Council Update on the Amendment 91 Chinook Salmon Economic Data Report Program

January 2014, Alaska Fisheries Science Center

1. Introduction

The purpose of this report and presentation is to update the Council on the status of the Amendment 91 Chinook Salmon Economic Data Report (EDR) program and related data collection measures implemented in relation to Amendment 91 to the BSAI Groundfish FMP. The report includes the following:

- A review of the Council's objectives and process for the development and implementation of this data collection;
- Summary of details regarding the administration of the 2012 Chinook EDR data;
- A summary of empirical results from the 2012 Amendment 91 data collection;
- A report on ongoing collaborative efforts between industry members and NMFS and Council staff to implement the EDR program, minimize EDR submitter burden, and ensure data quality standards and that the Council's stated objectives for the data collection program are met; and
- A discussion of the benefits and challenges of the data collection during 2012 and 2013.

The Amendment 91 EDR program is managed primarily by the Alaska Fisheries Science Center (AFSC), with support from NMFS Alaska Region, and is administered in collaboration with Pacific States Marine Fisheries Commission (PSMFC). The EDR is a mandatory reporting requirement under 50 CFR 679.65 for all entities participating in the American Fisheries Act (AFA) BSAI pollock trawl fishery, including vessel masters and businesses that own or lease[1] one or more AFA-permitted vessels active in fishing or processing BSAI pollock, CDQ groups receiving allocations of BSAI pollock, and representatives of Sector entities receiving allocations of Chinook salmon prohibited species catch (PSC) from NMFS. The EDR program is comprised of three separate survey forms[2]:

- Chinook salmon PSC Allocation Compensated Transfer Report (CTR)
- Vessel Fuel Survey
- Vessel Master Survey

Distinct conditions that require an entity to submit one or more of the respective forms are discussed in more detail below. In addition to the EDR program, the data collection measures developed by the Council also specified modification of the Daily Fishing Logbook (DFL) for BSAI pollock trawl CVs and CPs (implemented in for the 2012 fishing year) to add a "checkbox" to the tow-level logbook record,

[1] For the sake of clearer exposition, "vessel owners or leaseholders" as a group are referred to collectively as "vessel owners" hereafter in this report, except where a relevant distinction pertains.
[2] Amendment 91 EDR forms can be accessed online at http://www.alaskafisheries.noaa.gov/sustainablefisheries/bycatch/salmon/chinook/edr/default.htm.

requiring vessel operators to indicate instances when a vessel fishing pollock in the BSAI changed fishing locations, prior to each tow, for the primary purpose of avoiding Chinook salmon PSC. For AFA CPs, this information is recorded in the Trawl CP Electronic Logbook (ELB) and submitted to NMFS via the eLandings system. Vessel movement data collected from CPs for the 2012 fishing year is summarized later in the report, although the number of observations is extremely limited. The DFL for trawl CVs is not submitted to NMFS in a form that permits electronic data capture, so vessel movement data for pollock CVs remains unavailable pending implementation of an Electronic Logbook for trawl CVs or the digitization of logbook data.

In summary, the Vessel Fuel Survey and Vessel Master Survey have been successfully implemented to collect data from all active AFA vessels and have yielded substantial new information that will be useful for analysis of Amendment 91. However, to date, very little information has been collected through the logbook checkboxes or the Compensated Transfer Report (CTR) form. With more standardization and communication with vessel operators, the checkbox can be made more useful. Whether or not the current information collected in the CTR is adequate to meet the Council's intent in the data collection is unclear and is discussed further in Section 5.2.

This report provides evidence of both successes and limitations of these data collections at a very early point in the process of compiling a multi-year stream of data. Any conclusions that may be drawn regarding the importance of addressing limitations of the data collections, and an appropriate timeline for considering modifications, are left to future deliberations. One purpose of this report, however, is to identify potential problems in the design or implementation of the data collections and opportunities for improvements that could make the data collection more efficient in the use of submitters' time and resources and effective in producing information critical to the Council decision-making process.

2. Amendment 91 Economic Data Report (EDR) Background

In developing Amendment 91, the Council determined that fisheries data available through existing sources would be insufficient to adequately monitor implementation of management measures under the amendment. The Council subsequently recommended a data collection program to supplement existing data and support analysis of the effectiveness of Amendment 91 in reducing Chinook salmon PSC and to assess any changes in the yield of pollock. The Council's December 2009 purpose and need statement recommended that this data be used to address four components of Amendment 91:

- Understand the effects and impacts of the Amendment 91 IPAs, the higher and lower PSC hard caps, and the performance standard;
- Evaluate the effectiveness of the IPA incentives in times of high and low levels of salmon PSC, and the effectiveness of the performance standard to reduce salmon PSC;
- Evaluate how Amendment 91 affects where, when, and how pollock fishing and salmon PSC occur; and
- Study and evaluate conclusions drawn by industry in the IPA annual reports.

