Alaska Longline
FISHERMEN'S ASSOCIATION
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September 21, 2016

Dear council members,

On Behalf of the Alaska Longline Fishermen's Assn (ALFA) I would like to offer the following comments on Agenda item C-4, the 2017 Observer ADP.

Observer Coverage Rates:
The 2017 ADP recommends selection rates that are significantly lower than 2016 due to reduced federal funds. The ADP also notes the observer fee would need to increase to 1.6% in order to maintain the rates used in recent years. Before the Council considers starting down the path of raising the observer fee, ALFA requests the Council evaluate the precision achieved with current rates, the opportunity to achieve coverage goals by prioritizing coverage, and the potential for greater efficiency in deploying observer resources. We offer the following comments relative to these areas.

Estimating Precision:
The potential impact of the lower observer rates on the precision of the catch estimates resulting from the Observer program is not well described. During the June 2016 Annual review of the 2015 Observer program, NMFS presented a method for evaluating precision using "percent standard error (PSE)." In order to evaluate the appropriateness of the sampling rates recommended in the 2017 ADP, ALFA believes it is important for the ADP to provide information on the anticipated precision of the catch estimates, using PSE or another similar metric, that result from the proposed deployment plan.

The gap analysis contained in the ADP provides information on potential spatial and temporal bias, and the optimization model considers differences in variability between strata. However without PSE estimates, these metrics do not provide an adequate understanding of the expected data quality that will result from the proposed ADP. For example, how will the precision of the estimates for trawl bycatch be affected by the change from the 28% selection rate used in 2016 to the 18% rate proposed for 2017? What level of precision can be achieved when estimated discards from vessels using pot gear at a 3% sampling rate or longline vessels at 11%? An understanding of the expected outcomes of these proposed changes on data quality and precision is critical for stakeholders and the Council to make informed decisions and evaluate options before approving a final 2017 ADP.

Improving Observer Coverage

With respect to options for improving observer coverage in 2017 and beyond, ALFA would like to highlight the following items identified by the OAC as meriting further consideration:

- Reinstating a priority for PSC limited fisheries
- Improving efficiencies in the sampling design by:
    - Re-evaluating the criteria used for the zero selection pool
    - Optimizing the use of EM in specific sectors
    - Further evaluating the ratio of travel costs/sea days for specific segments of the fleet.
- Requesting additional supplemental Federal funds while the Council continues to conduct the necessary analytical work to optimize the new observer program and improve efficiencies.

Improving Sampling Design Efficiency

With respect to improving efficiencies in the sampling design, the EM workgroup has coordinated with NMFS to developed a series of tables and figures evaluating the number of vessels, trips, sea days and retained catch by vessels size The data also looked at the number of trips a vessel takes/year (see http://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/EM/EMunder40FixedGearFleetProfile072516.pdf).

Based on ALFA's estimates from the data prepared by NMFS:

- The current hook and line partial coverage strata, which includes vessels greater than 40' LOA, accounts for approximately 56% of hook and line vessels that catch approximately 87% of the retained catch. In terms of effort, vessels greater than 40' account for approximately 62% of trips and 73% of sea days (see Tables 2, 4, 6 &7; and Figure 10).

- The data from NMFS also shows that there are approximately 160 fixed gear vessels greater than 40' LOA that fish less than 3 trips/year. These vessels account for less than 10% of the retained catch in the current partial coverage strata (Figures 14 & 16).

Many fishermen have expressed concern that the restructured observer program allocates a significant number of expensive observer days to vessels which catch very little fish. ALFA believes the Council's highest priority should be adequate and meaningful coverage on PSC limited vessels engaged in high volume, high bycatch fisheries when available observer days are at such low numbers. ALFA recommends evaluating the feasibility of re-structuring the zero selection pool based on the number of trips fished by a vessel in the previous year in addition to vessel length. Specifically we request consideration of an option for the zero selection pool to include all vessels less than 40' LOA, and all vessels greater than 40' LOA which fished:

a. Option 1: 2 or less trips, by gear type, the previous year
b. Option 2: 3 or less trips, by gear type, the previous year

Anticipating that concerns will be raised relative to introducing additional bias, we would like to call the Council's attention to the following sources that may help inform this discussion.

- 2016 marks the fourth year of the restructured program. At this point, there may be data on differences in bycatch rates between vessels that fish 2-3 trips/year and those fishing more.
- As part of the EM initiative, NMFS identified a list of species of particular concern for discard estimates in fixed gear fisheries. This list can be used to evaluate risk to estimates of priority species.
- In 2016, NMFS generated precision estimates that can be used to evaluate the amount of bias that would significantly change the precision of catch estimates for these key species.

Expanding the Observer Program to Vessels Under 40' LOA

ALFA does not support including vessels less than 40' LOA in the Observer program. The data from NMFS also shows that expanding the partial coverage strata to include vessels 30'- 40' LOA would add approximately 230 more hook and line boats, 23% more trips, and 20% more sea days without providing additional funds to accommodate the additional effort. The majority of boats under 40' participate in the hook and line fixed gear fisheries, mostly for halibut (see Figure 3 and Figure 4). The IPHC recently evaluated the spatial overlap between halibut vessels greater/less than 40' LOA on a statistical area basis. The resulting map (attached) show that there is excellent spatial overlap between the observed and unobserved portions of the halibut fleet. The statistical area scale used by the IPHC is a much higher resolution than used by the ADP gap analysis, the catch accounting program, or by stock assessment scientists. Additionally, roughly ½ of the vessels between 30' and 40' also fish less than 3 trips/year and account for only a small fraction the overall retained catch; again raising concerns related to the allocation of observer days to vessels which catch very little fish.

