

Alaska Seafood Cooperative Report to the North Pacific Fishery Management Council for the 2017 Fishery

March 23, 2018

Prepared by Beth Concepcion and Mark Fina



Introduction

On September 14, 2007, the National Marine Fisheries Service (NMFS) published a final rule implementing Amendment 80 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands management area (BSAI). Amendment 80 provides specific groundfish and prohibited species catch (PSC) allocations to the non-American Fisheries Act (AFA) trawl catcher processor sector and allows the formation of cooperatives. Sector allocations and the formation of cooperatives were intended to assist in improving groundfish retention.

On January 20, 2008, the Alaska Seafood Cooperative (AKSC) began fishing Amendment 80 allocations. This report summarizes AKSC, its catch for the 2017 fishing year, the processes implemented to ensure that catch limits are not exceeded, and issues affecting AKSC members.

AKSC membership

During 2017, AKSC was comprised of the following five member companies, and fourteen non-AFA trawl catcher processors.

Company	Vessel	Length Overall
Fishermen's Finest, Inc.	American No. 1	160
	U.S. Intrepid	184
Iquique U.S., L.L.C.	Arica	186
	Cape Horn	158
	Rebecca Irene	140
	Unimak	184
Ocean Peace	Ocean Peace	219
	Seafisher	230
O'Hara Corporation	Constellation	165
	Enterprise	124
United States Seafoods, LLC	Seafreeze Alaska	296
	Legacy	132
	Seafreeze America	208
	Vaerdal	124

Co-op management

AKSC activities are governed by a Board of Directors, which is appointed by AKSC Members (Members). Additionally, owners, captains, crew, and company personnel participate and provide input to the cooperative management process. The Members executed a cooperative agreement after extensive discussion and negotiation that outlines harvest strategies, harvest shares, and agreement compliance provisions. The agreement is amended as necessary to improve cooperative management of allocations and PSC, and to comply with regulatory programs.

The AKSC staff are responsible for day-to-day cooperative management. This includes facilitating communication among the fleet and member companies; ensuring compliance with the AKSC agreement and regulatory programs; tracking the AKSC budget; coordinating Board meetings and AKSC activities; and ensuring harvest shares are distributed in a timely and accurate manner. The AKSC staff completes all cooperative reporting requirements in a timely manner, including applying for annual AKSC catch allocations. The AKSC staff coordinates research, protected species issues, and community outreach to provide catch and operational transparency.

AKSC staff also tracks individual vessel catch and bycatch information relative to allocations; providing regular reports to the co-op; securely archiving data; identifying and resolving data errors; and working with the Alaska Region and Observer Program offices to ensure timely information streams. AKSC staff also provide Geographic Information System support and analysis as needed.

Finally, AKSC Members employ Seastate, Inc., which assists as a third party in management activities. Seastate, Inc. is the direct observer data link for many of the processes and activities described in this document, specifically, identifying bycatch issues and tracking historic catch and bycatch trends.

Harvest strategy

AKSC has implemented several protocols and practices to maintain regulatory compliance and ensure allocations are not exceeded. These are described below.

After receiving annual cooperative allocations, AKSC staff calculates individual vessel harvest shares and PSC limits. For each internal harvest share and PSC allocation, a reserve is established so that AKSC has a buffer that will be reached prior to the allocation limit.

The AKSC agreement also establishes a mechanism for Members to transfer quota within the cooperative, and with other Amendment 80 cooperatives. These transfers must be approved and facilitated by AKSC staff.

Catch monitoring

AKSC receives data from several different sources. Generally, this includes total catch and species composition information from the North Pacific Groundfish Observer Program, Alaska Fisheries Science Center; total catch and species composition information from the Alaska Region; and production data from the Alaska Region. These data are used by NMFS to debit quota accounts and calculate groundfish retention.