In its final motion on the Amendment 91 EDR, the Council recommended implementing new data collection measures as summarized below:

1. Transaction data for salmon and pollock, including:
    a. IPA and AFA Cooperative reports, summarizing the assignment of Chinook PSC and pollock quota to each participating vessel at the start of each fishing season, and all in-season transfers of Chinook and pollock PSC;
    b. Compensated Transfer Form, to collect the quantity and price of Chinook PSC, and quantity of pollock PSC, in all PSC transfers in which there is a monetary exchange for PSC transferred from one party to another;
2. A logbook checkbox, incorporated into exiting AFA vessel logbooks, to collect data at the tow-level regarding movement of the vessel for the primary purpose of Chinook PSC avoidance;
3. A vessel fuel usage survey, to collect average hourly fuel use rates for fishing and transiting and quantity and cost of annual fuel purchases to be used to estimate costs of moving vessels to avoid salmon PSC; and
4. A vessel master survey, to determine rationale for decision making during the pollock season (fishing location choices and salmon PSC reduction measures).

Subsequent to the Council's final action on the EDR program in 2009, industry representatives worked with AFSC economists, AKRO, and Council staff members to refine EDR survey forms, clarify instructions, and develop and improve the administrative process for implementing the annual data collection. An initial workshop was held at AFSC on June 21, 2010 to review the original drafts of the three Amendment 91 EDR forms and solicit input on any needed modifications. With minor revisions resulting from the workshop, the draft forms were reviewed by the Council in October 2010 and approved with some additional modifications to the Vessel Fuel Survey and Vessel Master Survey forms recommended by the Advisory Panel. At the same time, the Council reviewed the draft Proposed Rule implementing the new data collection measures, including the EDR program, addition of the salmon movement checkbox to the Daily Fishing Logbook (CV's) and Electronic Logbook (CP's), and additional requirements for IPA Annual Report regarding PSC sub-allocations and in-season transfers[3].

The final rule to implement the above measures went into effect March 3, 2012[4]. Although the Chinook PSC reduction measures under Amendment 91 itself were implemented for the 2011 pollock fishing season, the new data collection measures required the affected entities to initiate new in-season recordkeeping systems beginning in 2012. As a result, the earliest feasible administration of annual EDR reports was to collect data for the 2012 pollock season, with an initial EDR submission due date of June 1, 2013. Submission requirements for each of the three forms are contingent on the entity's role and activity in the AFA Pollock Fishery as defined under Amendment 91, and include conditions for certification-only submission with exemption from data reporting portions of respective EDR forms. Requirements are as follows:

[3] Available at http://www.npfmc.org/wp-content/PDFdocuments/bycatch/ChinookBycatchEDR910.pdf.
[4] See **77 FR 5389** (February 3, 2012) for details; http://www.alaskafisheries.noaa.gov/frules/77fr5389.pdf.

- Compensated Transfer Report
  - Certification: An owner or leaseholder of an AFA-permitted vessel and the representative of any entity that received an allocation of Chinook salmon PSC from NMFS must submit a CTR, Part 1, each calendar year, for the previous calendar year.
  - Fully completed CTR: Any person who transferred Chinook salmon PSC allocation after January 20, and paid or received money for the transfer, must submit a completed CTR (Part 1 and Part 2) for the previous calendar year.
- Vessel Fuel Survey
  - An owner or leaseholder of an AFA-permitted vessel must submit all completed Vessel Fuel Surveys for each vessel used to harvest pollock in the Bering Sea in a given year.
- Vessel Master Survey
  - For any AFA-permitted vessel used to harvest pollock in the Bering Sea in the previous year:
    - The vessel master must complete the Vessel Master Survey and the Vessel Master certification following the instructions on the form, and
    - An owner or leaseholder must submit all Vessel Master Surveys and each Vessel owner certification following the instructions on the form.

Two features of the EDR program posed unique challenges for NMFS' and PSMFC's administration of the annual data collection process compared to the BSAI Crab and Amendment 80 EDRs implemented previously. As specified in the final rule, all Amendment 91 EDR forms must be submitted electronically. In addition, the rule requires that: a) for any AFA-permitted vessel used to harvest BSAI pollock, the vessel master must complete and certify a Vessel Master Survey form; and b) the vessel owner must certify and submit all Vessel Master Surveys. These specifications required the development of new IT infrastructure and other survey administration protocols by AFSC and PSMFC in the course of implementing the program, as well as substantial coordination with EDR submitters and industry representatives prior to and during the data collection in April-June of 2013. Related administrative details are described further below in Section 3.

