Deployment of Observers on Catcher Vessels Delivering to Tender Vessels Discussion Paper[1]

February 2016

Contents

1 Introduction

The Council has initiated an analysis to address potential bias in observer data from vessels delivering to tenders, by requiring each delivery to a tender to constitute a separate fishing trip for purposes of observer coverage selection, and changing the regulations to allow observers to be deployed directly from tender vessels rather than only from port. The analysis is currently scheduled for initial review in June 2016. In beginning the analysis, staff has identified other options and alternatives that may meet the Council's purpose and need, including one that would not require a regulatory analysis to implement. Given that there is considerable complexity and staff time involved in developing and analyzing the details of the current alternative set, staff has suggested that it may be efficient to ask the Council to provide feedback on a revised suite of alternatives before proceeding with the full analysis.

This discussion paper reviews the purpose and need statement (Section 2) and alternatives (Section 3), and provides some background discussion to give context to the changes proposed by staff. Section 4 provides a summary of questions for Council consideration at the February 2016 meeting, which is an opportunity for the Council to 1) revise the purpose and need statement, 2) provide feedback on the restructured set of alternatives, and 3) explore the potential for alternative solutions before continuing with this regulatory amendment process.

1.1 Background

Beginning in 2013, the Council and NMFS restructured that groundfish observer program in the North Pacific with the goal of removing potential sources of bias that could compromise the statistical reliability of catch and bycatch data from GOA and BSAI groundfish and halibut fisheries. The program separated

[1] Prepared by Matt Robinson, Diana Evans, and Jon McCracken (Council staff) with contributions from Mike Fey (AKFIN); Sally Bibb, Alicia Miller, and Jennifer Mondragon (NMFS Alaska Region); Samantha Case and Jennifer Lincoln (NIOSH); Brian Mason and Chris Rilling (Observer Program); and Tom Meyer (NOAA GC).

vessels into two coverage categories: 1) full coverage, where vessels and processors contract with observer providers directly, and 2) partial coverage, where vessels in the "trip selection pool" (all trawl vessels in partial coverage and any fixed gear vessels equal to or greater than 40 ft length overall) must log each fishing trip in the Observer Declare and Deploy System (ODDS) and are then randomly selected for observer coverage based on an annually-determined selection rate that is set through the Annual Deployment Plan. To accommodate catcher vessels (CVs) delivering to tender vessels, there are two definitions of a fishing trip in the program:

- For a CV delivering to a shoreside processor or stationary floating processor, a trip is defined as the period of time that begins when a CV departs a port to harvest fish, until the offload or transfer of all fish from that vessel. "Transfer" is defined in 50 CFR 679.2 as "any loading, offloading, shipment or receipt of any…groundfish product by a mothership, catcher/ processor, shoreside processor, or stationary floating processor," but does not include offloads to tender vessels.
- For a CV delivering to a tender vessel, a trip is defined as the period of time that begins when a CV departs from port to harvest fish, until the vessel returns to a port with a shoreside processor or stationary floating processor with a valid Federal Processing Permit (FPP). The distinction enables a CV to stay at sea, fishing and making multiple deliveries, without ending the trip.

In 2013, the preliminary 2013 Observer Annual Report, which reported on data from the first 4 months of the year, reported that the trip length of observed CVs delivering to tender vessels was typically shorter than that of unobserved CVs, implying unrepresentative fishing behavior. This results in a potential bias in the data, as fishing activity on observed CVs may not be representative of fishing activity on unobserved CVs, and may highlight a potential incentive for CVs to stay at sea delivering to tenders when unobserved. However, in the final 2013 Observer Annual Report, looking at data from the entire 2013 year, the trip length analysis did not show a systematic difference in trip length between observed and unobserved CVs. The small number of observed trips for CVs delivering to tender vessels may have been insufficient to clearly capture any difference in trip length, and there may also have been differences on a seasonal time period that were not apparent in evaluating data for the entire year.

Analysis conducted in the 2014 annual report did not find any indication that observed vessels delivering to tenders were making shorter trips or fishing in different areas than unobserved vessels delivering to tenders.[2] These findings are consistent with the findings in the 2013 annual report. However, small sample sizes and the difficulty in identifying all deliveries to tenders in the landings data may be limiting the data available for this analysis.

The analysis in the 2014 annual report did identify differences in vessel length and the proportion of the predominant species between observed and unobserved catcher vessels delivering to tenders.[3] NMFS noted that these differences could be explained by characteristics of the catcher vessels delivering to tenders that were not addressed in the analysis, such as deployment strata or gear type. For example, for catcher vessels delivering to shoreside processors in 2014, vessel length for observed vessels was significantly different than vessel length for unobserved vessels (Table 3.12 in the 2014 annual report). However, vessel length was not significantly different when the observer data was analyzed by gear type (Table 3.13 in the annual report). In the 2014 annual report, NMFS recommended that additional analysis by gear type for catcher vessels delivering to tenders be conducted for the 2015 annual report, if sufficient observer data by gear type is available to conduct such an analysis.

[2] See pg 11 of the Executive Summary and Table 3.11 of the 2014 Observer Program Annual Report.
[3] Observed catcher vessels delivering to tenders in 2014 were 8.8 percent shorter in length overall than unobserved vessels delivering to tenders. The catch delivered by observed catcher vessels delivering to tenders in 2014 was 6 percent less diverse that the catch of unobserved catcher vessels delivering to tenders (see page 3.11 of the 2014 annual report).

Despite the findings in the Observer Program annual reports, the Council and NMFS continue to receive anecdotal information that CV operators are purposely taking longer trips (and making more deliveries) when unobserved and delivering to tenders, in order to avoid ending the fishing trip and becoming eligible again for selection for observer coverage. Stakeholders have expressed concern that the definition of a tender trip represents a loophole that needs to be resolved. Although analyses to date have not identified this as a potential source of bias in the observer data, as noted above, small sample sizes and the difficulty in identifying all deliveries to tenders in the landings data may be limiting the data available for this analysis.

In December 2013, the Council developed a problem statement and initiated an action to explore regulatory options to address Observer Program data quality concerns of CVs delivering to tender vessels and the sampling of offloads to tender vessels. Originally, there were two actions contemplated in the analysis: a) to deploy observers directly from tender vessels on the fishing grounds, in order to rescind the extended definition of a fishing trip applying to vessels delivering to a tender vessel; and b) to allow observers to cross over onto the tender vessel to census and sample salmon in pollock offloads when they are delivered to the tender. In June 2014, in conjunction with review of the final 2013 Observer Annual Report, the Council chose to remove the latter option from the analysis, partly because of the logistical complications of regulating an observer sampling station onboard tender vessels, and partly because the Council was contemplating a GOA trawl bycatch management action with 100% observer coverage on all GOA trawl vessels, which would allow other solutions to the problem. As a result, the amendment package was then focused exclusively on changing the definition of a tender trip and deploying observers from tender vessels.

2 Purpose and Need

The Council initiated this action in December 2013, and affirmed it in June 2014, specifically to address the concern that tender activity by CVs in the trip selection pool may represent an important source of bias in catch data from the partial coverage category. As stated in the previous section, a primary purpose for restructuring the observer program was to remove potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data from the groundfish and halibut fisheries. A potential bias in the catch data could occur if vessels are making extended, unobserved deliveries to a tender, and if fishing behavior on observed vessels delivering to tenders is not representative of vessels that are not observed.

Ongoing Council analyses that may affect the issue of potential bias in observer data

There are currently three different actions in the developmental stages that could help address the Council's concerns about potential bias in observer data from vessels delivering to tenders: 1) 100% observer coverage on GOA trawl vessels as part of the GOA Trawl Bycatch Management action, 2) the action either allowing or requiring 100% observer coverage on BSAI trawl CVs, and 3) the ongoing implementation of electronic monitoring (EM). Under the first two actions, all trawl vessels in the GOA, and potentially most trawl catcher vessels in the BSAI, could be placed in the full observer coverage category. Appendix A to this document provides an overview of tendering activity in the BSAI and the GOA by gear type. Trawl CVs in the GOA account for roughly 60 percent of the catch delivered to tender vessels in 2015, and no trawl tendering activity occurred in the BSAI (see Table 2 in Appendix A). The implementation of these two actions would thus greatly reduce the potential bias in observer program data relative to partial-coverage CVs delivering to tender vessels.

Additionally, the Council is beginning to implement an EM option in the fixed gear sectors. Under the current deployment model, vessels that are selected to carry EM for a given time period will have full

monitoring on all trips during that 2- or 4-month period, regardless of whether they are delivering shoreside or to a tender. The EM option will not entirely eliminate the potential for bias because participation in the EM program is optional, and vessels in the program are subject to a selection rate (currently 30%) for determining how many vessels will carry cameras. However, it is possible that having the EM program as an option will help to address the Council's concerns. In particular, the representatives of the Pacific cod pot fisheries have been very interested in pursuing EM as an option in their fishery, which the Council supports, and pot CVs account for 39 percent of the catch delivered to tender vessels in 2015 (see Table 2 in Appendix A).

The Council's pursuit of these other actions provides additional context for the staff suggested changes to the alternatives, in Section 3 of this document.

Additional consideration for purpose and need

In the intervening time period, the Council has received testimony from some fishery participants that there is another issue the Council may wish to consider with respect to changing Observer Program regulations pertaining to vessels delivering to tenders. Testimony has suggested that there is a disproportionate cost to smaller CVs inherent in having a different definition of trip for vessels delivering to a tender. Figure 11 in Appendix A confirms that vessels 40-57.5 feet LOA, is the size class that delivers the largest percentage of the catch delivered to tender vessels. Small CV operations are more dependent on making multiple deliveries to tender vessels to make their fishery cost efficient. Relative to shoreside deliveries, delivering to tenders reduces the amount of time a CV is not fishing, and the cost of fuel for traveling to and from the offload site. If such a small CV is selected for observer coverage, the vessel will be required to keep the observer until the observer can be delivered to port, no matter how many offloads occur during that time period. If the vessel is unable to return to port due to cost constraints, the vessel must bear the accommodation cost for an additional person throughout the fishery, potentially resulting in a hardship to the vessel. Testifiers have suggested that this is a disproportionate cost borne by vessels delivering to tenders, compared to vessels in trip selection which are delivering shoreside.

2.1 Council's problem statement and proposed changes

In December 2013, the Council adopted a purpose and need statement for this action, focused on the issue of addressing bias in data. The statement also included a sentence relating to the option that was removed from this amendment package in June 2014, namely to allow the census of salmon onboard tenders during pollock deliveries. This sentence has been marked with strikeout by staff, as a housekeeping change to the problem statement:

> *The Council is concerned that under the new Observer Program the definition of a fishing trip and the ability of catcher vessels to deliver to tenders introduces a potential bias that affects data quality due to observed fishing activity being unrepresentative of unobserved operations. ~~In addition, genetic sampling of Chinook salmon caught as bycatch in the GOA catcher vessel pollock trawl fishery is not occurring when these vessels deliver to tenders, thereby undermining the Council's objective to determine the stock of origin of these Chinook salmon.~~ The Council seeks to correct these unintended consequences by changing how observers monitor and are deployed on groundfish vessels delivering to tenders.*

Based on the discussion above, staff is asking the Council to consider whether the Council's problem statement should be updated beyond the housekeeping change suggested by staff. In particular, staff requests Council input about (1) the lack of a definitive indication of bias in analyses conducted thus far in the Observer Program annual reports , and (2) whether industry concern about the disproportionate cost of observer coverage on certain CVs delivering to tenders should be added as an element of the problem statement.

3 Description of Alternatives and Proposed Changes

The alternatives approved by the Council for this action, as modified in June 2014, are as follows:

Alternative 1: Status Quo

Alternative 2: Revise the Observer Program regulations that affect how observers are deployed on catcher vessels delivering to tenders.

Option 1: Deploy observers for catcher vessels from tenders.

In considering how to structure the analysis, staff have realized that the complexities of the Council's alternative (i.e., regulatory, financial, logistical, etc.) are such that for a clear understanding of the costs and benefits, it makes sense to break the alternative down into three components. These components address major factors in the redefinition of a fishing trip: observer provider responsibilities for facilitating transportation, allowable modes of transportation of the observer to the fishing grounds, and the minimum time a vessel must be prepared to wait for the observer between logging a trip and departing. The Council's current alternative is reformatted below as Alternative 3, with three components and options that clearly delineate participant responsibilities. The reformatting of the alternatives also references the recommendations of NMFS' Fishery Management and Analysis Division (FMA, or the Observer Program) in Section 3.3.1 of this discussion paper, against including any alternative that relies on at-sea transfers of observers.

