 correction was made across 7 processors. The correction was made to match data with given documentation.

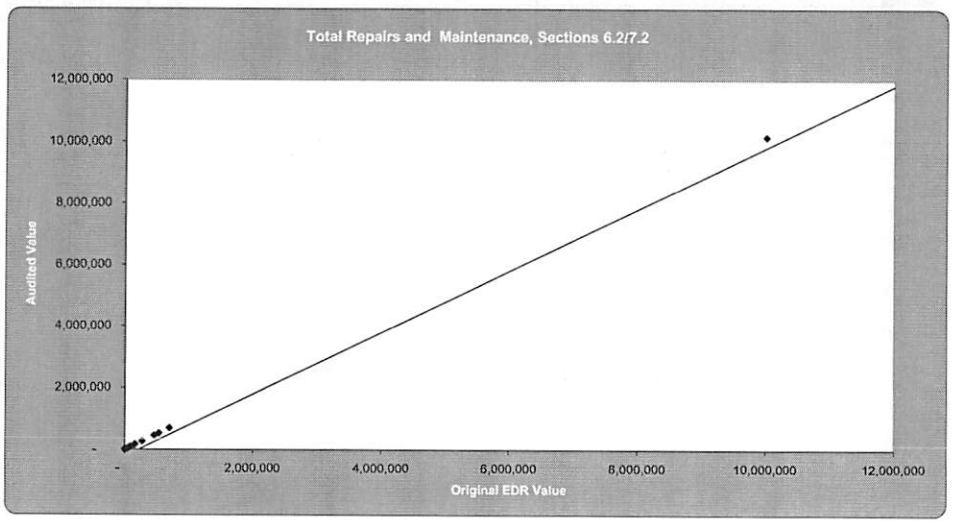


Statistical Analysis

n	8
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

4 processors provided general ledger account details
2 processors provided data by location, creating multiple data points
1 processorsprovided a well documented internal spreadsheet
5 of the 7 processors reported data for this variable
2 of the 5 processors reported data for multiple locations, resulting in n = 8
0 corrections were made

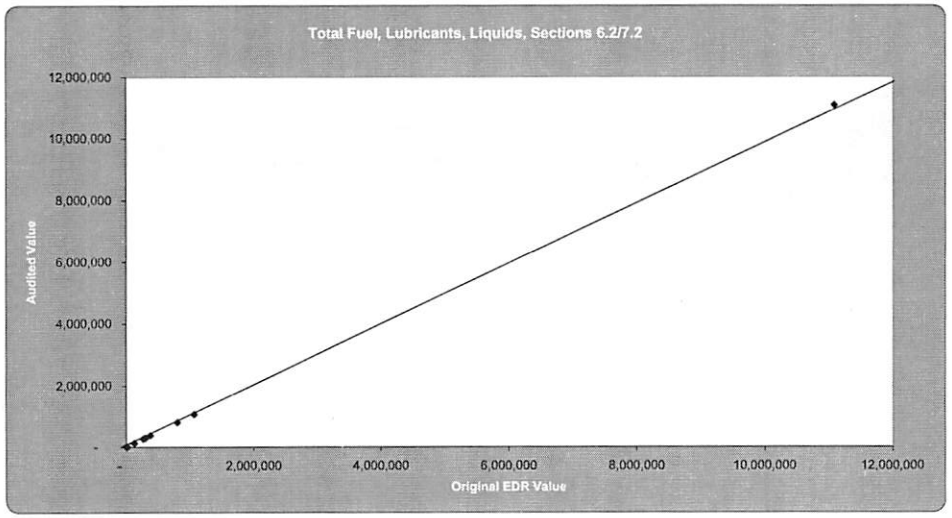


Statistical Analysis

n	16
% Supported	100.00
mean % error	-0.32
SD of % error	0.93

Data Summary

4 processors provided general ledger account details
3 processors provided data by location, creating multiple data points
1 processor provided an invoice history report
1 processor provided a well documented internal spreadsheet
1 processor provided a profit and loss summary sheet
7 of the 7 processors reported data for this variable
4 processors reported data for multiple location codes, resulting in n= 16
2 corrections were made across 7 processors. Corrections were made to match data to given documentation.