Initial development of administrative protocols and software to support electronic data submission began in early 2012, and AFSC and PSMFC staff met with industry representatives in June of 2012 to present a prototype web portal and online versions of the three EDR forms, as well as associated procedures for distributing login credentials for secure online access to enable use and submission of the electronic forms. Several issues related to the Vessel Master form were identified at the meeting, most importantly issues concerning ambiguity in determining which individual captains employed by AFA vessel owners would be required to complete survey forms[5], and the procedures for vessel owners to assign, certify, and submit survey forms completed online by their captain(s). As it would be necessary for vessel owners to make determinations regarding which individual captains would complete the Vessel Master Surveys, it was requested that the prototype web portal be modified to

[5] There is no regulatory definition of "Vessel Master" as used in the Amendment 91 EDR regulations that is applicable to groundfish trawl vessels, and not all individuals identifiable in in-season catch accounting or other reporting systems are employed as vessel captains.

enable vessel owners (or authorized administrative staff) to generate and assign vessel master user accounts to the appropriate captains. Additional questions addressed the definition of compensated transfers as described in the CTR form, and additional guidance from NMFS was requested to clarify standards for compliance in submission of Vessel Master Survey and CTR forms. To the extent possible, such guidance was provided in the form of additional instructions incorporated into the online EDR forms as well as supplementary guidance distributed to EDR submitters prior to the start of the data collection period in April 2013, as described in the final section of this report.

3. **Overview of 2012 Annual Amendment 91 EDR Implementation and Data Submission**

Because of previous experience in implementing the BSAI Crab and Amendment 80 EDR programs, PSMFC was contracted by AFSC to support of the Amendment 91 EDR. All EDR data collection for the 2012 fishing year has been completed. This section provides an overview of information compiled by PSMFC staff during the process of implementing the online EDR survey forms, identification and notification of specific entities of requirements for 2012 EDR submission, and communications and submitter support during the data collection. Details regarding EDR response and compliance rates are also provided.

The contact list for all AFA vessel owners (including both primary and secondary owners), CDQ groups, Inshore Cooperative representatives, and Sector Entity representatives determined to be subject to EDR reporting requirements was constructed in consultation with NMFS AKR staff. On March 26, PSMFC distributed notices by certified mail to the identified contacts, describing the requirements for EDR submission and instructions for accessing the online survey forms using the included secure login credentials[6].

Table 1 displays the counts, by entity-type and EDR form, of individual entities that received notices, submitted certification-only EDRs, and submitted completed EDR forms. Extensive efforts on the part of EDR submitters and PSMFC staff were expended to work through procedures for online EDR submission, assign Vessel Master forms, and provide the required data elements during the EDR collection period that began April 1 through the submission due date on June 1, and for some weeks thereafter. In all, 147 vessel owner entities were notified by PSMFC to submit one or more portions of the EDR. Of these, six were determined to be no longer active in the pollock fishery or no longer were owners.

Due to complications encountered with the web portal, as well as confusion among many entities regarding EDR submission in general, late EDR submissions past the June 1 due date were accommodated. As of July 1, 2013, one month after the EDR due date, five entities had not completed the EDR requirement, and PSMFC enlisted the assistance of NMFS Office of Law Enforcement in contacting the last two entities, who completed and certified the final EDR forms on August 16, 2013, and January 6, 2014, respectively.

[6] Copies of all mailings distributed to EDR submitters by AFSC or PSMFC are available on request from the AFSC Economics and Social Science Research Program.

Table 1: Number of EDR submitters and rates of response and on-time certification

Entity Type	Contacted	Certified	Certified on-time	Completed
Vessel Owner	141[1]	141	108 (77%)	107 (76%)
CDQ Group	6	6	4 (67%)	0 (0%)
Cooperative	7	7	5 (71%)	0 (0%)
Sector/IPA Representatives	3	3	2 (67%)	0 (0%)

[1] Of the 141 current AFA vessels for which owners notified, there were total of 115 distinct vessel entities contacted, several of which owned and submitted EDR forms for multiple vessels.

Following consultation with industry representatives in April, 2012, the EDR web portal was improved to enable vessel owners to identify and assign a Vessel Master Survey form to one or more individual captains for each of their vessels that were active in the 2012 pollock fishery; vessel owners could complete the survey form themselves as an owner/operator as well as assign forms to one or more other captains for each vessel. Upon assignment of a Vessel Master Survey and entry of a valid email address for the assigned captain, the web portal generated an email message to the captain with login credentials and instructions for accessing and submitting the online survey form.

