Exempted Fishing Permit Application
Aleutian Island Pollock Fishery

1. Application Date.

September 21, 2018

2. Applicant.

The Aleut Corporation
Attention:
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3. Purpose and Goal

3.1 Background

Prior to passage of the Magnuson Fishery Conservation and Management Act of 1976 (MFCMA), the Bering Sea/Aleutian Island (BSAI) walleye pollock (*Gadus chalcogrammus*; hereafter pollock) fishery was prosecuted primarily by foreign fleets (Japan, USSR, and Korea). The MFCMA established the 200-mile Exclusive Economic Zone and gave management control of the BSAI pollock fishery to the newly created the North Pacific Fishery Management Council (NPFMC). A BSAI Groundfish Fishery Management Plan (FMP) was developed by the NPFMC to provide a framework for developing specific regulations for the Aleutian Islands (AI) pollock fishery (NPFMC 2005). Joint ventures (American catcher vessels delivering fish to foreign at-sea processors) operated during the 1980s, but were phased out by the domestic fleet by 1991. During the 1990's AI pollock harvests ranged from 23,822 t in 1998 to 99,604 t in 1991.

In 1990 Stellar sea lions (*Eumetopias jubatus*) were listed as "threatened" under the Endangered Species Act (ESA). Directed Pollock fishing in the Aleutian Islands was closed beginning in 1999, in part due to concerns about Steller sea lions. In 2001 the NMFS Office of Protected Resources and the Alaska Regional Office of NMFS worked through the Reasonable and Prudent Alternative (RPA) committee and the NPFMC to develop conservation measures which focused on the removal of spatial overlap between Stellar sea lions and the fisheries in order to relax some of the more financially disruptive aspects of the RPA from the BSAI FMP biological opinion (such as critical habitat catch limits). However, no allowance was made for pollock fishing inside critical habitat in the Aleutian Islands.

Under Steller sea lion mitigation measure adopted by the NPFMC in 2014, beginning in 2015 NMFS reopened AI pollock fishing restricted to areas inside portions of critical habitat generally as outside 10 miles from rookeries and 3 miles from haulouts east of 178 degrees longitude in area 542 and in area 541 (as listed in Table 4 to Part 679 Steller Sea Lion Protection Areas Pollock Fisheries Restrictions).

Section 803(a-d) of PL 108-199 allocated the directed AI pollock fishery total allowable catch (TAC) to the Aleut Corporation. The allocation was implemented under Amendment 82 to the BSAI FMP by the NPFMC, and became effective in 2005. Until the regulations implementing the Aleut Corporation allocation were in effect in 2005, NPFMC recommended AI pollock TACs that were insufficient to support a directed fishery. Beginning in 2005 the AI pollock TAC was set at 19,000 metric tons annually, however total directed AI pollock harvests since 2005 have been less than 2,000 t.

In 2006 through 2008 the Aleutian Islands cooperative acoustic study (AICASS) was implemented to explore the development of a spatially and temporally explicit fishery management system in the Aleutian Islands based on cooperative acoustic surveys to limit fishery impacts on Steller sea lions. Fishery biologists with the Alaska Fisheries Science Center along with the Aleut Corporation, fish processors, and fishers explored the feasibility of conducting small-scale cooperative acoustic groundfish surveys in the winter. The surveys were designed by fishery biologists, but conducted by fishers on board fishing vessels. The surveys were meant to provide spatially and temporally relevant estimates of groundfish biomass that could be used to set acceptable biological catch levels inside Steller sea lion critical habitat. The technical feasibility of conducting scientific grade surveys aboard fishing vessels in the Aleutian Islands was successfully demonstrated. However, the technical feasibility of conducting the surveys and adapting the catch accounting system to accommodate the proposed management system have proven to be simpler than the far more complex economic and social issues surrounding the fishery.

One of the issues in pursuing an AI pollock fishery that has been difficult to overcome is the resurgence of Pacific ocean perch (*Sebastes alutus*; hereafter POP) in the Aleutian Islands and lack of flexibility in the current management system to adapt to this large increase. Currently the AI pollock fishery is limited to a 5% maximum retention amount (MRA) limit per landing developed based on catch rates encountered during earlier fisheries. However, POP biomass in the Aleutian Islands has more than tripled from 1981 to 2011 from 253,000 t to 845,000 t and has remained at above 750,000 t through the last full assessment in 2016 (Spencer *et al.* 2016). For the same time period AI pollock biomass has decreased more than 1/4 fold from 847,000 t in 1981 to 191,000 t in 2011 and averaging about 200,000 t since (Barbeaux et al. 2017).