Alternative 2 is a new alternative proposed by NMFS and Council staff. Under this alternative, the Council would recommend that data quality concerns about catcher vessels delivering to tenders continue to be addressed through the Observer Program Annual Report and Annual Deployment Plan (ADP) process, with a specific recommendation to consider establishing a new stratum in the 2017 ADP for catcher vessels delivering to tenders. The implementation of this alternative does not require a regulatory change, but it is laid out as an alternative because creating a new stratum in the ADP for catcher vessels delivering to tenders is a change from the status quo and could address some data quality concerns. In addition, consideration of Alternative 2 provides the Council with the opportunity to highlight for NMFS the importance of evaluating observer data from catcher vessels delivering to tenders in the 2015 Observer Program annual report, which will be presented to the Council in June 2016, and of evaluating the idea of creating a new stratum for these vessels in the 2017 ADP.

Alternative 4 is also a new alternative proposed by staff. One of the reasons that analysts have difficulty evaluating observer coverage on catcher vessels delivering to tenders is that we do not have a reliable reporting mechanism to track when vessels are delivering to tenders. A solution to this is to implement a regulatory requirement for all tender vessels to use tLandings. This regulatory change could move forward as an independent action or as part of this amendment package in conjunction with other alternatives selected by the Council.

Staff recommends the following revisions to the alternatives for Council consideration:

Alternative 1: Status quo

Alternative 2: Request NMFS to evaluate creating a separate stratum in future ADPs for catcher vessels delivering to tenders.

Alternative 3: Revise the Observer Program regulations to require each delivery by a fishing vessel, whether to a port or to a tender, to constitute a separate trip.

If at-sea transfer of observers continues to be considered by the Council as part of the amendment package, the following three components would apply:

Component 1: Responsibility for transporting the observer from port to fishing grounds

a) The observer provider must transport the observer to the nearest port (status quo) and be willing to help facilitate the vessel's transportation of the observer to the tender.
b) The observer provider must transport the observer to the tender for deployment.
c) Coordinate with shoreside processors to transport the observer to the fishing grounds for deployment.

Component 2: Transportation of observer from port to fishing grounds

a) The observed CV transports the observer to and from port (status quo).
b) Observers can be transported on tender vessels.
c) Observers can be transported on authorized vessels.

Component 3: Staging time for getting observer in position for deployment.

a) Observer provider must have an observer ready for deployment on the CV within 72 hours of being selected for coverage (status quo).
b) Observer provider must have an observer to the nearest port within 72 hours.
c) Observer provider must have an observer ready for deployment on the CV within 96 hours of being selected for coverage.

If at-sea transfers are no longer included in the analysis, vessels would be required to go to the nearest port to pick up an observer if selected for coverage under Alternative 3.

Alternative 4: Tender vessels must enter landing reports into tLandings.

Each of the alternatives are described in more detail in the sections that follow, including a discussion about at-sea transfer of observers with respect to Alternative 3 in Section 3.

3.1 Alternative 1, No Action

Under the status quo, vessels in the trip selection pool of the partial coverage category are randomly selected to carry an observer for the duration of a fishing trip. Vessel owners or operators are required to log each trip in ODDS, and they are immediately informed whether the trip has been randomly selected for observer coverage. There are two different definitions of a "fishing trip", depending on whether a vessel is delivering to a shoreside or stationary floating processor, or to a tender vessel (see Section 1.1). The definition of a tender trip allows a vessel to stay at sea, fishing and making multiple deliveries, without ending the trip.

Vessels in the trip selection pool are required to log a proposed trip in ODDS at least 72 hours before the departure time, in order to allow the observer provider sufficient opportunity to get the observer to the port for which the trip departure is logged. Vessel operators may log up to three trips in advance. At the conclusion of an observed trip, they must return the observer to a port with a Federally permitted processor.

There are no observer coverage requirements for tender vessels, and the regulations governing vessel responsibilities when an observer is onboard do not extend to tender vessels.

3.2 Alternative 2, No Regulatory Change but Separate Stratum in the ADP

Alternative 2 is a variant of the status quo, as there is no regulatory change required to implement it. Vessels would continue to be required to log each trip in ODDS, to pick up and return their observers in port, and the definition of a tender trip would remain unchanged. In order to address the Council's concern about potential bias in data, however, NMFS would evaluate the proposal to create a separate stratum in future ADPs for catcher vessels delivering to tenders. The creation of a separate stratum allows the opportunity to apply different selection rates for observer deployment. As with all annual selection rates in the ADP, the appropriate deployment rate for the tender stratum would be analyzed and presented to the Council for consideration as part of the draft ADP in October prior to the year of deployment. By having vessels delivering to tenders as their own stratum, the ADP could adjust the selection rate upwards for these vessels in order to ensure that a sufficient proportion of tender trips are observed to result in a representative basis of fishing activity among these vessels. As such, it is likely that the selection rate may increase for vessels delivering to tenders. The Council also would request that NMFS continue to analyze separately observer data from catcher vessels delivering to tenders in the Observer Program annual reports, and expand that analysis as appropriate in future reports.

Practically speaking, this alternative would operate in a similar manner to the current process of declaring gear type when a trip is logged in ODDS, and having the gear type determine the selection rate probability for whether the trip is observed. The vessel operator would declare whether s/he intended to deliver to a tender during the course of the upcoming trip, and the tender selection rate would be applied to see whether the trip would be observed. Once selected, the observer would remain onboard for the duration of the fishing trip, regardless of the number of deliveries that may occur to a tender vessel, until the vessel returns to port.

Although there is no regulatory change required under Alternative 2, and it is within the Council and NMFS' authority to create a separate stratum for CVs delivering to tenders in the ADP, it is considered here as a separate alternative because it has not been proposed to date, and it represents a change from the status quo. Alternative 2 can be analyzed as part of this amendment package, to contrast with the regulatory change in Alternative 3, or the Council could request an analysis of this option to be developed for the 2017 ADP independently of this amendment package.

The advantage of a non-regulatory option is that it can be operational on the water within a year, while regulatory changes generally take longer, depending on the complexity of the proposed regulatory amendment. This alternative can be used to address the issue of potential bias in the observer data. The proposed change in this alternative would not change the definition of a tender trip, however, and therefore would not mitigate the concerns of small catcher vessels that deliver to tenders, and who have testified that they are disproportionately burdened by potentially having to carry an observer for the duration of an entire fishing season because it is cost-prohibitive to return to port. In fact, if the ADP analysis suggested implementing a higher selection rate for vessels delivering to tender vessels, this option may end up affecting more of such vessels.

3.3 Alternative 3, Rescind the Definition of a Fishing Trip Applying to Tender Deliveries

Under this alternative, the regulatory definition of a fishing trip that applies exclusively to CVs delivering to tender vessels would be rescinded, leaving a single definition of a trip. Delivery of catch, whether to a processor or to a tender vessel, would represent the end of a fishing trip in the Observer Program regulations, and if a vessel wanted to go back out to fish, a separate trip would need to be logged in ODDS.

The Council's alternative, as written in June 2014, specified that to implement the change in the fishing trip definition, observers would be deployed from tender vessels on the fishing grounds. These two elements are not inextricably linked, however. If the regulatory definition of a tender fishing trip without also deploying observers directly from tender vessels, CVs selected for observer coverage would have to return to the nearest port to pick up an observer for their next trip. FMA specifically recommends against the elements of Alternative 3 that would authorize the at-sea transfers of observers, as described in Section 3.3.1.

Notwithstanding FMA's recommendations about Alternative 3, three components have been identified within Alternative 3 to help define how this change would be implemented in the observer program regulations. The components assign responsibility for transporting the observer to the fishing grounds, the means by which an observer can be transported, and the duration of the time after a trip is logged in ODDS that a vessel must wait for the observer to arrive before departing on the fishing trip. Each component contains three options, which vary the costs and logistical difficulties that are borne by the vessels, the observer provider, the partial coverage observer program, and/or the tender or transport vessel. An indication of the status quo is included under each component, which identifies how that component would be addressed under current regulations without additional regulatory change.

Under Component 1, the Council would determine whose ultimate responsibility it is to get the observer from the nearest port to the fishing grounds: the vessel, the observer provider, or through coordination by the shoreside processors with which the tender vessels are associated. Under all of these options, it is expected that the parties will cooperate with each other to facilitate the transport of the observer, but who has the ultimate responsibility will affect who bears the most cost, especially if arrangements fall through.

Component 2 provides options for the vessel on which an observer would be transported from port to the fishing grounds. Staff has included a status quo option here, which perhaps does not flow exactly from the Council's June 2014 directive, which would require the catcher vessel that is selected for coverage to return to the nearest port to pick up and drop off of the observer. This option has been included because it removes the necessity for at-sea transfer of observers, which raises safety concerns for the Observer Program (see further discussion in Section 3.3.1). Additionally, option (c) expands the type of vessel that may transport the observer to the fishing grounds to any authorized vessel, rather than limiting it specifically to a tender vessel. This would provide the flexibility to allow observers to be transported for example on other fishing vessels (likely limited to vessels that carry a Federal Fisheries Permit and are subject to Observer Program regulations), or on authorized commercial transports such as water taxis.

Finally, Component 3 considers the staging time necessary for the observer provider to get the observer in place for deployment after a trip is logged in ODDS. Currently, a vessel is required to give the provider 72 hours after logging a trip to get an observer to the port. If it is to be the provider's responsibility to get the observer out to the fishing grounds for deployment from a tender vessel, it is likely that 72 hours may be insufficient. Alternative options are included for a 96 hour wait time, or that the 72 hour time period applies only to getting the observer to the nearest port, and does not include travel time to the fishing grounds.

The implementation of Alternative 3 with the provision of deploying observers from tender vessels would require other changes. For example, the regulations would need to be modified to define vessel responsibilities for tender vessels while an observer is onboard, and modifications will be needed to ODDS to allow vessel operators to notify the observer provider that they are intending to initiate or end their trip at a tender vessel.

In order to provide a rough sense of the cost and logistical difficulty to different stakeholders, Table 1 illustrates the potential effects of selecting various component combinations under Alternative 3. This

table is meant to provide a general overview of the potential effects of given scenarios based on preliminary information, and does not represent any of the nuances that would be described in a comprehensive analysis. The table is tiered starting with the responsibility for getting the observer to the grounds (Component 1), followed by means of transportation (Component 2), and further broken down into the amount of time allowed for transportation to the specified location (Component 3). The table illustrates the relationship between cost and logistical challenges to the catcher vessel, the observer provider, the partial coverage observer program (primarily in terms of increased costs that would take coverage away from other fisheries), and transport vessels. The table does not provide an assessment of the tradeoff between increased costs and improvement to data quality, although this will be an important factor in the regulatory analysis.

Note that some of the component combinations that result in a significant change in the scope of work required by the observer provider may likely require a renegotiation of the partial coverage observer provider contract. Currently, the provider is paid for every day that an observer is at sea, including travel days, and transporting the observers out to the fishing grounds will certainly increase travel days, especially if the observer ends up being stationed at a tender vessel waiting for the fishing vessel to begin its next trip. However, since the specifics of the contract are confidential, the threshold for renegotiation and the structure for contract rates cannot be analyzed in this amendment package, and any evaluation will have to be speculative on that subject.

3.3.1 Safety concerns regarding at-sea transfer of observers

The NMFS Observer Program (Fishery Monitoring and Analysis Division) does not support any changes to observer deployment methods that would result in the practice of at-sea transfers becoming a standard operating procedure. As such, the Observer Program does not support adding components to Alternative 3 that would facilitate the deployment of observers from tender vessels. If the Council opts to rescind the definition of a tender trip under Alternative 3, the Observer Program supports Component 2 (a), which would require the CV to return to port to pick up and drop off the observer if selected for coverage. This effectively results in status quo (options a) under Components 1 and 3, as well.