Because the online EDR forms were not available for submission of the EDR until April, 2013, industry members were previously advised to distribute PDF or paper copies of the Vessel Master Survey form to captains for the purpose of recording survey responses as close as possible to the end of the 2012 pollock season to ensure the best possible recall of conditions and events. As a result, a number of vessel owners had collected copies of the Vessel Master form completed and certified by their captain(s) on paper. Instructions for proxy certification and submission of transcribed Vessel Master Survey responses by vessel owners were distributed by email through industry representatives and incorporated into the web portal. In all, 144 Vessel Master Survey forms were completed and submitted, of which 99 were completed and submitted online by an assigned captain, and 45 were submitted by vessel owners/representatives as either owner/operators or as transcribed forms submitted on behalf of the captains.

4. Summary of Data Collected, 2012 Amendment 91 EDR

The following sections summarize and provide preliminary analysis of data collected in the 2012 EDR.

4. 1 Chinook PSC Compensated transfer report (CTR)

For 2012, no compensated transfers were reported by any entity. Further discussion of this result and concerns regarding interpretation and intent of the CTR form that arose during the 2012 EDR are discussed further below.

4.2 Fuel survey

An owner or leaseholder of an AFA-permitted vessel must submit all completed Vessel Fuel Surveys for each vessel used to harvest pollock in the Bering Sea in a given year. Vessel operators are required to report the total annual quantity of fuel loaded onto the vessel, the total cost of that fuel, and the

average annual rates of fuel consumption while fishing and transiting while engaged in the pollock fishery. Data reported for all vessels active in the 2012 BSAI pollock fishery are summarized in Table 2 below[7].

Table 2: Vessel Fuel Survey Results (Preliminary)

SECTOR	Annual average fuel consumption rate (gallons per hour), mean (sd)		Annual fuel purchases & expenditures, mean (sd)	
	Fishing	Transiting	Gallons	Cost ($ US)
CP	251 (91)	227 (98)	1,022,189 (421,163)	$3,615,112 (1,453,522)
CV	154 (453)	116 (379)	199,734 (188,221)	$765,548 (706,411)
MS	179 (263)	148 (227)	247,475 (393,468)	$849,125 (1,184,979)

4.3 Vessel Master Survey

Captains of vessels used to harvest AFA or CDQ pollock allocations in the Bering Sea are required to complete the Vessel Master Survey, which provides qualitative information regarding their experience operating the vessel in the fishery and efforts to avoid salmon PSC. The survey form includes 11 questions on different topics, and combines 7 categorical response questions (yes/no) with 10 open-ended response questions. Frequencies are reported for each of the categorical questions below, and an overview of common themes in written responses to each of the open-ended questions is provided. More formal methods of qualitative data analysis are planned, which will permit statistical analysis to associate the qualitative information collected in the survey with vessel PSC rates and levels to attempt to better understand differences among vessels as part of forthcoming Amendment 91 analysis.

The general goal of the Vessel Master Survey as expressed by the Council is "to determine rationale for decision-making during the pollock season (fishing location choices and salmon PSC reduction measures)." Analysts expect to gain on-going insight into a number of aspects of fishing, such as 1) what aspects of the IPAs impact the pollock fishery the most; 2) how year-to-year conditions in markets, stock conditions, and the environment impact salmon PSC outcomes; and 3) whether there were special events for some vessels that led to their high or low PSC outcomes.

That this is a census of all vessel operators is very useful as a means to understand the experiences of all vessels participating in the fishery. Analysts often seek and receive input from individuals but it is not always clear if a skipper's anecdotal account of conditions is unique or common. The survey ensures that all vessel operators have an equal and systematic opportunity for input into ongoing analyses of Amendment 91.

[7] Fuel survey data summarized in Table 2 was examined for outliers and a total of seven anomalies were detected. On inspection, four outliers were identifiable as data entry errors where either too many or too few digits were entered and an edited value could be readily imputed. Three anomalies consisted of omitted data; average values for vessels of the same size class were imputed for missing values. These values will be refined after additional analysis.

The fisher responses to both the yes/no and open-ended questions from the vessels master survey are recorded below. Common answers and those that seem informative are summarized, and yes/no questions are recorded by sector.[8]

Q1. If the vessel participated in an Incentive Plan Agreement (IPA), did the IPA affect your fishing strategy? [_] YES [_] NO

VESSEL_TYPE	Yes	No	% Yes
CP	12	5	71%
CV	74	20	79%
MS	19	2	90%

If YES, please describe and discuss what incentives had the largest impact on your strategy.
Respondents reported a number of impacts that suggest that A91 is effective at changing behavior. Primary responses include:

- Many vessels report they always pay attention to bycatch rates.
- Operators report avoiding historically high bycatch areas.
- Captains report more communication within the fleet.
- Respondents report faster movement away from bycatch when it occurs.
- Vessels slow down and inspect catch more between hauls.
- Operators report that they avoid salmon "sign" on their fishfinders.
- In response to this question, some skippers reported using salmon excluders.