In the 1990's when the AI POP population was ~60% of what it is currently the proportion of POP in the AI pollock fishery catch was consistently < 1% (see Table 1). In contrast, the proportion of POP in the catch during the AICASS pollock fishery was highly variable with a low of 7% in 2006 to a high of 21% in 2008. The acoustic surveys conducted during the AICASS show that there is now a high degree of overlap between pollock and POP populations. There currently is no proven means of discerning the proportion of POP and pollock in an aggregation without first fishing on the aggregation. The limited amount of fishing under the Aleut Corporation's allocation since 2008 with vessels actively attempting to avoid POP bycatch has shown the same overlap and variability observed during the AICASS surveys with rates often exceeding 5% (AKFIN 2018).

The catcher vessels that are allowed to deliver pollock in the AI are small with limited deck space. It is impractical to sort and discard POP from pollock on these vessels when rates in excess of the 5% MRA are encountered. To the extent a catcher vessel does attempt to sort to a 5% standard they are at risk of violation of the regulations if they misjudge. In addition this fishery is pursued primarily in February through April when weather conditions in the Aleutian Islands are often hazardous with rapidly developing storms and high winds being commonplace. The only practical means of sorting POP from a large mixed trawl catch entails dumping a codend on deck in sections as the remainder of the codend hangs off the stern. Crew then manually sort the POP from the catch as the pollock are allowed to flow into the holding tanks. During this time period vessel maneuverability is substantially hindered and crew are exposed to the elements and a shifting codend on deck for extended periods of time. During good weather conditions the 5% MRA limit is at best a serious economic burden, however during the winter in the Aleutian Island the limit adds substantial risk to the vessel and crew.

The MRA limit is likely not a good tool for reducing POP fishing mortality if an AI pollock fishery is to be developed. An MRA limit simply controls the proportion of bycatch landed, it does not necessarily reduce overall bycatch fishing mortality. Discard mortality rates of rockfish from trawls is high (approaching 100%; Parker *et al.* 2000) and POP in the AI pollock fishery have proven to be unavoidable in the recent years where POP abundance is high and where POP aggregations are co-located with pollock aggregations.

The current AI pollock fishing regulations which limit POP to a 5% MRA in effect makes pursuing a fishery on AI pollock both economically unviable and substantially more dangerous. In addition due to the high discard mortality rate of rockfish a bycatch delivery rate reduction approach while allowing discards at sea does not provide a reasonable means of reducing bycaught POP fishing mortality if an AI pollock fishery develops.

One potential regulatory means to address this burden to harvesting AI pollock while decreasing overall POP bycatch fishing mortality would be to manage to a quantity of POP rather than an instantaneous rate in what would be in effect a mixed target fishery. Experience with constraining POP caps in the west coast whiting fishery cooperatives has shown that setting a cap and allowing self-management of the rates in a risk pool maximizes incentives to optimize the use of the cap by reducing POP bycatch to harvest as much of the whiting allocation as possible (Sylvia, Mann, and Pugmire 2008). If the acceptable bycatch rate of AI POP in the AI pollock fishery was 5% (the MRA), this would require an additional incidental catch amount (ICA) of roughly 500 t from the AI POP TAC of 26,381 t (2%) to support a 2019 A season AI pollock directed fishing allowance (DFA) of 10,361 t.

Managing this fishery as a mixed fishery with its own POP allocation would achieve several goals, 1) allow for the exploitation of the AI pollock resource by the Aleut corporation as Congress intended when the allocation was enacted in the 1998 American Fisheries Act, 2) improve safety at sea during this fishery in accordance with Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) National Standard 10, and 3) reduce overall POP bycatch mortality in the AI pollock fishery in accordance with MSFCMA National Standard 9.