In closing, ALFA members do not support raising the observer fee until other options have been evaluated. Critical to this evaluation will be to set target performance standards for the data from the Observer program, prioritize coverage to achieve Council management objectives, and structure documents to identify changes in data quality and precision that result from various options.

Thank you for the opportunity to comment,

Dan Falvey

Figure 3. Fixed Gear Vessels <40' in 2013-2015
by Area, Gear, and Length

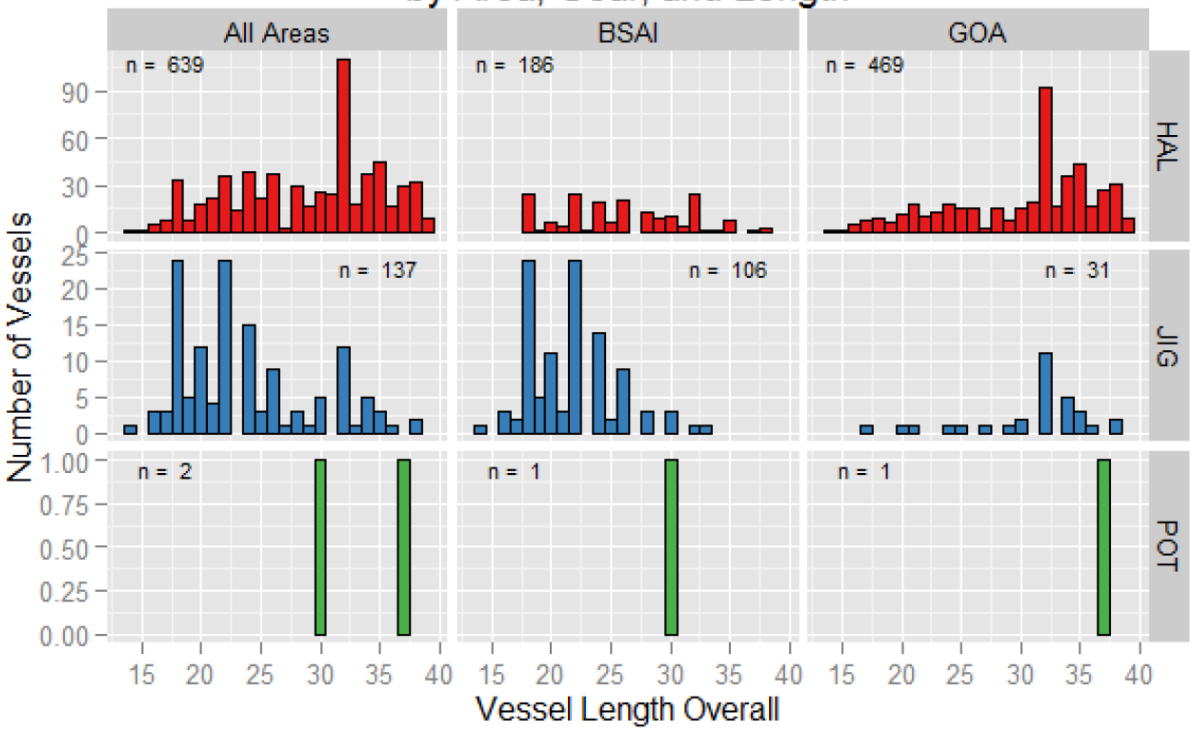


Figure 4. Fixed Gear Vessels <40' in 2013-2015
by Area, Fishery, and Length

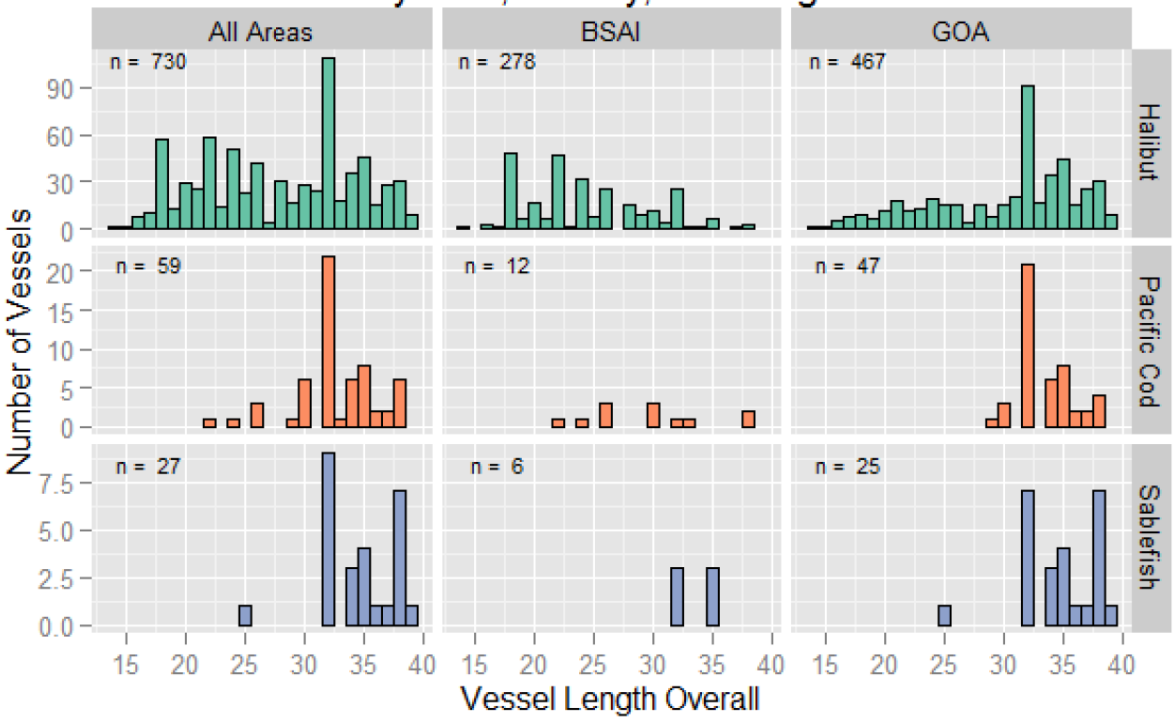


Figure 14. Number of Fixed Gear Vessels in 2015
by Vessel Length, Area, and Number of Trips per Year