Several respondents also reported t negative economic impacts on the pollock fishery of the IPAs:

- Many vessels reported more steaming time and fuel usage.
- Respondents noted an inability to fish in some historically high-value roe areas.
- A number of captains reported having to fish on small fish because they cannot afford to have lower catch rates that could increase bycatch.
- Several vessels reported that they had to go to areas where there are no catch or bycatch reports, which increases costs.

Q2. Did the amount and/or cost of Chinook PSC allocation available to the vessel lead you to make changes in pollock fishing operations? [_] YES [_] NO

VESSEL_TYPE	Yes	No	% Yes
CP	13	4	76%
CV	74	20	79%
MS	20	1	95%

[8] Note: In the yes/no questions, catcher vessels were considered to be in the Mothership (MS) sector if 50 percent or more of their hauls were delivered to motherships in 2012.

If YES, please describe.

This year there were many overlapping responses between question 1 and 2.

Responses:

- Vessels reported avoiding recently and traditionally high-salmon areas.
- Vessels reported that they avoided Chinook to be able to catch all their pollock.
- Several respondents noted that Sea State reports were useful.

Negative economic impacts on the pollock fishery:

- Respondents reported that they had to target salmon with less roe.
- Vessels left areas of high bycatch for less productive areas.
- Vessels travelled farther and caught smaller fish.

Q3. How would you compare the Chinook salmon bycatch and pollock conditions during the A and B seasons this year relative to the last two years? Please describe any unique aspects of the season.

Responses:

- Many respondents reported that there was less A-season area to fish this year because of ice. [9]
- Several captains reported more competition and conflict with other fisheries, leading to more Chinook bycatch.
- Several respondents reported less pollock on the fishing grounds.
- "Less Chinook" – several respondents said this was the case for the last 2 years.
- Several captains reported fishing shallower to avoid salmon.
- "About the same" – also several vessels
- Rolling hotspots caused movement further from shore
- For B season, one vessel mentioned that 2012 was different than in the captain's decades of experience, with no fishing available east of 170.
- Several vessels reported that they stood down for a period the previous year but learned from that experience and did not have to stop fishing at any point in 2012.

4. Did Chinook salmon bycatch conditions cause you to delay the start of your pollock fishing or otherwise alter the timing of your pollock fishing for some period during the past A and/or B season? [_] YES [_] NO

[9] Many respondents mentioned this here and in question 8 that asks about weather and ice conditions.

VESSEL_TYPE	Yes	No	% Yes
CP	0	17	0%
CV	35	59	37%
MS	11	10	52%

If YES, please describe the Chinook salmon bycatch condition, when it occurred, and any change in your pollock fishing as a result.

Responses:

- "Always waiting on reports to decide where to fish."
- One operator noted that the SSIP requires test tows in new area, leading to more wear and tear.
- Several captains report that they began the B season earlier and began the A season cautiously.
- "September trip -- searched mid trip and had to go home not full."
- One vessel operator reported switching from targeting pollock to targeting cod when Chinook bycatch increased, then back when bycatch declined.

Q5. In the past year, did you end a trip and return to port early because of Chinook salmon bycatch conditions? [_] YES [_] NO If YES, please indicate the number of trips that this occurred in each season (use a checkmark √ to indicate appropriate answer for each season).

VESSEL_TYPE	Number of respondents reporting 1-3 delays in A-season	Number of respondents reporting 1-3 delays in B-season
CP	1	0
CV	8	11
MS	0	0

Q6. Please describe how any area closures or restrictions for the purpose of reducing Chinook salmon bycatch affected where and how you fished.

Responses:

The following responses were offered by many respondents.

- Vessels, unsurprisingly, reported that they avoided closure areas. Some commented that they did this regardless of their tier status and several noted that they avoided a larger area than the actual closure.
- Vessels reported that they traveled more, burning more fuel.

Q7. Please describe how any regulatory or other area closures or restrictions for a purpose other than reducing Chinook salmon bycatch affected where and how you fished.

Responses:

- Chum closures
- Herring closure
- "Closures near Dutch"
- "Some SSL closures are good fishing areas."
- Pribilof closures
- None
- "Leads to smaller fish and more tow time; more flatfish, squid."