However there are currently several regulatory obstacles to managing the AI pollock fishery as a mixed target fishery. Legislation mandates that Aleut Corporations pollock allocation be harvested by either vessels designated as BSAI pollock fishing vessels under the American Fisheries Act (AFA) or vessels <60'. There is a targeted POP fishery in the AI, however AFA vessels are subject to sideboards which prevent them from directed fishing for POP. The POP fishery for the non-Amendment 80 (including < 60' CVs) doesn't open for directed fishing until April 15th to limit halibut bycatch in the bottom trawl fishery. All of these issues could be addressed through an Exempted Fishing Permit (EFP).

3.2 Proposed Exemption

Under this EFP, exemptions from the following regulations would apply:

50 CFR 679.20(e)(ii): This regulation applies to the maximum retainable amount (MRA). AFA vessels and catcher vessels < 60' fishing AI pollock under the Aleut Corporation's permit would be exempted from the 5% MRA limit for POP in the pollock fishery. The exemption would apply from the date the 2019 final harvest specifications are effective until April 15th of the year or years this EFP is valid.

50 CFR 679.21(b)(1)(ii)(B)(4): This regulation applies to prohibited species bycatch management and PSC limits for rockfish trawl fisheries in the BSAI. Vessels fishing under this EFP would be exempt from the halibut PSC limit applicable to directed fishing for POP in the BSAI.

3.3 Purpose and Goals

3.3.1 EFP Purpose:

Current regulatory constraints limit the ability of the Aleut Corporation to achieve the objective of the AFA in developing an economically viable AI pollock fishery and under current POP abundance levels unduly put fishers at risk where the 5% MRA cannot be attained. This EFP will test an alternative management framework for limiting POP bycatch in the AI pollock fishery which could potentially provide an opportunity for the Aleut Corporation to develop an economically viable AI pollock fishery while improving safety at sea and reducing the potential overall POP bycatch mortality.

3.3.2 EFP Goals:

A. To the level practical, fully prosecute the Aleut Corporation's AI pollock allocation as intended by the 2004 Section 803(a-d) of PL 108-199 while testing methods to minimize POP catch.

B. To limit POP bycatch mortality and waste in a fully prosecuted AI pollock fishery through full retention and accounting of POP bycatch and limiting of overall POP catch to 500 mt for this fishery by AFA catcher vessels and Non-AFA catcher vessels <60'.
C. To improve safety at sea by reducing the amount of time necessary to stow catch by eliminating the need to sort POP from the catch on deck.
D. To evaluate timing and location of POP bycatch during the EFP AI pollock fishery to determine means of reducing bycatch rates.

4. Technical Details.

4.1 Amounts of each species

No more than 500 mt of POP will be harvested under this EFP by AFA catcher vessels and Non-AFA catcher vessels <60'. The 500 mt POP cap would be allocated between NPFMC Areas 541 (450 tons) and 542 (50 tons) A maximum of 10,361 mt of walleye Pollock will be harvested under this EFP. Fishing for pollock under this EFP shall cease if the pollock or POP limits are attained.

Any salmon bycatch will be accounted against the Prohibited Species Catch cap for the Aleutian Island Pollock fishery. Any incidental catch of non-Pollock species will be accounted against the Optimum Yield. All catch will be retained for weighing and secondary sampling at the processing plant.