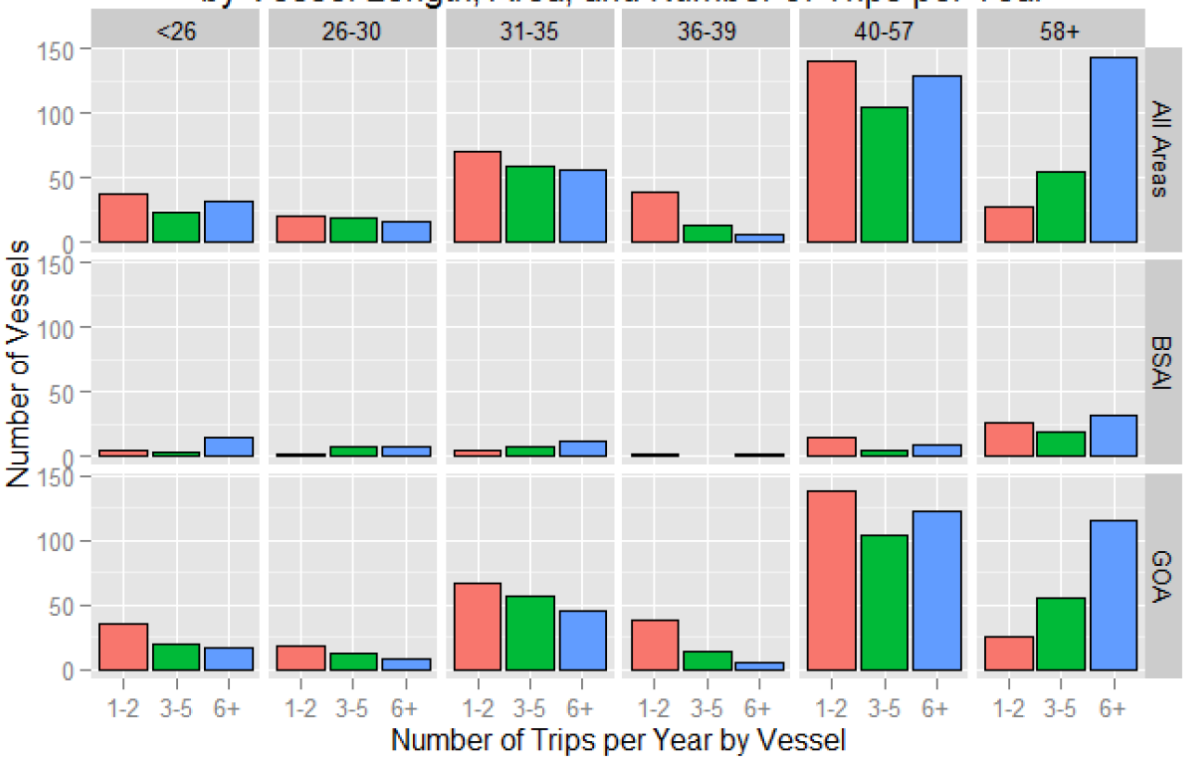
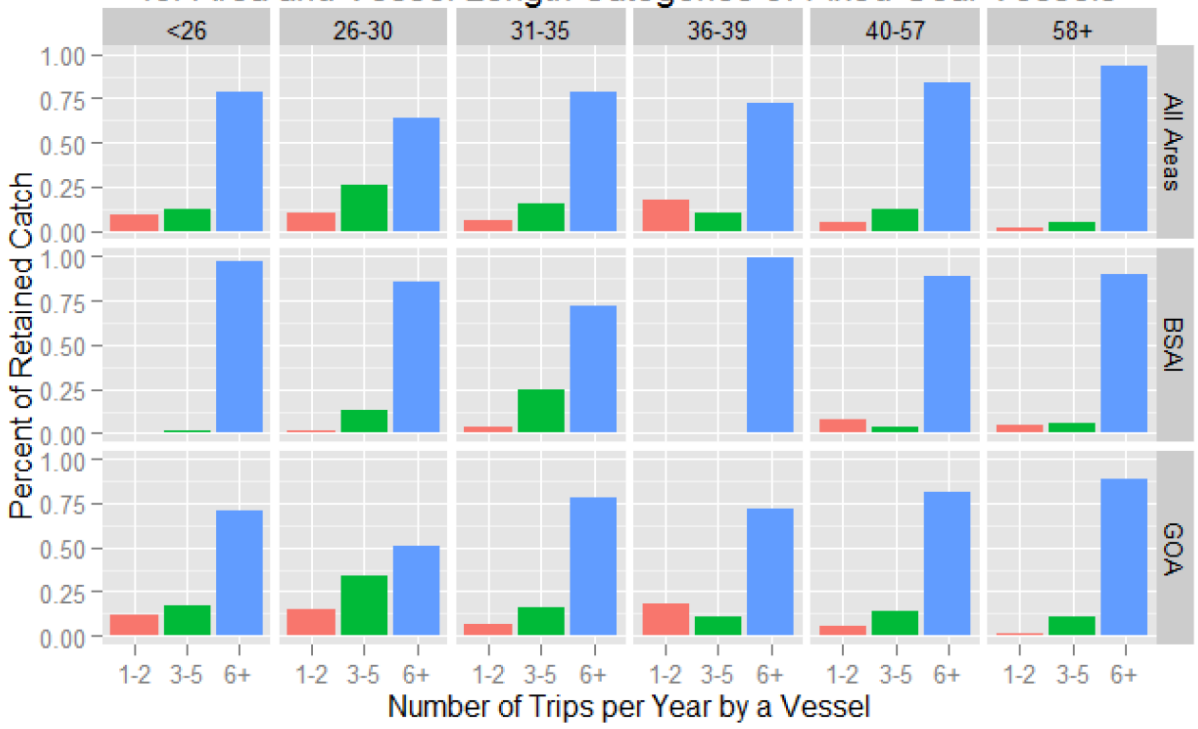
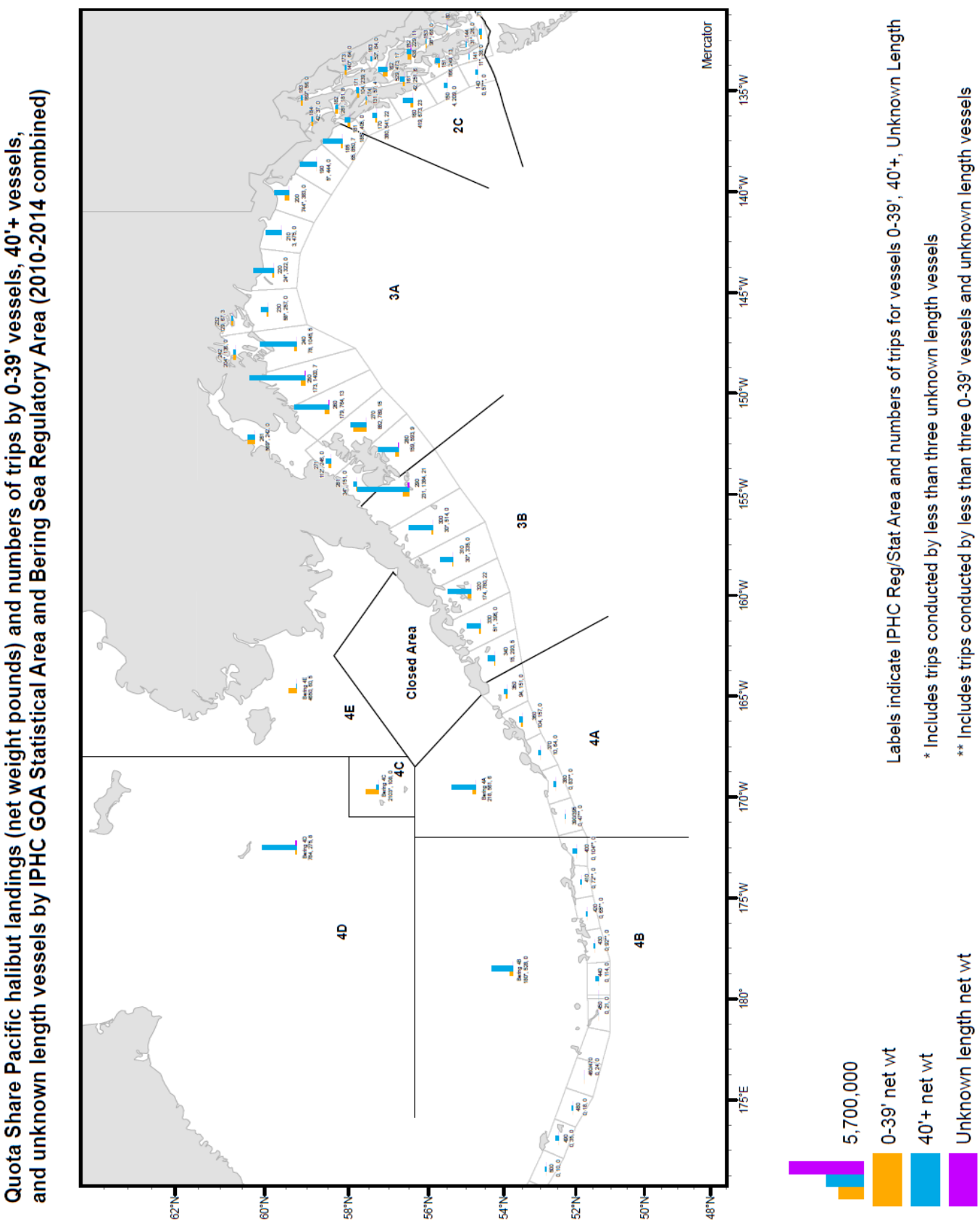