Currently, the North Pacific is the only region in the United States where observer transfers at sea occur, and there are no examples of other nations' observer programs adopting at-sea transfers as part of their standard operating procedures (although that may sometimes occur in high seas fisheries). All at-sea transfers of observer personnel are dealt with on a case-by-case basis to determine the necessity, safety concerns, and logistics. The regulations regarding at-sea transfers found at 50 CFR 679.51 are sufficient to ensure an observer's safety for the infrequent transfers that currently occur. For example, since 2008, the database indicates that an observer's trip began and/or ended with an at-sea transfer a total of 183 times, out of 50,052 completed trips, or 0.0036% of trips. Due to the infrequency of observer transfers-at-sea, the current regulations meet the needs of the Observer Program and a thorough revision of observer at-sea transfer protocols has not been necessary. However, the adoption of Alternative 3 and a transportation method that requires regular transfers-at-sea would likely result in the need to reprioritize the at-sea transfer regulations to provide the efficiency necessary to meet the increased demands. Observer Program at-sea transfer regulations are not written to facilitate a high volume of at-sea transfers, but to provide general requirements with the flexibility to adapt to different situations.

Table 1 Rough evaluation of potential change in costs and logistical difficulties as a result of rescinding the tender trip definition under Alternative 3, for catcher vessels, the partial coverage observer program, the observer provider, and transport vessels (tender vessels or other authorized)

			Cost to:				Logistical Difficulty for:			
Component 1 Responsibility for getting observer to fishing grounds	**Component 2** On which vessels can the observer travel	**Component 3** Duration between logging a trip in ODDS and departure (staging time for deployment)	**Catcher Vessel**	**Partial Coverage Program**	**Observer Provider**	**Transport vessel**	**Catcher Vessel**	**Partial Coverage Program**	**Observer Provider**	**Transport vessel**
a) Vessel is ultimately responsible for getting the observer to their vessel Observer provider is responsible for transporting the observer to the nearest port, and helping facilitate deployment to the fishing grounds	**a) Status Quo – CV only** CV has to return to port if selected for coverage	**a,b) Status Quo** Provider has 72 hours to deploy observer	Higher	Similar	Similar	*Not applicable*	More work	Similar	Similar	*Not applicable*
	Observer can be transported to fishing grounds: **b)** by tender vessel or **c)** by authorized vessel including tenders	Observer must be at fishing grounds within: **a)** 72 hours or **c)** 96 hours	Similar or Lower	Higher	Similar or Potentially Higher	Higher	More work	Similar	More work	More work
		b) Observer must be at nearest port within 72 hours	Similar or Lower	Higher	Similar	Higher	More work	Similar	Similar or potentially more work	More work
b) Observer provider is ultimately responsible for getting observer to the vessel Observer provider is responsible for transporting the observer to a tender vessel on the fishing grounds for deployment	Observer can be transported to fishing grounds: **b)** by tender vessel or **c)** by authorized vessel including tenders	Observer must be at fishing grounds within: **a)** 72 hours or **c)** 96 hours	Similar or Lower	Higher	Higher	Higher	Similar or potentially easier	Similar	More work	More work
		b) Observer must be at nearest port within 72 hours	Similar or Lower	Higher	Higher	Higher	Similar or potentially easier	Similar	More work	More work
c) Processor and vessel will coordinate to ensure the observer gets to the vessel Observer provider and CVs coordinate with processor to transport the observer to the fishing grounds	Observer can be transported to fishing grounds: **b)** by tender vessel or **c)** by authorized vessel including tenders	Observer must be at fishing grounds within: **a)** 72 hours or **c)** 96 hours	Similar or Lower	Higher	Similar or Potentially Higher	Higher	More work	Similar	More work	More work
		b) Observer must be at nearest port within 72 hours	Similar or Lower	Higher	Similar	Higher	More work	Similar	More work	More work

The regulations for observer transfers at sea found at 50 CFR 679.51(e)(ix) reflect the Observer Program's desire to address observer transfers-at-sea on a case-by-case basis to ensure the safety of all personnel involved. The ambiguity in the regulatory language for these transfers provides flexibility for the Observer Program staff to determine the best course of action based on the situation. Because ensuring observer safety is the highest priority of the Observer Program staff, the program insists all issues involving observer safety go through a rigorous decision-making process involving the Observer Program, the observer provider, the observer, and the vessels participating in the transfer.

The steps taken by the Observer Program to ensure the safety of each at-sea transfer are requisite for any industry that practices at-sea transfers. In their "Guidance on the Transfer of Personnel to and from Offshore Vessels," the International Marine Contractors Association emphasizes that "all personnel transfers at sea, irrespective of the method, should be treated as a stand-alone operation, and a formal risk assessment should be carried out beforehand. Should conditions change at the time of the transfer, the impact of these changes should be considered and appropriate management of change procedures implemented as necessary. If there are any concerns regarding the safety of the operation, the transfer should be prevented."[4] The rigorous risk assessment process currently applied to each at-sea transfer for the Alaska Groundfish Observer Program would not be feasible should at-sea transfers be adopted as a component of the existing standard operating procedures.

At-sea transfers would also impact how observers execute routine, requisite aspects of their deployment. Before embarking on a fishing trip with a vessel, the observer's first and most important responsibility is to ensure the vessel has a current and valid safety decal indicating the vessel is in compliance with all pertinent safety regulations as outlined by the USCG. This information is determined using the Observer's Vessel Safety Checklist. If an observer finds a deficiency they are instructed to notify the master of the vessel, their employer, and to immediately disembark the vessel. This provides the observer with a measure of control over their own safety, and prevents the observer from getting underway on a vessel that is not in compliance with the USCG regulations. Issues that observers have encountered that prevented them from embarking on a trip include but, are not limited to: lack of and/or expired EPIRB, lack of and/or expired survival craft, and lack of sufficient immersion suits. When a vessel is boarded at sea, it is already underway. At sea transfers would inherently require observers to board vessels before they are able to complete the Vessel Safety Checklist and verify the vessel is safe to embark upon. This could result in observers being aboard vessels in open seas that they would not have boarded after completing a Vessel Safety checklist at dockside. Without a mechanism to ensure observers have the ability to decline embarking on a vessel after an at sea transfer, observers may find themselves unable to quickly disembark a vessel that they determined to not meet the safety standards of the Observer Program. Vessel Safety Checklists that are completed at the dock allow observers to simply walk off the boat when deficiencies in safety equipment are discovered. If observers determine vessels to be unsafe to board after an at sea transfer, the process of disembarking the vessel is much more complicated and would require the observer to complete additional at sea transfers.

In addition to the issues highlighted above in determining a vessel's readiness to carry an observer, historically observers and crew have had infrequent yet commonly occurring accidents when boarding vessels at docks. Safety measures, frequently taken at docks, such as providing safety nets, gangways, and ladders on the docks to facilitate a quick rescue have contributed to preventing the vast majority of these accidents from resulting in serious injuries or fatalities. However, regardless of precautionary safety measures, there have been instances of dockside accidents resulting in injured observers and on at least one occasion, the loss of an observer's life. Increasing the risk inherent to boarding vessels by increasing the number and frequency of transfers at sea is not in the best interest of observer's safety, the observer program or the fishing industry as a whole.

3.4 Alternative 4, Require Use of tLandings

Alternative 4 would require tender vessels to use tLandings for submitting landing reports. The purpose of this alternative is to extend the benefits of the Alaska Interagency Electronic Reporting System (IERS) to tender deliveries, to address catch accounting concerns of CVs delivering to tender vessels, including timeliness of data, and to provide more reliable identification of tender deliveries to inform the Observer

[4] International Marine Contractors Association. *Guidance on the Transfer of Personnel to and from Offshore Vessels*. IMCA SEL 025, IMCA M 202. March 2010.

Program. By requiring tender vessels operating in Federal groundfish fisheries to use tLandings, reporting requirements would be consistent with State of Alaska groundfish and salmon fishery tender recordkeeping and reporting requirements.

In September 2015, Northern Economics prepared "A Review of the Alaska Interagency Electronic Reporting System (IERS) with an Emphasis on Costs and Benefits to Stakeholders" for NMFS Alaska Regional Office and the Alaska Department of Fish and Game. In this analysis, the preparers discussed costs and benefits associated with tLandings. Much of the information presented under Alternative 4 is provided by this analysis.

According to the outreach work done as part of the Northern Economics IERS analysis, implementation of the tLandings system was generally viewed as a substantial improvement by all stakeholders. The only group that appeared to be generally opposed to the tLandings system were those tender operators with limited computer skills. All other tender operators, processors, and agency staff indicated the tLandings system was generally beneficial. Processors noted that the implementation of the tLandings system improved their tender operations' efficiency. Those efficiencies resulted in decreased costs. Tender operators with no more than a minimal level of computer knowledge were reported to like the new system.[5]

Staff have included the tLandings alternative as part of this amendment package because it is a necessary next step to improve data quality for the Council's understanding of tender activity, which the Council has identified as a priority. **Staff therefore recommends that this alternative go forward regardless of the Council's action on other alternatives within the amendment package, as a separate amendment package if necessary.** It is not strictly a requirement for the Council to propose this change, as NMFS could independently initiate a regulatory amendment to implement tLandings under the existing IERS regulations, found at 50 CFR 679.5(e), under their Recordkeeping and Reporting authority provided for the groundfish FMPs under Sections 3.9.1. Agency staff has, however, noted the importance of public participation in the analytical process, and presenting the tLandings RIR/IRFA in the Council setting would provide the greatest opportunity for NMFS to update the Council on the progress of the regulation, considerations that were taken throughout the process, and allow for public comment and participation.

4 Next Steps

The purpose of this paper is to provide the Council with the opportunity to reconsider the purpose and need and suite of alternatives for moving forward with a formal analysis of this amendment package, in light of new thinking on this issue, and other Council amendment analyses that overlap with the purpose and need. A summary of the issues on which staff is requesting feedback follows.

1. **Is the Council interested in exploring the non-regulatory approach, to create a separate stratum in the ADP, before proceeding with the amendment analysis?**

   The Council could choose to move forward with Alternative 2 independently of the remainder of the amendment package, as it does not require regulatory action. If so, the Council would request that NMFS prepare an analysis creating a separate stratum in the 2017 ADP for catcher vessels delivering to tenders. The Council may wish to see some preliminary analysis of this concept as

[5] Northern Economics, Inc. *A Review of the Alaska Interagency Electronic Reporting System (IERS) with an Emphasis on Costs and Benefits to Stakeholders*. Prepared for NMFS Alaska Regional Office and Alaska Department of Fish and Game. September 7, 2015. https://elandings.atlassian.net/wiki/display/tr/Review+of+IERS+with+an+Emphasis+on+Costs+and+Benefits+to+Stakeholders.

part of the June presentation of the Observer Annual Report. If the Council chooses this route, it may be appropriate to set aside further work on the main amendment package, or at least the new Alternative 3, until the agency can report back on the ADP approach. The Council would be able to reinitiate an analysis of regulatory alternatives if the data bias concerns are not adequately addressed through the ADP process.

There may be additional justification for choosing this route in the consideration that 60 percent of tendering activity is engaged in by trawl vessels, and 39 percent by pot vessels, and the Council is actively engaged in developing actions that would on the one hand require full observer coverage by trawl vessels, and on the other, provide an electronic monitoring option for pot vessels. The implementation of these other efforts may be on a similar timeframe to potential implementation of this amendment package, and the ADP approach has the best chance of success in the short term.

2. **If the Council opts to proceed with the regulatory analysis, staff recommends the Council consider the revised alternatives.**

   If the Council continues to prioritize this regulatory amendment package, the first step is to address the impact on the analysis of the Observer Program's recommendations against authorizing an observer deployment model that relies on at-sea transfers of observers. Council and NMFS Staff could proceed with further analysis of the components of Alternative 3 that do not rely on at-sea transfers of observers. However, it would be difficult for NMFS staff to prioritize further analysis of the components of Alternative 3 that it does not support due to safety concerns. If the Council disagrees with the Observer Program's recommendations, it could request further review of this decision by NMFS, with specific additional questions or issues it wishes NMFS to address.

   The Council also could address whether to include the new Alternative 2 as an alternative in a future regulatory amendment analysis, or to just provide recommendations consistent with Alternative 2 to NMFS at the February 2016 meeting.

3. **If the Council chooses to proceed with an analysis, staff recommends the Council consider whether revisions to the purpose and need statement are warranted.**

   Council staff will make the housekeeping changes to the purpose and need statement as proposed. It would be helpful to know the Council's position on the testimony described in Section 2, about the current definition of a fishing trip representing a disproportionate cost to small catcher vessels.