Statistical Analysis

n	10
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

4 processors provided general ledger account details
2 processors provided data by location, creating multiple data points
1 processor provided a well documented internal spreadsheet
1 processor provided a profit and loss summary sheet
1 processor provided a fuel inventory report
7 of the 7 processors reported data for this variable
2 processors reported data for multiple locations, resulting in n=10
0 corrections were made

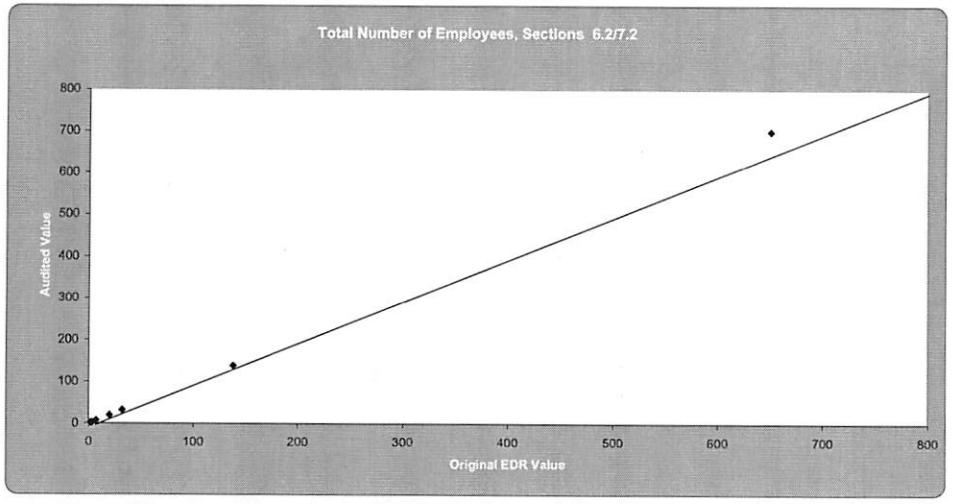
NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	2
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

2 catcher processors provided a general ledger detail account
2 of the 2 catcher processors reported data for this variable
0 corrections were made

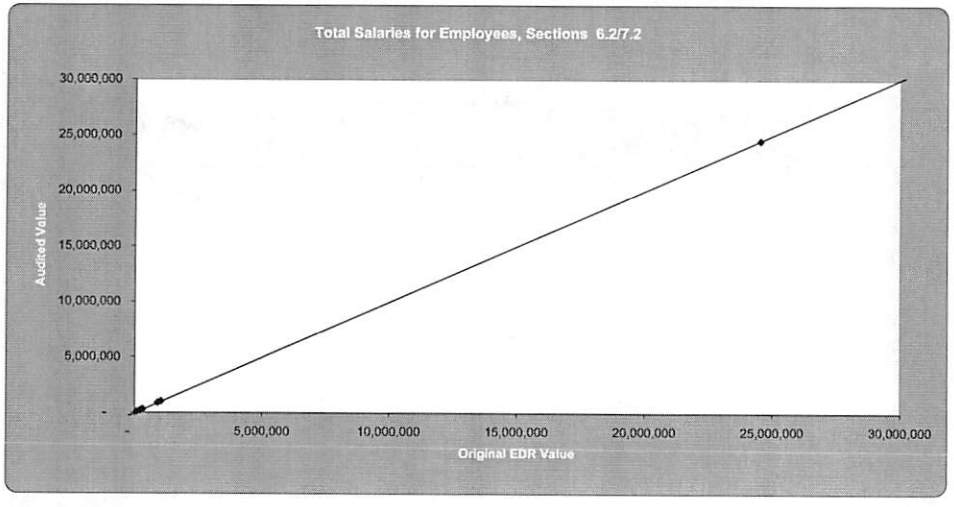


Statistical Analysis

n	7
% Supported	100.00
mean % error	-1.02
SD of % error	2.70

Data Summary

- 4 processors provided a list of salaried employees
- 4 processors provided a general ledger detail account
- 1 processor provided a verbal explanation of the estimation of total salary cost based off of GL Account
- 1 processor provided a well documented internal spreadsheet
- 1 processor provided an estimation from a plant manager
- 1 processor provided a profit and loss summary sheet
- 1 processor provided a well documented internal spreadsheet
- 7 of the 7 processors reported data for this variable
- 1 correction was made across 7 processors. The correction was made due to an error on the part of the p manager in estimating total employees.