Figure 16. Percent of Retained Catch in 2015
by Vessels based on their Number of Trips per Year
for Area and Vessel Length Categories of Fixed Gear Vessels




Quota Share Pacific halibut landings (net weight pounds) and numbers of trips by 0-39' vessels, 40'+ vessels, and unknown length vessels by IPHC GOA Statistical Area and Bering Sea Regulatory Area (2010-2014 combined)
Mercator
4D
4C
4E
Closed Area
3A
3B
4A
4B
2C
62°N
60°N
58°N
56°N
54°N
52°N
50°N
48°N
175°E
180°
175°W
170°W
165°W
160°W
155°W
150°W
145°W
140°W
135°W
Labels indicate IPHC Reg/Stat Area and numbers of trips for vessels 0-39', 40'+, Unknown Length
* Includes trips conducted by less than three unknown length vessels
** Includes trips conducted by less than three 0-39' vessels and unknown length vessels
5,700,000
0-39' net wt
40'+ net wt
Unknown length net wt

North Pacific Fisheries Association
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September 27, 2016

Dan Hull, Chairman
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
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Re: Agenda Item C-4, Draft 2017 Annual Deployment Plan (ADP)

Dear Mr. Hull:

Thank you for the opportunity to comment on the North Pacific Fishery Management Council's ("the Council") review of the 2017 Annual Deployment Plan (ADP). I submit the following comments on behalf of the North Pacific Fisheries Association (NPFA). NPFA's members participate in diverse fisheries from a variety of different sized vessels, including the IFQ and pot fisheries. NPFA members have made substantial investments in the observer program itself, and made independent efforts to advance the use of electronic monitoring (EM) as the appropriate monitoring approach for our members. In light of the limited coverage resources and priority management needs, NPFA requests that the Council prioritize observer deployments in PSC limited fisheries and recommend that NMFS adjust the Final ADP accordingly.

