ALASKA CRAB ECONOMIC DATA REPORT DATA VALIDATION

Report Prepared for Pacific States Marine Fisheries Commission

2006 Calendar Year Data

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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.

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:

$$n_0 = \frac{Z^2(p)(q)}{(e)^2} \qquad\qquad n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

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) 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

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 following EDR variables are provided below:

- Days at Sea Crab Fishing by Fishery, Section 1.0
- Days Traveling & Offloading for Crab Fishing by Fishery, Section 1.0
- Owner Annual Allocation by Fishery: CPO-IFQ Pounds Transferred, Section 3.1
- Owner Annual Allocation by Fishery: CPO-IFQ Revenue Transferred, Section 3.1
- Owner Annual Allocation by Fishery: IFQ-A Pounds Transferred, Section 3.1
- Owner Annual Allocation by Fishery: IFQ-A Revenue Transferred, Section 3.1
- Owner Annual Allocation by Fishery: IFQ-B Pounds Transferred, Section 3.1
- Owner Annual Allocation by Fishery: IFQ-B Revenue Transferred, Section 3.1
- CDQ/Adak IFQ Pounds Leased by Fishery, Section 3.2
- CDQ/Adak IFQ Total Lease Cost by Fishery, Section 3.2
- CPO – IFQ Pounds Leased by Fishery, Section 3.2
- CPO – IFQ Total Lease Cost by Fishery, Section 3.2
- IFQ – A Pounds Leased by Fishery, Section 3.2
- IFQ – A Total Lease Cost by Fishery, Section 3.2
- IFQ – B Pounds Leased by Fishery, Section 3.2
- IFQ – B Total Lease Cost by Fishery, Section 3.2
- IFQ – C Pounds Leased by Fishery, Section 3.2
- IFQ – C Total Lease Cost by Fishery, Section 3.2
- Number of Lease Cost Crew Shares by Fishery, Section 3.2
- Number of Paid Crab Harvest Crew by Fishery, Section 4.1
- Total Crew Crab Fishing Labor Payments by Fishery, Section 4.1
- Total Captain Crab Fishing Labor Payments by Fishery, Section 4.1
- Fuel Quantity – Crab Fishing Only, by Fishery, Section 5.1
- Fuel Cost – Crab Fishing Only, by Fishery, Section 5.1
- Total Days at Sea, All Fisheries, Section 6.0

- Total Gross Revenue, All Fisheries, Section 6.0

- Total Pounds Retained, All Fisheries, Section 6.0

- Total Labor Costs, All Fisheries, Section 6.0

- Insurance Premium – Vessel Total, Section 5.2

- Insurance Premium – Crab Fishing Only, Section 5.1

- Insurance Deductible Fees – Crab Fishing Only, Section 5.1

- Total Vessel Fuel Cost by Location, Section 5.2

- Total Investment in Vessel Gear & Equipment by Location, Section 5.2

- Total Repair & Maintenance by Location, Section 5.2

- Line & Other Crab Gear Purchased – Crab Only by Location, Section 5.1

- Quantity of Crab Pots Purchased, Section 5.1

- Cost of Crab Pots Purchased, Section 5.1

- Other Crab Fishing Only Costs, Section 5.1

- Other Costs – Total Vessel, Section 5.2

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.

# VARIABLES FOR ANNUAL VESSEL DATA BY FISHERY - CRAB ONLY

Days at Sea Crab Fishing by Fishery, Section 1.0
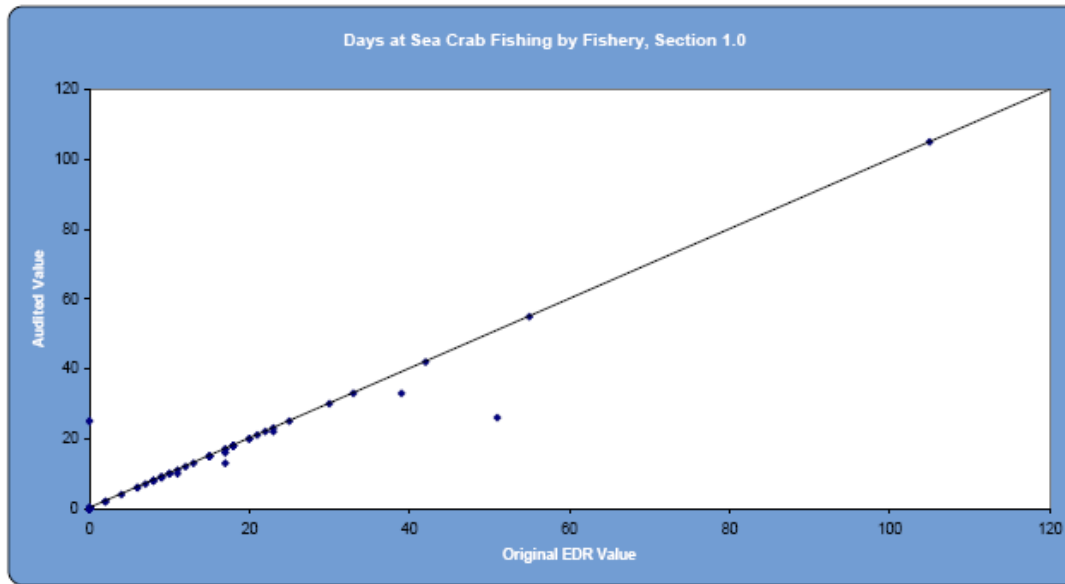
Statistical Analysis

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.

Days Traveling & Offloading for Crab Fishing, by Fishery, Section 1.0
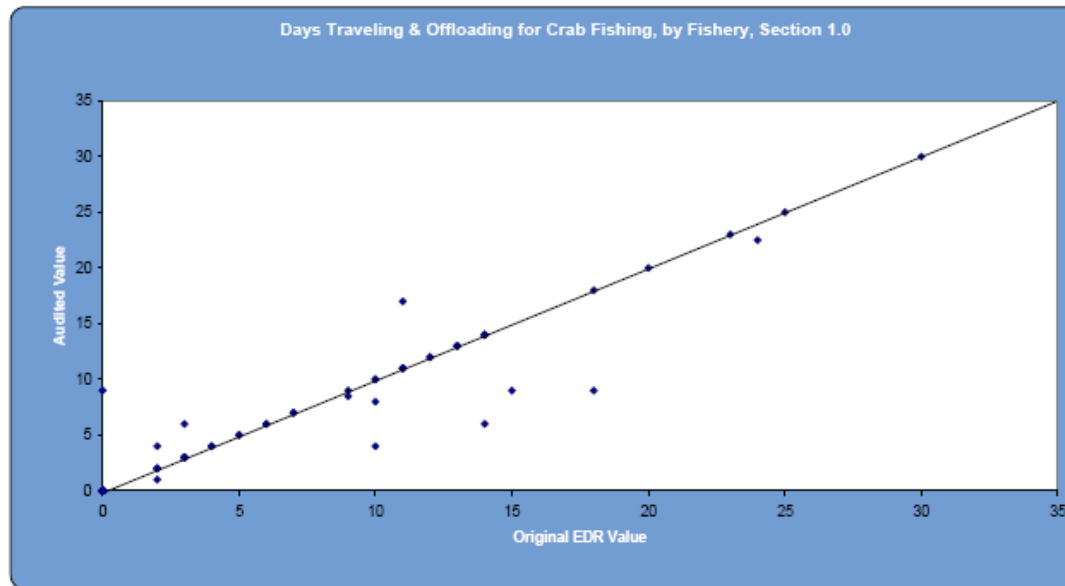
Statistical Analysis

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.

Onwer Annual Allocation by Fishery: CPO-IFQ Pounds Transferred, Section 3.1
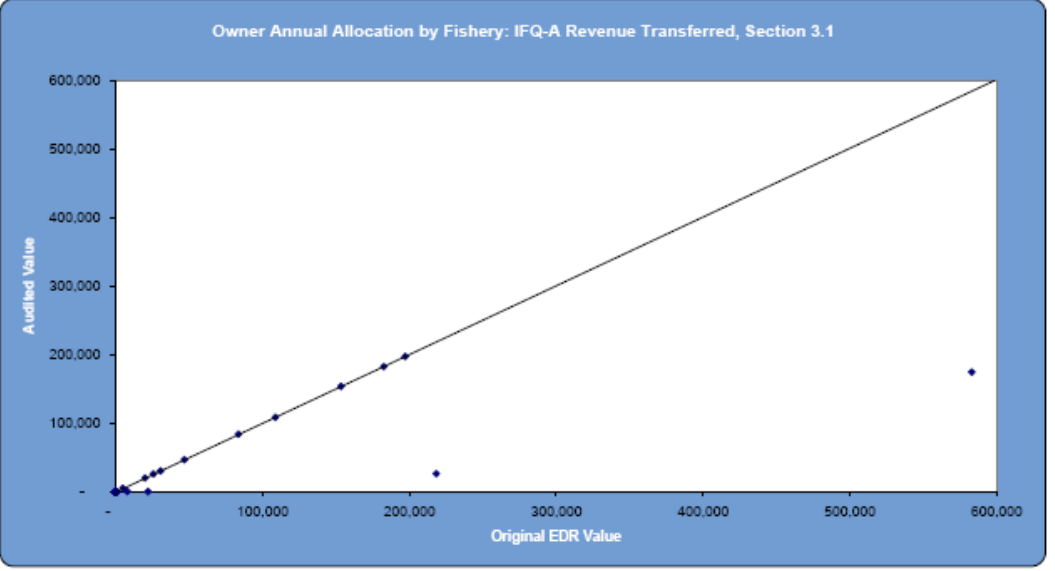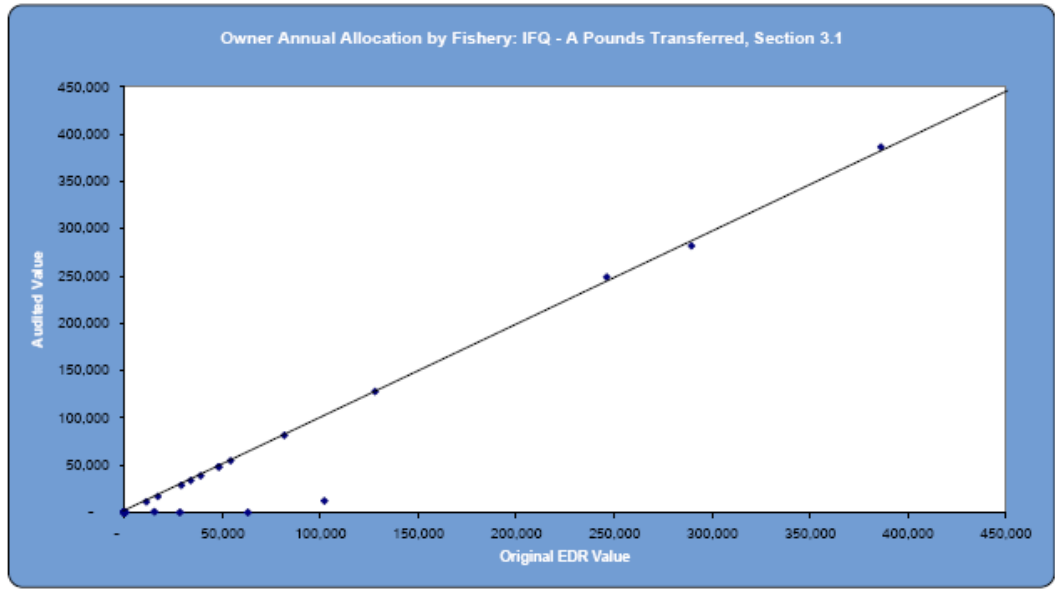
NOTE: Due to confidentiality protocols, the graphical representation for this variable will not be presented.

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

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Owner Annual Allocation by Fishery: CPO-IFQ Revenue Transferred, Section 3.1

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

Owner Annual Allocation by Fishery: IFQ - A Pounds Transferred, Section 3.1

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.


Owner Annual Allocation by Fishery: IFQ-A Revenue Transferred, Section 3.1

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.

Owner Annual Allocation by Fishery: IFQ - B Pounds Transferred, Section 3.1
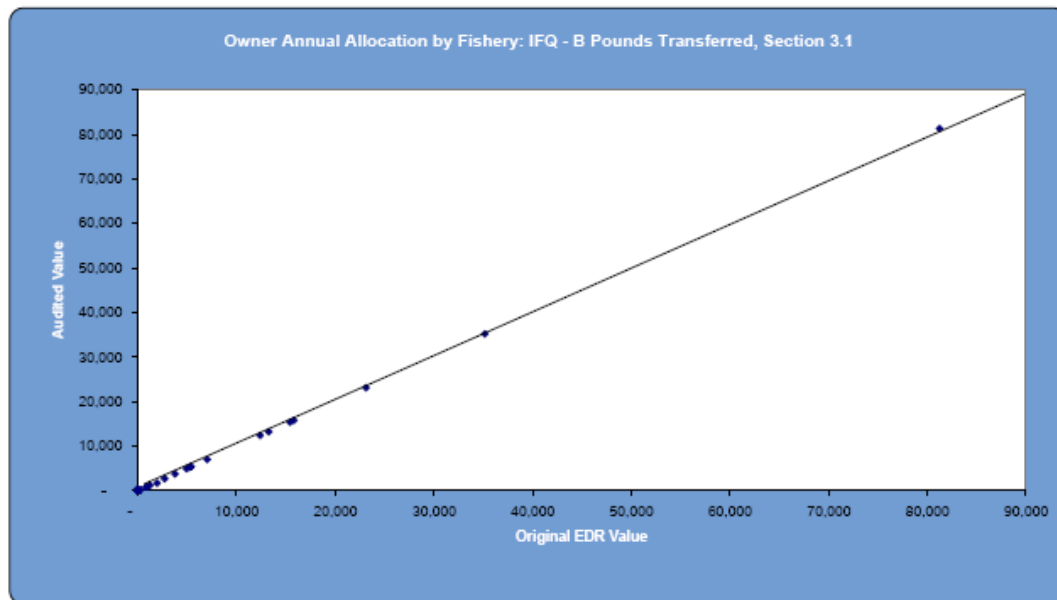
Statistical Analysis

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.