The AKSC staff receive observer data, which are archived in a database. The database allows the AKSC staff to track various Amendment 80 quota accounts, bycatch amounts, catch of other non-Amendment 80 species, and transfers among Members. AKSC staff use the database to summarize catch information and distribute regular catch reports to vessels and AKSC members. AKSC staff also perform routine data quality checks on observer data and resolve any discovered errors with individual vessels and NMFS.

NMFS Alaska Region quota catch information is provided to AKSC staff on a secure website. As noted above, this information constitutes official AKSC catch. As a quality control measure, AKSC staff compare these data with the corresponding observer data and resolve discrepancies.

Each Member and AKSC staff have access to Seastate, Inc.'s secure website. This website provides vessel-level catch information for Amendment 80 quota species, GOA sideboard species, and other species of interest. Additionally, the Seastate, Inc. website displays information on vessel and cooperative groundfish retention levels.

AKSC vessels submit daily production reports through a NMFS software program called Elandings. AKSC also collects this information to keep a running tally of vessels' groundfish retention through the Retention Compliance Standard (RCS). The RCS was developed in response to problems identified with the Groundfish Retention Standard (GRS) and is discussed further below.

Observer information is transmitted from the vessel, to the Observer Program Office at the Alaska Fisheries Science Center, then to the Alaska Region office. Data undergoes initial error checking, and individual observer sample amounts are expanded to total catch amounts.

By the time Alaska Region catch information is available to AKSC staff, company representatives, and vessel captains, it is one or two days old. To address this delay, companies have purchased software packages that expand raw observer sample data to total catch amounts and assign catch amounts to quota categories. These data expansions mirror NMFS algorithms

that expand raw observer sampling data. This software allows vessel captains to analyze catch amounts on a real time basis and make informed fishing decisions to maximize harvest amounts while minimizing the possibility of overages.

To help ensure accurate quota accounting and compliance, NMFS requires vessels to implement the following elements of an extensive catch management and monitoring package at their own expense:

- 200 percent observer coverage, nearly all hauls are sampled
- Motion-compensated observer scale
- Flow scale for weighing the entire catch
- No mixing of hauls
- No fish on the deck outside of the codend
- Only one conveyor line at the point the observer collects a sample
- Each vessel must be certified to maintain one of three bin monitoring options
- Designated observer sampling station
- Vessel Monitoring System

The above measures are designed to improve data quality. High quality catch estimates are important to AKSC members and provide increased confidence in NMFS management information, thus facilitating intra-cooperative trades and quota management.

In addition to these extensive monitoring requirements, AKSC vessels and companies comply with recordkeeping and reporting regulations. While recordkeeping and reporting requirements are complex and create a significant burden to vessel captains and company representatives, these efforts create an authoritative, timely, and unambiguous record of quota harvested.

The Environmental Assessment/Regulatory Impact Review/Final Regulatory Flexibility Analysis prepared for regulations implementing Amendment 80 indicates that monitoring and catch accounting challenges are greater and more complex than other quota programs. To address these challenges and ensure quota limits are not exceeded, NMFS has required, and AKSC vessels have implemented, the extensive and costly monitoring program described above.

GOA sideboard management

Regulations limit Amendment 80 vessels to historic catch levels by establishing sideboard amounts for several species. To help manage GOA sideboard fisheries, AKSC established a

GOA fishing plan. The 2017 GOA fishing plan includes cooperative management measures to limit individual vessels and the cooperative to halibut PSC sideboard amounts.

2017 AKSC Catch

The following tables provide AKSC catch. All data is rounded to the nearest whole number for simplicity. ***AKSC catch during the 2017 fishing year were within allocation levels, and no overages occurred.*** It's important to understand that fishing behavior and catch amounts under any given year of cooperative operations may not reflect those of other years.

AKSC initially apportions its annual NMFS-issued allocation to individual companies or vessels. Subsequently, AKSC companies can engage in transfers with other AKSC companies or vessels to maximize harvesting efficiencies. Additionally, AKSC engaged in trades with the other Amendment 80 cooperative. Because allocations are managed under hard caps, some portion of each of AKSC's allocations will be left unharvested to serve as a buffer prior to reaching allocation amounts.