4. **Should the tLandings alternative remain in the amendment package, or be separated out for expedited implementation?**

   NMFS staff have identified tLandings as a key component to gather the data necessary to understand tender activity. Especially if the Council chooses to proceed with the ADP approach in advance of the amendment analysis, the Council may wish to request that Council staff work with NMFS to prepare a separate RIR/IRFA for the tLandings requirement, and request NMFS to proceed with development of a proposed rule through its authority under Section 305(d) of the Magnuson-Stevens Act. Council and NMFS staff could report back to the Council in June 2016 about the status of the proposed rule. This would provide an opportunity for additional Council input or public comment before NMFS publishes the proposed rule. This recommendation by the Council would elevate the priority of the tLandings requirement on the Observer Program related analytical tasks.

Appendix A: Tendering Activity Data

Background on Tendering Activity in the GOA and BSAI

This section provides background activity on the extent to which catcher vessels in the BSAI and GOA are utilizing tender vessels for delivery of catch in the groundfish fisheries. The focus of this amendment package is CVs that fall within the partial observer coverage category, unless they are participating in a fishery subject to full observer coverage (CVs that are participating in programs that have transferable prohibited species catch allocations as part of a catch share program, i.e., pollock in the BS, the groundfish CDQ fisheries, and the Central GOA Rockfish Program). All harvest data are from federal groundfish fisheries only. While both federal and state Pacific cod is delivered to tender vessels, only CVs delivering federal groundfish are eligible for observer coverage.

In preparing this description, a difficulty arises because the identification of a tender vessel on the eLandings landing report produced by the processor is voluntary, and analysts are unsure as to the reliability of data distinguishing deliveries to a tender vessel from shoreside deliveries to the processor. Since the implementation of the restructured Observer Program in 2013, outreach and education efforts to the processors have resulted in an increased use of tLandings in tender operations, which helps to ensure that deliveries to a tender are correctly identified. As a result, the data provided through eLandings reports are more reliable and are improving each year. However, trends in the data presented in the tables and figures that follow, which appear to indicate marked changes in behavior coinciding with the restructuring of the Observer Program in 2013 – quantified by a larger portion of the overall catch delivered to tender vessels –could simply represent a more accurate reporting of consistent behavior with respect to tender deliveries.

The data presented in the Figures and Tables provide what is known about the scope of tendering activity in the BSAI and GOA Pacific cod and the GOA pollock fisheries, fisheries in which tender vessels are used by vessels participating in the observer partial coverage category. In addition to the improved identification of tender deliveries discussed above, a number of other factors contribute to the frequency of CV deliveries to tender vessels and the proportion of catch delivered to tender vessels, which are unrelated to the Observer Program. These include the ex-vessel price of the target species, general changes in fleet fishing behavior, and the distance of the target species from port in a given year.

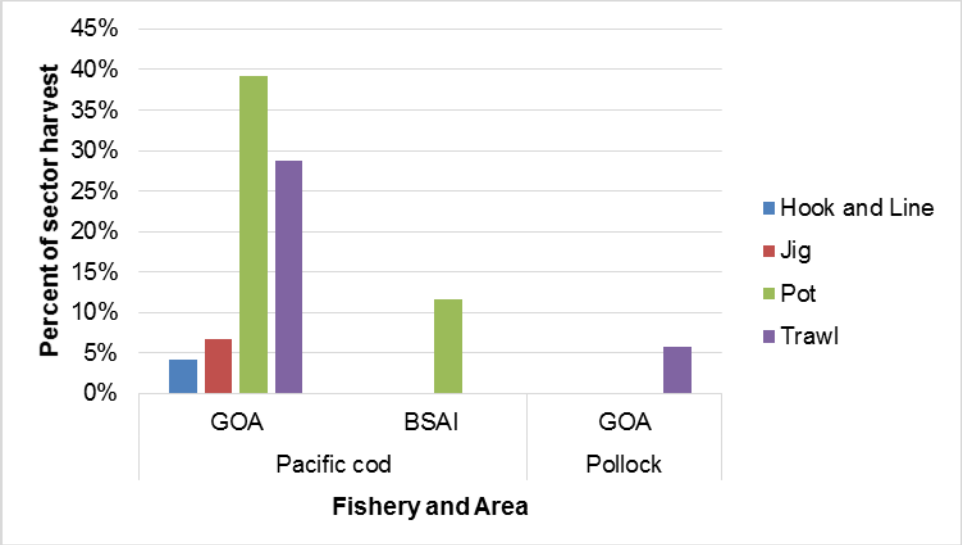
Table 2 and Figure 1 provide an overview of catch delivered to tenders, by gear type, area, and fishery, in 2015. The majority of tender deliveries occur in the GOA Pacific cod trawl and pot fisheries, and in the GOA pollock trawl fishery. Since the Observer Program has implemented gear-type deployment strata beginning in 2016, the sections that follow focus in more detail on tender delivery patterns of CVs sorted by gear sector, and then look specifically at each target fishery. Additionally, Figure 11 evaluates GOA Pacific cod catch delivered to tender vessels by CV LOA size class, to address the concerns of disproportionate costs of carrying an observer to smaller vessels.

Table 2 Overall Pacific cod and pollock catch delivered to tender vessels as a proportion of CV harvest by fishery and area, 2015

Fishery	Area	Gear	Catch delivered to tender vessels (t)	Total CV harvest (t)	Proportion of total
Pacific cod	GOA	Hook and Line	228	5,578	4.08%
		Jig	27	407	6.64%
		Pot	7,325	18,705	39.16%
		Trawl	5,804	20,208	28.72%
		Total	**13,384**	**44,899**	**29.81%**
	BSAI	Hook and Line	-	740	-
		Jig	-	28	-
		Pot	2,353	20,254	11.62%
		Trawl	-	37,545	-
		Total	**2,353**	**58,566**	**4.02%**
Pollock	GOA	Trawl	9,244	160,477	5.76%

Key: "-" Denotes no data
Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Figure 1 Percent of sector Pacific cod and pollock CV harvest delivered to tender vessels by fishery and area, 2015



Source: NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Tendering Activity by Gear Sector

To further develop understanding of tendering activity in the GOA and BSAI, CV delivery data has been filtered as a function of gear-type harvest; the previous section compares tendering activity across a fishery over time. This is meant to compliment the data that shows CV delivery behavior as a function of the fishery. The following figures compare tender delivery behavior over time relative to gear-sector harvests. Where tables and figures from the previous section account for the percentage of the overall fishery harvest delivered to tender vessels by gear-sectors, the following figures compare the percentage of reporting area harvest delivered to tender vessels. Consistent delivery patterns over time are represented as a nearly horizontal line with little fluctuation. This is meant to determine whether deliveries to tender vessels are a result of the amount of harvest (see GOA Pacific cod, BSAI Pacific cod,

GOA pollock, and BSAI pollock sections above), or if deliveries are part of the general business model of a gear-sector.

The following tables illustrate the prevalence of tender deliveries within each gear sector, and the catch delivered to tender vessels and total sector harvest. 2012 and 2013 yielded high delivery rates uncharacteristic of the sector in both the 610 and 620 Pacific cod and pollock trawl sectors. While fluctuations could indicate a number of factors including natural fluctuations in the fishery, sector splits, or the distance from port CVs have to travel to harvest the target fish.

The tables listing the number of unique tender vessels that received catch from each sector should be compared to the amount of catch delivered to tender vessels, not necessarily the proportion of catch delivered to tender vessels by a given sector. There is no correlation between the number of tender vessels receiving sector harvest and the percentage of sector harvest delivered to tender vessels. While there are some cases where the two mirror each other, the number of tender vessels is more a function of the amount of catch tendered and the ex-vessel price of the target species rather than the proportion of catch tendered. For example, anecdotal evidence suggests that a larger proportion of the pot Pacific cod harvest is tendered in areas where the boats have to travel farther to the fishing grounds during years of low ex-vessel cod prices. As such, increases in the percentage of sector harvest delivered to tender vessels do not necessarily suggest a greater number of tender vessels receiving that harvest, and vice versa. The number of tender vessels presented in this section is simply to quantify the number of tenders present, not to suggest that there is a correlation between the number of tender vessels and the percentage of sector harvest delivered to tender vessels.

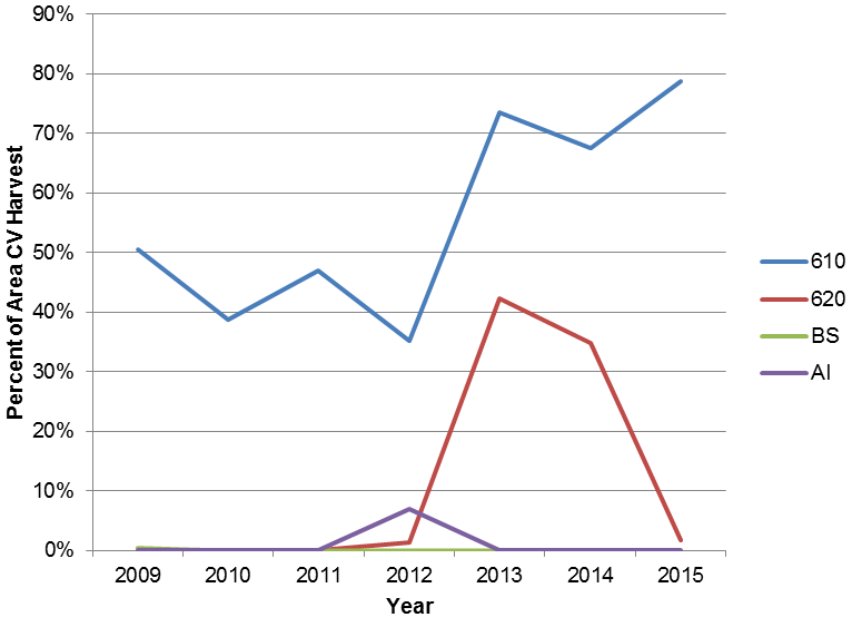
The figures and tables below represent hook and line, pot, and trawl gear sector harvest where applicable in the GOA and BSAI. Fixed gear figures were only prepared for the Pacific cod fishery as they are not gear types that target pollock. There was no figure prepared for the Pacific cod jig sector due to the small number of tender deliveries by the sector and confidentiality. The only available data shows that the 630 Pacific cod jig sector delivered 2.4 percent of the 483t harvest to tender vessels in 2011 and about 28 percent of the 360t harvest in 2012.

Trawl

Figure 2 shows that tender deliveries by the trawl Pacific cod sector are more sporadic than the pot sector, suggesting that tender deliveries are executed opportunistically. Aside from the area 610, the trawl Pacific cod sector does not regularly deliver a large percentage of their catch to tender vessels. Area 620 saw a spike in tender deliveries in 2013, but has since declined, returning to 2012 levels in 2015. This 2013 spike also occurred in area 610.

Table 3 shows an established history of deliveries to tender vessels in area 610, but that it was relatively sparse in area 620 until 2012, with a spike in 2013. This spike in 620 is also prominent in Figure 2. Table 4 shows that in 2012 the trawl Pacific cod sector delivered 75t to tender vessels in area 620, and 2,457t was delivered a year later. A similar spike was seen in area 610 with a consistently high proportion of catch was delivered to tender vessels from 2013 to 2015.