Owner Annual Allocation by Fishery: IFQ - B Revenue Transferred, Section 3.1
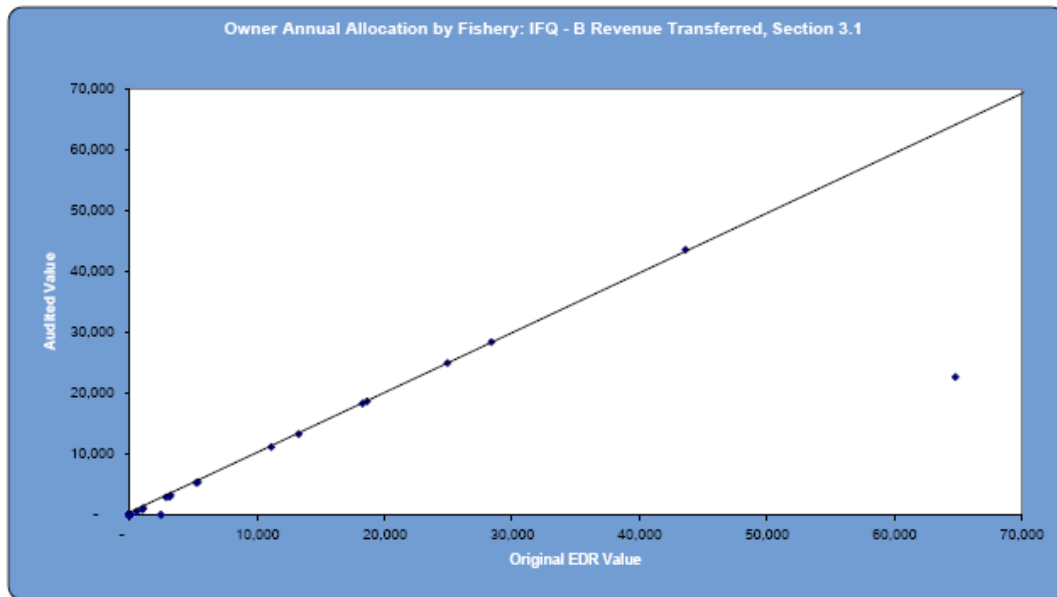
Statistical Analysis

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

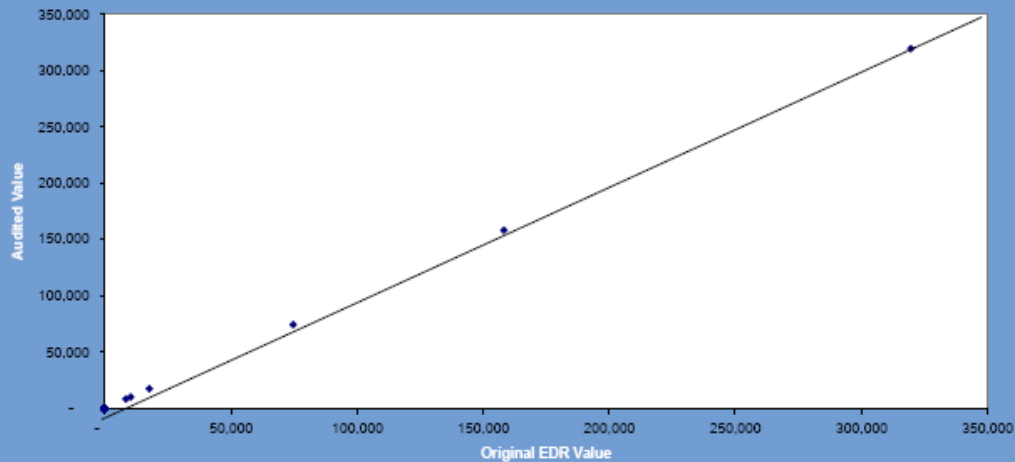**CDQ / Adak IFQ Pounds Leased by Fishery, Section 3.2**
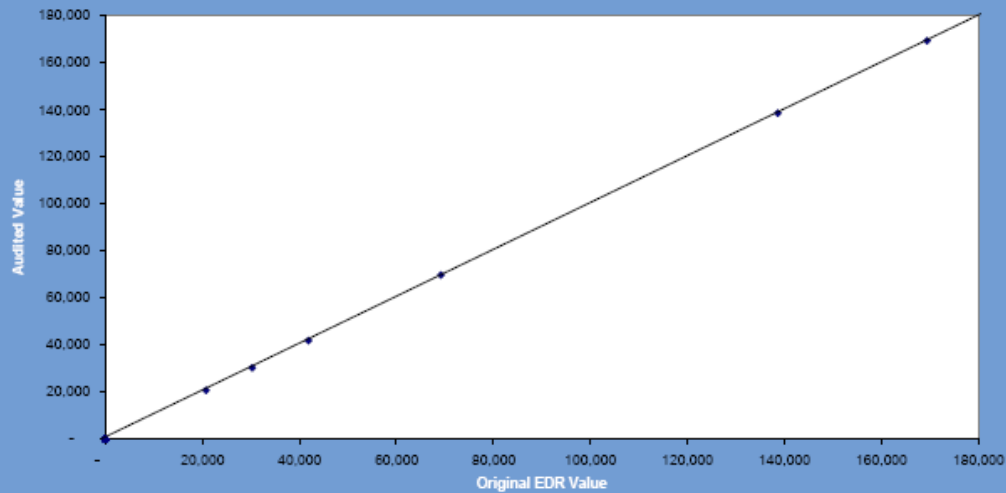
Statistical Analysis

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.

CDQ/Adak IFQ total Lease Cost by Fishery, Section 3.2

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.
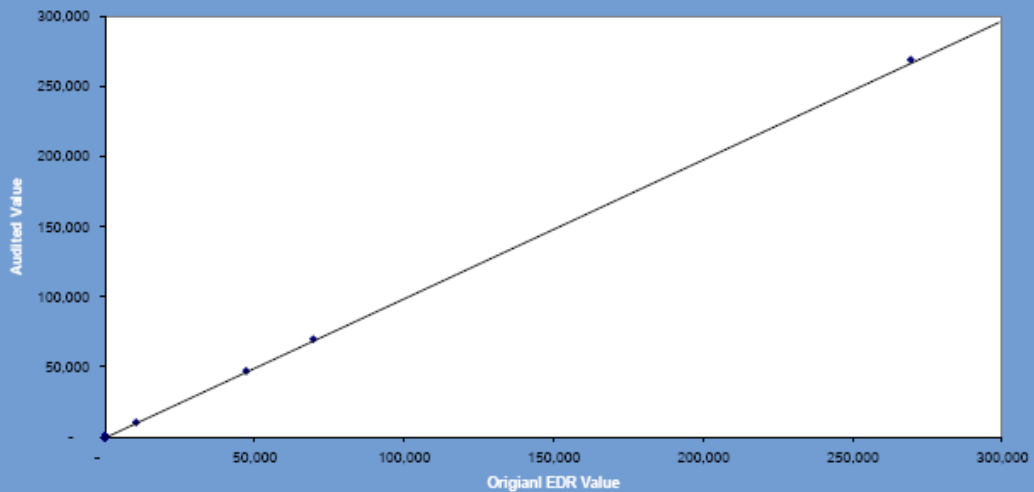
CPO - IFQ Pounds Leased by Fishery, Section 3.2
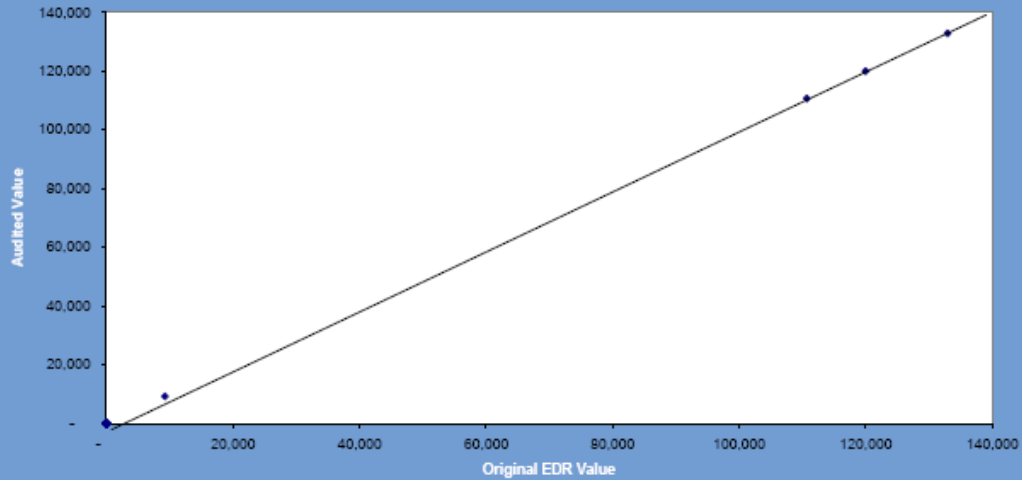
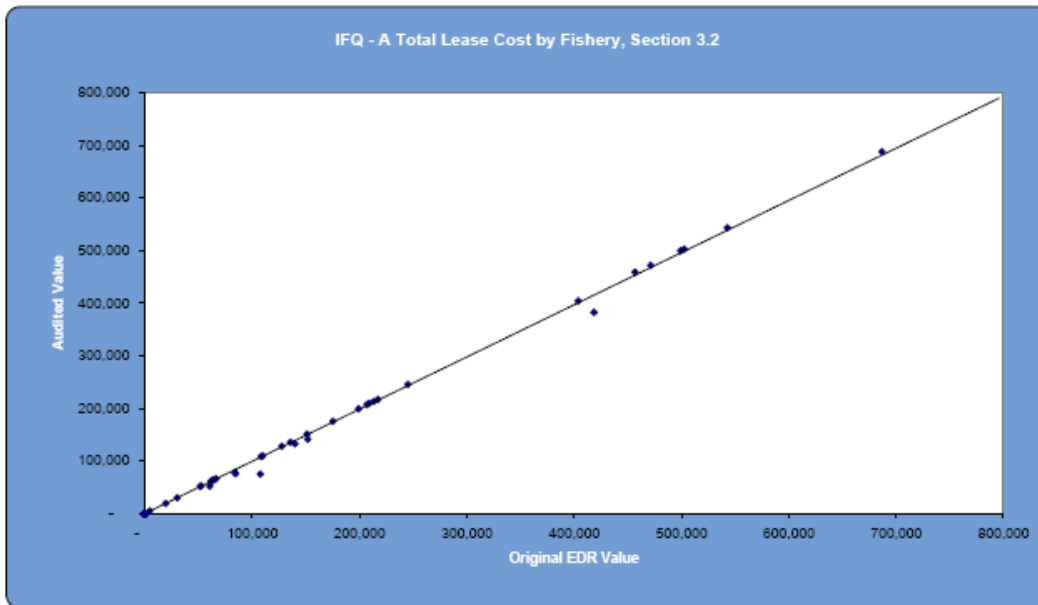**Statistical Analysis**

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

CPO - IFQ Total Lease Cost by Fishery, Section 3.2

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

IFQ - A Pounds Leased by Fishery, Section 3.2
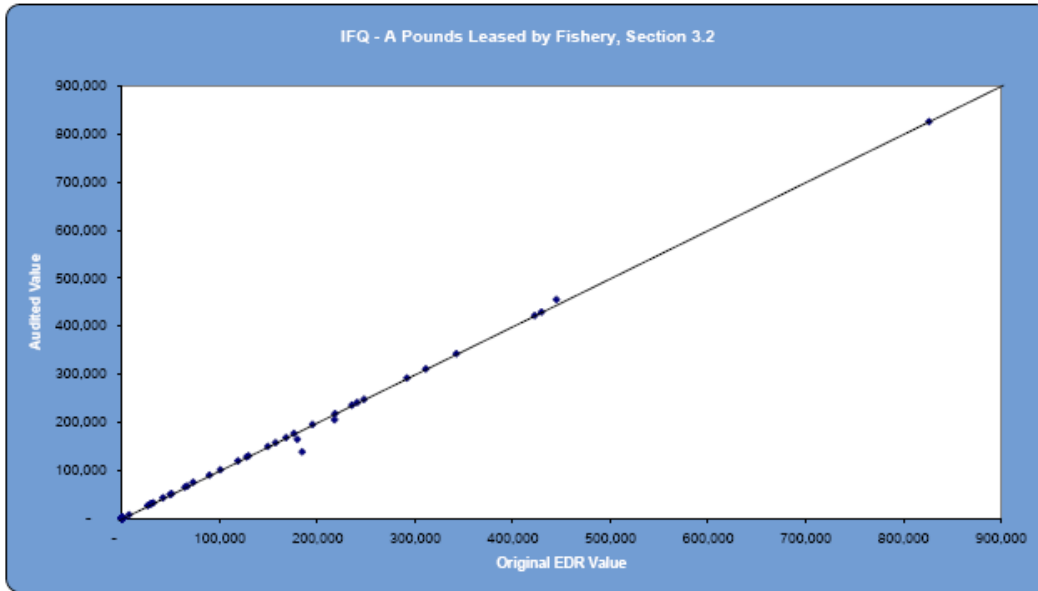
Statistical Analysis

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


IFQ - A Total Lease Cost by Fishery, Section 3.2

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

IFQ - B Pounds Leased by Fishery, Section 3.2
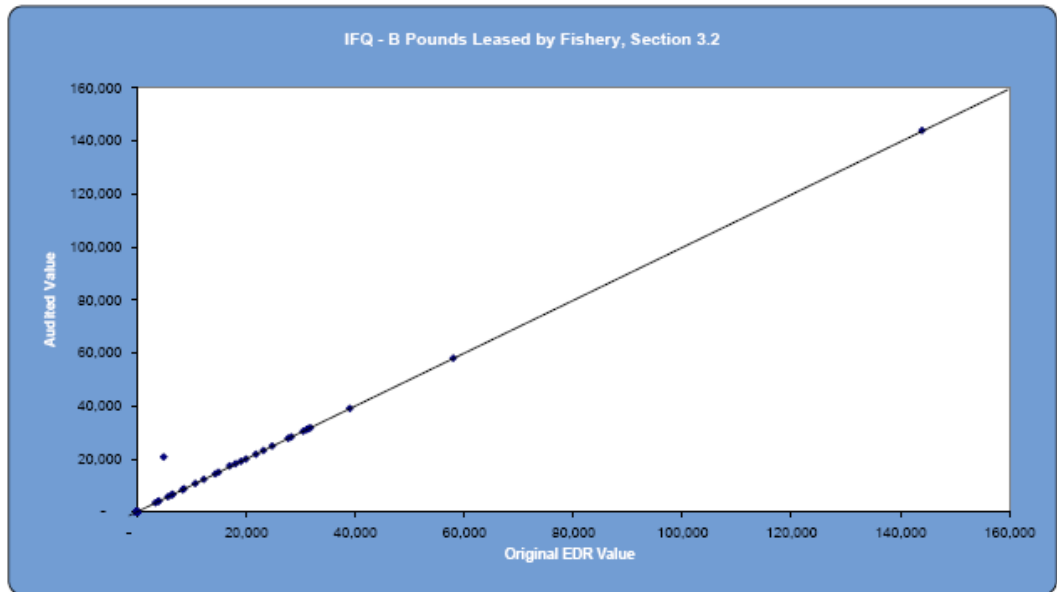
Statistical Analysis

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

IFQ - B Total lease Cost by Fishery, Section 3.2
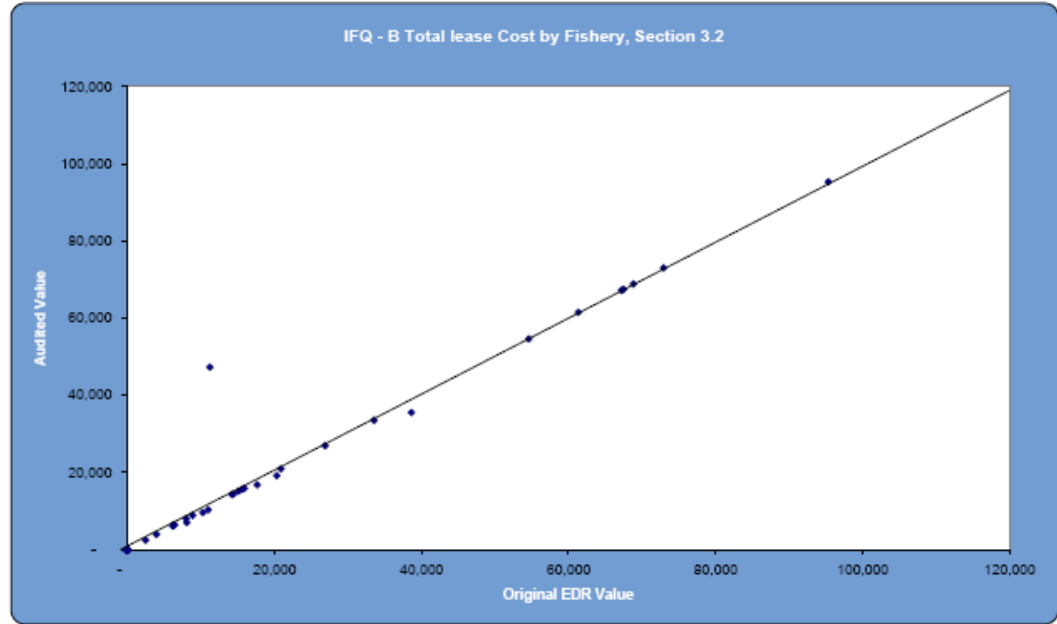
Statistical Analysis

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.