Review of the 2017 Draft ADP: lower coverage rates and funding concerns

The 2017 Draft ADP establishes six sampling strata by using the three gear types (hook-and-line, pot and trawl) for stratification and further subdivides each gear type based on whether the vessels deliver to shoreside processors or to tenders.[1] The recommended deployment allocations reflect a weighting scheme based on total discarded groundfish rather than a priority for monitoring bycatch of PSC species.[2]

[1] NMFS. 2016. Draft 2017 Annual Deployment Plan for Observers in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street. Juneau, AK 99802. October 2016 (hereinafter 2017 Draft ADP). *See* Appx. B at 17.
[2] *Id.*

The proposed deployments provide for much lower coverage rates than the previous two years, implicating a concern about whether there is enough coverage of PSC-limited fisheries to generate reliable bycatch estimates. The Draft ADP sets coverage rates for PSC-limited trawl fisheries at 18 percent for non-tendered trawl trips and 14 percent for tendered trawl trips – a much lower coverage rate than the 28 percent rate set in the 2016 final ADP. [3] In 2015, NMFS observed 24 percent of the trips in the PSC-limited trawl sector.[4] But the 2017 Draft ADP provides "the lowest total sample size since … 2013" - a 30.7% decrease from the average number of observer days over the preceding four year period.[5] It anticipates "low coverage rates for 2017 and beyond."[6] The lower coverage rates reflect the loss of additional federal funding for the program so that 2017 deployments rely exclusively on industry fees.[7]

The dependence on industry fees raises questions about whether funding is sufficient to provide for all of the potential management uses for the observer program, making it critical to establish clear priorities for observer day allocations and continue efforts to identify potential cost savings. The 2012 Environmental Assessment for the restructured program projected fee revenues based on older price and harvest data and projected that revenues from the IFQ fisheries would generate $2.9 million, and provide almost 70 percent of the observer program budget. [8] Indeed, NMFS anticipated that nearly half the total revenue would come from halibut IFQ landings alone.[9] Other groundfish fisheries would generate the remaining revenue.[10] NMFS did not expect the non-IFQ fisheries to generate sufficient revenue to pay for their own observer coverage, but rather anticipated that IFQ fisheries would cover the projected shortfall.[11] The funding mechanism for the observer program reflected the assumption that industry fees would generate $4.2 million and fund over 9,000 observer days at a cost $467 per day.[12] However, the 2017 budget for observer deployments is $3.9 million, which purchases an estimated 3,505 days of coverage.[13]

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[3] NMFS. 2015. 2016 Annual Deployment Plan for Observers in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street. Juneau, AK 99802. October 2016. *See* p. 5.
[4] NMFS. 2016. North Pacific Groundfish and Halibut Observer Program 2015 Annual Report. National Oceanic and Atmospheric Administration 709 West 9th Street. Juneau, Alaksa 99802. May 2015 (hereinafter 2015 Annual Report). *See* p. 75.
[5] 2017 Draft ADP, Appx. B at 20.
[6] *Id.*
[7] *See id.* at 19.
[8] *See, e.g.* NMFS. 2012. Environmental Analysis/Regulatory Impact Review/Initial Regulatory FlexibilityAnalysis for Proposed Amendment 86 to the Fishery Management Plan for the Bering Sea/Aleutian Islands and Proposed Amendment 76 to the Fishery Management Plan for the Gulf of Alaska at 99-101, 112.
[9] *Id.* at 112.
[10] *Id.*
[11] *Id.*
[12] *Id.*
[13] 2017 Draft ADP at 10.

A primary reason for the reduced number of available observer days is that the daily cost of observer coverage under the restructured program increased to $1,071 per day.[14] Additionally, realized fees have been lower than projected largely because of declines in IFQ harvests.[15] NMFS received $3.77 million in 2015 and $3.46 million in 2014.[16] During both of these years, fee revenues from the IFQ fisheries were significantly less than the initial estimate of $2.9 million – 2015 IFQ revenues were $2.17 million, and 2014 IFQ revenues were $1.77 million.[17] 2015 and 2014 revenues from the other groundfish fisheries have slightly exceeded initial projections, but the increase has not been sufficient to offset lost revenues from the IFQ fisheries.[18] The halibut IFQ fishery thus remains the most important source of revenue for the program – providing 35 percent of the revenue in 2015 and 30 percent of the revenue in 2014.[19]

Request for Council direction to prioritize coverage for PSC limited fisheries

Given these limited resources, NPFA requests that the Council continue to encourage NMFS to prioritize observer coverage for PSC-limited fisheries. For example, in 2014, the Council encouraged NMFS to maintain higher coverage rates for all trawl vessels and larger fixed gear vessels "in order to expand coverage on PSC limited fisheries, consistent with past Council recommendations."[20] The Council's October 10, 2015 motion requested that NMFS evaluate deployment designs that reflected an emphasis on discards for the 2017 ADP.[21] Council discussion of the motion made clear that the Council's specific concern with discards pertained to the need to incorporate the bycatch of PSC species such as halibut, crab and Chinook salmon in future allocations of observer coverage.[22] This emphasis is even more critical now given the relationship between the financial sustainability of the program and recovery of the halibut resource.