Bering Sea and Aleutian Islands AKSC Allocated Quota and Catch Amounts

Species	Initial AKSC A80 Allocation (mt)	AKSC A80 Allocation with rollovers and transfers (mt)	AKSC Catch (mt)
Cod	24,125	22,970	19,183
Yellowfin Sole	69,233	96,231	79,237
Rock Sole	27,893	27,319	23,211
Flathead Sole	8,031	8,338	6,000
POP 541	2,940	3,841	3,818
POP 542	2,617	2,931	2,902
POP 543	3,695	4,137	4,102
Mackerel 541	11,598	14,625	14,575
Mackerel 542	5,847	7,127	7,104
Mackerel 543	4,290	5,238	5,213

Bering Sea and Aleutian Islands AKSC PSC Limits and Catch Amounts

Species	Initial AKSC A80 Allocation (mt)	AKSC A80 Allocation with rollovers and transfers (mt)	AKSC Catch
Halibut Mortality (mt)	1,271	1,269	897
King Crab Z1 (#)	30,834	31,694	22,865
Bairdi Z1 (#)	229,979	222,513	78,542
Bairdi Z2 (#)	324,703	313,145	145,786
COBLZ Opilio (#)	2,738,371	2,603,184	115,537

Bering Sea and Aleutian Islands Salmon Catch Amounts

Species	AKSC Catch (#s)
Chinook	3,565
Non-Chinook	2,852

Notes: Salmon are reported as individual fish. Salmon numbers are estimated from basket sample extrapolations and are not a census.

Retention Compliance Standard

Amendment 79, also known as the Groundfish Retention Standard or GRS, was implemented simultaneously with Amendment 80 in 2008. The GRS required the cooperative to annually improve groundfish retention over the course of several years from 65% in 2008 to 85% in 2011 and beyond.

Soon after the adoption of the GRS, the Council repealed the GRS because of problems of enforceability and a mismatch between the analysis used to establish the GRS and the metrics used to estimate retention under the GRS. Simultaneously, at the request of the Council, AKSC substituted an internal monitoring system known as the Retention Compliance Standard (RCS) for the GRS program.

The RCS is implemented through contract with substantial non-compliance fines, and an annual third party audit report. The RCS agreement, including the calculation methodology, and the third part audit are appended to this report.

Since 2008, AKSC has exceeded Council retention expectations, and annual RCS-measured retention has consistently exceeded 90%. ***The RCS required a 2017 groundfish retention of 85 percent; AKSC achieved a groundfish retention of 93.8%.***

Flatfish Flexibility

On September 23, 2014, NMFS issued a final rule that allows each cooperative and CDQ group to have access to a portion of the difference between each Amendment 80 flatfish species ABC and TAC, which can be used to trade allocated quota of one species for quota of another with NMFS. NMFS distributes specific percentages of the available surplus to each eligible group (Amendment 80 co-op and CDQ group) to prevent ABCs from being exceeded. By equally trading one flatfish quota for another, the 2 million mt OY cap is not be exceeded.

We believe a flexible approach to flatfish harvests has increased opportunities for reducing PSC by providing increased choice in targeting. The flexibility to make quota conversions will afford vessels the opportunity to move among the different flatfish targets, as long as the vessel holds adequate quota for any of the three included flatfish species.

The following table shows 2017 AKSC flatfish exchanges. Note that exchanges will vary from year to year depending on allocation amounts and catch variability.

Exchange date	Rock sole (mt)	Flathead sole (mt)	Yellowfin sole (mt)
11/20/2017	-2,500	500	2,000
Total	-2,500	500	2,000

Reducing Halibut PSC

AKSC members' attention to halibut bycatch predates the implementation of Amendment 80, when the limited access flatfish fisheries often closed because of reaching the limit of available halibut. With the implementation of Amendment 80, attention to halibut bycatch increased as the halibut PSC limits are binding constraints on the harvest of cooperative allocations.