Q8. Compared to a typical year, did weather or sea ice conditions have more, less, or about the same impact on fishing as in a typical year? Please describe especially if there were particularly uncommon conditions at any point this year. If these conditions had an impact on your ability to avoid Chinook salmon bycatch, please describe.

Responses:

- One of the most common answers was " the same"
- Ice limited available fishing areas, pushed fishing deeper
- Ice led to more pollock schooling, smaller fish.
- Mostly people reported that ice didn't impact bycatch, but some said it made it higher
- One CV reported that weather wasn't great, which slowed down fishing
- One person commented that it could have pushed them right into salmon bycatch, but didn't.
- Only one comment about summer fishing, that it was normal.

One respondent made comments about 2013 A-Season fishing, indicating that there is the possibility of confusion if the survey is completed after the A season following the reporting period.

Q9. Were there exceptional factors that affected your pollock fishing this year? For example, were there unusual market or stock conditions, unusual pollock fishing conditions, or maintenance problems? Please describe.

Responses:

- "Smaller fish, mostly the same year class"
- Several people said they wished the quota had been lower; one said this was to allow fish to grow.
- "Lots of vessel movement to avoid fish"
- One CV reported that there was poor roe, regardless of fish size.
- "Fishing was good in June"
- "High fuel prices"
- "Chum closure led to switch to other fishery"
- Several operators reported gear conflicts in winter.
- One operator: "No fish on "slime bank"
- One CV operator reported that "pollock was way to the Northwest." Another commented that there was "no fish on the slime bank."
- "All examples [in the question] are cyclical – no two years the same"
- Some vessels reported mechanical issues, which will help analysts to understand non-participation in some years may be driven by those problems rather than fishing or bycatch conditions.

Q10. Separate from an Incentive Plan Agreement, were there other incentives for you to reduce Chinook salmon bycatch? [_] YES [_] NO

VESSEL_TYPE	Yes	No	% Yes
CP	9	8	53%
CV	61	33	65%
MS	17	4	81%

If YES, please describe.

Select responses:

- The skipper bycatch award
- Many operators reported that they were influence by pressure from a variety of groups: owners, CDQ groups, "peers", other cooperatives, and members of their cooperative.
- Numerous respondents reported that they avoided Chinook because it is "the right thing to do" is a "moral responsibility," or they gratified for "clean fishing" or "good stewardship."
- Several operators reported that they were influenced by "politics" and the "public view".
- "I wasn't out there to catch salmon"
- "We go above and beyond to not catch salmon, but nothing is for sure."
- "I care about my reputation. I don't want to be on the dirty list."

Q11. Did actual or potential bycatch of species other than Chinook salmon cause you to change your harvesting decisions during the pollock season? [_] YES [_] NO

VESSEL_TYPE	Yes	No	% Yes
CP	10	7	59%
CV	63	31	67%
MS	11	10	52%

If YES, please describe.

Responses:

- Chum
- Halibut
- Herring
- Red king crab
- Squid
- "Squid and halibut a concern in the corner."
- Atka mackerel
- "Baby pollock".

4.4 Salmon movement checkbox

Beginning in early 2012, catcher processors had a checkbox to record salmon bycatch related vessel movement in their electronic logbook forms. However, a very limited number of vessels utilized the vessel movement checkbox in 2012 or 2013 with only a few observations (7) recorded.

5. Discussion of different components to the Amendment 91 EDR

Below a discussion of each component of the Amendment 91 EDR is provided. Please note that the Council would be asked for input on any proposed changes that we believe would improve the survey.[10] The survey for the 2013 fishing season is currently available online. Data can be entered beginning in April and must be completed by June 1, 2014. *For the second year of the survey, the questions will be identical to those in Year 1.* In later years, changes could be made to make the survey easier to complete which would reduce burden and hopefully elicit better information.

5.1 Vessel Master Survey Discussion

Several questions arise in examining the Vessel Master Survey.

- *Did respondents give useful and forthright answers?*

The responses to the survey appear to be useful and to provide insight into pollock fishing and salmon bycatch conditions. 2012 was a very low Chinook bycatch year, so there were not large numbers of vessels approaching their Chinook PSC allocations. We would expect the survey questions about years with higher Chinook PSC to provide more nuances and different explanations among vessels. We cannot tell if respondents are strategically responding to the survey, but there are a wide range of responses that provide useful information beyond any question of whether or not the IPAs and hard cap are changing behavior. It is unclear whether it is in respondent's interests to voluntarily convey any information that is inconsistent with the Council's stated objectives for the program.