However, the "discard optimized" approach in the draft ADP does not adequately address the Council's longstanding priority for monitoring PSC-limited fisheries because it weighs all discards equally. Halibut bycatch is not just another

[14] *See id.* at 5
[15] *See* NMFS. 2015. Supplement to the Environmental Assessment for Restructuring the Program for Observer Procurement and Deployment in the North Pacific. NMFS, Alaska Regional Office, Juneau. May 2015. *See* p. 96.
[16] 2015 Annual Report at 5; NMFS. 2015. North Pacific Groundfish and Halibut Observer Program 2014 Annual Report. National Oceanic and Atmospheric Administration 709 West 9th Street. Juneau, Alaska 99802 (hereinafter 2014 Annual Report). *See* p. 6.
[17] 2015 Annual Report at 20, Table 2-2; 2016 Annual Report at 26, Table 2-2.
[18] *Id.* (showing groundfish revenues slightly exceeding $1.5 million in 2014 and 2015).
[19] *Id.*
[20] NPFMC. 2014. C-2, Observer Program Annual Report Council motion. June 5, 2014.
[21] NPFMC. 2015. C-6 Observer Annual Deployment Plan Council motion. October 10, 2015.
[22] NPFMC Audio File 2015_10_10 at 4:17:58 – 4:19:16.

groundfish discard – *it is a target species for a major fishery that provides significant revenue for the observer program*. The Final Rule implementing the restructured observer program makes clear that the Council's role in the ADP process is to "provide NMFS input on *the priority* of particular data collection goals."[23] The EA for the restructured program also anticipated a "*need to prioritize the observer days that are available, given the funding level* … and assign them to the strata that yield the greatest benefit."[24] NMFS' programmatic guidance for observer programs explains that factors which justify higher coverage levels relative to other management objectives include in-season management of bycatch.[25] In light of the reduced budget, NPFA requests that the Council direct NMFS to develop an additional method for determining the optimal allocation of observer deployments based on a weighting scheme that prioritizes coverage of PSC limited species. The weighting scheme should also consider prioritizing coverage on PSC-limited species by bycatch volumes.[26]

Observer day savings: recommended options for increasing the number of observer days available to monitor PSC limited fisheries

The Draft ADP suggests that an increase in the observer fund fee would be necessary to maintain the prior four year average of observer day deployments.[27] NPFA does not support raising the observer fee until other options have been evaluated. First, in light of the reduced budget, NPFA requests that the Council consider moving vessels fishing small amounts of IFQ to the no-selection pool. The existing no-selection pool includes jig and IFQ vessels<40 feet based on the rationale that the low levels of catch, small number of trips and logistical difficulties with putting observers on small vessels warranted the exemption from observer coverage.[28] Additionally, NMFS does not depend on observer data for in-season management of IFQ fisheries. NMFS previously considered public comments requesting an additional exemption for vessels with low annual landings, and acknowledged that the ADP process could include additional exemptions from observer coverage following an "analysis of specific exclusions from observer coverage on the data necessary to conserve and manage the groundfish and halibut fisheries."[29]

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[23] Groundfish Fisheries of the Exclusive Economic Zone Off Alaska and Pacific Halibut Fisheries; Observer Program. 77 Fed. Reg. 70062, 70069 (November 21, 2012).
[24] *See supra* n. 8 at 77 (NMFS 2012 EA).
[25] NMFS. 2004. Evaluating Bycatch: a national approach to standardized bycatch monitoring programs. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/SPO-66. 108 p. Silver Spring, MD. October 2004. See p. 61.
[26] *See* Williams, G. 2016. Incidental catch and mortality of Pacific halibut 1962-2015. Int. Pac. Halibut Comm. Report of Assessment and Research Activities 2015: pp. 313-348 (indicating that 84% of the Area 3A and 3B halibut bycatch occurs in the groundfish trawl sector).
[27] 2017 Draft ADP at 20.
[28] *Id.* at 8-9; 70 Fed. Reg. 70,076 (Final Rule).
[29] 70 Fed. Reg. at 70,076 (Final Rule).

Given the absence of an in-season management need for IFQ fisheries, NPFA requests that the Council direct NMFS to prepare an analysis of further exemptions from observer coverage by restructuring the no-selection pool to include vessels that fish fewer than 2 – 3 trips per year, thus reducing the diversion of limited observer resources to vessels that catch smaller numbers of fish. For example, in 2015, 332 hook and line vessels in the small vessel trip pool made 1,854 trips.[30] The analysis could consider: (1) how many of those vessels made only 1-2 trips; (2) how many vessels made 3-5 trips and (3) how many vessels made 6 or more trips. Then the analysis could break down those categories by retained catch. NPFA believes that those vessels making a small number of trips cumulatively harvest a small proportion of the quota, and thus the analysis may point to an area where the program could realize cost savings without significantly compromising the overall observed amount of catch from the IFQ fisheries. NPFA has had a longstanding concern that there is cost-inefficiency associated with allocating observer days to vessels fishing small amounts of IFQ, and further analysis may verify that it is most cost-efficient given available resources to increase the number of vessels in the no-selection pool.

NPFA also suggests that additional analysis could identify fleet segments that are more expensive to monitor. One of the major cost inefficiencies results from deployments out of small, remote locations.[31] Further analysis should consider the ratio of travel costs to sea days in order to identify fleet segments that are more expensive to monitor. Such analysis could further inform priorities. Importantly, NPFA believes that some of the more expensive remote deployments may overlap with vessels fishing smaller amounts of IFQs discussed in the preceding paragraph.