In 2014, greater attention was focused on reducing halibut bycatch as the Council requested Amendment 80 cooperatives to voluntarily reduce their halibut use in the Bering Sea and Aleutian Islands to support additional harvests by directed halibut fisheries. This attention has continued, with additional voluntary efforts of the Amendment 80 cooperatives to make reductions, further requests from the Council, and regulatory action by the Council to reduce halibut available to the Amendment 80 sector.

Among the measures used by the cooperative to maintain low bycatch rates is a Halibut Avoidance Plan, which is agreed to by both AKSC and the Alaska Groundfish Cooperative, the only other Amendment 80 cooperative. This plan uses rate standards, which if not met, result in monetary or halibut penalties. Annual and quarterly standards are used to create incentives for vessels to maintain halibut bycatch mortality rates similar to the historical fleet average. A fourth

quarter standard is also set to motivate vessels to continue their halibut avoidance efforts through the end of the year, regardless of whether their allocation of halibut is likely to be constraining. These measures appear to be having the desired effects, as all vessels complied with the standards in the 2nd year of the plan.

Halibut bycatch reduction tools utilized during 2017

AKSC members use a variety of measures to reduce halibut mortality, including choices of fishing location and time of day, excluders, and deck sorting. Principal to these halibut avoidance measures was active communication among captains on the grounds. The effectiveness of the various halibut avoidance measures changes with fishery conditions. On the grounds communications keeps captains well-informed of successful PSC avoidance strategies allowing them to cope with the continuously changing conditions and effectiveness of the various halibut avoidance tools.

The cooperative supplements these on the grounds communications with weekly meetings of company representatives and vessels captains. A review of weekly halibut performance reports leads to discussion of the conditions on the grounds and the effectiveness of halibut avoidance measures. Discussions typically cover halibut mortality rates, target species, excluder effectiveness, deck sorting, halibut movement, fishing depths, and bottom temperatures in the areas being fished by cooperative members. The cooperative distributes summaries of the meeting discussions to all members (including those unable to attend) on the day of the meeting.

Cooperative staff and company managers monitor individual vessel halibut performance through Seastate. Monitoring is conducted through regular checks on overall cooperative, as well as company and vessel, performance. All companies receive weekly reports on their vessels' performance relative to the standards established by the Halibut Avoidance Plan. Quarterly reports summarize fleetwide performance relative to those standards. In addition, companies use the Seastate alarm system to notify them when a user-defined rate or catch threshold was exceeded in a defined period (such as a tow or day). Alarms can be programmed to include a map that shows tow location, halibut rate, halibut mortality, target species, and other information that can be useful for assisting with the halibut avoidance efforts of vessels and the cooperative.

During the season, vessels routinely experimented with new designs of excluders and tuned existing designs with a variety of modifications. These modifications improved excluder effectiveness by increasing the exclusion of halibut and decreasing loss of target catch. Excluder effectiveness varies across fisheries and vessels with conditions, vessel and net characteristics, and operating practices. As a result, individual experimentation with operations and configuration is needed to get the greatest return from an excluder. Vessels will continue excluder development and additional modifications will be made to further reduce losses of target catch.

Deck sorting to reduce halibut mortality in 2017

AKSC has invested heavily in development of deck sorting as a halibut mortality reduction tool. Vessels participating in the 2017 halibut deck sorting EFP were able to achieve significant mortality savings. The 2017 EFP expanded on earlier work by conducting the EFP in a wider range of flatfish fisheries than in earlier EFP tests and EFP fishing in non-Amendment 80 fisheries (specifically CDQ and limited access fisheries). It also began Jan 20th, whereas earlier EFP's started May 1.