IFQ - C Pounds Leased by Fishery, Section 3.2
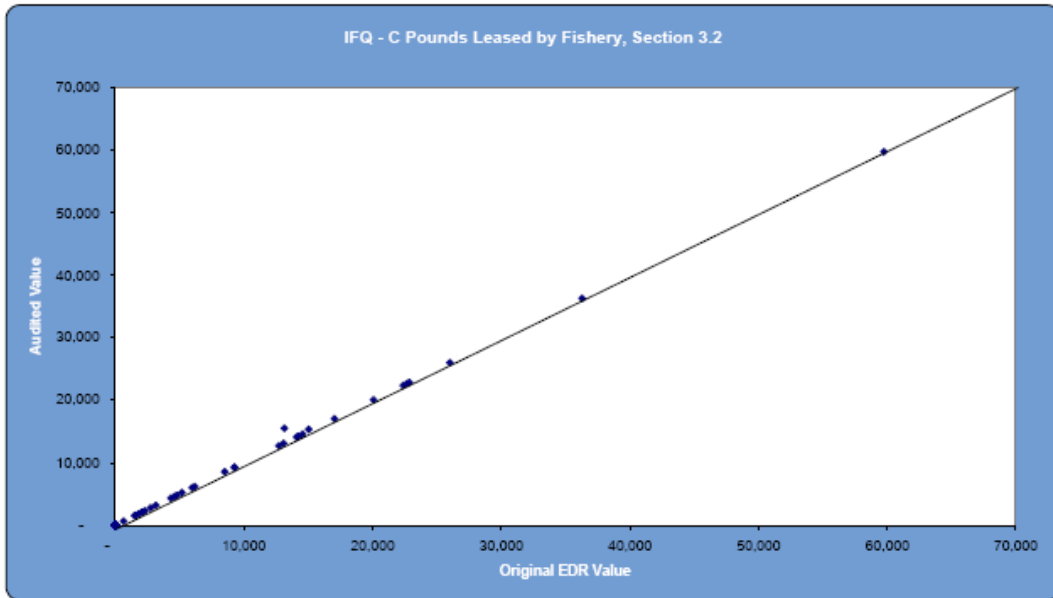
Statistical Analysis

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.

IFQ - Total Lease Cost by Fishery, Section 3.2
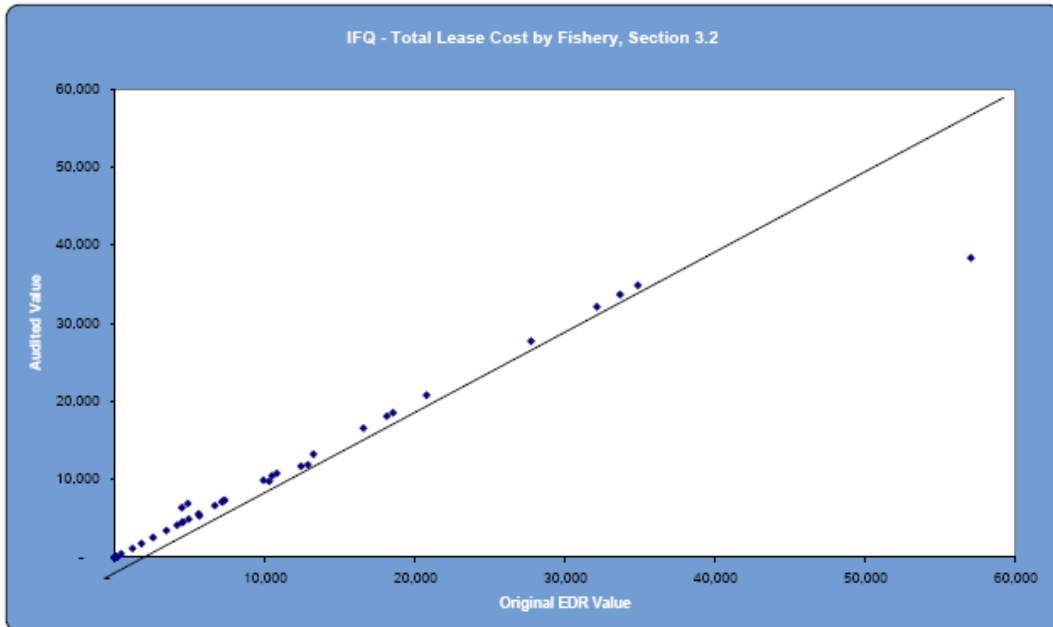
Statistical Analysis

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.

## Number of Lease Cost Crew Shares by Fishery, Section 3.2
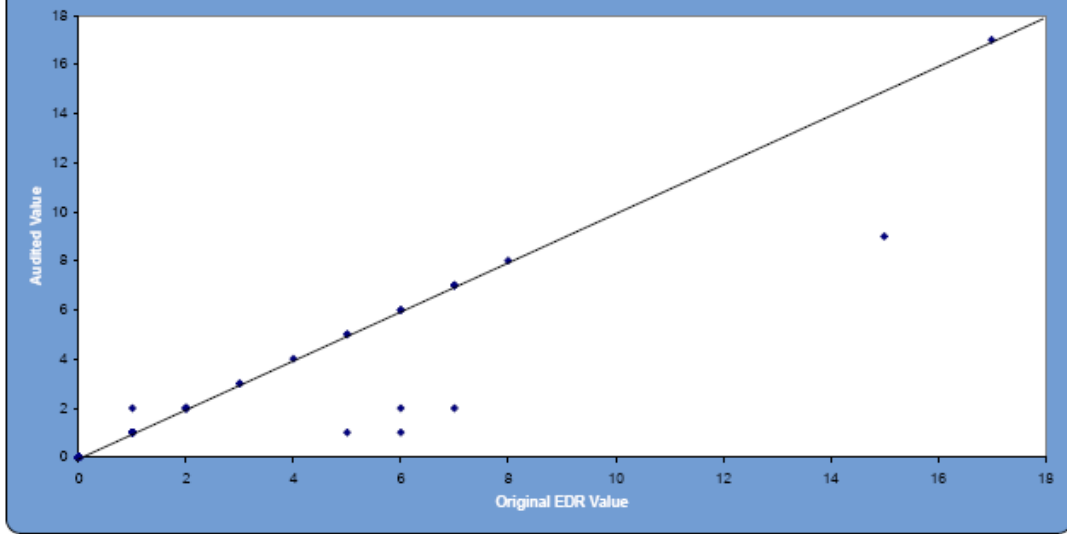
Statistical Analysis

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.

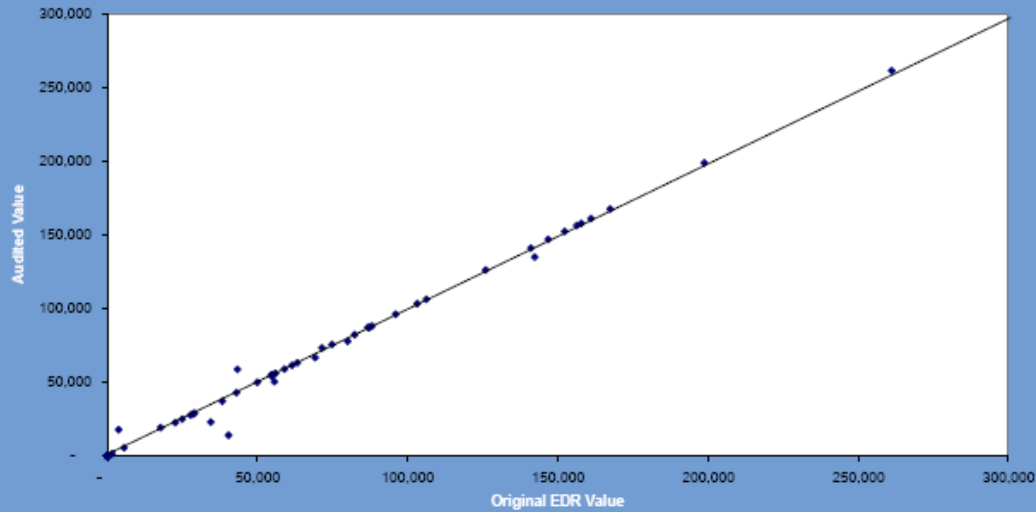## Number of Paid Crab Harvest Crew by Fishery, Section 4.1
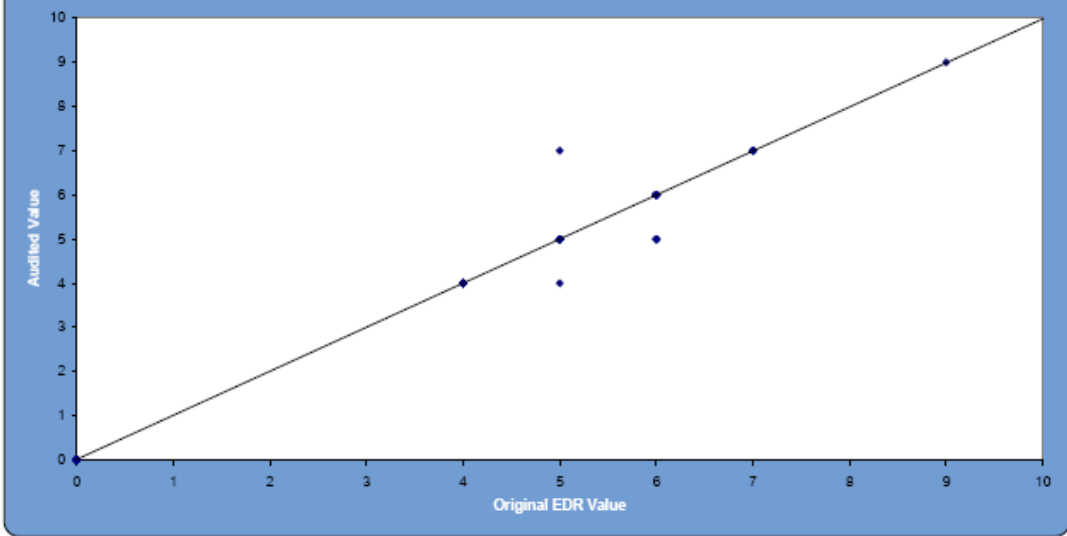
Statistical Analysis

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.

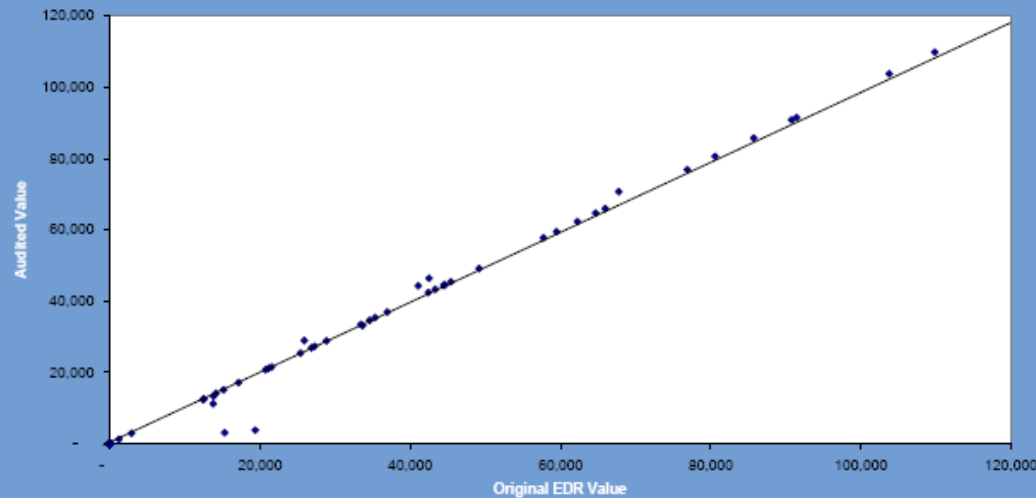**Total Crew Crab Fishing Labor Payment by Fishery, Section 4.1**

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.

**Total Captain Crab Fishing Labor Payments by Fishery, Section 4.1**

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.