- *How do we reduce the burden of the survey?*

The first year completing a survey of this nature is always the most difficult. A small number of respondents voiced frustration with either having to describe their fishing experience or thought the questions were obvious. It is likely that others felt the same way. Going forward, we will further evaluate the questions and discuss whether questions can be combined or re-ordered to elicit better responses. As several years of data are gathered and common responses are identified, some multiple choice questions may be created that would make it easier for respondents to complete and analysts to utilize.

Already, several possibilities arise for means to improve the survey. Questions 1 and 2 were intended to distinguish between the IPA and the hard cap, but the answers imply that this distinction is not very clear and may reflect that vessels are avoiding Chinook to avoid either reaching the hard cap or suffering from running afoul of the IPA. Analyzing a second year of responses should provide more insight into this question. Vessels tended to give overlapping responses to the questions about whether there were special aspects to the pollock and salmon PSC (question 3), weather (question 8), and market and stock (question 9) conditions. It may make sense to refine or condense these in the future.

[10] This communication would occur with Council staff and then through either the data collection committee or review from the entire Council.

- Is the timing of the survey appropriate?

The current June 1 deadline for EDR submission applies to all three of the EDR forms. As with other North Pacific EDR programs, PSMFC begins the process of active administration of the Amendment 91 EDR sixty days prior to the submission deadline. While a limited window for submission of an EDR form is appropriate in some cases to support greater consistency in reporting[11], it is not clear that the current window is optimal, or that timing of the submission deadline should be the same for all three of the EDR forms. In particular, the quality of information reported by captains in the Vessel Master Survey may be degraded by a significant lag between the end of the fishing season and completion of the survey form. In 2012, , PSMFC and AFSC staff consistently recommended that the PDF version of the Vessel Master form (which has been available for download through NMFS Alaska Region's Chinook PSC EDR page since early 2012) be used by captains to collect and maintain a written record of responses during or shortly after the pollock fishing season. To further encourage this, the EDR web portal was reconfigured for the 2013 EDR to provide vessel owners and captains access to the online 2013 Vessel Master form as early as November 6, including the ability for captains to complete and certify their required survey form(s) at any time prior to the June 1, 2014 submission deadline. Options for changing the timing of the Vessel Master Survey could be developed and implemented for all AFA captains to improve data quality, if warranted and generally supported by EDR submitters, with little to no increase in submitter burden.

5.2 Compensated Transfer Report (CTR) discussion

As noted above, for 2012, no compensated transfers were reported by any entity. On a positive note, the lack of recorded transfers indicates that most individual vessels are staying under their share of PSC bycatch units allocated under the IPAs. However, it is unclear how effective the CTR will be at capturing pricing information for Chinook PSC s, as discussed below.

As reported in the inshore IPA report for the 2012 fishing year, numerous transfers of pollock quota and paired transfers of Chinook PSC and pollock quota occurred during the 2012 fishing year, with a small number of transfers consisting exclusively of Chinook PSC within a cooperative (~50 out of 600 total transfers)[12]. At meetings with inshore sector representatives in April 2013, industry representatives expressed concerns about the potential expectation of correspondence between transfers to be reported in the CTR form and those reported in the IPA report. Cooperative members and industry representatives made the case that in-season transfers of pollock and Chinook PSC between coop members as reported in Table 4 of the inshore IPA report are only posted for purpose of the SSIP. Rather than functioning as a continuous spot market for both PSC and pollock quota, under the SSIP, vessels harvesting “transferred” pollock quota are typically paid a harvest fee by the quota holder rather than paying out lease fees and receiving the entire ex-vessel payment from the processor. As such, neither the pollock quota nor the PSC is legally transferred as a financial asset and the original quota holder

[11] To constrain the submission of data associated with financial contracts that are typically settled post-season to an appropriately delayed time, for example.
[12] This report is available at http://alaskafisheries.noaa.gov/npfmc/PDFdocuments/catch_shares/CoopRpts2013/CVSalmSavingsIPA-313.pdf.

retains control of both the pollock and PSC until it is caught by the vessel and debited from their balance in the coop. As a result, financial settlements that are made post-season involving pollock quota and PSC transferred and used in-season cannot be disaggregated to identify payment-per-unit of PSC based solely on contract prices and the quantities reported in Table 4 of the IPA report. In addition, as described by industry members, the amount of PSC used on a landing makes no difference in the amount that a vessel gets paid for harvesting a given amount of transferred pollock, and none of the PSC-only transfers identified in the IPA report were compensated.[13]

As initially conceived, the intent of the CTR component of the data collection was to measure the price of salmon PSC units as observed in in-season "spot-market" leases. Theoretically, the price of Chinook PSC in the pollock fishery at any given time is a function of their scarcity, the cost of avoiding PSC, and the expected value of pollock harvest. With information on market prices of both PSC and pollock quota, analysts could estimate the costs of the hard cap and salmon avoidance over time to the fishery during times in which Chinook PSC allocation is a binding constraint. This would provide important information to assess the effectiveness of Chinook PSC reduction measures under Amendment 91.