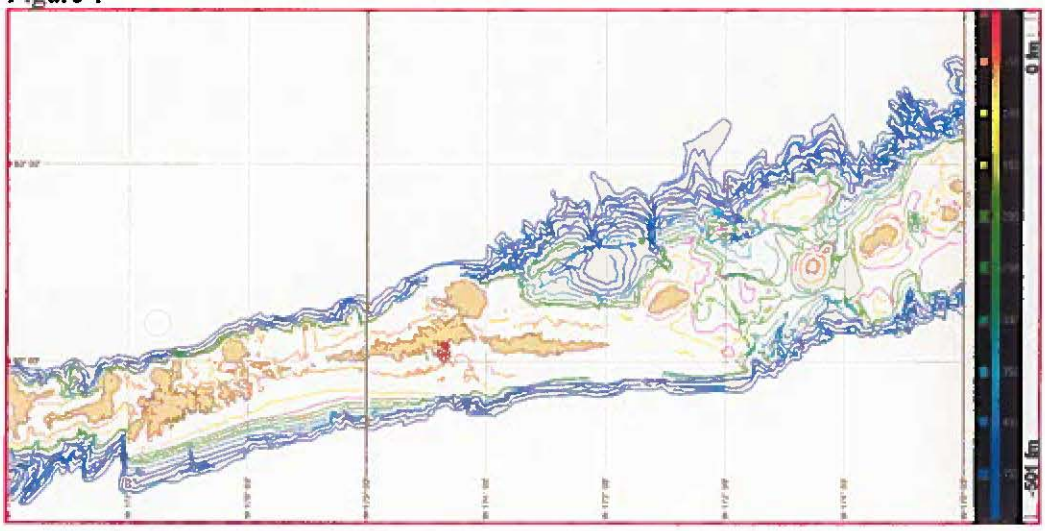
4.2(a) Timing

The POP MRA exemption under this EFP will be in effect from the time the 2019 harvest specifications are final through April 15th of the year or years this EFP is valid. It is anticipated that most of the fishing will be conducted in March.

4.2(b) Area

The site is defined as the area between 170° 00' and 178° 00.0' west longitude (Fig. 1). The fishing in this area is located primarily within the area north of Atka Island in area 541 and the Kanaga Sound portion of 542 east of 170 west longitude of the Aleutian Islands subarea of the Bering Sea Aleutian Island fishery management area. No fishing will be conducted within any Steller sea lion RPA site otherwise closed to pollock fishing.

Figure 1



Past fishing effort within this region was concentrated between the 100 fm and 500 fm isobaths. During the 1990s, Kanaga area catches dominated the District 542 catches and accounted for as much as 72% of the entire AI catches (Table 1).

Table 1. Historic pollock catch data for the Aleutian area.

Year	Observed Catch (mt) *	% Pollock **	541 District Annual Catch (mt)	542 District Annual Catch (mt)	543 District Annual Catch (mt)	Aleutian Island Annual Catch (mt)
1993	2,493	99.49%	54,512	2,536	83	57,131
1995	35,935	99.58%	28,109	36,714	102	64,925
1996	20,884	99.52%	9,226	19,574	216	29,016
1997	14,868	99.58%	8,110	16,799	1,031	25,940
1998	3,114	99.28%	1,837	3,858	18,127	23,822

* This is the observed official total catch for Jan-Apr (includes bycatch).

** This is the percent Pollock in the observed species composition samples for the area.

4.3 Vessel and gear

The vessels will be selected from trawl catcher vessels on the NMFS approved list of vessels eligible to fish the Aleut Corporation Pollock allocation. It is anticipated that three AFA catcher vessels and two non-AFA <60' vessel will be selected to operate under this EFP in 2019. The vessels will be equipped for pelagic Pollock fishing. Preference will be given to vessels equipped with a Simrad ES60 or ES70 echosounder with a 38kHz split beam transducer. The AFA vessels will have accommodations for an observer, and will provide a sheltered work area for the observer to perform sampling. Non-AFA vessels <60' must have an observer.

Fishing gear will be pelagic Pollock trawls, appropriate to the vessel's horsepower.

4.4 Experimental Design

Prior to the fishery for each vessel the fishing captain will record the tools they have available for discerning POP aggregations (e.g. echosounders, sonar, net sounders, etc.). During the fishery fishing captains will be asked to report weather and tidal conditions for each haul. Prior to setting and retrieval of each haul the fishing captains will record their prediction of the proportion of POP in each haul, after the haul is retrieved the captains will record as close as possible the realized proportion of POP in each tow, and finally they will record notes on why their predictions matched or did not match the realized proportion. The predictions and testing of predictions will provide a means to test the captains' skill at identifying POP in situ with their available tools. We will then be able to identify which captains are consistently successful and evaluate the means to their success. For vessels equipped with ES-60 or ES-70 echo-sounders acoustic data will be collected during fishing operations. The acoustic data will be reviewed at a post-season meeting with the fishing captains along with their fishing notes to help develop possible POP identification and avoidance measures. (See Attachment B)

All catch information (observer and delivery data) will be transmitted to the Alaska Regional office within 8 hours of the completion of the delivery following standard catch accounting protocols. The fishery will be halted by the EFP Coordinator when the 500 mt POP bycatch allowance or the 10,361 mt DFA for AI pollock is projected to be reached.