Figure 2 Percentage of trawl Pacific cod area harvest delivered to tender vessels



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 3 Number of tender vessels receiving trawl Pacific cod

Year	610	620	BS	AI
2009	8	-	3	-
2010	8	1	-	1
2011	13	1	1	1
2012	17	6	-	2
2013	18	17	-	1
2014	22	12	-	-
2015	14	5	-	-

Key: "-" Denotes no data
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 4 Catch delivered to tender vessels compared to total Pacific cod trawl sector harvest by reporting area

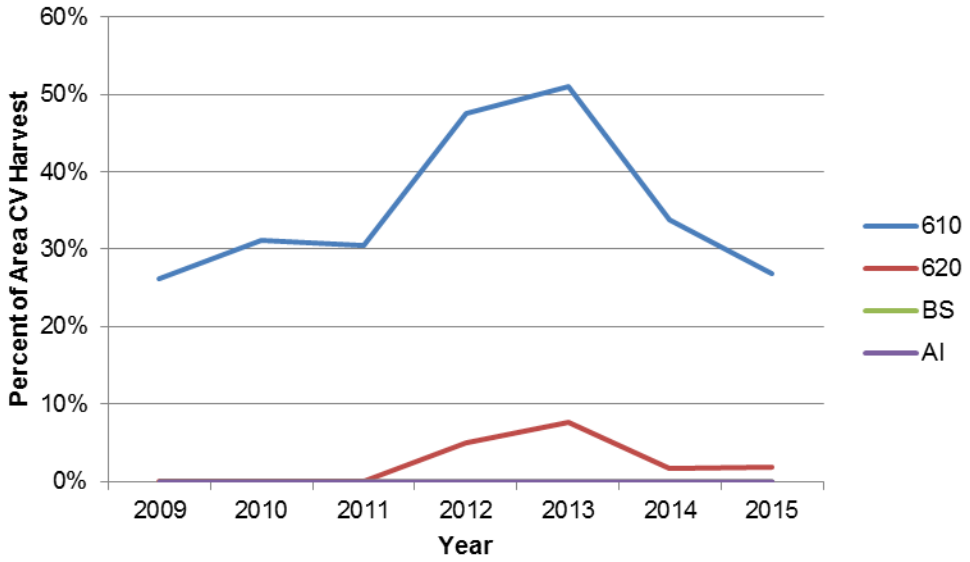
Year	610			620			BS			AI		
	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels
2009	1,274	2,524	50.48%	-	1,155	-	157	36,423	0.43%	-	20,185	-
2010	1,282	3,300	38.83%	*	2,502	*		39,892	0.00%	*	16,710	*
2011	1,356	2,893	46.88%	*	2,930	*	*	63,445	*	*	9,308	*
2012	2,407	6,839	35.20%	75	5,530	1.35%	-	74,543	-	682	9,746	7.00%
2013	4,522	6,148	73.55%	2,457	5,809	42.29%	-	80,196	-	*	6,891	*
2014	5,204	7,707	67.52%	2,034	5,828	34.90%	-	71,682	-	-	5,665	-
2015	5,742	7,291	78.74%	62	3,395	1.84%	-	66,206	-	-	5,950	-

Key: "*" Denotes confidential data; "-" Denotes no data
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Similar to the trawl Pacific cod sector, the area 610 trawl pollock sector is the only trawl pollock sector to regularly deliver a notable percentage of their catch to tender vessels as illustrated in Figure 3. Like the trawl Pacific cod sector (Figure 2), there was a spike in the percentage of the 610 and 620 trawl pollock harvest delivered to tender vessels, followed by mirrored decreases in the 2014.

Table 5 shows that there were the same number of tender vessels that received catch from both the Pacific cod and pollock trawl sector. While the number of tender vessels receiving pollock trawl catch in 620 is not identical to Pacific cod (Table 3), the trend is mirrored with a spike in 2013 followed by a decrease. Table 6 shows that 2012 in area 610 was the peak year for catch delivered to tender vessels for the pollock trawl sector with 13,013t. While Figure 3 shows the percentage of harvest delivered was less in 2011 than 2013, Table 6 shows that more catch was delivered in 2011 (6,233t in 2011 and 3,903t in 2013). This illustrates why percentage of catch delivered to tender vessels is no necessarily representative of tendering activity.

Figure 3 Percentage of trawl pollock area harvest delivered to tender vessels



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 5 Number of tender vessels receiving trawl pollock

Year	610	620	BS	AI
2009	8	-	2	-
2010	8	1	-	-
2011	13	1	1	
2012	17	6	-	2
2013	18	15	-	1
2014	22	9	-	-
2015	14	5	-	-

Key: "-" Denotes no data
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 6 Catch delivered to tender vessels compared to total pollock trawl harvest, by reporting area

Year	610			620			BS			AI		
	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels
2009	3,792	14,467	26.21%	-	13,555	-	*	800,943	*	-	1,243	-
2010	8,083	25,944	31.16%	*	27,929	*	-	803,271	-	-	1,054	-
2011	6,233	20,450	30.48%	*	36,085	*	*	1,189,785	*	-	1,127	-
2012	13,013	27,349	47.58%	2,233	44,561	5.01%	-	1,195,576	-	*	873	*
2013	3,903	7,642	51.07%	4,030	52,581	7.66%	-	1,260,950	-	*	2,856	*
2014	4,466	13,209	33.81%	1,375	82,480	1.67%	-	1,278,068	-	-	2,237	-
2015	7,685	28,634	26.84%	1,559	80,881	1.93%	-	1,306,099	-	-	891	-

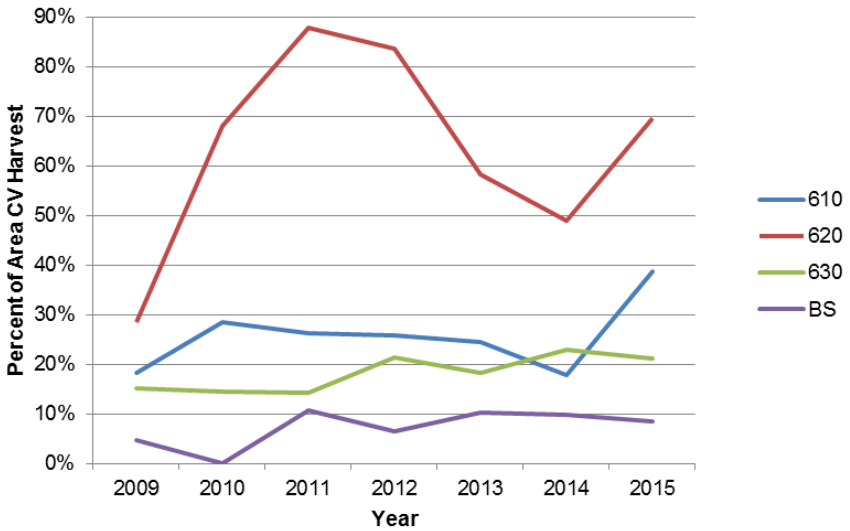
Key: "*" Denotes confidential data; "-" Denotes no data
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Pot

The pot Pacific cod sector is the most consistent utilizer of tender vessels in the GOA and BS. Figure 4 shows that areas 610, 630, and the BS pot Pacific cod sector has changed little in regards to the percentage of catch delivered to tender vessels. Note, the 0 percent of catch delivered to tender vessels in 2010 for the BS signifies confidential data, and not the absence of tender deliveries that year in the BS. Area 620 is the exception to the consistent percentage of catch delivered to tender vessels. While the other areas maintained a similar percentage of catch delivered to tender vessels over time, area 620 saw a spike in deliveries between 2009 and 2011. During those years, the pot Pacific cod sector increased the percentage of the catch delivered to tender vessels by nearly 230 percent. Since 2011, there has been a decrease in the percentage of catch delivered to tender vessels in that area. Areas 610 and 620 had mirroring increases starting in 2014.

Table 7 and Table 8 reflects the consistency of pot Pacific cod tender deliveries across areas over time. The pot Pacific cod sector is the only sector in the data that has tender vessels receiving sector harvest in areas 610, 620, 630, and BS in all years from 2009 to 2015. This information in combination with Figure 4 shows that the pot cod sector has an established history of delivering to tender vessels in all areas.

Figure 4 Percentage of pot Pacific cod area harvest delivered to tender vessels



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 7 Number of tender vessels receiving pot Pacific cod

Year	610	620	630	BS
2009	5	5	6	4
2010	5	5	5	2
2011	8	5	9	8
2012	7	11	12	5
2013	7	7	8	5
2014	7	9	8	4
2015	9	10	8	4

Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 8 Catch delivered to tender vessels compared to total Pacific cod pot sector harvest by reporting area

Year	610			620			630			BS		
	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels
2009	1,169	6,433	18.17%	319	1,121	28.44%	646	4,268	15.14%	637	13,592	4.69%
2010	2,990	10,520	28.43%	1,038	1,526	68.03%	1,165	8,035	14.50%	*	19,656	*
2011	3,362	12,852	26.16%	1,690	1,926	87.72%	2,048	14,280	14.34%	2,988	27,961	10.69%
2012	2,019	7,848	25.73%	1,471	1,759	83.63%	2,466	11,540	21.37%	1,889	28,687	6.58%
2013	2,310	9,470	24.40%	732	1,258	58.16%	1,128	6,173	18.27%	3,084	30,169	10.22%
2014	1,520	8,523	17.84%	1,977	4,047	48.85%	1,638	7,175	22.82%	3,074	31,037	9.91%
2015	2,633	6,819	38.62%	3,134	4,499	69.67%	1,558	7,388	21.09%	2,353	28,061	8.39%

"*" Denotes confidential data

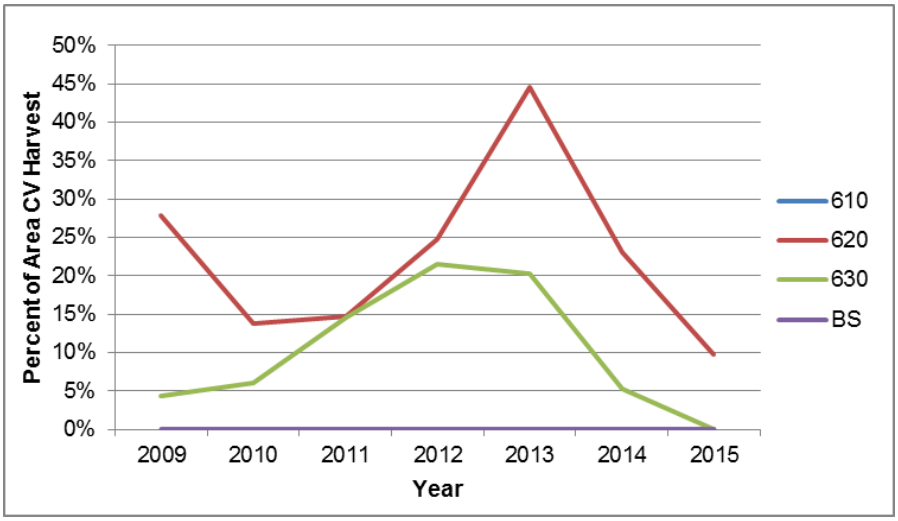
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Hook and line

Figure 5 illustrates the CV hook and line tender delivery patterns in areas 610, 620, 630, and the Bering Sea. Starting in 2010, the Pacific cod hook and line sector increased the percentage of the hook and line area harvest delivered to tender vessels in areas 620 and 630. Area 620 had the largest increase in percentage of hook and line catch delivered to tender vessels with a peak in 2013 of nearly 45 percent. Both 620 and 630 have exhibited a decrease in tender deliveries since 2013 with a seven-year low in 2015.

Table 9 shows a 2012 increase in the number of tender vessels that received 620 and 630 hook and line Pacific cod catch. While the number decreased in 2013 in 630 (reflected in the decrease in percentage of catch delivered to tender vessels in Figure 5), the number of tender vessels was consistent in area 620. Both areas saw a decrease in the number of tender vessels in 2014. There were no tender vessels in area 610 from 2013 to 2015, and only tendering event in the BS was when one tender vessel received catch in 2012.

Figure 5 Percentage of Hook and Line Pacific cod area harvest delivered to tender vessels



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 9 Number of tender vessels receiving hook and line Pacific cod

Year	610	620	630	BS
2009	2	4	4	-
2010	2	2	3	-
2011	1	5	5	-
2012	1	8	10	1
2013	-	8	6	-
2014	-	5	4	-
2015	-	5	2	-

Key: "-" Denotes no data
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Table 10 Catch delivered to tender vessels compared to total Pacific cod hook and line sector harvest by reporting area

Year	610			620			630			BS		
	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels	Tender deliveries (t)	Total area sector harvest	Percent of harvest dlivered to tender vessels
2009	*	6,220	*	728	2,609	27.91%	157	3,630	4.32%	-	95,094	-
2010	*	6,630	*	601	4,351	13.82%	256	4,237	6.05%	-	80,237	-
2011	*	6,050	*	570	3,877	14.70%	676	4,642	14.57%	-	114,929	-
2012	*	3,262	*	690	2,787	24.76%	1,670	7,779	21.47%	13	126,707	0.01%
2013	-	2,879	-	891	1,996	44.63%	1,136	5,584	20.34%	-	121,447	-
2014	-	4,269	-	662	2,865	23.10%	298	5,739	5.19%	-	124,248	-
2015	-	3,948	-	182	1,851	9.82%	*	4,926	*	-	113,801	-

Key: "*" Denotes confidential data; "-" Denotes no data
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Tendering Activity by Target Fishery

GOA Pacific cod

Tenders are most frequently utilized in the GOA Pacific cod fishery in terms of both proportion of total harvest and amount of catch delivered to tender vessels. Tenders participating in the GOA Pacific cod fishery often accept multiple gear types, and both Pacific cod and pollock. Table 11 shows the number of unique tender vessels and deliveries to a tender vessel in the GOA Pacific cod CV fishery. The number of tender deliveries more than doubled from the 2011 season to the 2012 season. The increased number of deliveries is consistent with the increased tendering activity in 610 and 620 identified in the GOA tendering report. While the 2012 increase in GOA tendering activity can be attributed to the same issue addressed in the GOA tendering report, it does not explain the continuation of the trend from 2013 to 2015, or the sharp increase in GOA Pacific cod catch tendered from 2013 to 2015 as shown in Table 14. As explained in the GOA tendering report, the spike in tendering activity in the western and central GOA was largely pollock related.