In the current CTR form, for all in-season[14] compensated transfers, submitters are required to report the amount of PSC transferred, the total payment amount, and check a box to indicate whether any additional (unspecified) assets were transferred. Transferred PSC is most commonly bundled with a proportional quantity of pollock quota, but with no information reported other than the quantity of PSC and the total value of the bundled transfer, the price of Chinook PSC in such observations could not be identified directly or estimated using standard statistical methods. Thus, if a market should emerge in the future, useable data to support estimation of market prices for PSC units will be limited to PSC-only transfers. Without information on the value of pollock quota transferred, it will be difficult to estimate the relationship between observed PSC prices and PSC levels.

If Chinook PSC levels were to come closer to the cap level and Chinook PSC allocated under the IPAs become a constraint on pollock harvest across a larger portion of the fleet, it is possible that a market for PSC will develop and the values of compensated transfers as currently specified would be observed through the CTR. However, due to the limitations discussed above, it is not clear that this would be the case, even during seasons of higher than average PSC encounters.

5.3 Fuel Survey discussion

Until the implementation of Amendment 91 no data had been regularly collected on fuel consumption and expenditures in the Bering Sea pollock fishery. Fuel costs are one of direct expenditures that results from vessels choosing to travel to different areas to fish to avoid Chinook bycatch. These data will be integrated with other data to better understand the constraints and choices faced by different vessels

[13] In light of the description of the transfers given by industry, AFSC staff advised submitters that it was not necessary that the CTR forms submitted by cooperative member vessel owners correspond to their respective transfers identified in the IPA report. However, if PSC transfers were recorded in any final compensation settlement of quota lease or harvest services contracts, such transactions should be recorded in the CTR.
[14] In the current CTR form, pre-season transfers are not reported.

which may lead to different Chinook PSC outcomes. While much of the data on the value of fishing in different areas at different times is based on differences in catch rates and product values, fuel costs are also a significant element of economic decisions about Chinook avoidance. The information collected reveals that there are considerable differences in fuel efficiency among vessels. As such, different vessels have different costs and therefore, incentives, to avoid Chinook. Fuel cost information is very valuable because it will allow better modeling of trade-offs for specific vessels of moving to avoid Chinook, especially as we begin to observe a greater number of years and the associated variation in fuel use.

5.4 Salmon movement checkbox discussion

As noted above, beginning in early 2012, catcher processors had a checkbox to record salmon PSC related vessel movement in their electronic logbook forms. However, a very limited number of vessels utilized the vessel movement checkbox in 2012 or 2013. In part this may be because Chinook salmon bycatch was very low compared to historical periods. It's also possible that not all vessel personnel are clear of what is intended to be captured by the checkbox. Ed Richardson of the At-Sea Processors Association contacted AFSC to discuss how to productively designate different movements and some standardization was conveyed to the CP fleet. One mothership operator noted that while the MS catcher vessels that deliver to it adjust their behavior significantly because of Chinook, the mothership platforms did not move as a result of Chinook in 2012.

Analysis of the vessel master survey indicates that vessels in all sectors report that they regularly make spatial choices to avoid potentially high Chinook PSC areas. However, the nature of the movement checkbox may be that the definition of a "move" is unclear if all location choices are at least partially based on potential Chinook PSC.

Our expectations regarding the effectiveness of this question were that respondents would tend to check this box if there was any consideration made regarding salmon, in part reflecting their desire to abide by program goals and because PSC avoidance since Amendment 91 truly is an integral part of many decisions when fishing for pollock. As such, it may not be a successful "binary" indicator of Chinook avoidance, as we believe was envisioned by the industry members who devised and suggested this approach. The standard struggle that fishers and other members of industry have expressed about utilizing the checkbox is that Chinook is always a factor in location decisions, so by some rationale the checkbox could always be checked. If it were used in a consistent manner, it could be correlated with vessel responses to PSC rates and to better understand when vessels are observing PSC and reacting to it. The checkbox has been used only a few times and without more standardization it will be difficult to interpret how it is being used even if it is used more. Possible means to improve the checkbox include:

- Clarify instructions to the fleet, either formally or informally to ensure data quality; or
- Include a question on the vessel master survey to allow each captain to explain how each vessel utilized the checkbox.

In 2014, AFSC economists will work with industry to attempt to clarify the checkbox instructions and make reporting more consistent. We will continue to assess the utility of the checkbox going forward.