Of the 14 AKSC vessels active in 2017, 13 participated in the deck sorting EFP. All vessels achieved mortality rates well below the specified default rate for offshore processing (set at 85% for 2017). Halibut savings under the EFP are estimated by comparing the EFP mortality with an average offshore mortality rate of 85 percent – the rate that would have occurred under normal fish handling procedures without deck sorting. Based on this estimation, AKSC vessels realized approximately 523 mt of halibut savings in the EFP.

AKSC will continue to fish under an EFP in 2018, again including participation from CDQ, and catcher/processors and motherships operating in the TLAS program. Given the high degree of success in reducing halibut mortality in the Bering Sea with deck sorting, we have worked with NMFS to introduce deck sorting to Gulf of Alaska fisheries prosecuted by AKSC Members for the 2018 EFP. Throughout these efforts, the Cooperative continues to work closely with NMFS to develop an administrative and monitoring structure that would allow for regulatory implementation of deck sorting. As we continue to revise this structure, we plan to continue to operate under EFPs with a goal for regulatory implementation by 2020. Use of EFPs thus far has allowed us to move closer to a cost effective, pragmatic regulatory program that provides the necessary incentives for careful handling to ensure maximum halibut savings are realized.

Operational impacts of halibut bycatch reduction efforts

Efforts to reduce halibut mortality have come with substantial impacts to vessel operations that ultimately reduce efficiency and increase operating costs. For example, increased use of excluders not only reduced target catch but also increased drag and fuel consumption. Test tows used to determine halibut bycatch rates in an area and smaller tows used to allow for improved survival of deck sorted halibut also increase fishing time and fuel consumption. When high rates of halibut were encountered, transit necessary to avoid halibut increases fuel consumption and increases trip length, ultimately reducing fishing time and fishery harvests. Development of deck sorting has not only cost the sector substantially with out of pocket expenditures but also slows a vessel's operations as much as a tow per day (or approximately one-fifth of a vessel's production), thus requiring vessels to fish more days to catch the same amount of fish. These added costs have substantially reduced revenues to both vessel owners and crews.

Summary

The Council has designed, and NMFS has implemented, a well-designed program that provides AKSC with the necessary tools to effectively manage Amendment 80 fisheries, minimize bycatch to the extent practicable, and increase retention. AKSC and its member companies are working hard to achieve the goals of Amendment 80 by implementing internal data management and quality control measures that enable companies and vessel captains to maximize allocations. Amendment 80 is arguably one of the most successful, highly regulated rationalization programs to date. For 2017, AKSC target catch amounts for this complex multi-species fishery were well utilized, PSC limits were well below regulatory limits, and the groundfish retention goals have been exceeded.

Attachment 1

Amendment 80 Sector Retention Compliance Standard Agreement

The North Pacific Fishery Management Council established regulatory retention levels based on historic retention performance for the Amendment 80 fleet. However, while the Amendment 79 analysis in front of the Council examined historic retention rates based on observer estimates in the blend and catch accounting system, the Council ultimately chose to measure retention using groundfish retention standard (GRS) methodology.

Implementation of the GRS resulted in the discovery that the retention calculation methodologies used in the Amendment 79 analysis and the GRS were not equal. As described in the Appendix to this Agreement, these differences averaged nine (9) percent for the Alaska Seafood Cooperative (AKSC). In 2008, the first year of the program, the AKSC retained 91 percent of its groundfish as measured by the Amendment 79 calculation methodology, far beyond the 65 percent required by regulation. However, the GRS calculation methodology only measured retention at 77 percent.

At its June 2010 meeting, the North Pacific Fishery Management Council recommended that NMFS implement an emergency rule to temporarily remove groundfish retention standard regulations. The emergency rule would be in effect while a permanent FMP amendment solution is developed that addresses issues associated with Amendment 79 implementation and enforcement.