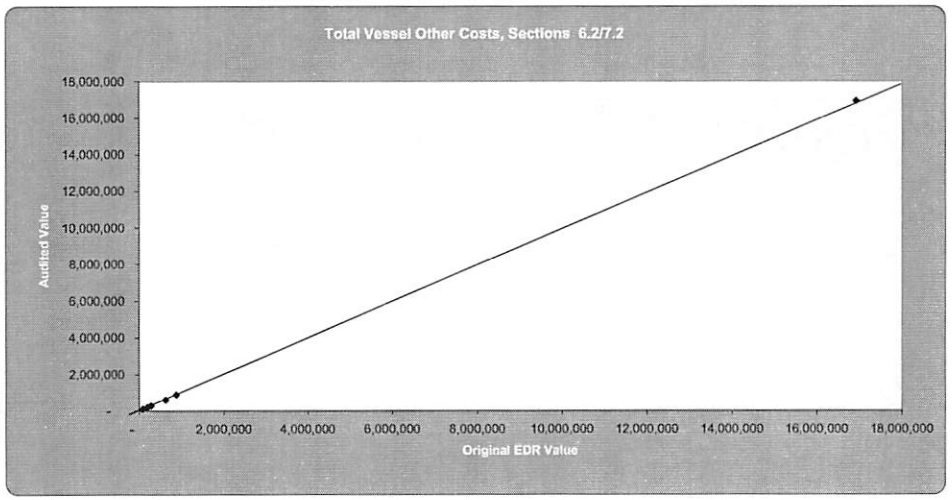


Statistical Analysis

n	7
% Supported	100.00
mean % error	0.0005
SD of % error	0.0014

Data Summary

- 4 processors provided a list of salaried employees
- 4 processors provided a general ledger detail account
- 1 processor provided a verbal explanation of the estimation of total salary cost based off of GL Account
- 1 processor provided a well documented internal spreadsheet
- 1 processor provided an estimation from a plant manager
- 1 processor provided a profit and loss summary sheet
- 1 processor provided a well documented internal spreadsheet
- 7 of the 7 processors reported data for this variable
- 1 correction was made across 7 processors . The correction was due to an immaterial misstatment.



Statistical Analysis

n	7
% Supported	100.00
mean % error	-0.78
SD of % error	3.50

Data Summary

5 processors provided a general ledger account detail
1 processor provided a verbal explanation of the estimation of other costs cost based off of GL Account
1 processor provided a profit and loss summary sheet
1 processor provided a well documented internal spreadsheet
7 of the 7 processors reported data for this variable
2 corrections were made across 7 processors. Corrections were made to match data to given documenta
the GL account detail.

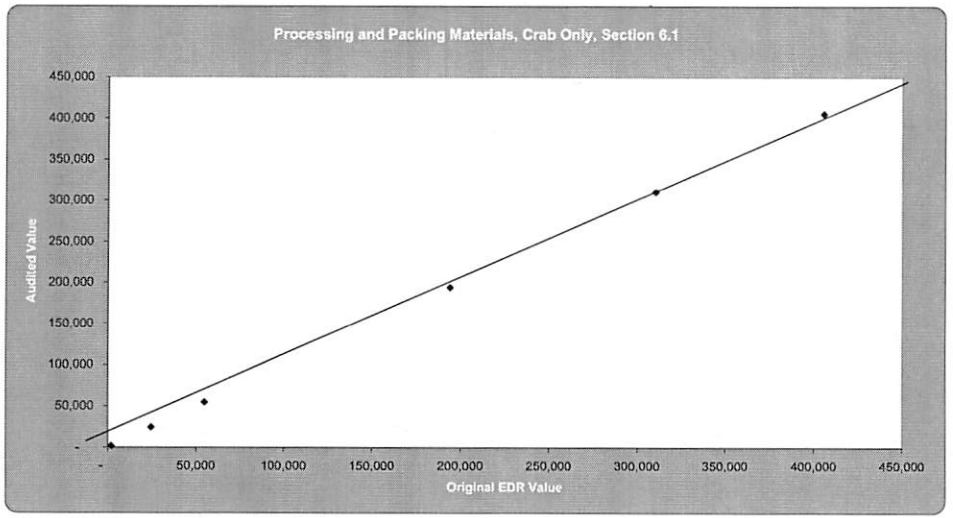
NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	3
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