Fuel Quantity - Crab Fishing Only, by Fishery, Section 5.1
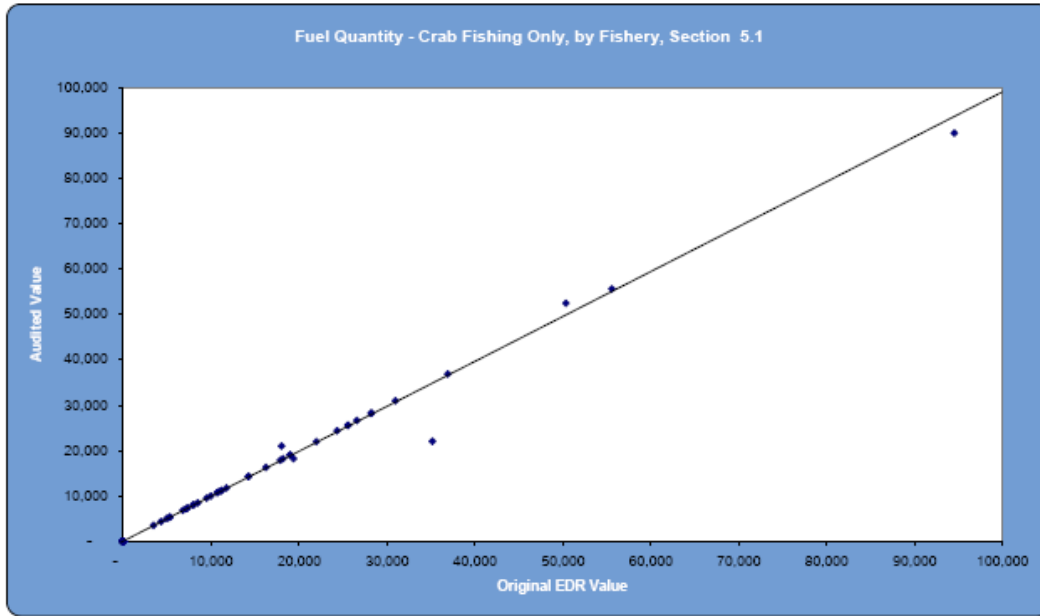
Statistical Analysis

n	40
% Supported	95.24
mean % error	1.34
SD of % error	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

Fuel Cost - Crab Fishing Only, by Fishery, Section 5.1
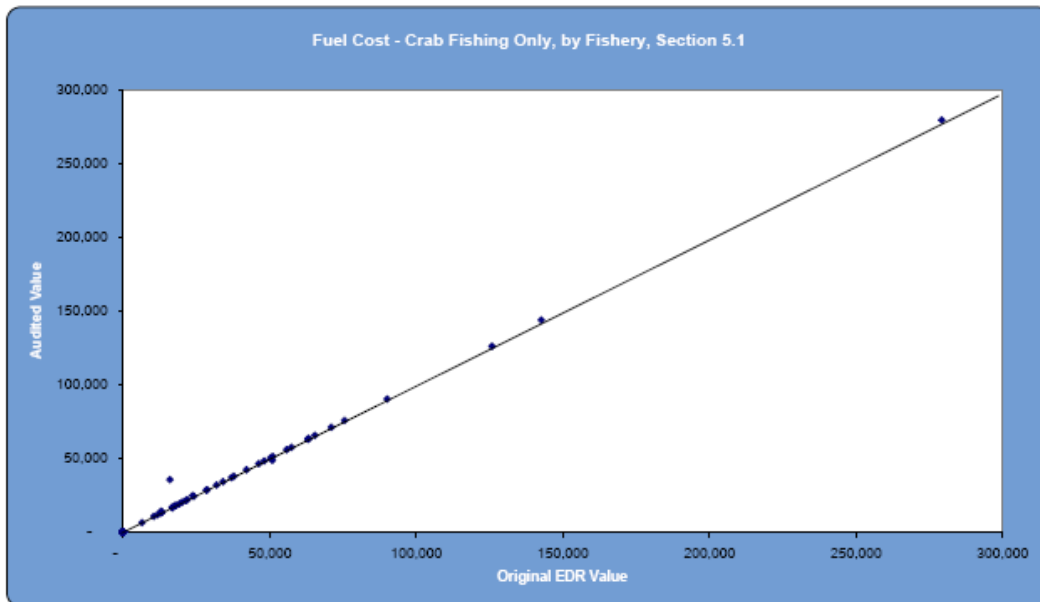
Statistical Analysis

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

## VARIABLES FOR ANNUAL VESSEL DATA - TOTAL AND CRAB ONLY

Total Days at Sea, All Fisheries, Section 6.0
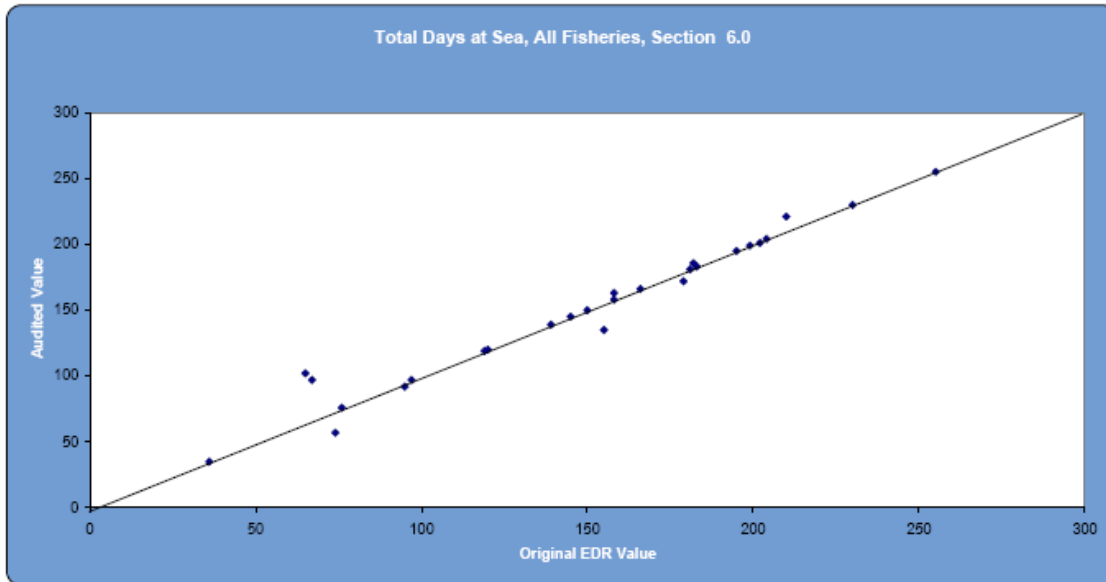
Statistical Analysis

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.

Total Gross Revenue, All Fisheries, Section 6.0
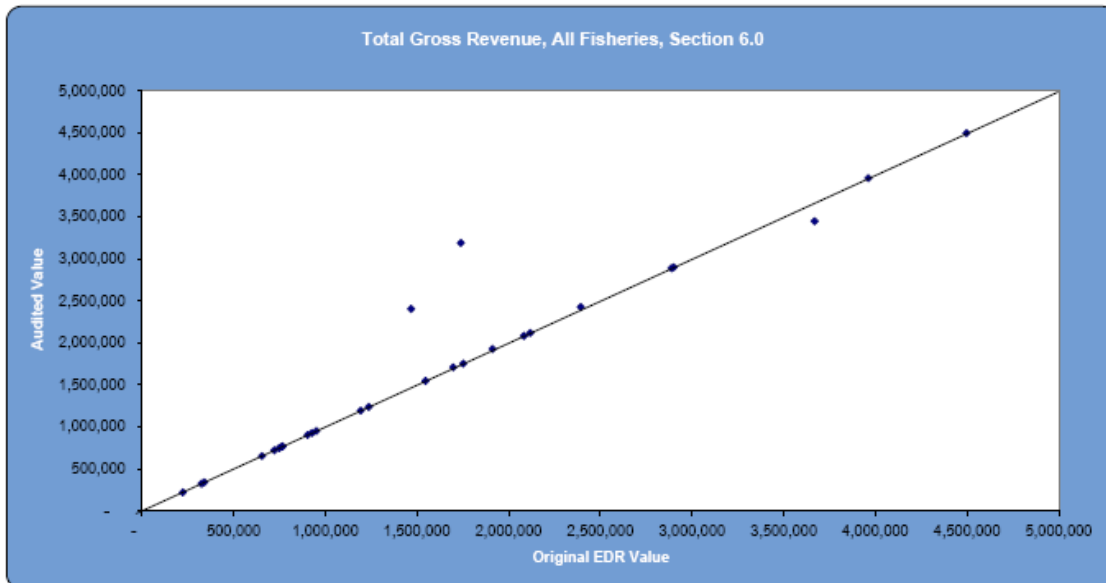
Statistical Analysis

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.

## Total Pounds Retained, All Fisheries, Section 6.0
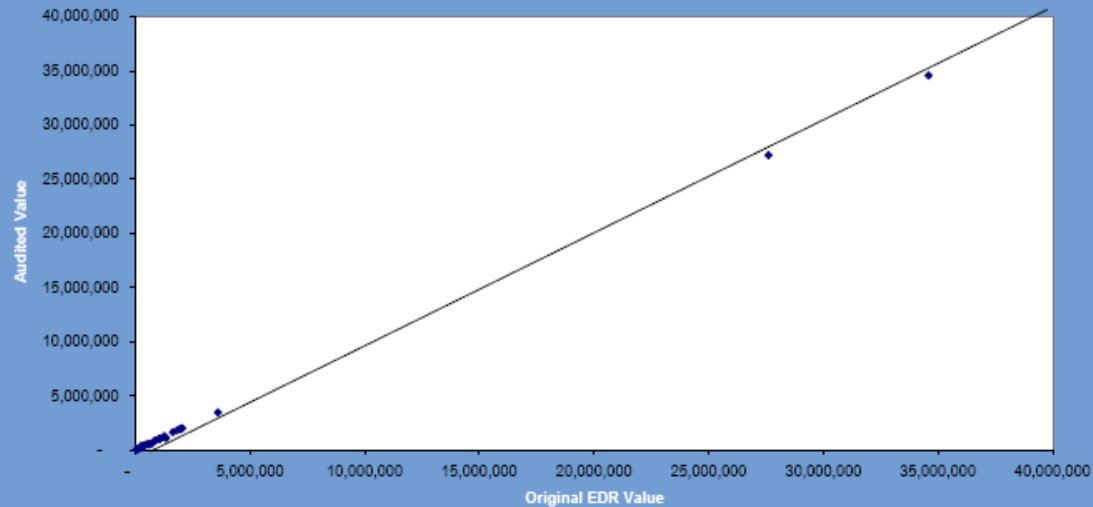
Statistical Analysis

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.

## Total Labor Costs, All Fisheries, Section 6.0
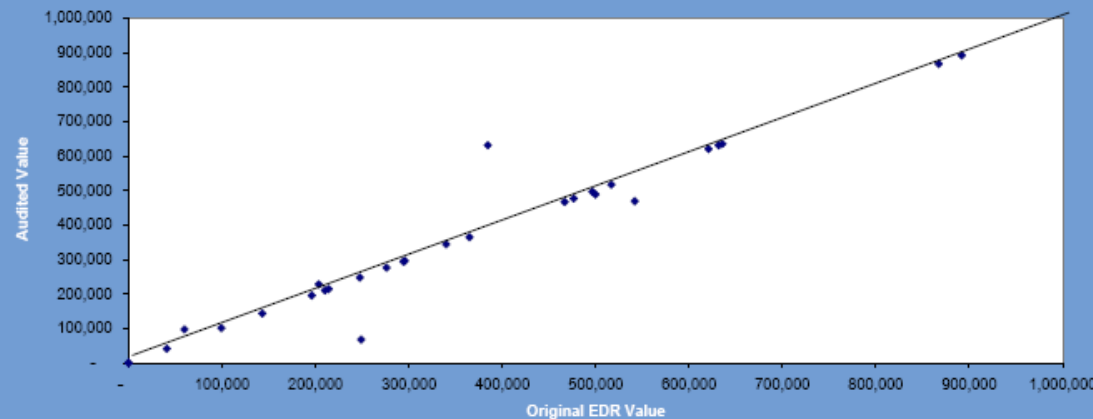
Statistical Analysis

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.

Insurance Premium - Vessel Total, Section 5.2
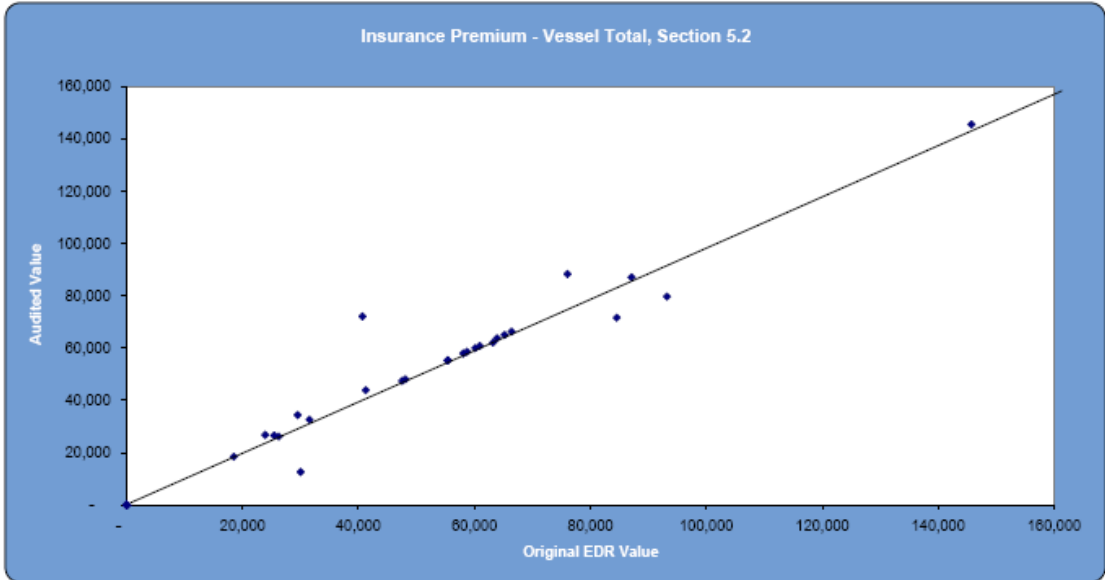
Statistical Analysis

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.

Insurance Premium - Crab Fishing Only, Section 5.1
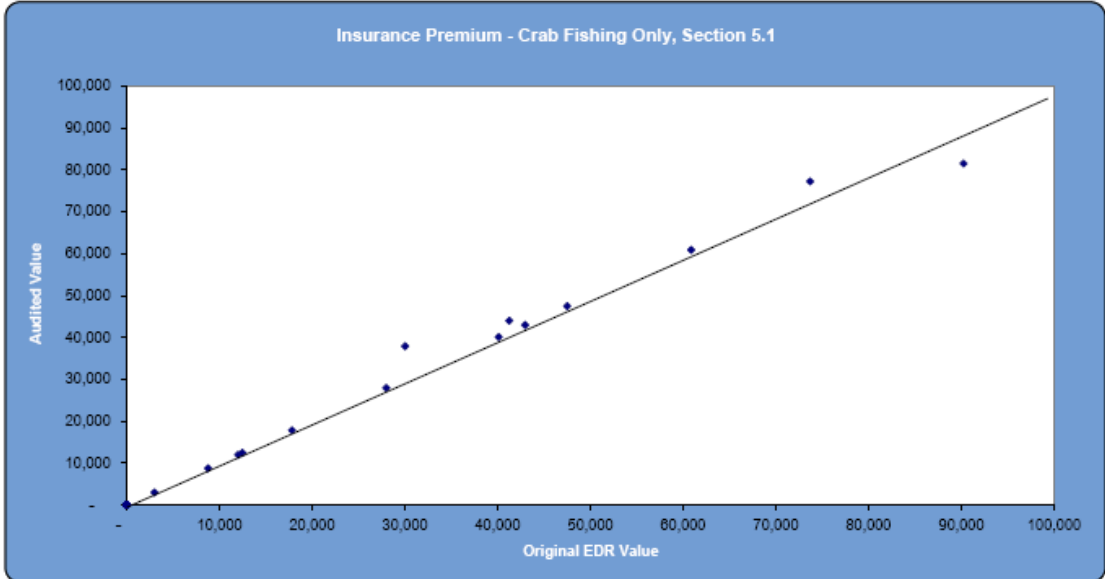
Statistical Analysis

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.