A data form has been developed (Attachment A) which will allow a more formal analysis of the AI pollock fishery POP bycatch. The form will be filled out by the vessel captains. This data collection will allow fishing captains to test their own hypothesis on how to reduce POP bycatch in the AI pollock fishery without legal or safety ramifications and communicate their efforts directly to managers and other fisheries while also allowing for a more rigorous analysis of these hypothesis post-season. Example hypotheses already posited include:

1) Bycatch of POP is increased at night due to mixing of POP and Pollock as POP migrate vertically off the bottom at night and pollock aggregations expand to form the night-time "band" of fish.

2) Higher current periods (strong ebb and flood tides) increase POP bycatch in the pollock fishery as POP and pollock may seek refuge in similar areas (troughs and valleys) to conserve energy.
3) POP bycatch in the pollock fishery can be reduced by fishing at the top edge of the aggregation, or band at night, as the two species may separate vertically in the water column.

The fishery in both the > 60' and < 60' sectors will be monitored at sea by observers within their official duties. Observers will collect species composition samples and length composition samples on POP and pollock on all hauls at sea as per their normal duties. All catch will be retained and sorted and weighed by species at the plant according to the plant's CMCP.

Metric for evaluating success

Ultimately the full harvest of the A season AI pollock DFA limit within the POP constraints while maintaining the safety of the fishery participants will be the measure of success for the industry participants. In order for this to happen while working to reduce POP bycatch fishing mortality, the full participation and documentation of fishing effort by all fishing captains during this fishery will be needed. Through this documentation effort and post-season analysis fishing guidelines will be developed and shared among the fishery participants which will enable the fleet to reduce POP bycatch fishing mortality.

Milestones for 2019-2020:

January – April 2019: Participation of selected vessels in the AI pollock fishery
March – April 2019: Post-season debriefing of fishing captains
May – July 2019: Collation and statistical analysis of fishing captain and observer collected data.
August – November 2019: Publication of preliminary fishing guidelines for 2020 AI pollock fishery
November 2019: Submission of interim report
January – March 2020: participation of vessels in the AI pollock fishery
March – April 2020: Post-season debriefing of fishing captains with their evaluation of fishing guidelines
May – July 2020: Collation and statistical analysis of fishing captain and observer collected data with respect to fishing guidelines and any new additional guidelines suggested by fishing captains in the 2020 season
August – November 2020: Publication of fishing guidelines for 2021 AI pollock fishery
November 2020: Submission of final report

4.5 Public Release of Information

All data from this experimental fishery will be made available to the public, including the catch and position data.

5. Observers.

An observer must be on the vessel throughout the experimental fishery in accordance with normal observer program protocol. One hundred percent observer coverage would be required of all vessels participating in the EFP together with full retention of all catch. A hard cap applied to AFA catcher vessels and catcher vessels <60' of 500 mt of POP would apply to vessels fishing under the EFP.

6. Principal and coordinating parties.

The principal and coordinating parties are the following:

The Aleut Corporation - Kay Larson-Blair – lead coordinator
Catcher vessels - manager and captain (to be determined)
NMFS AFSC Scientific Staff – Steve Barbeaux
Adak Community Development Corporation – dave fraser

The role of the coordinator is to delegate the listed tasks and make sure that the designated individual is following through, including:

- Monitoring compliance with the terms of the EFP.
- Arranging for the selection of vessels.
- Coordinating with vessels to make sure they understand and comply with the terms of the permi.t
- Coordinating with the fish plant to monitor catch amounts to stay within the POP and Pollock limits.
- Coordinating with the fish plant for sea sampler data collection.
- Arranging for the release of observer data to the analyst.
- Arranging for the post season debriefing of captains, and the collection and compiling of captains' logs, and sea sampler data.
- Arranging for the statistical analysis of the data.
- Making sure the schedule of "milestones" is achieved.
- Submission of interim and final reports.

7. Vessel Information.

The following vessel information will be determined once the vessels are selected.

Vessel Name.
Vessel Owner.
Vessel Skipper.
USCG Documentation Number.
Home Port.
Vessel Length.
Net Tonnage.
Gross Tonnage.

8. Applicant Signature.

Kay Larson-Blair, Aleut Corporation

9. Additional Information.

See Attachments A, B, & C.