2 S/F processors provided a general ledger account detail
1 S/F processor provided a profit and loss sheet summary
3 of the 5 stationary/floating processors reported data for this variable
0 corrections were made

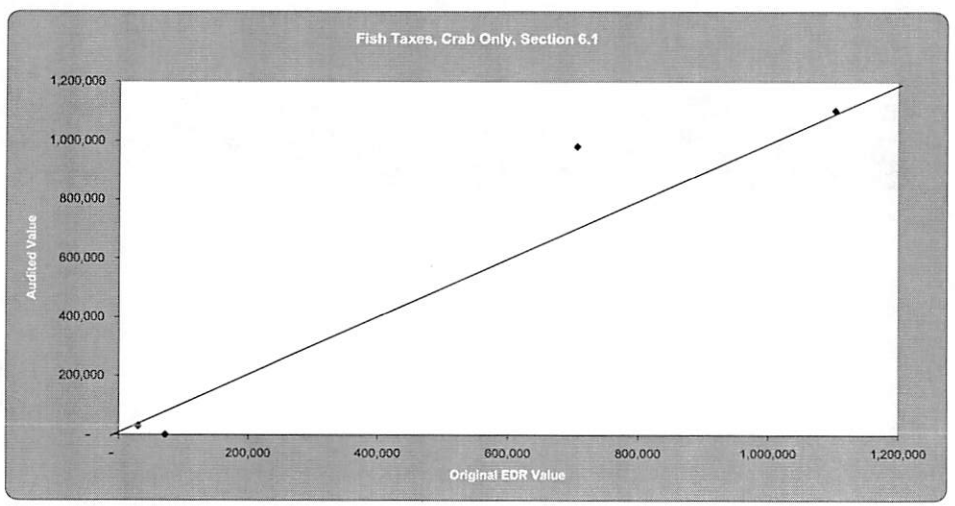


Statistical Analysis

n	6
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

2 S/F processors provided data by location, creating multiple data points
1 S/F processor provided a well documented internal spreadsheet
1 S/F processor provided a profit and loss sheet summary
1 S/F processor provided a general ledger account details
4 of the 5 stationary/floating processors reported data for this variable
2 processors reporated data for multiple location codes, resulting in n = 6
0 corrections were made



Statistical Analysis

n	4
% Supported	100.00
mean % error	3334.36
SD of % error	6687.43

Data Summary

1 shoreside processor provided a general ledger account details
1 shoreside processor provided a fish ticket
1 shoreside processor provided a profit and loss sheet summary
1 shoreside processor provided a fisheries tax schedule
4 of the 4 shoreside processors reported data for this variable
2 corrections were made across 4 processor, both noted by the preparer when providing audit response. The largest correction was due to property tax being included with fish tax in the original EDR data

NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

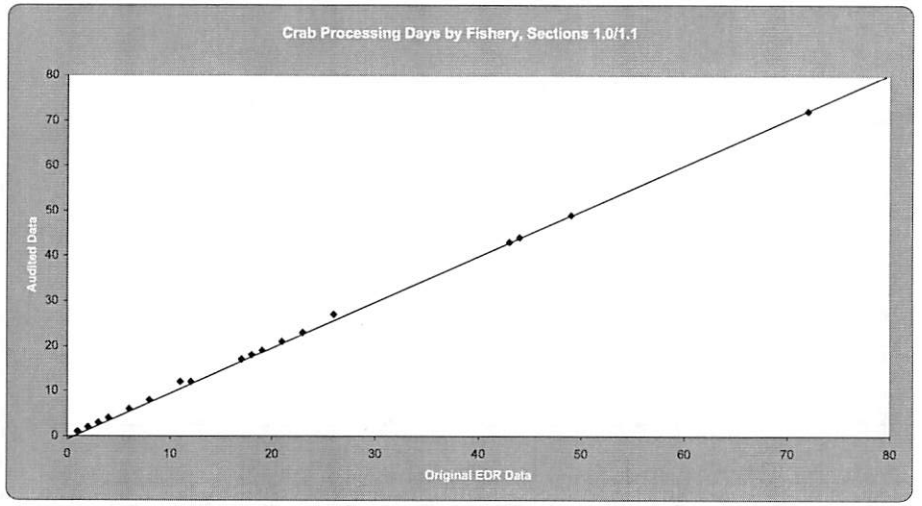
n	2
% Supported	100.00
mean % error	0.13
SD of % error	0.18