**Insurance Deductible Fees - Crab Fishing Only, Section 5.1**
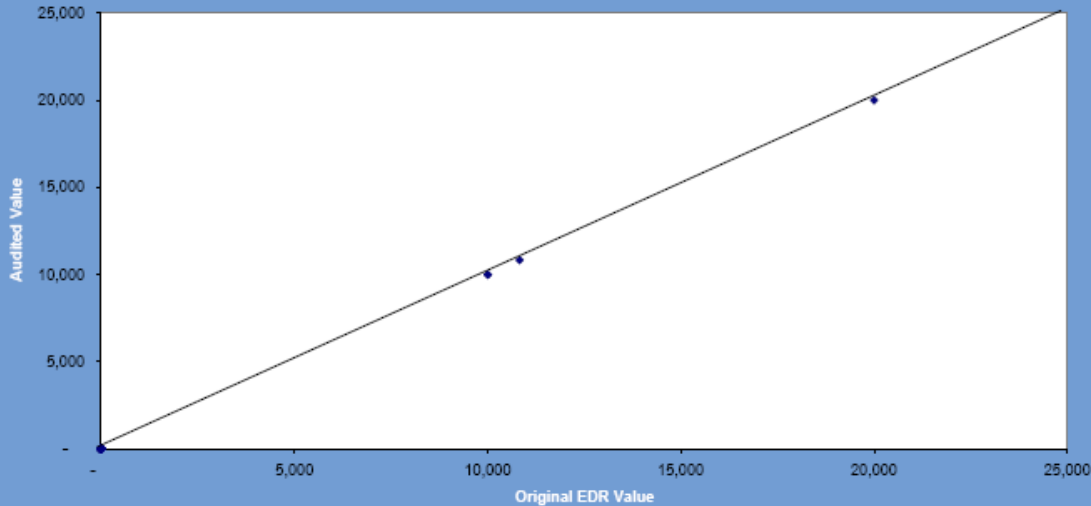
Statistical Analysis

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

**Total Vessel Fuel Cost by Location, Section 5.2**
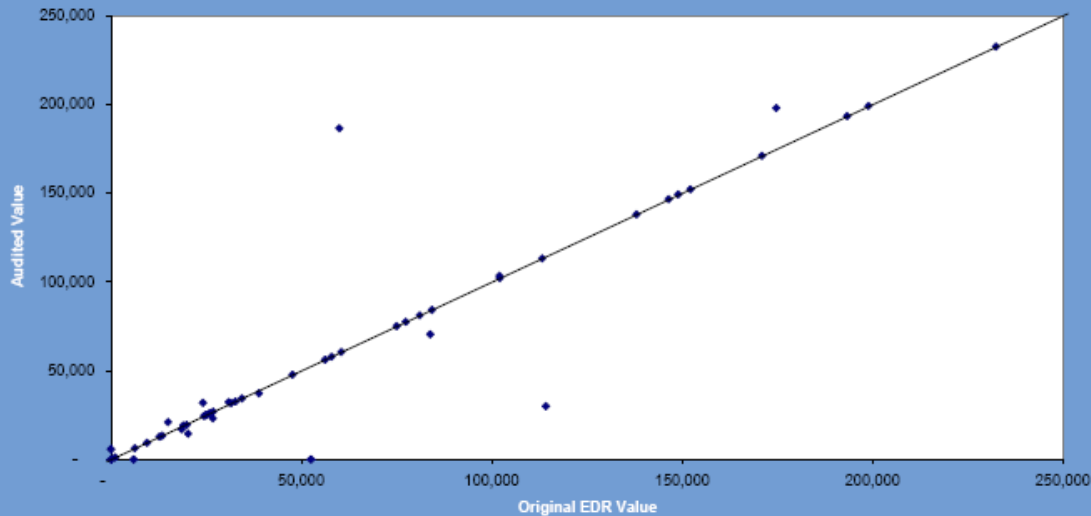
Statistical Analysis

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. 17

**Total Investment in Vessel Gear & Equipment by Location, Section 5.2**
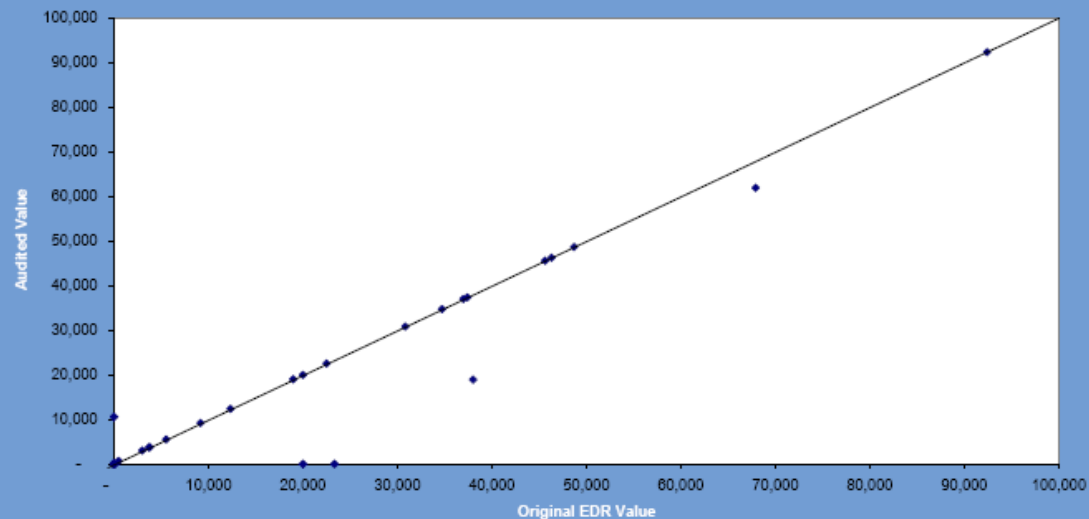
Statistical Analysis

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.


Total Repair & Maintenance by Location, Section 5.2
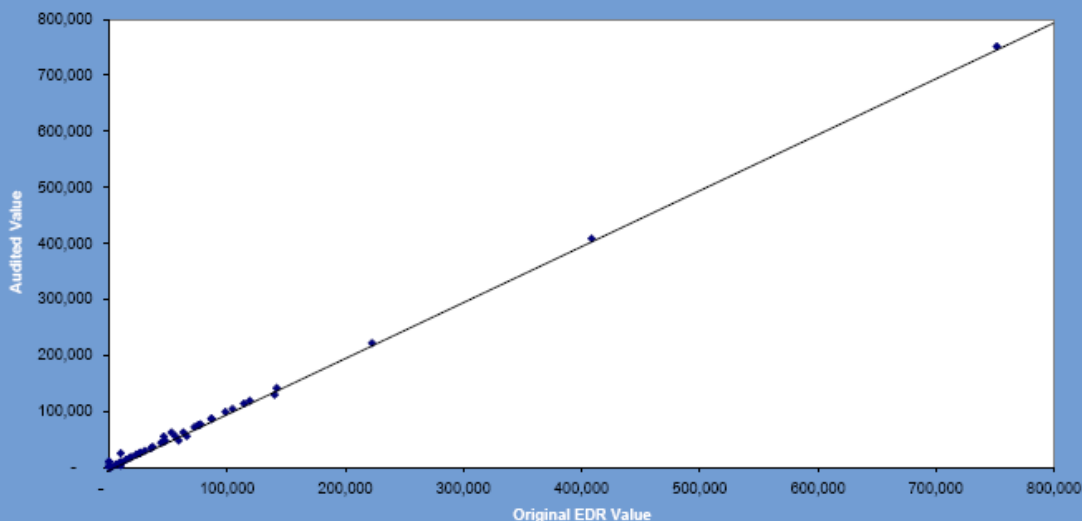
Statistical Analysis

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.

Line & Other Crab Gear Purchased - Crab Only, By Location, Section 5.1
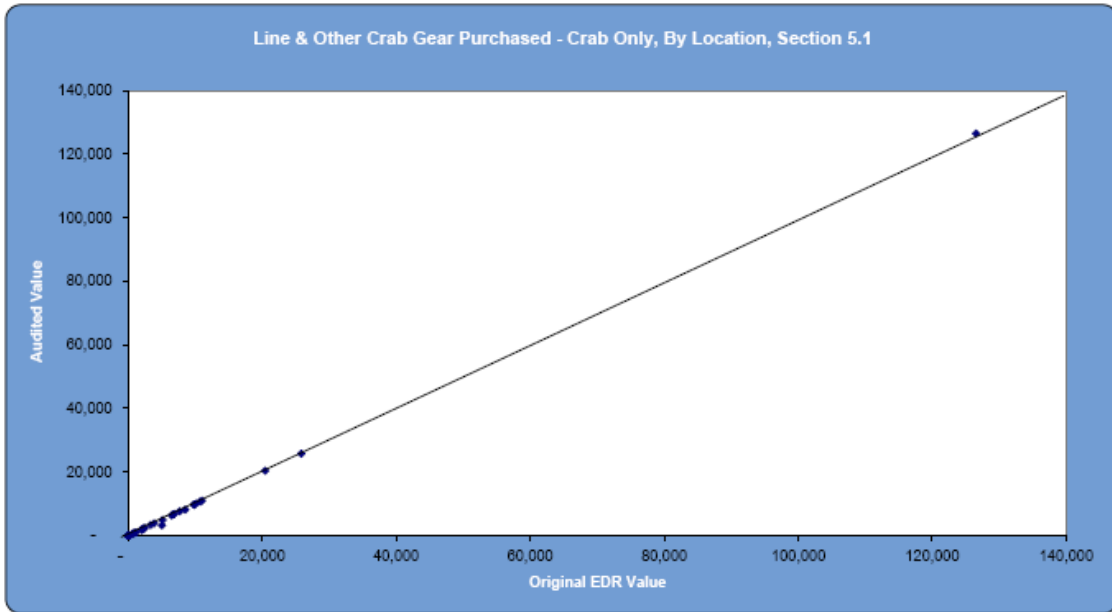
Statistical Analysis

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.
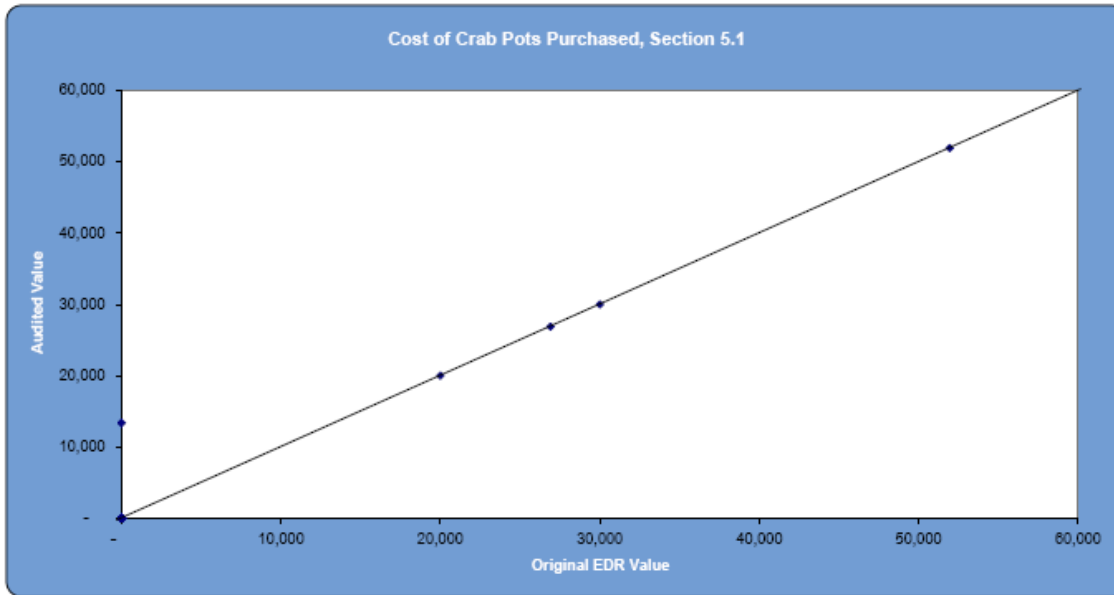
Quantity of Crab Pots Purchased, Section 5.1
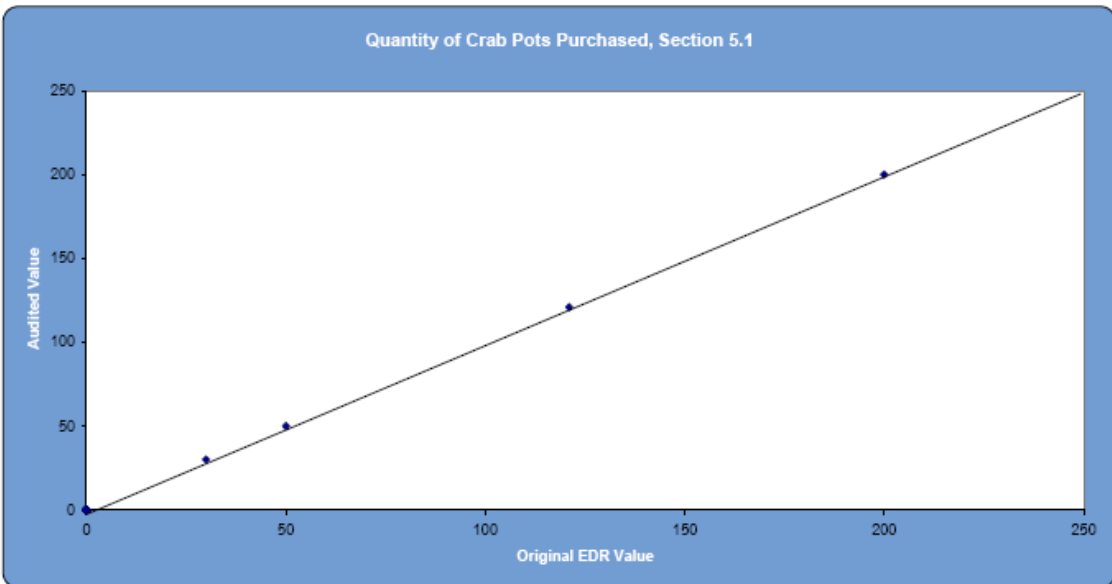
Statistical Analysis

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

Cost of Crab Pots Purchased, Section 5.1

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.