To continue to meet Council bycatch reduction goals during development of an alternative retention program, Amendment 80 participants have voluntarily agreed to maintain current high groundfish retention levels by complying with the following retention compliance standard (RCS). In this Agreement, the term "parties" refers to any Amendment 80 cooperative and individual entities assigned to the Amendment 80 limited access fishery.

1. Retention Compliance Standard. Parties agree to meet or exceed an annual RCS of 85 percent (see appendix) using the following calculation methodology:

$$RCS = \frac{\text{Retained Groundfish Catch (Production RWE)}}{\text{Observed Total Groundfish Catch (CAS)}} + 9\%$$

This is the same calculation methodology currently used by NMFS to calculate the GRS, and is annually calculated using the following data inputs:

- Retained groundfish catch is calculated as the total annual round weight equivalent of all retained groundfish species as reported in production data.
- Groundfish catch includes those species listed in Table 2a to 50 CFR 679.
- Observed total groundfish catch is calculated by flow scale measurements, less any non-groundfish, PSC species or groundfish species on prohibited species status.

The RCS is measured on an annual basis. Each Amendment 80 cooperative agrees to meet or exceed the RCS of 85 percent. Each entity participating in the Amendment 80 limited access fishery agrees to operate each of its vessels in such a manner that they meet or exceed the RCS of 85 percent.

2. Monitoring Service. Parties agree that Seastate, Inc. will calculate each vessel or cooperative's annual RCS. Parties agree to take all actions and execute all documents that may be necessary to enable the Monitoring Service to calculate the RCS. In the event of a disputed RCS, an entity or cooperative may verify that data and calculations are correct. However, parties agree to Seastate, Inc. RCS calculations for purposes of compliance with this agreement.

3. Liquidated Damages Calculation. Liquidated damages described below are based on the recommended range of penalties found in the *Draft Policy for the Assessment of Civil Administrative Penalties and Permit Sanctions, NOAA Office of the General Council – Enforcement and Litigation*. That document can be found at http://www.nmfs.noaa.gov/ole/draft_penalty_policy.pdf.

Number of Offenses	Liquidated Damages Amount
1 st	\$25,000
2 nd	\$50,000
3 rd and every thereafter	\$100,000

4. Notice of Apparent Breach. The Monitoring Service shall monitor compliance with the terms and conditions of this Agreement. The Monitoring Service shall notify each party of any party who is out of compliance with the RCS.

5. Liquidated Damages Collection and Related Expenses. A party will pay liquidated damage amounts within ten (10) days of the notification described above. Liquidated damages will be remitted to:

SeaShare

600 Erickson Avenue NE, Suite 310
Bainbridge Island, WA 98110

Liquidated damages amounts not paid when due shall accrue interest at a rate of interest equal to the prime rate of interest announced by Bank of America as of the last day of the voluntary compliance period plus twelve percent (12%). In addition to liquidated damages, parties shall be entitled to an award of the reasonable fees and expenses, including attorneys' fees, a party incurs in connection with any action the party pursues to collect liquidated damages from the party in breach of this Agreement.

6. Annual third party audit. Each party agrees to conduct an annual audit of the RCS calculation and the data used within the calculation. Results of this audit will be reported to the parties, and the Council (see below.)
7. NMFS and Council reporting. Each party agrees to report its annual RCS to the Council at each April Council meeting. Cooperatives will include the RCS in their annual cooperative report, and Amendment 80 limited access participants shall create an RCS report. Each report will include the results of the third party audit above.
8. Agreement Term and Termination. This Agreement shall take effect January 20, 2011 and shall remain in effect until replaced by regulations implementing a Council approved groundfish retention program or until amended by the parties.
9. Miscellaneous.
 - a. This Agreement contains the entire understanding of the parties as to the matters addressed herein, and supersedes all prior agreements related to the same. No amendment to this Agreement shall be effective against a party hereto unless in writing and duly executed by such party.
 - b. This Agreement shall be governed by and construed in accordance with applicable federal law and the laws of the State of Washington. Venue for any action related to this Agreement shall be in King County, Washington.
 - c. The parties agree to execute any documents necessary or convenient to give effect to the intents and purposes of this Agreement.