Data Summary

1 shoreside processor provided a tax assessment and a general ledger account
1 shoreside processor provided a Notice of Assessed Value
2 of 4 shoreside processors reported on this variable
1 correction was made that was noted by the vessel preparer. Assets were included assessed in 2007 by mistake.

Notes on variables reported by Product by Species by Process: Annual BSAI Crab sales, section 1.2, was well supported by all processors. There were no errors or immaterial errors in this data. Due to the data accuracy and repetition of the same findings across products, individual plots were not created.

VARIABLES FOR ANNUAL PROCESSOR DATA BY FISHERY - CRAB ONLY

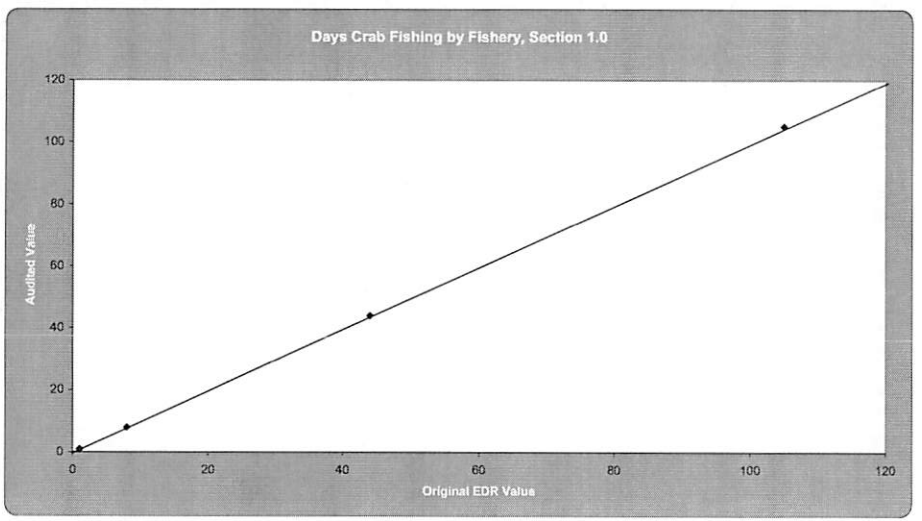


Statistical Analysis

n	21
% Supported	100.00
mean % error	-0.57
SD of % error	1.95

Data Summary

3 processors provided well documented internal spreadsheets
2 processors provided fishery trip summaries of all activity
1 processor provided a production report by product
1 processor provided a delivery log
7 out of 7 processors reported data on this variable
7 processors reported data for multiple fisheries, resulting in n = 21
2 corrections were made across 7 processors. Corrections were made to include dates not originally reported in the EDR



Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 catcher processor provided trip summaries detailing all activity for each fishery
1 catcher processor provided an internal fishery trip summary that was backed up with several other forms of documentation.
2 out of 2 catcher processors reported on this variable
2 processors reported data for multiple fisheries, resulting in n = 4
0 corrections were made