Other Crab Fishing Only Costs, Section 5.1
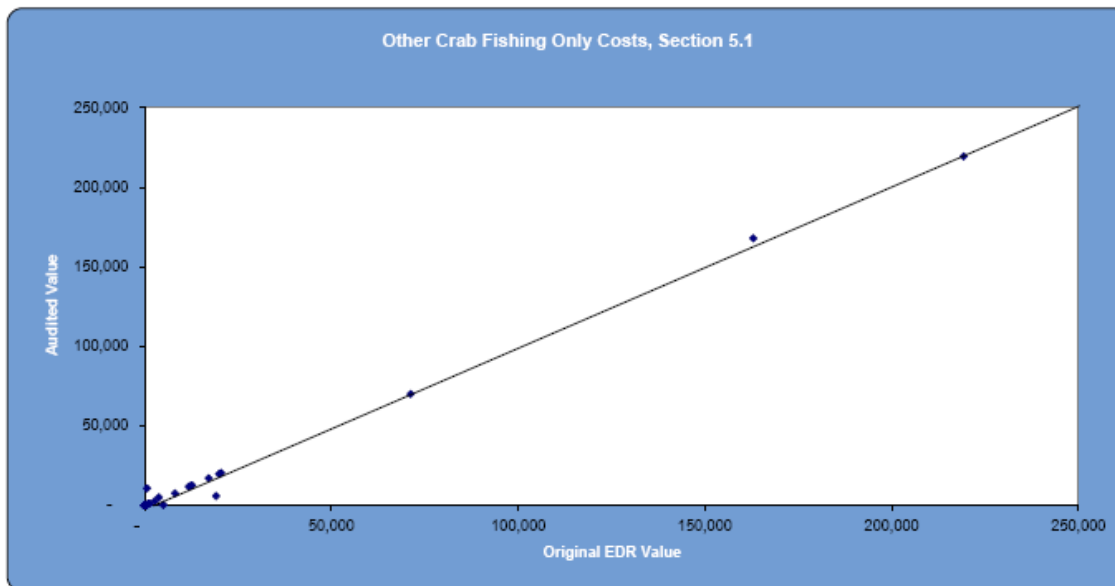
Statistical Analysis

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.

Other Costs - Total Vessel, Section 5.2
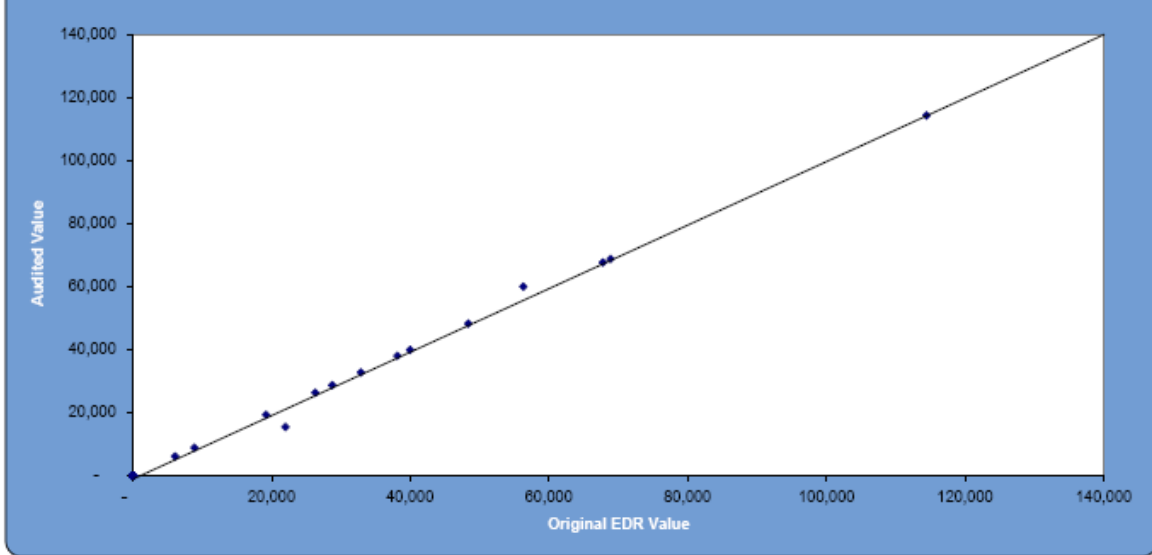
Statistical Analysis

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.

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 following EDR variables are provided below:

- Borough Assessed Value, Certification Page
- Annual BSAI Crab Sales, Section 1.2
- Crab Processing Days by Fishery, Sections 1.0/1.1
- Days Crab Fishing by Fishery, Section 1.0
- Days Traveling and Offloading for Crab, by Fishery, Section 1.1
- Crab Raw Pounds Purchased by Fishery, Section 1.0
- Number of Crab Fishing Crew with Processing Pay by Fishery, Section 4.2
- Crab Processing Man Hours by Fishery, Section 3.1
- Crab Processing Labor Payment by Fishery, Section 3.1/4.2
- Crab Specific Vessel Insurance Premiums by Fishery, Section 7.1
- Crab Specific Vessel Insurance Deductibles by Fishery, Section 7.1
- Crab Specific Vessel Fuel, Lubrication, Liquids Cost by Fishery, Section 7.1
- Crab Specific Vessel Fuel, Lubrication, Liquids Gallons by Fishery, Section 7.1
- Crab Specific Other Vessel Costs by Fishery, Section 7.1
- BSAI Crab Processing Activity, Section 1.0
- BSAI Crab Production, Section 1.2
- Raw Crab Purchases from Delivering Vessels, Section 5.0
- Total Days at Sea, All Fisheries, Sections 7.0/8.0
- Total Processing Days, All Fisheries, Sections 7.0/8.0
- Total FOB Revenue, All Fisheries, Section 7.0/8.0
- Total Finished Pounds Processed, All Fisheries, Sections 7.0/8.0
- Total Pounds Retained, All Fisheries, Sections 7.0/8.0
- Total Labor Costs, All Fisheries, Sections 7.0/8.0
- Total Investment in Vessel Equipment, Sections 6.2/7.2
- Total Repairs and Maintenance, Sections 6.2/7.2

- Total Fuel, Lubricants, Liquids, Sections 6.2/7.2

- Total Insurance Premiums, Sections 6.2/7.2

- Total Number of Employees, Sections 6.2/7.2

- Total Salaries for Employees, Sections 6.2/7.2

- Total Vessel Other Costs, Sections 6.2/7.2

- Crab Only Other Specific Costs, Section 6.1

- Processing and Packing Materials, Crab Only, Section 6.1

- Fish Taxes, Crab Only, Section 6.1

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.

## VARIABLES FOR ANNUAL PROCESSOR DATA BY FISHERY - CRAB ONLY

Crab Processing Days by Fishery, Sections 1.0/1.1
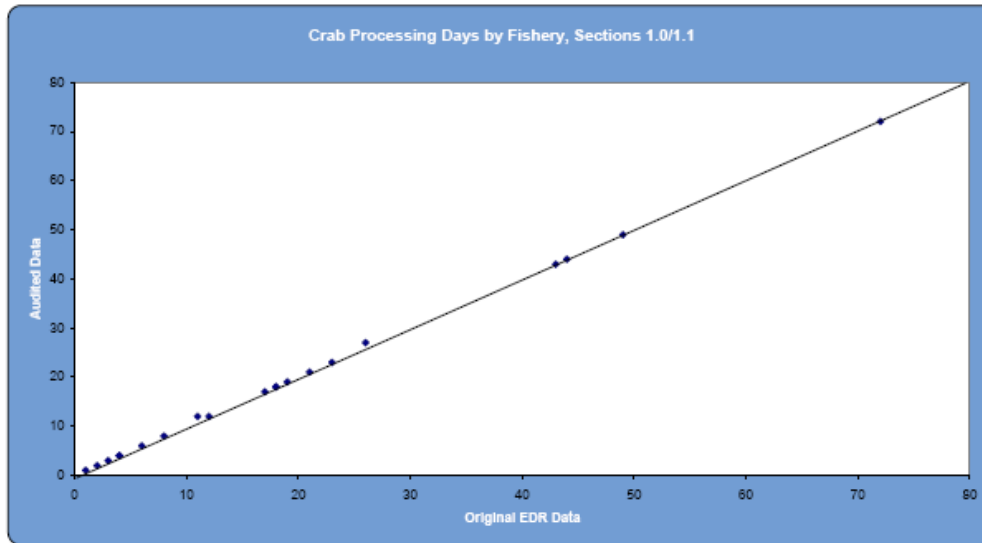
Statistical Analysis

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
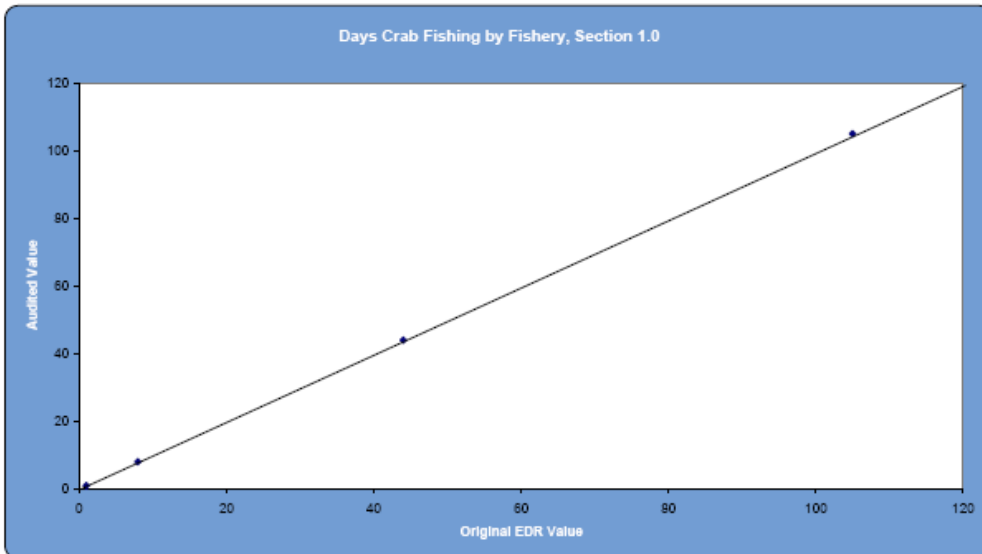
Days Crab Fishing by Fishery, Section 1.0

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

Days Traveling and Offloading for Crab, by Fishery, Section 1.1

NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.
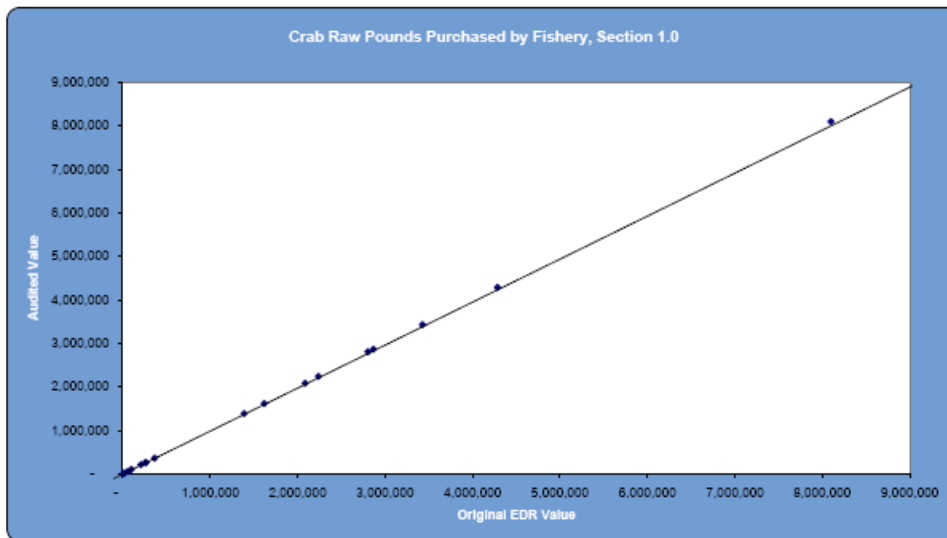
Statistical Analysis

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

Crab Raw Pounds Purchased by Fishery, Section 1.0

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
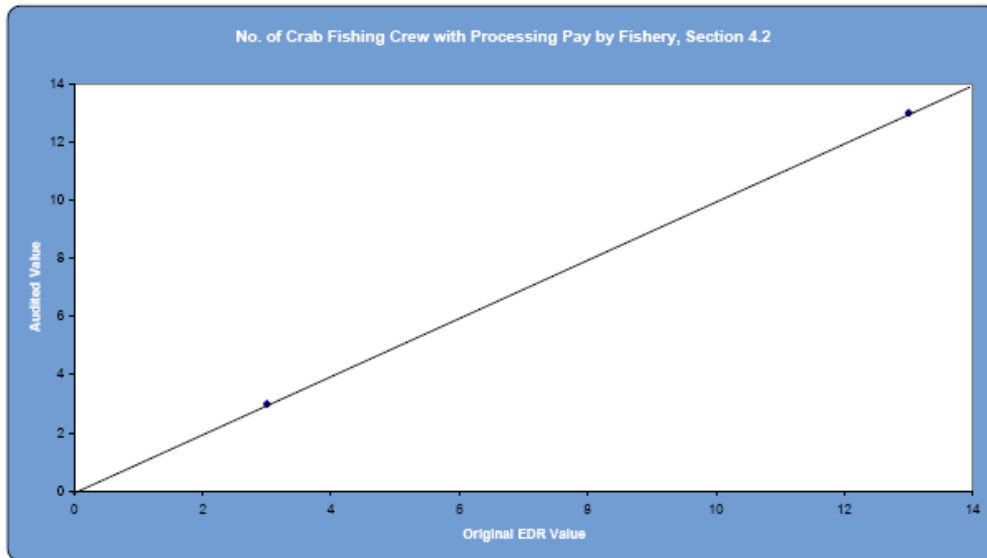
AKT LLP

No. of Crab Fishing Crew with Processing Pay by Fishery, Section 4.2

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

Crab Processing Man Hours by Fishery, Section 3.1
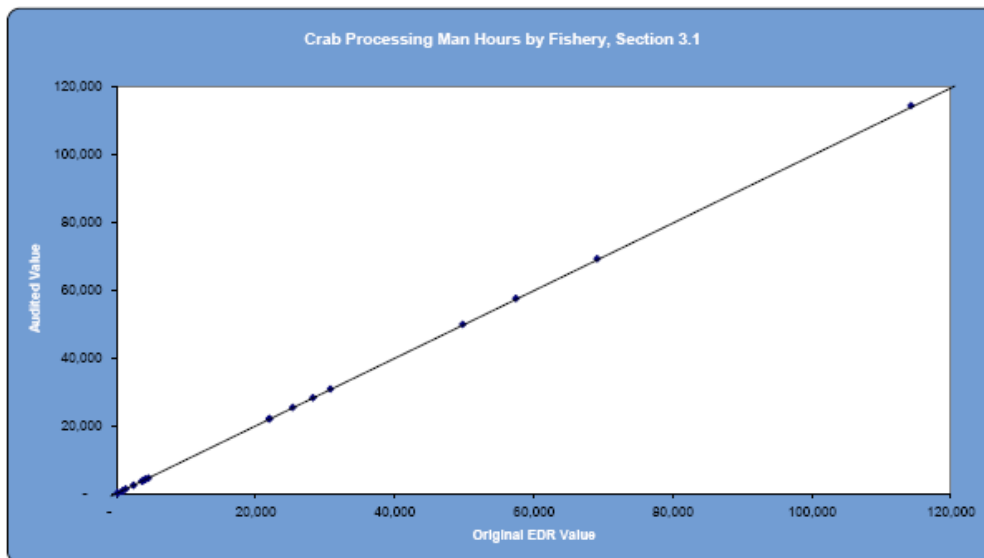
Statistical Analysis

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

Crab Processing Labor Payment by Fishery, Sections 3.1/4.2
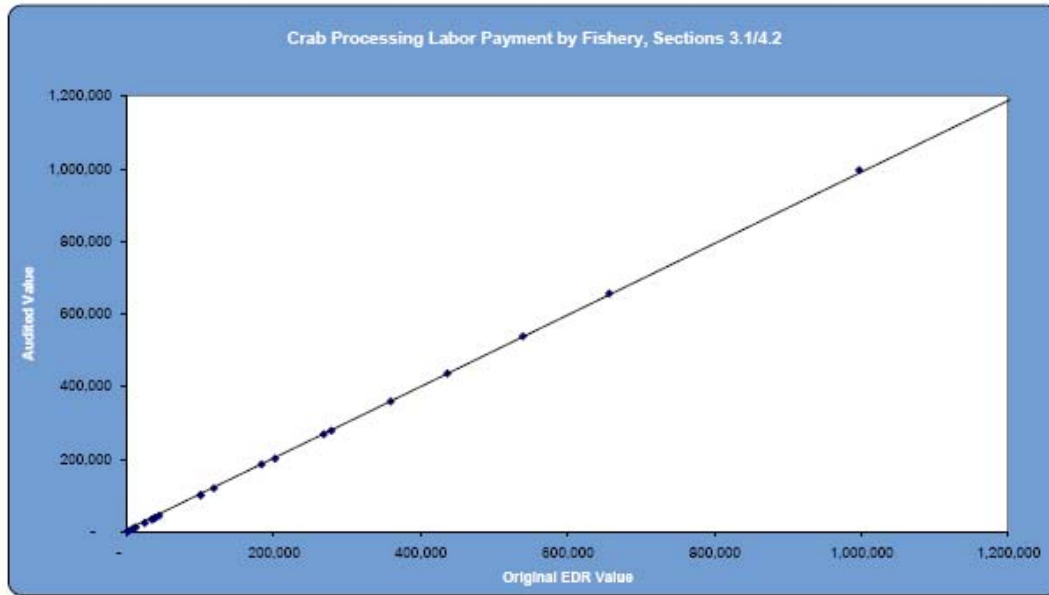
Statistical Analysis

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.