Since tenders occasionally accept catch from more than one gear-type, the total number of unique tender vessels in a given year is not the sum of gear-sector tender vessels. Table 12 is a breakdown of the number of tender vessels that accepted catch from 1, 2, or 3+ gear types by year. From 2009 to 2015, with the exception of 2010, roughly half of the tender vessels accepted harvest from a single gear type.

Table 13 illustrates the number of tender vessels that exclusively tendered Pacific cod and the number of tender vessels that accepted both Pacific cod and pollock deliveries. The increase in the number of tenders who accepted both Pacific cod and pollock in 2013 can be attributed to the increase in trawl CVs delivering to tender vessels. As with all the data provided, such trends could partially be attributed to better reporting.

Comparing the data by gear type, target fishery, and area shows more significant changes in certain sectors/areas than others. Most noticeably, as evident in Table 14, the average annual catch delivered to tender vessels by trawl CVs in the GOA from 2009 to 2012 was 1,615t/year, or roughly 4 percent of the total GOA Pacific cod harvested by CVs. Starting in 2013 – the same year the Observer Program was restructured – the trawl CV sector delivered an average of 6,673t/year, representing an annual average of nearly 15 percent of the CV-harvested Pacific cod in the GOA. In comparison, during those same time periods, the average annual catch delivered to tender vessels by fixed gear CVs was an average of 6,480t/year from 2009 to 2012 – an average of 14.18 percent of the annual GOA Pacific cod harvest; and 6,626t/year starting in 2013 – an average of 14.49 percent of the GOA Pacific cod CV harvest. The data are divided into these two year groups to identify major delivery pattern trends before and after the 2013 restructuring of the Observer Program. While the sharp increase in catch delivered to tender vessels by trawl CVs in the GOA would suggest a behavioral change, the accuracy of tender delivery information needs to be considered when interpreting the data.

Table 11 Number of unique tender vessels that delivered federal GOA Pacific cod, by year and gear-sector, 2009 through 2015

Year	Gear	Number of Unique Tender Vessels		Number of Tender Deliveries	
		By gear sector	Total all gears	By gear sector	Total all gears
2009	Hook and Line Jig Pot Trawl	6 - 10 8	13	25 - 45 61	131
2010	Hook and Line Jig Pot Trawl	7 - 11 9	14	25 - 94 57	176
2011	Hook and Line Jig Pot Trawl	9 4 19 13	28	24 17 104 66	211
2012	Hook and Line Jig Pot Trawl	13 8 20 17	37	103 19 95 131	348
2013	Hook and Line Jig Pot Trawl	10 2 15 25	34	81 * 92 149	322
2014	Hook and Line Jig Pot Trawl	6 2 19 24	32	32 * 91 150	273
2015	Hook and Line Jig Pot Trawl	6 3 20 15	28	12 8 113 90	223

"*" Denotes confidential data
Source: ADFG/AKR Fish Tickets, data compiled by AKFIN

Table 12 Number of GOA Pacific cod tender vessels accepting catch from 1, 2, and 3+ gear types, 2009-2015

GOA	Number of Gear Types Tendered			
	1	2	3+	Total
2009	6	3	4	**13**
2010	5	5	4	**14**
2011	14	11	3	**28**
2012	20	13	4	**37**
2013	19	13	2	**34**
2014	18	11	3	**32**
2015	16	11	1	**28**

Source: ADFG/AKR Fish Tickets, data compiled by AKFIN

Table 13 Number of tender vessels accepting exclusively Pacific cod catch or both Pacific cod and pollock, 2009-2015

GOA	Species Tendered		
	Exclusively Pacific cod	Pacific cod and Pollock	Total
2009	3	10	**13**
2010	4	10	**14**
2011	9	19	**28**
2012	16	21	**37**
2013	5	29	**34**
2014	6	26	**32**
2015	3	25	**28**

Source: ADFG/AKR Fish Tickets, data compiled by AKFIN

Table 14 describes GOA-wide CV Pacific cod deliveries to tender vessels between the years 2009 and 2015. In addition to the total catch delivered to tenders and total harvest of the GOA CV Pacific cod fishery, the percent of total harvest illustrates the proportion of the overall catch delivered by hook and line, jig, pot, and trawl gear. This table illustrates the relative deliveries to tender vessels by each gear type. The catch delivered to tender vessels is based on fish tickets and relies on processors voluntarily identifying tender vessels in the eLandings report. While these data are more reliable each year, analysts caution assigning causal relationships based solely on the catch delivered to tender vessels as reported in fish tickets. However, the data cannot be completely discounted as telling patterns emerge that potentially identify behavioral shifts. For example, while the average annual percent of total harvest delivered by fixed gear collectively to a tender vessel shows .44 percent difference between 2009-2012 (14.15 percent/year average) and 2013-2015 (14.59 percent/year average), the average annual percent of total harvest delivered by trawl CVs to tender vessels dramatically rises as described in the preceding paragraph. The fixed-gear deliveries to tender vessels are relatively consistent over the seven-year span. This trend suggests trawl CVs in the GOA Pacific cod fishery changed their behavior in 2013 from the established trend starting in 2009. The increase in catch delivered to tender vessels by trawl CVs is mirrored by increases in the number of tender vessels receiving trawl catch and the number of tender deliveries, illustrated in Table 11.

Additionally, the column titled "percent of gear sector harvest tendered" describes the proportion of catch by a specific gear sector delivered to a tender vessel. For example, 11.58 percent of the total catch harvested by the hook and line sector was delivered to tender vessels. This additional metric of comparison is effective in describing changes in tender delivery patterns as a proportion of total sectoral fishing activity. While the percent of total harvest is useful to illustrate the scale of tender deliveries by gear-type, there are additional factors to consider when describing behavior. Low percentages of catch delivered to tender vessel by a gear sector could be attributed to lower sectoral catch rates and may not reflect the relationship between CVs in a given sector and tender vessels. To effectively illustrate the tender delivery patterns of a gear sector, the catch delivered to tender vessels needs to be analyzed as a proportion of the total sectoral harvest, not the overall harvest. For example, Table 14 shows the percent of overall harvest tendered by the hook and line sector drops from 3.05 percent to 1.93 percent between 2009 and 2010. While this suggests a 58 percent decrease in tender activity, comparing the proportion of catch delivered to tenders from the sector-level harvest shows that hook and line CVs consistently delivered roughly 11.4 percent of their catch to tender vessels over that time. Thus, trends in behavior of CVs delivering to tender vessels are best illustrated as a proportion of sector-level harvest.

The data from the table is graphically represented in Figure 1 and Figure 6. Figure 1 shows the percent of overall CV harvest delivered to tender vessels. Figure 6 illustrates the percent of sector GOA CV Pacific cod harvest delivered to a tender vessel. The proportion of gear sector harvest tendered demonstrates sector-level behavioral trends. The increase in trawl deliveries beginning in 2013 as seen in Figure 1 as a proportion of the overall GOA Pacific cod harvest is mirrored by a dramatic increase in the proportion of trawl sector harvest delivered to tender vessels. In 2015 a larger proportion of the pot sector Pacific cod harvest was delivered to tender vessels. Anecdotal evidence suggests that this 2015 increase can be attributed to the decreased prices for Pacific cod. Specifically, the cost of fuel and time for small pot CVs returning to port was mitigated by higher ex-vessel Pacific cod prices. However, with the decrease in price per pound, the costs associated with trips to port inhibited small pot CVs' ability to make frequent trips. This is reflected in Figure 6 as a higher percentage of the sector harvest was delivered to tender vessels. The explanation for this trend is anecdotal and the 2015 price for Pacific cod is not currently available.

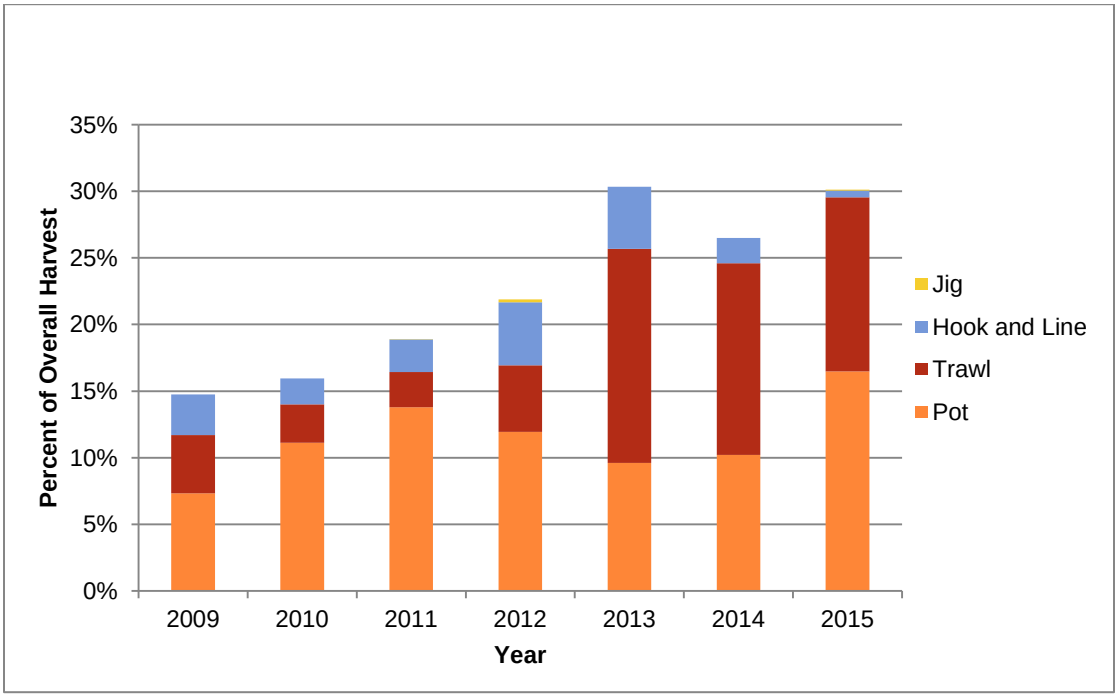
Table 14 Summary table of federal GOA Pacific cod deliveries to tender vessels by hook and line, jig, pot, and trawl sectors, 2009-2015

Year	Gear	Catch Delivered to Tender Vessels (t)	CV Total Harvest (t)	Percent of Gear Sector Harvest Tendered	Percent of Total CV Harvest Tendered
2009	Hook and Line	889	7,632	11.65%	3.06%
	Jig	-	206	-	-
	Pot	2,134	11,701	18.24%	7.33%
	Trawl	1,274	9,560	13.32%	4.38%
2009 Total		**4,297**	**29,099**		**14.77%**
2010	Hook and Line	900	7,922	11.36%	1.93%
	Jig	-	410	-	-
	Pot	5,194	20,100	25.84%	11.14%
	Trawl	1,348	18,200	7.40%	2.89%
2010 Total		**7,441**	**46,632**		**15.96%**
2011	Hook and Line	1,268	7,205	17.60%	2.47%
	Jig	12	689	1.70%	0.02%
	Pot	7,100	28,898	24.57%	13.84%
	Trawl	1,357	14,519	9.34%	2.64%
2011 Total		**9,736**	**51,311**		**18.98%**
2012	Hook and Line	2,368	9,564	24.76%	4.77%
	Jig	100	685	14.57%	0.20%
	Pot	5,955	21,162	28.14%	11.99%
	Trawl	2,482	18,278	13.58%	4.99%
2012 Total		**10,905**	**49,688**		**21.95%**
2013	Hook and Line	2,026	7,428	27.28%	4.70%
	Jig	*	475	*	*
	Pot	4,170	16,900	24.67%	9.67%
	Trawl	6,978	18,316	38.10%	16.18%
2013 Total		**13,175**	**43,404**		**30.55%**
2014	Hook and Line	960	7,140	13.44%	1.92%
	Jig	*	1,047	*	*
	Pot	5,135	19,745	26.01%	10.27%
	Trawl	7,238	22,042	32.84%	14.48%
2014 Total		**13,333**	**49,975**		**26.67%**
2015	Hook and Line	228	5,578	4.08%	0.51%
	Jig	27	407	6.64%	0.06%
	Pot	7,325	18,705	39.16%	16.32%
	Trawl	5,804	20,208	28.72%	12.93%
2015 Total		**13,384**	**44,899**		**29.81%**