10. References.

AICASS papers:

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Elizabeth A. Logerwell, Steven J. Barbeaux and Lowell W. Fritz "A cooperative pollock acoustic biomass survey for management of fisheries interactions with Steller sealions in the Aleutian Islands" - NPRB Project 730 Final Report

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Stanley, R.D., R. Kieser, K. Cooke, A.M. Surry, and B. Mose. 2000. Estimation of a widow rockfish (*Sebastes entomelas*) shoal off British Columbia, Canada as a joint exercise between stock-assessment staff and the fishing industry. ICES Journal of Marine Science, 57: 1035-1049.

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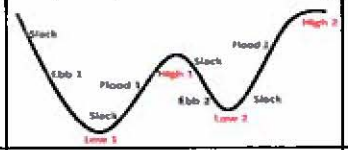
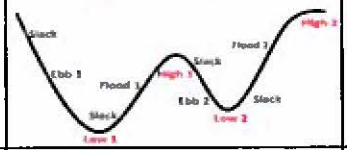
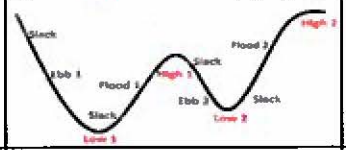
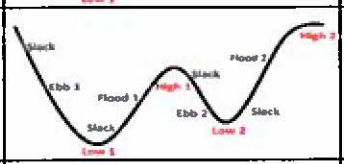
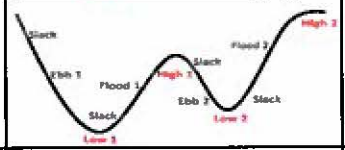
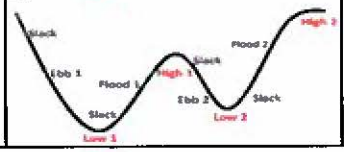
Sylvia, G., Mann, H.M. and Pugmire, C., 2008. Achievements of the Pacific whiting conservation cooperative: rational collaboration in a sea of irrational competition. FAO fisheries technical paper, 504, p.425.

Attachment A – Captain's Log

Vessel_____ Observer Cruise Number_____

Fishing Captain	Haul Number	Date/Time (mm/dd/yy 24HH:MM)	Weather Code	Sea State Code	Tidal State (Circle period when fished)	Max Current Speed (kts)	%POP			Notes (see back for more space)
							Before Set	Haul-back	On Deck	
										
										
										
										
										
										

Haul number	Notes continued

Sea State Code	Wave height	Characteristics
0	0 meters (0 ft)	Calm (glassy)
1	0 to 0.1 meters (0.00 to 0.33 ft)	Calm (rippled)
2	0.1 to 0.5 meters (3.9 in to 1 ft 7.7 in)	Smooth (wavelets)
3	0.5 to 1.25 meters (1 ft 8 in to 4 ft 1 in)	Slight
4	1.25 to 2.5 meters (4 ft 1 in to 8 ft 2 in)	Moderate
5	2.5 to 4 meters (8 ft 2 in to 13 ft 1 in)	Rough
6	4 to 6 meters (13 to 20 ft)	Very rough
7	6 to 9 metres (20 to 30 ft)	High
8	9 to 14 metres (30 to 46 ft)	Very high
9	Over 14 metres (46 ft)	Phenomenal

Weather Code	Cloud Cover
0	No Clouds/Fog
1	<50% Clouds
2	>50% Clouds
3	100% Clouds/Fog