Crab Specific Vessel Insurance Premiums, by Fishery, Section 7.1

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

**Crab Specific Vessel Insurance Deductibles, by Fishery, Section 7.1**

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
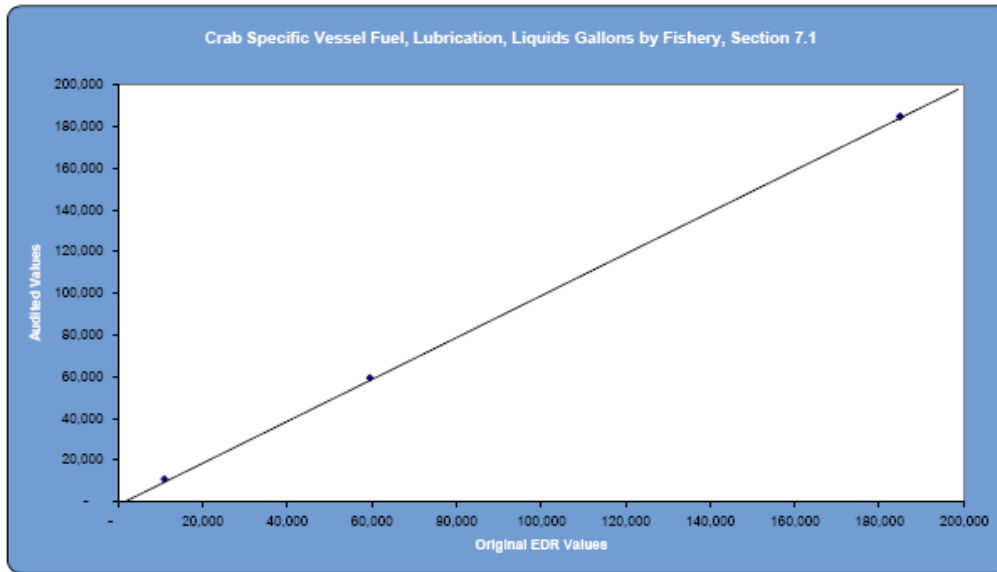0 corrections were made

Crab Specific Vessel Fuel, Lubrication, Liquids Cost by Fishery, Section 7.1

Statistical Analysis

n	4
% Supported	100.00
mean % error	0.00
SD of % error	0.00
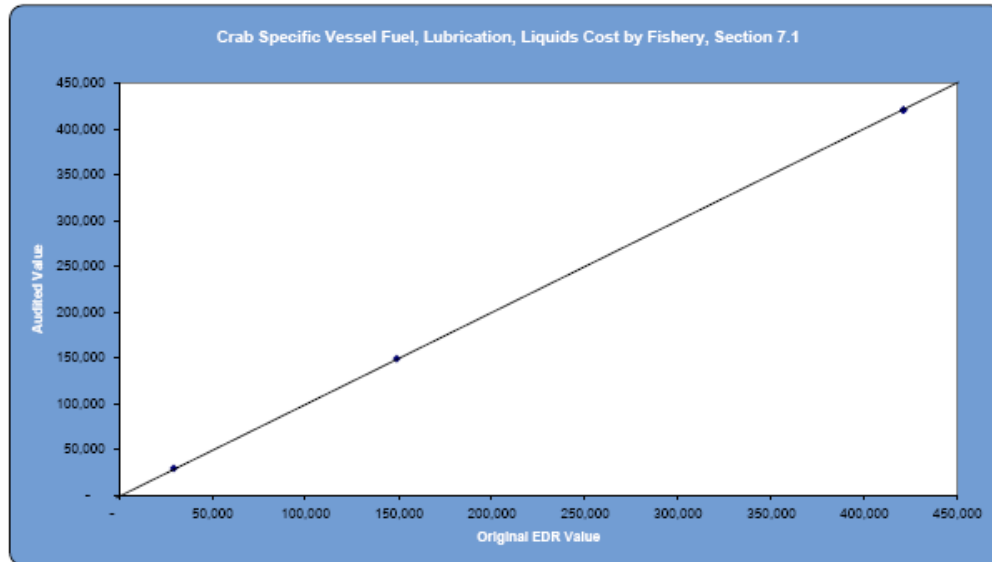
Data Summary
2 catcher processors provided trip summaries for all fisheries
1 catcher processor reported the same value for each fishery, resulting 3 plots.
2 out of 2 catcher processors reported data for this variable
2 processors reported data for multiple fisheries, resulting in n = 4
0 corrections were made

Crab Specific Vessel Fuel, Lubrication, Liquids Gallons by Fishery, Section 7.1

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

Crab Specific Other Vessel Costs, by Fishery, Section 7.1

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.

VARIABLES FOR ANNUAL PROCESSOR DATA - TOTAL AND CRAB ONLY

### Total Days at Sea, All Fisheris, Section 7.0/8.0

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
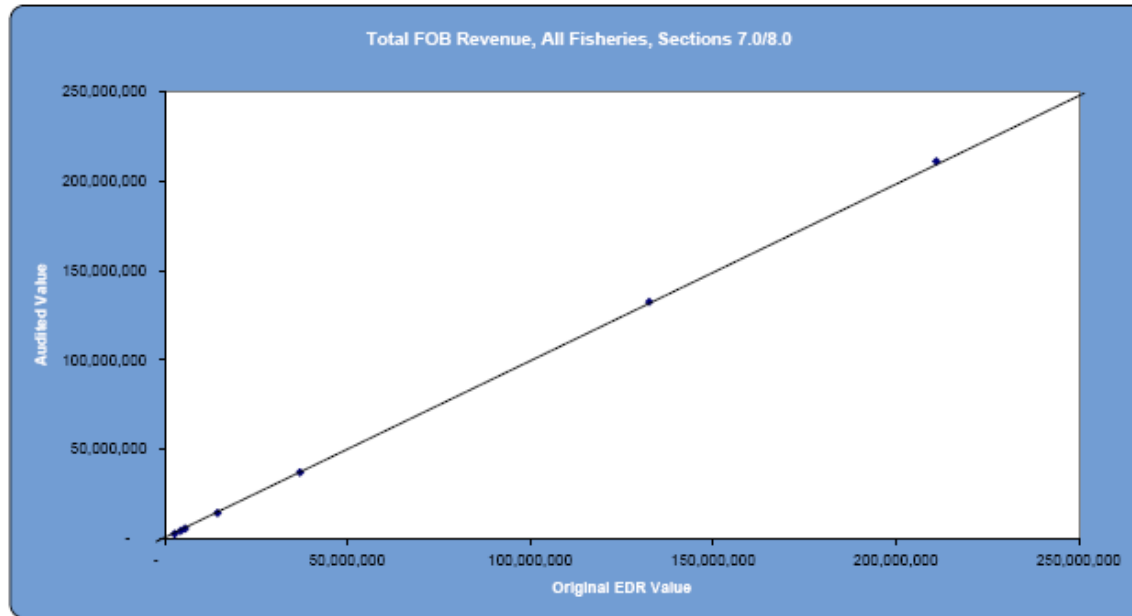0 corrections were made

Total Processing Days, All Fisheries, Sections 7.0/8.0
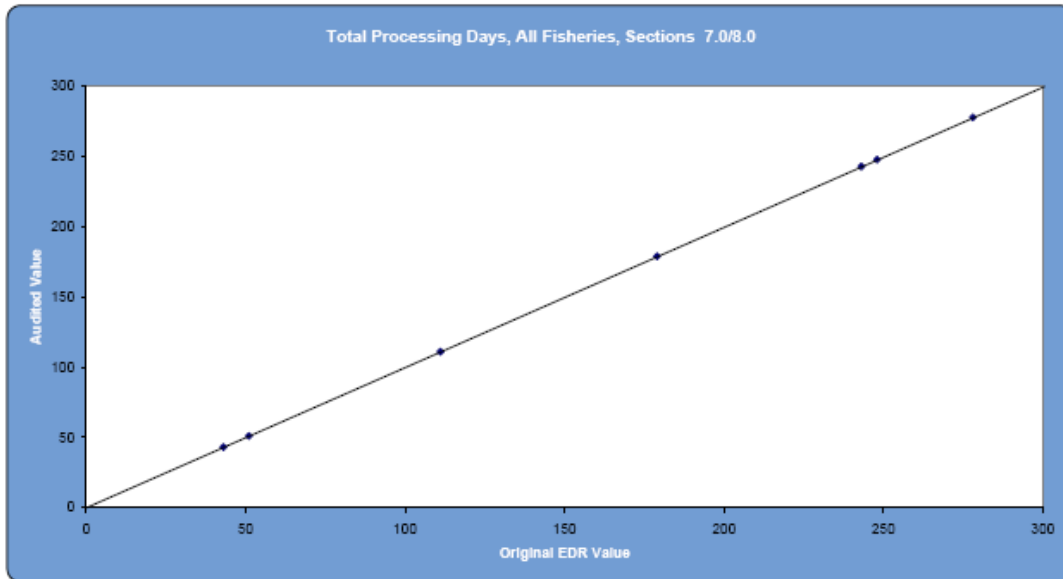
Statistical Analysis

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
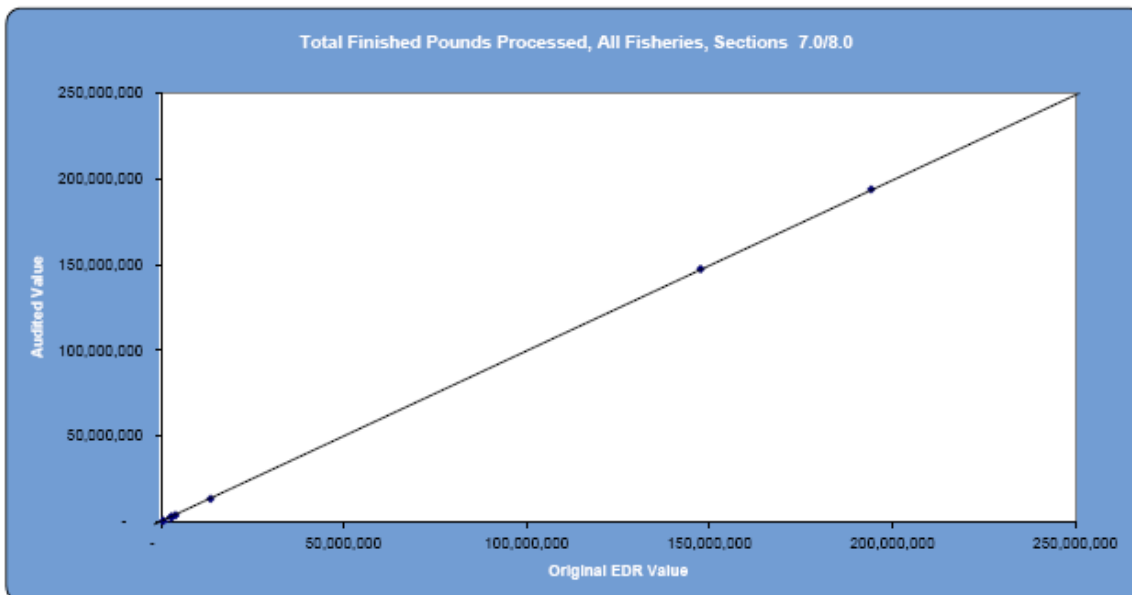0 corrections were made

Total FOB Revenue, All Fisheries, Sections 7.0/8.0

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

Total Finished Pounds Processed, All Fisheries, Sections 7.0/8.0

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

Total Pounds Retained, All Fisheries, Sections 7.0/8.0

NOTE: Due to confidentiality protocols, the graphical values for this variable will not be presented.
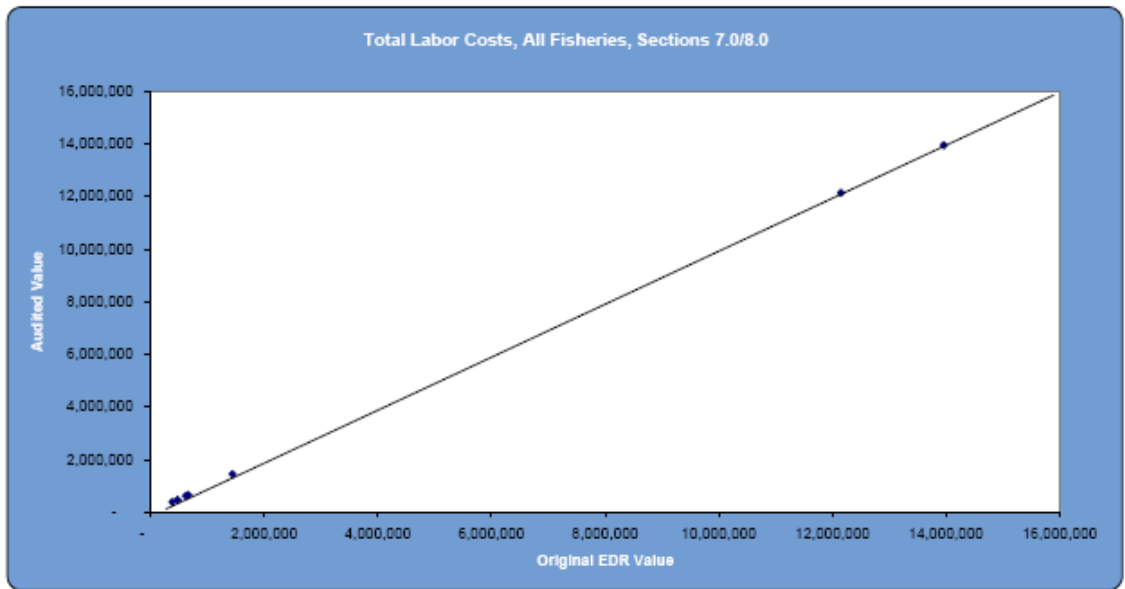
Statistical Analysis

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

### Total Labor Costs, All Fisheries, Sections 7.0/8.0

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.