Key: "*" Denotes confidential data, "-" Denotes no data
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

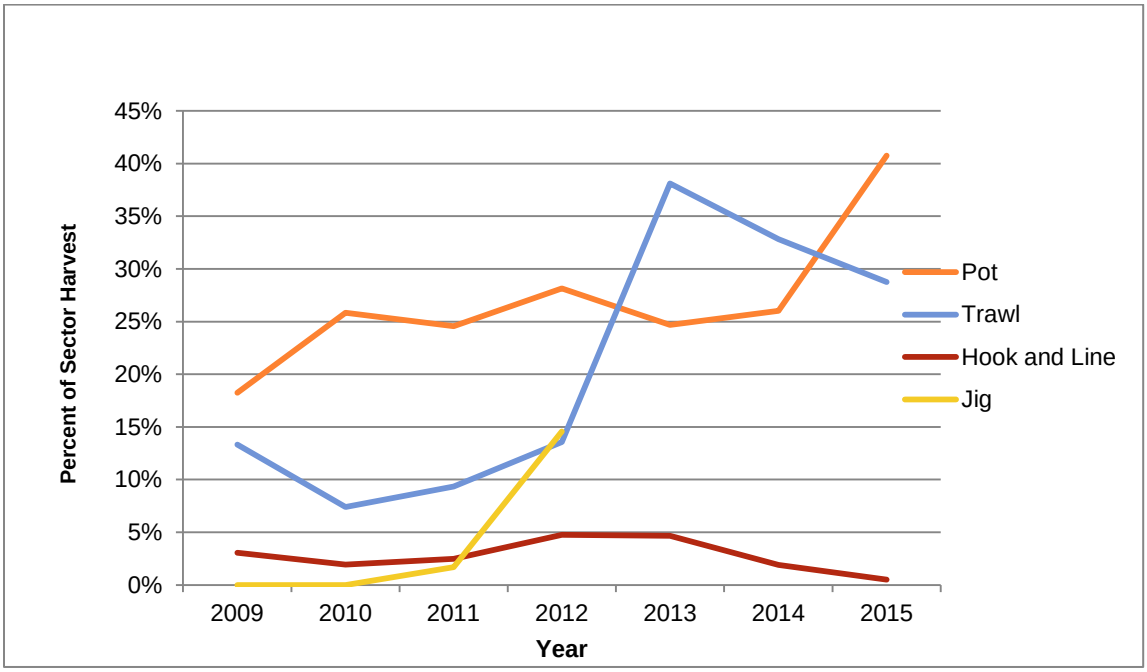
Within the GOA the shift occurred primarily in 610, and partially in 620. Industry suggests that these increases could be partially explained by a sector split in the GOA, exacerbated by the race to fish and pressure to fish farther offshore, which would require more frequent deliveries to tender vessels than had historically been executed. Thus, the 2013 increase in the amount of Pacific cod delivered to tender vessels by trawl CVs in the GOA is partially representative of natural changes in fishing behavior. That is not to argue that there is one cause for changes in trawl CV tender delivery patterns. As discussed earlier, 2013 was also the year the restructured Observer Program would have enabled vessels to prolong their time without carrying observer by making more frequent deliveries to tender vessels. While analysts are reluctant to draw major behavioral conclusions based on the data available, these numbers provide a scope of tender deliveries by GOA reporting area.

Figure 6 GOA Pacific cod deliveries to tender vessels by hook and line, jig, pot, and trawl gear types, 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

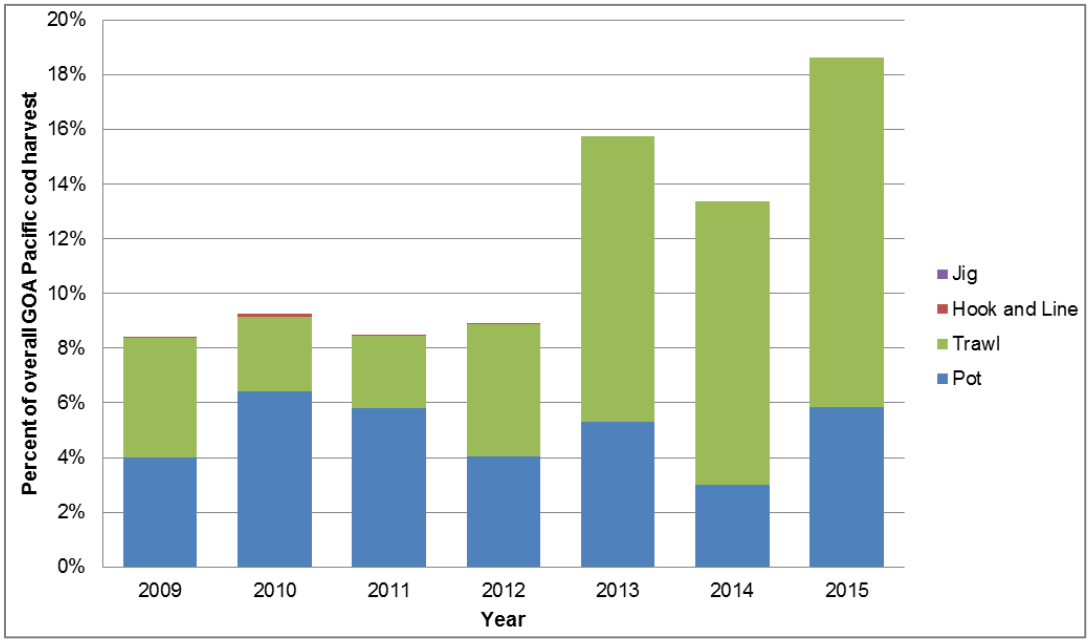
Figure 7 GOA Pacific cod deliveries to tender vessels as a proportion of sector harvest, 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

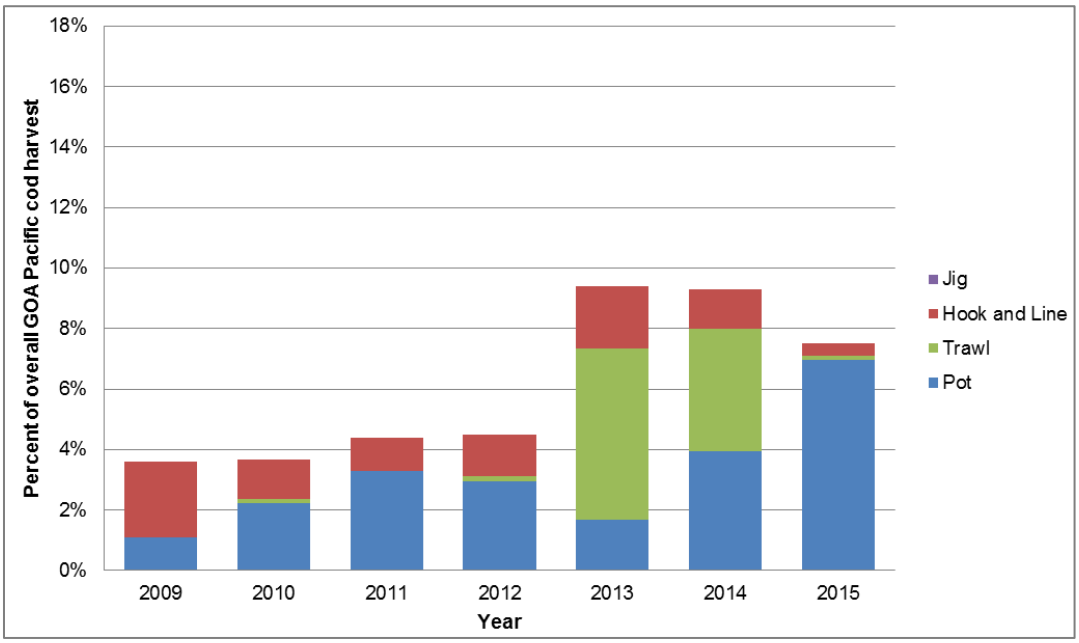
These figures further clarify the scope of the data bias concerns that would be addressed through the Council action that would require 100 percent observer coverage on trawl CVs in the GOA. Figure 8, Figure 9, and Figure 10 illustrate the percentage of overall harvest of GOA CV Pacific cod by reporting area. 2013 and 2014 jig gear data are omitted from the figures for confidentiality reasons.

Figure 8 Percentage of overall (all areas) CV GOA Pacific cod delivered to a tender vessel in area 610, 2009-2015



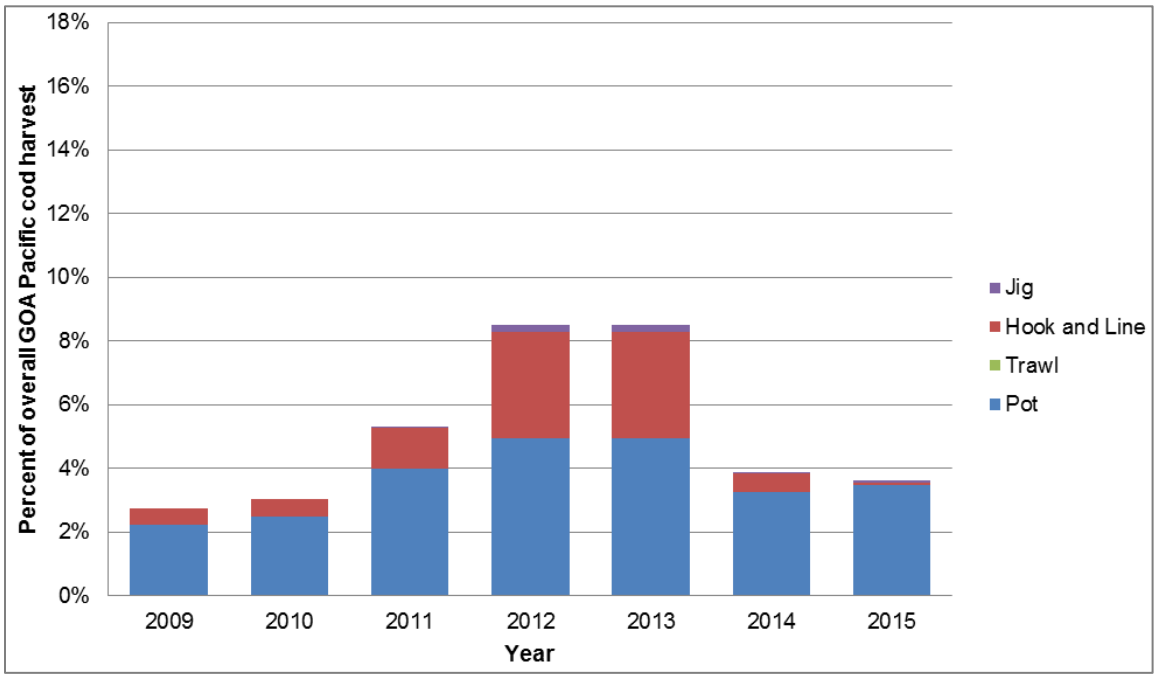
Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Figure 9 Percentage of overall CV GOA Pacific cod delivered to a tender vessel in area 620, 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