NPFA also believes that the Council should await optimization of electronic monitoring (EM) prior to any further consideration of raising the fee percentage. Our members fish on a variety of vessel sizes and for many of these vessels it is impractical to take an observer. NPFA has thus worked proactively to advance the use of EM technology for both IFQ and Pacific cod pot boats with the goal of developing a technology that meets the monitoring needs of NMFS and the Council. The Annual Report identifies a "fully loaded" EM cost of $1,106 per day – similar to the cost of observer coverage.[32] However, is that really the long-term daily cost? ALFA's 2012 pilot study demonstrated at sea day costs ranging between $200 and $330 for equipment, field service and data review. The Draft ADP estimates that 76 vessels will participate in the EM program in 2017 and NPFA anticipates that eventually EM will become the standard monitoring technology for at least 350 ≥40 feet participating in the IFQ and pot fisheries in the Gulf of Alaska, and ideally for larger vessels as well.

[30] 2015 Annual Report at 75.
[31] *Id.* at 31.
[32] *Id.*

Finally, NPFA appreciates the Council's direct efforts to request additional federal funding for the program, and requests that the Council renew its supplemental funding request now that increased observer day costs and reduced fee revenues make it difficult to maintain the minimum coverage levels needed to optimize the program.

Need for variance estimates to inform optimized sampling

An additional reason why NPFA does not support increases to the observer fee is that the Council and fishery stakeholders have not had the opportunity to review target performance standards for the data from the observer program, or changes in data quality that may result from various observer coverage allocations. The Final Rule for the restructured observer program anticipated that the restructured observer program would improve NMFS's ability to estimate bycatch and that the ADPs would address uncertainty in the agency's bycatch estimates.[33] Similarly, the Environmental Assessment for the restructured observer program specifically anticipated that NMFS would analyze variances, and use them to inform the level of sampling effort needed to achieve statistically reliable bycatch estimates.[34]

However, the Draft ADP did not evaluate performance in terms of precision and accuracy but instead used gap analyses – whether there would be data gaps in certain fisheries - as a performance metric.[35] The Council and fishery stakeholders will be able to review variance estimates in subsequent analyses – when they become available.[36] At the very least, the final ADP should provide more explicit discussion of work on variance estimates to date in order to better enable fishery stakeholders and the Council to provide more specific input or make recommendations regarding changes in sampling strata or priorities.

This review should occur prior to any consideration of increases in the observer program fee percentage. NMFS has recognized that "for fisheries where observer coverage is needed to monitor bycatch … a level of coverage should be deployed that provides statistically reliable bycatch estimates."[37] The SSC identified "a critical need to calculate the variances associated with the point estimates (e.g. target catch, by-catch) to aid with the optimization of the observer deployment sampling design and to assess uncertainty in estimates of catch.[38] Thus, while the ADP shows how NMFS will spend $3.9 million on deployments, it never explains whether bycatch estimates

[33] 77 Fed. Reg. at 70,066-70,067.
[34] *See supra* n. 8 at 155 (NMFS 2012 EA).
[35] Draft ADP at 21.
[36] *Id.*
[37] 68 Fed. Reg. 11,510, 11504 (2003).
[38] 2017 Draft ADP at 16; 2015 Annual Report at 48.

will be of sufficient data quality to manage the fisheries within PSC limits. And considerable uncertainty remains about estimated halibut bycatch in the Gulf of Alaska – as explained in 2016 by the IPHC: "observer coverage for most fisheries is relatively low, … and the extrapolation of bycatch rates from a small set of observed vessels to a much larger unobserved fleet renders the [bycatch] estimates … uncertain."[39]

The 2015 annual report also identifies evidence of an observer effect for large and small vessels and both tendered and non-tendered trips, with differences in catch and duration of trips.[40] Will lower coverage levels magnify this effect, particularly for PSC limited fisheries? Will there be an increased incentive to make an "observer trip" given the probability that only one out of five trips will be subject to coverage rather than one out of three trips? The Draft ADP does not address this data quality issue – that is particularly important for PSC-limited fisheries. NMFS recognizes that:

> The management regime can affect both the nature and magnitude of the observer effect. For example, if there are bycatch limits that can either close a fishery or trigger time and area closures, fishermen will have a greater incentive to take actions that result in an observer effect bias.[41]

Conclusion

In conclusion, NPFA, like many fishery stakeholders, expected that the restructured program would have prioritized coverage for PSC limited fisheries when first implemented. Fee revenues from our members and other IFQ stakeholders provide a primary funding source, and NPFA had expected that one of the primary benefits from member investments in the program would be improved estimation of halibut bycatch. NPFA urges the Council to direct NMFS to consider a deployment allocation scheme that prioritizes data collection in PSC limited fisheries, and analyze cost-savings opportunities in other sectors as needed to meet that priority.

Respectfully,

G Malcolm Milne

G Malcolm Milne
President, North Pacific Fisheries Association

[39] *See supra* n. 26 (Williams, G. 2016).
[40] 2015 Annual Report at 8.
[41] *See supra* n. 25 (Evaluating Bycatch) at 38-39.

September 26, 2016

Mr. Dan Hull, Chair
North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
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Dr. James Balsiger, Regional Administrator
NOAA Fisheries, Alaska Region
709 West Ninth Street
Juneau, AK 99802-1668

RE: C4 2017 Draft Observer Annual Deployment Plan

Dear Chairman Hull, Dr. Balsiger, and Council Members:

We are writing in response to the 2017 draft Observer Annual Deployment Plan (ADP). In it, NMFS outlines how they intend to assign fishery observers to fishing vessels in the North Pacific in 2017. We commend NMFS for recognizing the need to deploy observers on the vessels that are delivering catch to offshore tenders that were previously unobserved. We are strongly concerned, however, at the proposed significant drop in observer coverage for the Gulf of Alaska trawl fleet. The proposed coverage would drop from 28% in 2016 to an estimated 17.6% in 2017. This fleet is in the midst of controversial and urgent management changes to address high Chinook salmon and halibut bycatch and now is not the time to reduce observer coverage and thus reduce bycatch monitoring and data collection. These boats should have 100% observer coverage; the proposed reduced rate would be woefully insufficient to monitor the trawl fleet fishery, collect biological samples, record Pacific halibut viabilities, report marine mammal interactions, represent an equal playing field for other vessels, all while attempting to adequately represent targeted catch and bycatch data for the Gulf of Alaska trawl fleet.