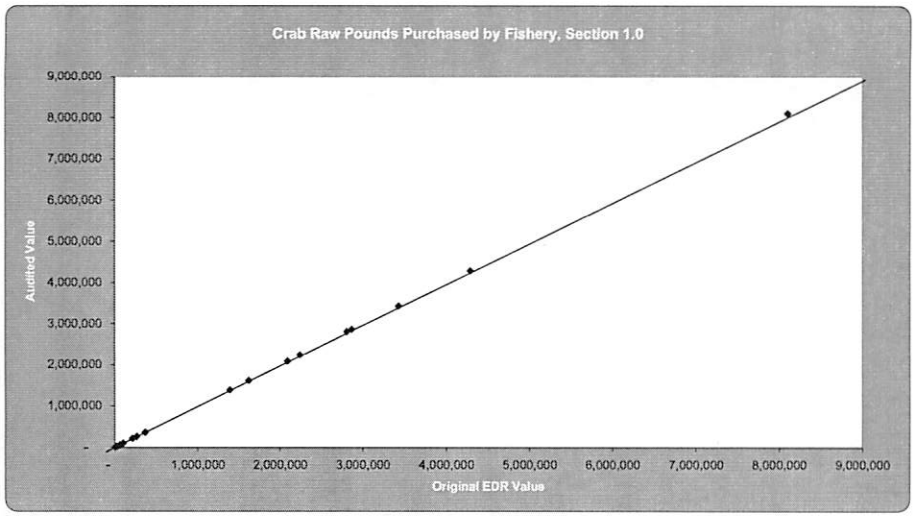
NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	3
% Supported	75.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 catcher processor provided trip summaries detailing all activity for each fishery
1 catcher processor provided an internal fishery trip summary that was backed up with several other forms of documentation.
2 out of 2 catcher processors reported on this variable
1 processor did not travel or offload in one of the fisheries it fished in, resulting in n = 3
0 corrections were made

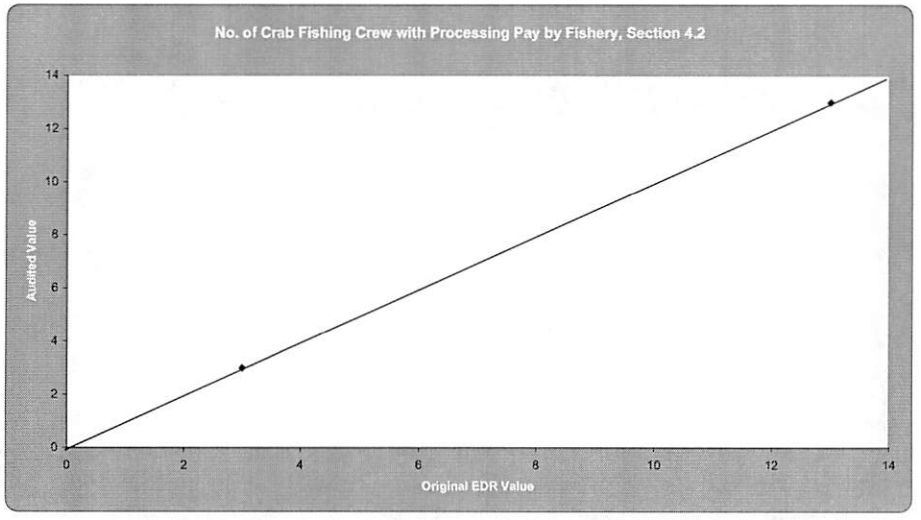


Statistical Analysis

n	17
% Supported	100.00
mean % error	-0.0006
SD of % error	0.0025

Data Summary

2 S/F processors provided purchase summary detail reports
1 S/F processor provided a production detail report
1 S/F processor provided a sales report by fishery
1 S/F processor provided customer invoices for purchases
5 out of 5 stationary/floating processors reported data for this variable
5 S/F processors reported data for multiple fisheries, resulting in n = 17
1 correction across 5 processors was made. Correction was made to match data to given documentation