- d. All notices to be given hereunder shall be in writing and shall be deemed given upon the earlier of when received or three days after mailing addressed in accordance with the attached contact information.
- e. This Agreement shall be binding on the successors and assigns of all parties hereto.
- f. In the event that any provision of this Agreement is held to be invalid or unenforceable, such provision shall be deemed to be severed from this Agreement, and such holding shall not affect in any respect whatsoever the validity of the remainder of this Agreement.
- g. Any dispute related to this Agreement shall be submitted to arbitration in Seattle, Washington upon written request of any party. The party's written request shall include the name of the arbitrator selected by the party requesting arbitration. The other party shall have twenty (20) days to provide written notice of the name of the arbitrator it has selected. If the other party timely provides such notice, the two arbitrators shall select a third arbitrator within twenty (20) days. If the other party fails to select an arbitrator within such period, then arbitration shall be conducted by the single arbitrator originally designated. However, if the other party responds within such period and designates an arbitrator, the three arbitrators so selected shall schedule the arbitration hearing as soon as possible thereafter. Every arbitrator, however chosen, shall have experience in, or experience advising entities that have experience in, the commercial fishing industry of the Bering Sea, shall have no material ties to either party to the dispute, or to any other Amendment 80 Quota Share holder unless the parties agree otherwise, and shall have executed a confidentiality agreement satisfactory to the parties. The decision of the arbitrator, or, in the case of a three-arbitrator panel, the decision of the majority, shall be final and binding. The arbitrator, or, in the case of a three-arbitrator panel, the majority of the arbitrators, shall select the rules of arbitration.
- h. Nothing contained in this Agreement shall be construed to make the parties to this Agreement partners, joint venturers, co-owners or participants in a joint or common undertaking. The parties may otherwise engage in or possess an interest in other business ventures of every nature and description, independently or with others, including but not limited to the ownership, financing,

management, employment by, lending to or otherwise participating in businesses which are similar to the business of the other parties, and no party shall have any right by virtue of this Agreement in and to such independent ventures or to the income or profits therefrom, nor shall any party by virtue of this Agreement be subject to any obligations or liabilities arising out of or related to such businesses. The parties agree that their mutual obligations under this Agreement extend only to their groundfish retention activities, and nothing in this Agreement shall be construed as permitting or obligating its parties to collaborate in any other manner.

10. Faxed or Electronic Signatures; Counterparts. This agreement may be executed in any number of counterparts, each of which shall be an original, and all of which, taken together, shall constitute one and the same instrument. Signatures transmitted by facsimile or electronic mail are fully effective for all purposes.

EXECUTED as of December 27, 2010.

Appendix 1

Analysis of Proposed Retention Compliance Standards

Amendment 79 currently requires that the Amendment 80 sector meet a retention standard that increases from 65% in 2008 to 85% in 2011. The Amendment 79 analysis examined the changes in retention percentages by looking at historical data. Throughout the analysis, computations of historical retention percentages and increased retention tonnages were made using “blend” and/or catch accounting system (CAS) data. Total catch and retained catch were derived from these data sources, both of which use a mixture of production and observer data as the basis for calculations. Thus, retention percentage based on the blend (from here on “blend” refers to either the older blend formula or the post-2003 CAS estimate) would be determined as:

$$Rb = \frac{\text{Retained catch (blend)}}{\text{Total catch (blend)}}$$

where (*blend*) indicates a data source that is comprised of a mix of observer and production data. The Council ultimately chose to define a groundfish retention standard expressed as the ratio of the round weight equivalent of retained product to total catch, or:

$$GRS = \frac{\text{Retained catch (production RWE)}}{\text{Total catch (blend)}}$$

Throughout the Amendment 79 analysis, there exists an implied assumption that the retention percentage calculated by the new GRS method would be the same as the retention percentage calculated by *Rb*. However, this assumption was not examined in the analysis and no production round-weight equivalents were presented that would allow a reader to compute the GRS standard that was adopted. Data presented below indicate that the GRS formula returns a significantly lower number than the *Rb* retention percentage calculation used throughout the analysis. The effect of this difference is to require much greater retention of catch by the Amendment 80 fleet than was anticipated by the Council.