**Total Investment in Vessel Equipment, Sections 6.2/7.2**

Audited Value vs. Original EDR Value
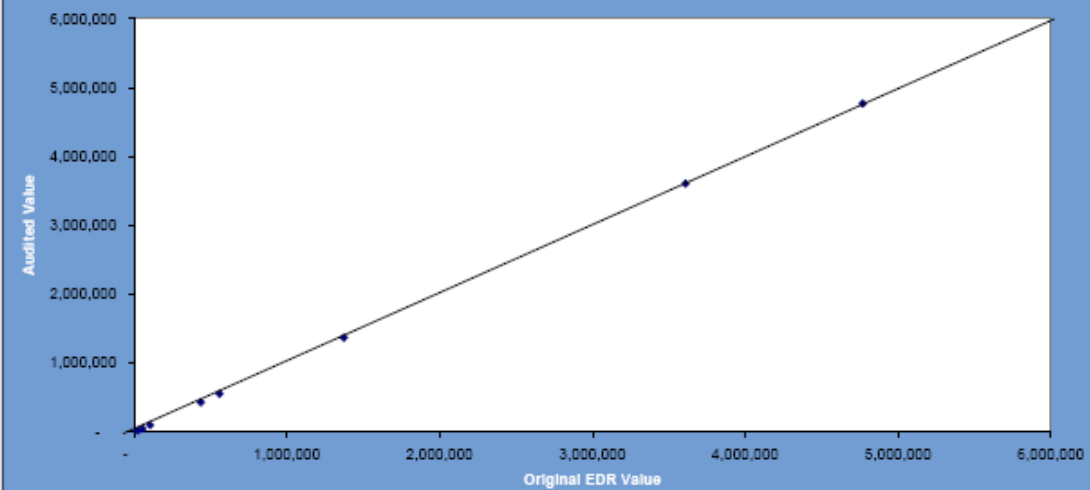
Statistical Analysis

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 processor provided 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


Total Repairs and Maintenance, Sections 6.2/7.2

Audited Value vs. Original EDR Value
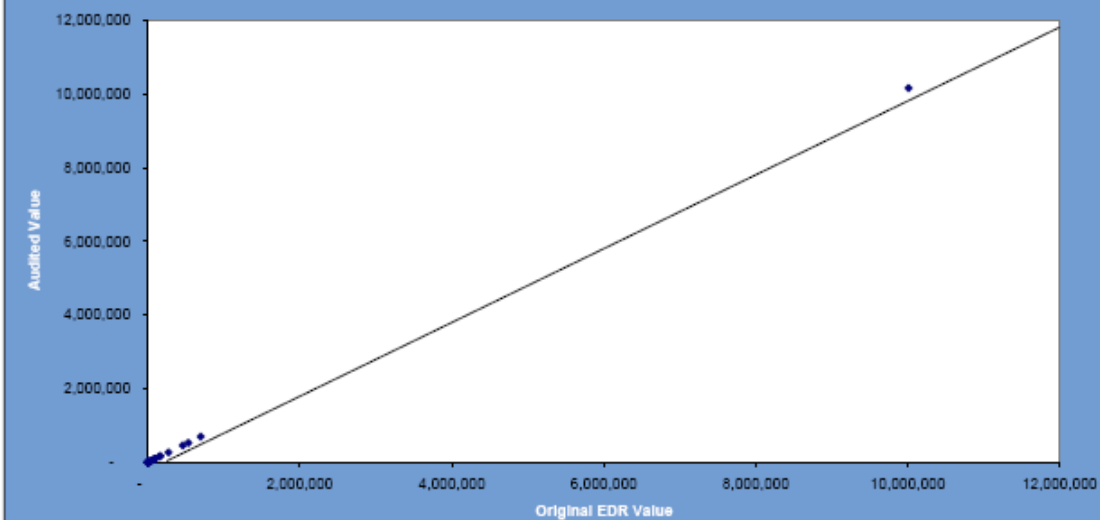
Statistical Analysis

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.

Total Fuel, Lubricants, Liquids, Sections 6.2/7.2
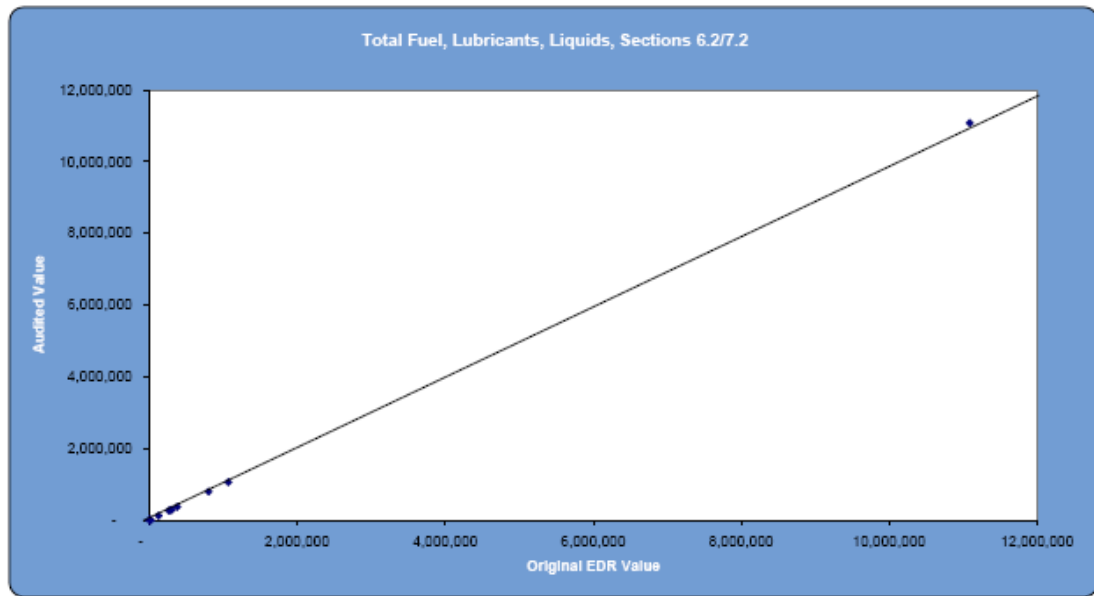
Statistical Analysis

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

Total Insurance Premiums, Sections 6.2/7.2

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
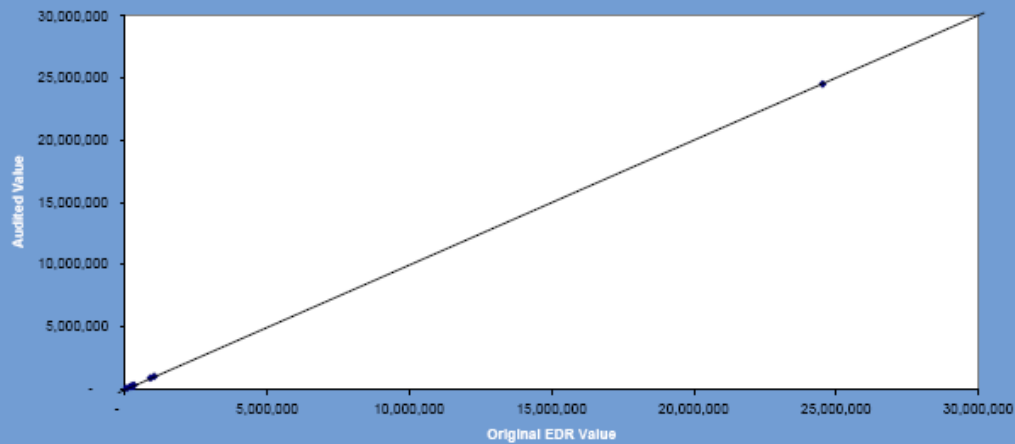
Total Number of Employees, Sections 6.2/7.2
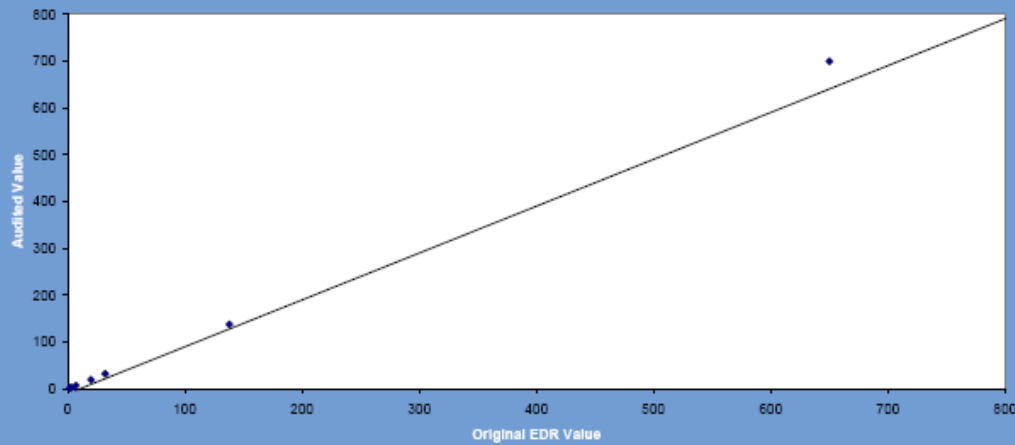
Statistical Analysis

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.

## Total Salaries for Employees, Sections 6.2/7.2

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.

Total Vessel Other Costs, Sections 6.2/7.2
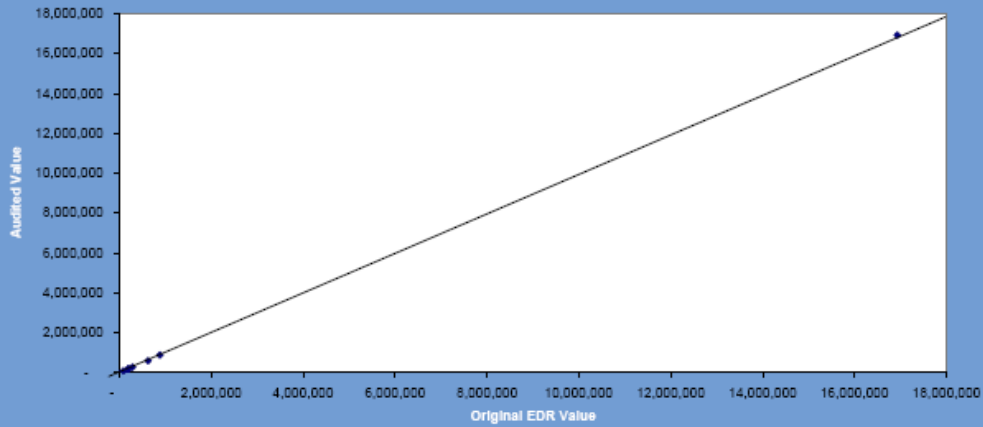
Statistical Analysis

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.

Crab Only Other Specific Costs, Sections 6.1

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

Processing and Packing Materials, Crab Only, Section 6.1
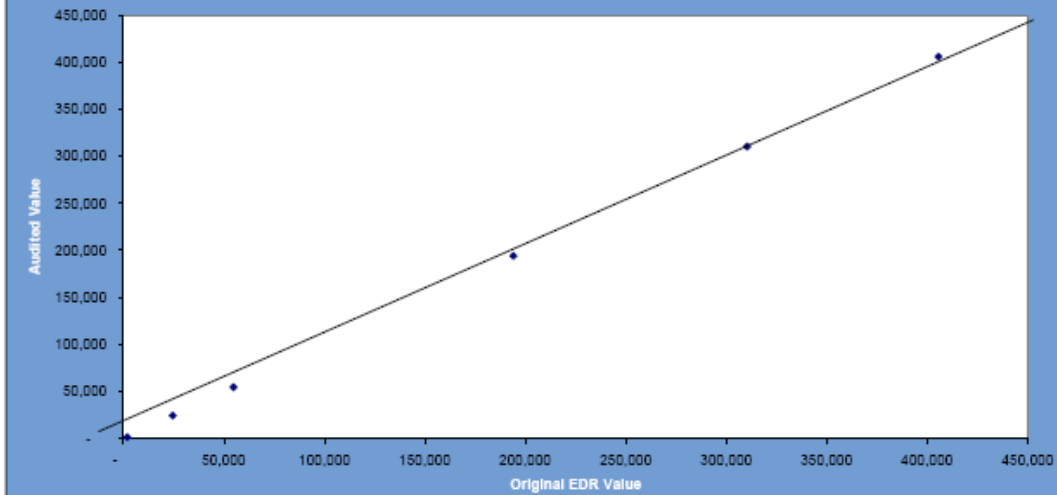
Statistical Analysis

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

Fish Taxes, Crab Only, Section 6.1
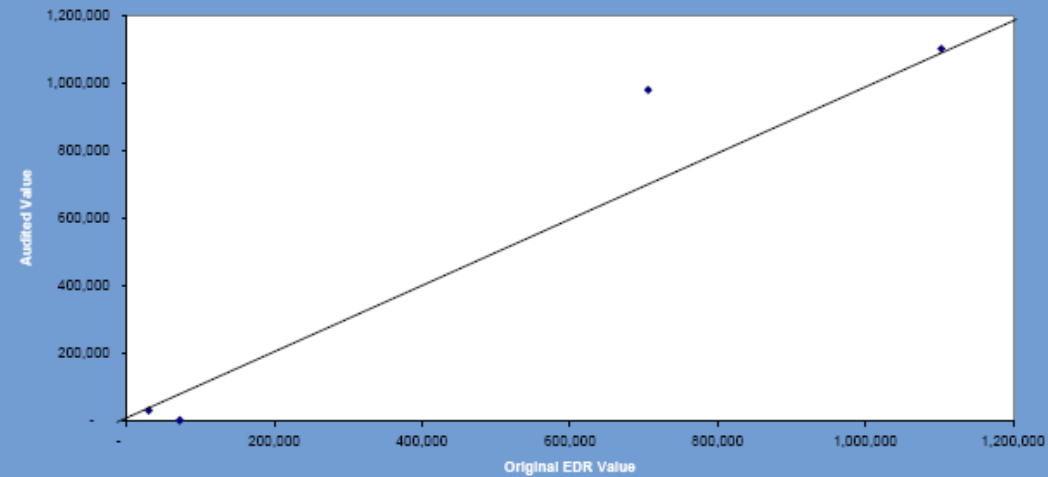
Statistical Analysis

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

Borough Assessed Value, Certification Page

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.