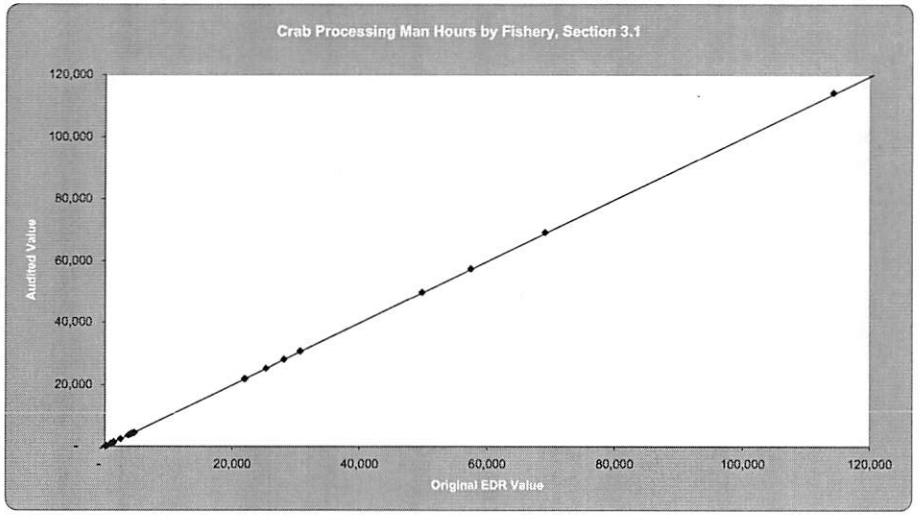


Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 catcher processor provided a well documented estimation
1 catcher processor provided internal documentation of all fishing activity and associated costs.
2 out of 2 catcher processors reported data for this varible
The number of crew was the same for each fishery resulting in only 2 plots.
2 processors reported data for mutliple fisheries, resulting in n = 4
0 corrections were made

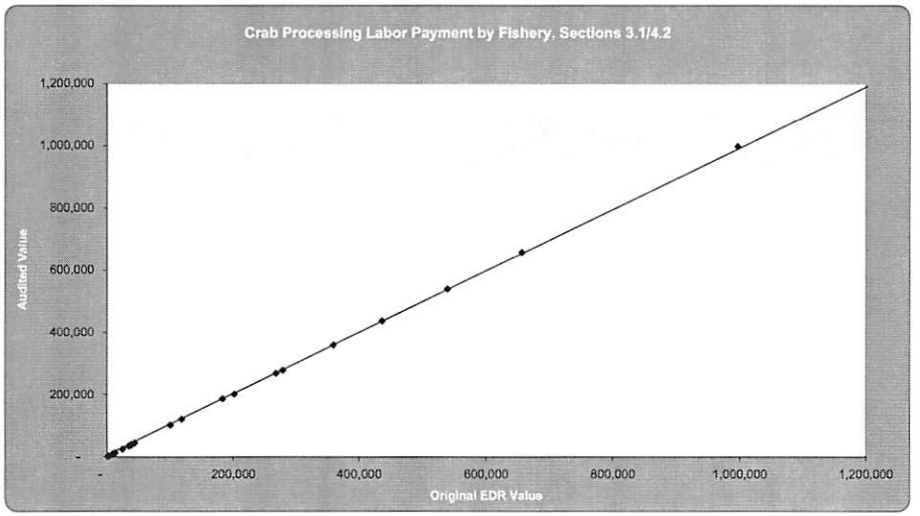


Statistical Analysis

n	17
% Supported	100.00
mean % error	0.0003
SD of % error	0.0011

Data Summary

2 S/F processors provided well documented internal spreadsheets
1 S/F processor provided a well documented estimation
1 S/F processor provided a general ledger account detail
1 S/F processor provided a crew settlement
5 out of 5 stationary/floating processors reported data for this variable
5 S/F processors reported data for multiple fisheries, resulting in n = 17
0 corrections were made



Statistical Analysis

n	21
% Supported	100.00
mean % error	-0.10
SD of % error	0.37

Data Summary

3 processors provided well documented internal spreadsheets
2 processors provided general ledger account details
1 processor provided an internal cost report for manufactoring overhead
1 processor provided a crew settlement
7 out of 7 vessels reported data for this variable
7 processors reported data for multiple fisheries, resulting in n = 21
2 correction was made across 7 processors. The corrections were made to match the data to given documentation.

NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	2
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

1 catcher processor provided a general ledger account detail with an equal value for each fishery, resulting in 1 plot
1 out of 2 catcher processors reported data for this variable
1 processor reported data for multiple fisheries, resulting in n = 2
0 corrections were made