The Amendment 80 sector had, preparatory to coop formation, requested blend, CAS, and WPR information from NMFS. An analysis of those historic data shows a marked contrast to results and conclusions on the effects of the various Amendment 79 alternatives presented in the analysis. In the first year of operation under Amendment 79, vessel operators were able to increase both *Rb* and GRS dramatically. The GRS is consistently less than *Rb*, and AKSC vessels were still only able to achieve 77% under the GRS calculation. Using the Amendment 79 analysis methodology (i.e., with *Rb* as a proxy for GRS), *Rb* increases from 77% to 91% between 2007 and 2008. However, the fleet’s apparent retention is still only 77% because it is now measured by GRS rather than *Rb*.

Harvest and retention by Blend/CAS and produce RWE for AKSC vessels. Tremont (<125') excluded 2005-2007 because of incomplete data. Seastate data received from NMFS.

Year	Blend / CAS total catch	Blend / CAS retained catch	Production report retained catch	Blend / CAS retention (Rb) %	Groundfish retention standard retention (GRS) %	Difference: CAS-GRS
1999	155,667	101,856	88,633	65%	57%	8%
2000	178,563	120,474	98,705	67%	55%	12%
2001	158,781	116,455	102,434	73%	65%	9%
2002	190,247	132,061	116,800	69%	61%	8%
2003	188,257	129,620	114,116	69%	61%	8%
2004	217,658	145,767	130,801	67%	60%	7%
2005	201,586	153,673	136,311	76%	68%	9%
2006	196,360	151,422	133,929	77%	68%	9%
2007	211,325	163,437	147,119	77%	70%	8%
2008	260,296	235,580	200,161	91%	77%	14%
2009	251,602	226,886	203,673	90%	81%	9%
Average	200,940	152,476	133,880	75%	66%	9%

The average difference between the 1999-2009 blend and GRS calculations is 9%. Therefore, GRS percentages would need to be adjusted downward to meet Council intended retention goals as they understood them during deliberations of Amendment 79. These adjustments are reflected in the following table.

GRS Schedule	Annual GRS	Annual RCS
2010	80%	71%
2011 and each year thereafter	85%	76%

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P.O. Box 74, Vashon, WA 98070

Ph: (206)463-7370
Fax: (206)463-7371
Email: karl@seastateinc.com

February 23, 2018

Listed below are results of an audit of the Alaska Seafood Cooperative's groundfish retention for 2017.

Materials and Methods:

Observer data were supplied to Sea State, Inc via the Northwest Groundfish Observer Program's password-protected web site. Logon credentials were supplied by all members of the Alaska Groundfish Cooperative. Production data were obtained via the NMFS Alaska Region e-Landings system, again using credentials supplied by member companies. Unsourced hauls in the observer data were extrapolated using standard methods documented by NMFS Alaska Region to produce total groundfish catch estimates in accord with those in the Alaska Region Catch Accounting System. Retained product data were expanded to round weight equivalents using published Product Recovery Rates (PRRs). Groundfish retention was then calculated according to the formula:

$$\text{Retention percentage} = \text{Retained catch (retained product RWE)} / \text{Total catch (CAS)}$$

For 2017, the Alaska Seafood Cooperative's Total catch of FMP species was 273,923 mt. The round-weight equivalent of products (RWE) from this catch was 232,524 mt. The coop-wide retention percentage was 84.8%

Sincerely,

Karl Haflinger
Sea State, Inc