Observer data is currently "the only reliable and verifiable method available for NMFS to gain fishery discard and biological information on fish"[1]. In short, NMFS acknowledges that more observer coverage provides better data and better monitoring of bycatch. However, there is a disconnect between seeking reliable and verifiable fisheries information from observers and deploying observers at a rate to collect enough data to reliably represent catch composition. Despite its own recommendation, NMFS determines the deployment rate of observers using, "… available sea-day budgets…"[1]. Basing observer coverage on available funding rather than establishing coverage needs first and cost second does a disservice to fisheries participants reliant on sustainable management.

[1] NMFS (National Marine Fisheries Service). 2016. Draft 2017 Annual Deployment Plan for Observers in the Groundfish and Halibut Fisheries off Alaska. National Oceanic and Atmospheric Administration, 709 West 9th Street. Juneau, Alaska 99802.

NMFS and the NPFMC are currently considering large changes to the management of the Gulf of Alaska trawl fishery[2]. Amongst the alternatives being considered are 'catch-share' type allocations to fishermen, which have the potential to create new wealth for fishermen receiving such allocations. History has shown that when catch-shares and new wealth are on the horizon, existing and new fishermen race to establish a fishing history in hopes of receiving a larger share in the future[3]. In such a race, it is possible that minimizing bycatch could be of lesser priority to some participants and make bycatch estimates highly variable between vessels. While management plans are being debated, more observer coverage, not less, should be employed in the interim

Further, NMFS and the NPFMC have already acknowledged the necessity of high observer coverage for a proposed Gulf of Alaska trawl bycatch management.[4] Each of the draft alternatives discussed implementing 100% observer coverage, which Oceana fully supports. We have submitted a comment letter to NMFS in regards to the GOA trawl bycatch management plan and EIS preparation[5], but reiterate here the importance of 100% observer coverage.

Pacific halibut are a bycatch species of concern in GOA trawl fisheries and are managed as prohibited species catch (PSC). Handling mortality data is collected from halibut; and discard mortality rates (DMR) are estimated for fisheries throughout Alaska, the calculations for which are being discussed at the October meeting[6]. If observer coverage is reduced, that results in fewer halibut observed and sampled for DMR. In some instances, the fewer halibut observed could underestimate the total number of incidentally caught halibut; in other situations, a large halibut recorded in the observer sample may over-represent the weight amount of bycatch halibut during that particular haul. In either scenario, less observer coverage has the potential to lead to halibut bycatch estimates with less accuracy and precision, which in turn can negatively affect the fishery.

The focus of proper management supported by full observer coverage should not be limited to GOA trawl fisheries. While 100% observer coverage would be best, Oceana realizes different fisheries targeting different fish species across the EBS, AI, and GOA require different monitoring needs. Depending on the fishery, the coverage determined must accurately and precisely estimate total bycatch extrapolated from that observed. One study suggests that, with an unbiased sample, at least 20% coverage should be sufficient for common species and at least 50% coverage for fisheries that may

[2] https://www.federalregister.gov/documents/2016/07/28/2016-17879/fisheries-of-the-exclusive-economic-zone-off-alaska-groundfish-fisheries-in-the-gulf-of-alaska
[3] NPFMC. 1997. Development of the Individual Fishing Quota Program. http://www.npfmc.org/ifqpaper/
[4] NPFMC. 2016. GOA Trawl Bycatch Management – Discussion Paper – June 2016
[5] https://www.federalregister.gov/documents/2016/07/28/2016-17879/fisheries-of-the-exclusive-economic-zone-off-alaska-groundfish-fisheries-in-the-gulf-of-alaska
[6] D2 Halibut DMRs Methodology Discussion Paper, October 2016 NPFMC meeting

encounter rare species[7]. However, an unbiased sample is, in and of itself, rare. Bias is inherent in estimating total bycatch from observer subsamples with any coverage less than 100%[3].

Bias is also introduced by differences between sampled and unsampled hauls. The so-called "observer effect" can skew bycatch data in two ways: fishermen may under-report bycatch on unobserved hauls[8] or fishermen may change their fishing behavior during sampled versus unsampled trips. Changes in behavior could include shorter trips with the observer or fishing with less effort in order to comply with percent coverage needed while minimizing the amount of bycatch an observer can record. The observer effect, and any bias associated with it, would be eliminated with full coverage.

Observer coverage is important for the health of Alaskan fisheries. The more our fisheries are monitored the less likely we are to negatively impact the marine environment on which we rely[9]. We urge you reevaluate the current proposed deployment rates and increase rates on the Gulf of Alaska trawl fleet.

Sincerely,

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[8] Burns, R. J., and G. N. Kerr. 2007. Observer effect on fisher bycatch reports in the New Zealand ling (*Genypterus blacodes*) bottom longlining fishery. New Zealand Journal of Marine and Freshwater Research 42: 23 – 32.

[9] Dowling, N. A., C. M. Dichmont, W. Venables, A. D. M. Smith, D. C. Smith, D. Power, and D. Galeano. 2013. From low- to high-value fisheries: Is it possible to quantify the trade-off between management cost, risk and catch? Marine Policy 40: 41-52.