Attachment B - Supplemental to Experimental Design

Opportunist Hydroacoustics Data Acquisition by ES60/70 Equiped Vessels

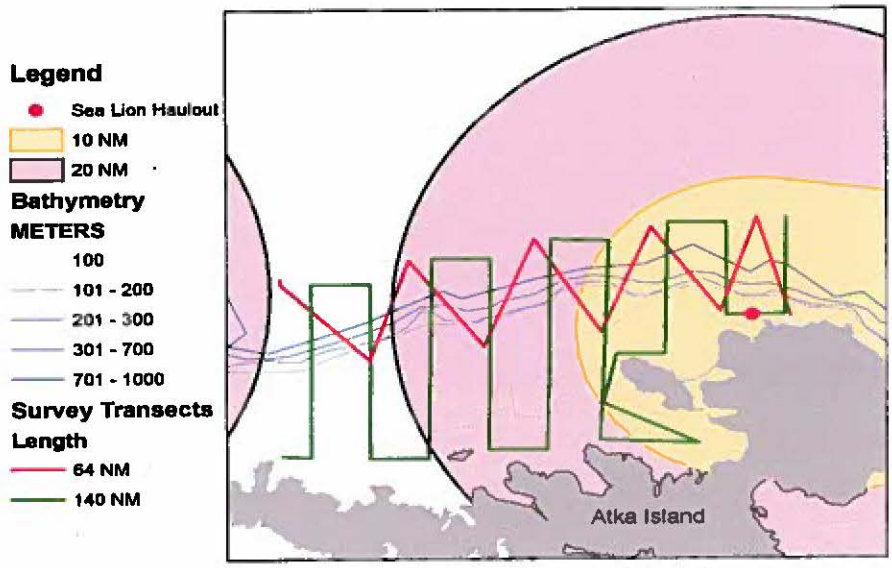
This secondary component of the experiment will be conducted in two phases. Phase one will be conducted during the month of February during normal cod fishing operations, and will consist solely of the opportunistic collection of hydro-acoustic data to monitor Pollock distribution around the study sites.

Phase two will commence upon the closure of the catcher vessel cod trawl fishery expected to occur in early March. Phase two will consist of data gathering/fishing trips from Adak to the study sites. Upon arrival at the site for the first time a vessel will conduct a hydro-acoustic survey composed of up to 50 nm of transects located between the 750 fm and 50 fm isobaths. The duration of required survey effort will be limited to 24 hours. The exact number, location, and orientation of the transects will be determined through consultation with NMFS scientific staff. In general, the transects will be parallel and run across the isobaths (see example in the figure below) at intervals from 2.5 to 4.0 nautical miles.

On subsequent trips upon arrival at the site the vessel will conduct an abbreviated survey of the area consisting of zig-zag transects running across the isobaths to locate an exploitable aggregation of Pollock. Following the acoustic snapshot survey the vessel will commence fishing. No fishing will be conducted within any Steller sea lion RPA site otherwise closed to pollock fishing.

Hydro-acoustic data will be collected during all searching and fishing activities. Data stored on removable drives will be turned over to AFSC following the fishery.

Additional sampling will be done at the shorebased processing facility. Observers on AFA vessels will sample each haul at sea as per observer protocols:
https://www.afsc.noaa.gov/FMA/Manual_pages/MANUAL_pdfs/manual2018.pdf
All catch will be retained to be sorted and weighed after delivery at the processing plant. Additional sampling will be done at the shorebased processing facility. *The number of fish measured and otoliths collected may be increased relative to the observer protocols. Female Pollock maturity for fish from which otoliths can be taken will be collected. Fin clip samples may be collected and preserved for genetics work.*



Example of transects.

Attachment C

Summary of AI POP and Pollock Specifications

(from Federal Register / Vol. 83, No. 39 / Tuesday, February 27, 2018 / Rules and Regulations)

POP Apportionments

2018 541 POP ABC = 10,021 , TAC = 9,000, difference = 1,021

2018 542 POP ABC = 7877, TAC = 7,500, difference = 377

2019 541 POP ABC = 9715 , TAC = 9,715, difference = 0

2019 542 POP ABC = 7,549, TAC = 7,549, difference = 0

2019 541 POP AFA CV sideboard limit 67 mt, AFA CP limit 174

2018 541 POP ICA = 100, 542 POP ICA = 120

2018 541 TLAS = 794 542 TLAS = 658

2018 541 AM80 = 7,143 542 AM80 = 5,920

Pollock Apportionments

2018 AI Pollock ABC = 40,788, TAC = 19,000, difference = 21,788

2019 AI Pollock ABC = 30,803, TAC = 19,000, difference = 11,803

2019 AI Pollock Apportionments

ICA =2,400 A season ICA = 1,200 B season ICA = 1,200

Aleut Corporation 14,700 (> 60' limit = 8,500)

A season DFA limit 10,361, B season DFA limit 4,339 (plus A season rollovers)

Area 541 A season limit 9,241, Area 542 A season limit 4,620