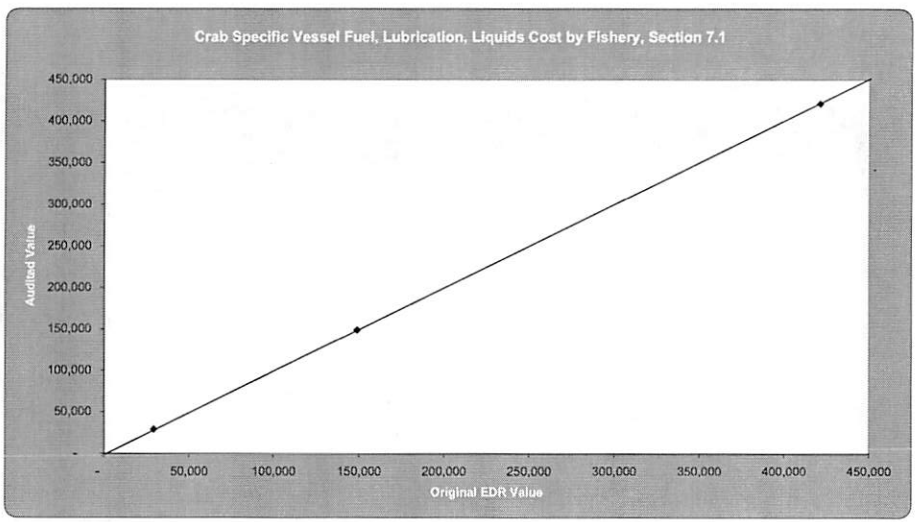
NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	2
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary 7.1

1 catcher processor provided an explanation over a phone conversation to support general ledger detail with an equal value for each fishery, resulting in 1 plot.
1 out of 2 catcher processors reported data for this variable
1 processor reported data for multiple fisheries, resulting in n = 2
0 corrections were made

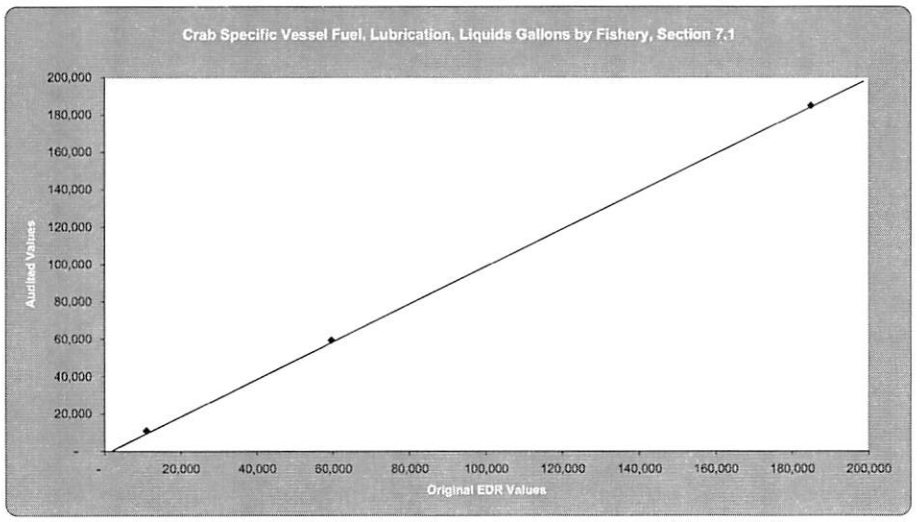


Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

2 catcher processors provided trip summaries for all fisheries
1 catcher processor reported the same value for each fishery, resulting 3 plots.
2 out of 2 catcher processors reported data for this variable
2 processors reported data for multiple fisheries, resulting in n = 4
0 corrections were made



Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary

2 catcher processors provided trip summaries for all fisheries
1 catcher processor reported the same value for each fishery, resulting in 3 plots.
2 out of 2 catcher processors reported data for this variable
2 processors reported data for multiple fisheries, resulting in n = 4
0 corrections were made

NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.

Statistical Analysis

n	1
% Supported	100.00
mean % error	0.00
SD of % error	0.00

Data Summary 7.1

1 catcher processor provided a GL account summary for expenses incurred
1 out of 2 catcher processors reported data for this variable
0 corrections were made

Notes on variables reported by Product by Fishery: BSAI Crab processing activity, section 1.0, BSAI Crab Production, section 1.2, and Raw Crab Purchases from Delivering Vessels, section 5.0, were well supported by all processors. There were no errors or immaterial errors in this data. Due to the data accuracy and repetition of the same findings across products, individual plots were not created.