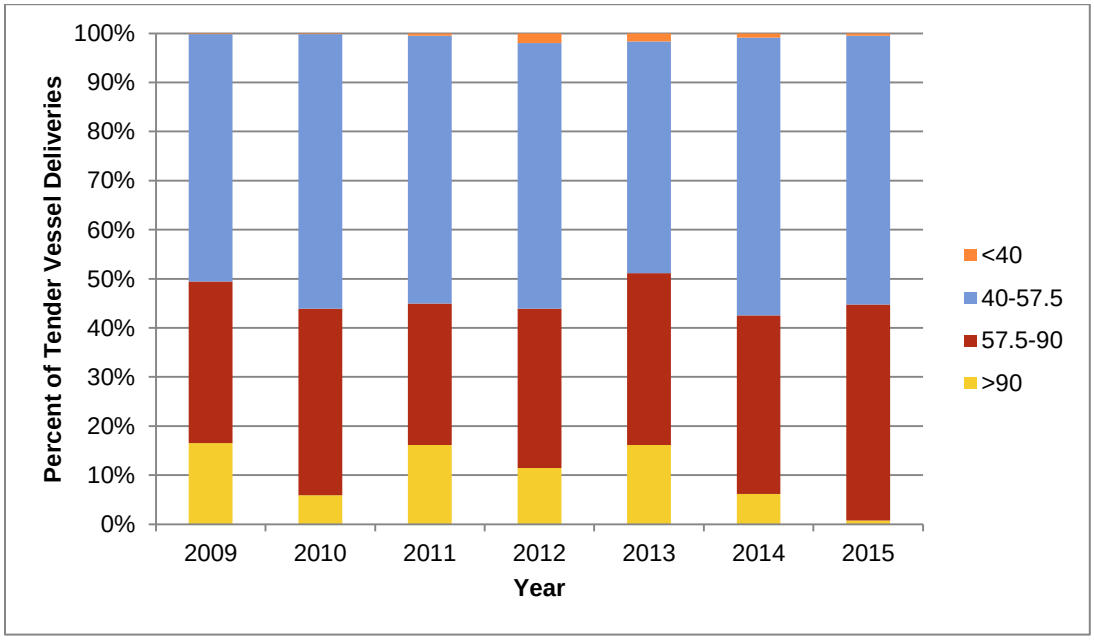
Figure 10 Percentage of overall CV GOA Pacific cod delivered to a tender vessel in area 630, 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Figure 11 illustrates the percentage of catch delivered to tender vessels by different CV LOA size classes. The Observer Program vessel size classes are <40 feet LOA, 40 to 57.5 feet LOA, and >57.5 feet LOA. However, Figure 11 breaks up the >57.5 feet LOA category into 57.5 to 90 feet LOA and >90 feet LOA. This figure shows that CVs 40 to 57.5 feet LOA are responsible for a majority of the catch delivered to tender vessels, with the 57.5 to 90 feet LOA size class representing the second highest percentage of deliveries. While the Observer Program does not assign deployment rates based on vessel LOA, this supports the anecdotal evidence that the 40 to 57.5 feet LOA CVs utilize tender vessels far more frequently – accounting for an average of 53 percent of the annual catch delivered to tender vessels – than larger vessels for cost savings. Anecdotal evidence suggests that the regulatory definition of a "fishing trip" for CVs delivering to tender vessels places a disproportionate burden on CVs in this size class as regular deliveries to tender vessels are inherent in their business model. If a smaller CV is selected for observer coverage, they are unable to make trips to port as frequently as larger vessels due to cost constraints and thus carry an observer for longer periods of time.

Figure 11 Percentage of Cumulative GOA Pacific cod CV Deliveries to Tender Vessel by CV LOA (feet), 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

BSAI Pacific cod

Tendering in the BSAI Pacific cod fishery occurs infrequently relative to the overall catch, and is almost exclusively utilized by the pot sector as shown in Table 16. Trawl tendering typically occurred in the AI, with little catch delivered by trawl CVs to tender vessels in the BS. A table with expanded gear-types similar to Table 14 cannot be given for BSAI Pacific cod or pollock as a majority of the data is confidential due to the small number of tender vessels. The percentage of overall catch delivered to tender vessels is smaller in the BSAI than GOA, as is the number if tender vessels operating in the BSAI Pacific cod fishery and the number of deliveries to tender vessels. The breakdown for number of tender vessels by gear sector delivery and the number of deliveries for each sector is presented in Table 15. While there are some tenders the receive trawl Pacific cod in the BSAI, the pot sector is the primary beneficiary of tender activity in the BSAI Pacific cod fishery.

Between 2009 and 2015 an average of 3.83 percent of the annual CV harvest of Pacific cod in the BSAI was delivered to tender vessels, and pot sector deliveries made up an average of 86 percent of that 3.83 percent. To contextualize the prevalence of tendering activity in both the GOA and BSAI Pacific cod fishery, the CV harvest represented roughly 86% of the annual Pacific cod harvest in the GOA between the years 2009 and 2015, CV Pacific cod harvest in the BSAI accounted for only 28% of the annual Pacific cod harvest in the BSAI during the same time period. While the data presented in the tables illustrate tendering activity as a proportion of CV harvest, the overall harvest (CV and C/P combined) illustrates the impact of tendering activity on the fishery as a whole. Tendering activity plays a larger role in the GOA Pacific cod than BSAI Pacific cod, GOA pollock, and BSAI pollock.

While GOA pollock CV sectors utilize tender vessels, hook and line, jig, and pot sector deliveries to tender vessels account for no more than two hundredths of a percent of the annual overall pollock CV harvest. However, the trawl CV sector delivered more than 15,000t to tender vessels at its peak in 2012, accounting for 15.55 percent of the entire GOA pollock CV harvest.

Table 15 Number of unique tender vessels participating in the BSAI Pacific cod fishery by year and gear-sector, 2009-2015

Year	Gear	Number of Unique Tender Vessels		Number of Tender Deliveries	
		By gear sector	Total all gears	By gear sector	Total all gears
2009	Hook and Line Jig Pot Trawl	- - 4 3	4	- - 9 3	12
2010	Hook and Line Jig Pot Trawl	- - 2 1	3	- - 4 *	4
2011	Hook and Line Jig Pot Trawl	- - 8 2	10	- - 28 *	28
2012	Hook and Line Jig Pot Trawl	1 - 5 2	6	1 - 20 *	20
2013	Hook and Line Jig Pot Trawl	- - 5 1	5	- - 19 *	19
2014	Hook and Line Jig Pot Trawl	- - 4 -	4	- - 17 -	17
2015	Hook and Line Jig Pot Trawl	- - 4 -	4	- - 17 -	17

"*" Denotes confidential data
Source: ADFG/AKR Fish Tickets, data compiled by AKFIN

GOA Pollock

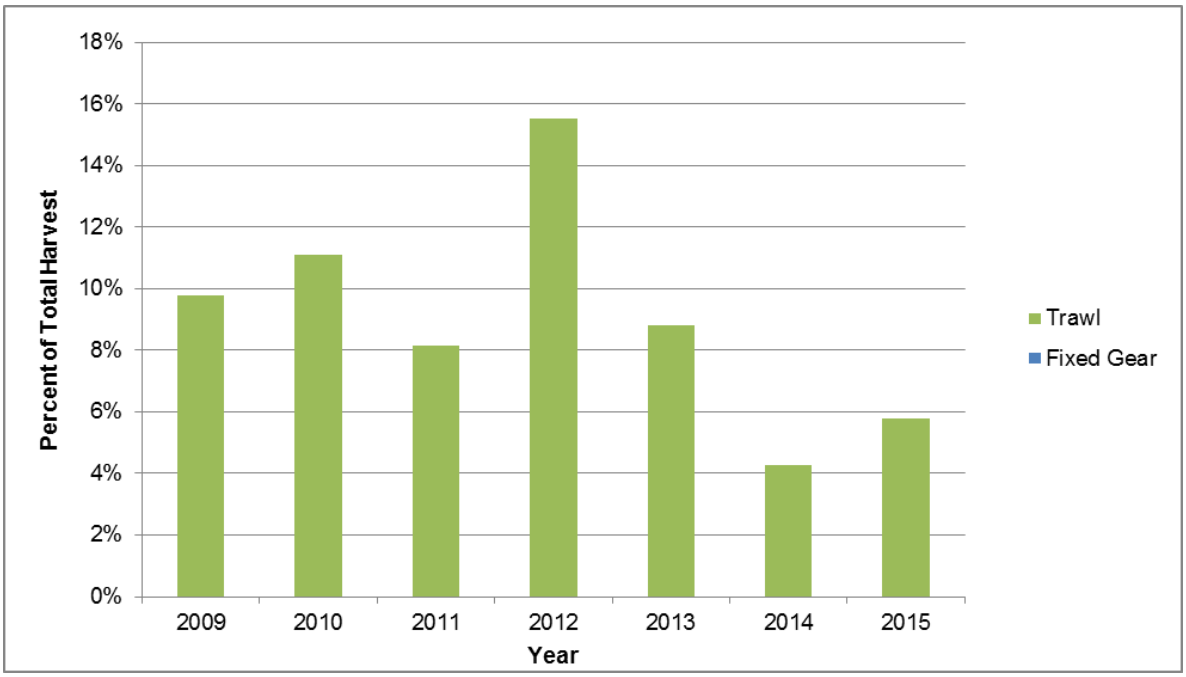
Table 16 provides a summary of GOA pollock delivered to tender vessels, and the proportion of that catch to total sector harvest and overall annual harvest. The table shows trawl CVs make up the majority of tender deliveries with a peak in 2012. This spike in tendering activity can be attributed to the increased prevalence of tenders in 610 and 620. This is addressed specifically in the GOA tendering report. Since 2012, the amount of catch tendered has decreased. Given that there is no directed pollock fishery for fixed gear sectors, all pollock delivered to tender vessels by these sectors are bycatch. Because they make up such a small fraction of the total pollock delivered to tender vessels, they have been combined in Table 16 to provide overall fixed gear data while avoiding confidentiality concerns by listing specific gear type. Table 16 and Figure 12 shows 2012 as the peak year for pollock catch delivered to tender vessels, with the percentage of the overall CV pollock harvest decreasing starting in 2013. This observation is consistent with the decreased tendering activity as described in the report. However, as the percentage of the overall GOA pollock harvest delivered to tender vessels decreased, the percentage of GOA Pacific cod overall harvest delivered to tender vessels increased dramatically in 2013 and has dropped slightly in the subsequent years as seen in Table 14 and Figure 6.

Table 16 Summary table of GOA pollock deliveries to tender vessels by trawl catcher vessels, 2009-2015

Year	Catch Delivered to Tender Vessels (t)	Total Harvest (t)	Percent of Sector Harvest	Percent of Total Harvest Tendered
2009	3,792	38,655	9.81%	9.77%
2010	8,083	72,810	11.10%	11.09%
2011	6,259	76,691	8.16%	8.15%
2012	15,273	98,121	15.57%	15.55%
2013	7,933	90,028	8.81%	8.80%
2014	5,842	136,942	4.27%	4.26%
2015	9,244	160,442	5.76%	5.76%

Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

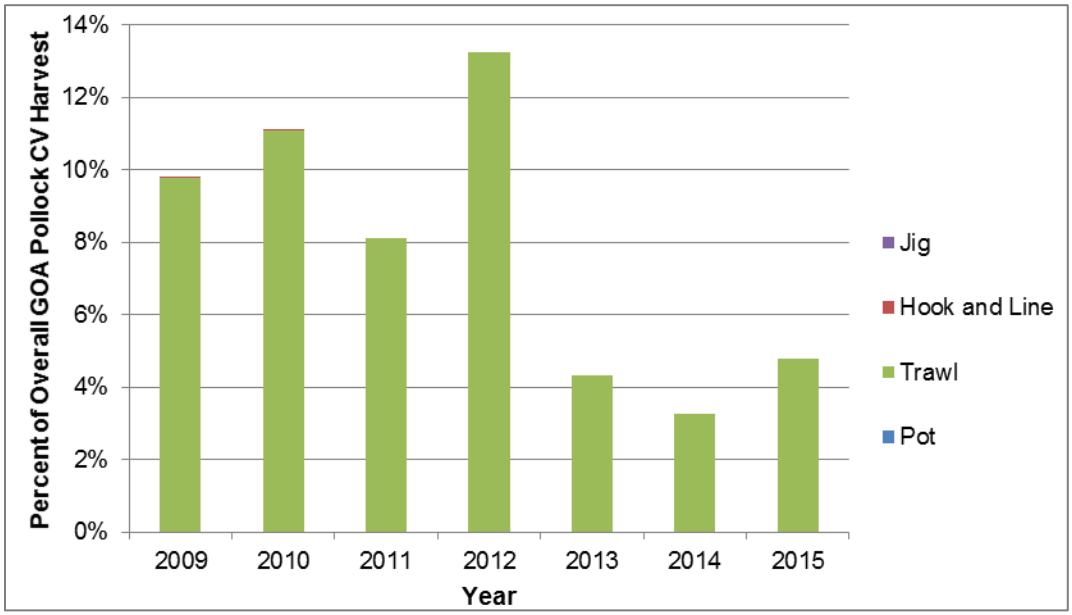
Figure 12 Percent of total GOA pollock CV harvest delivered to tender vessels by trawl and fixed gear sectors, 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

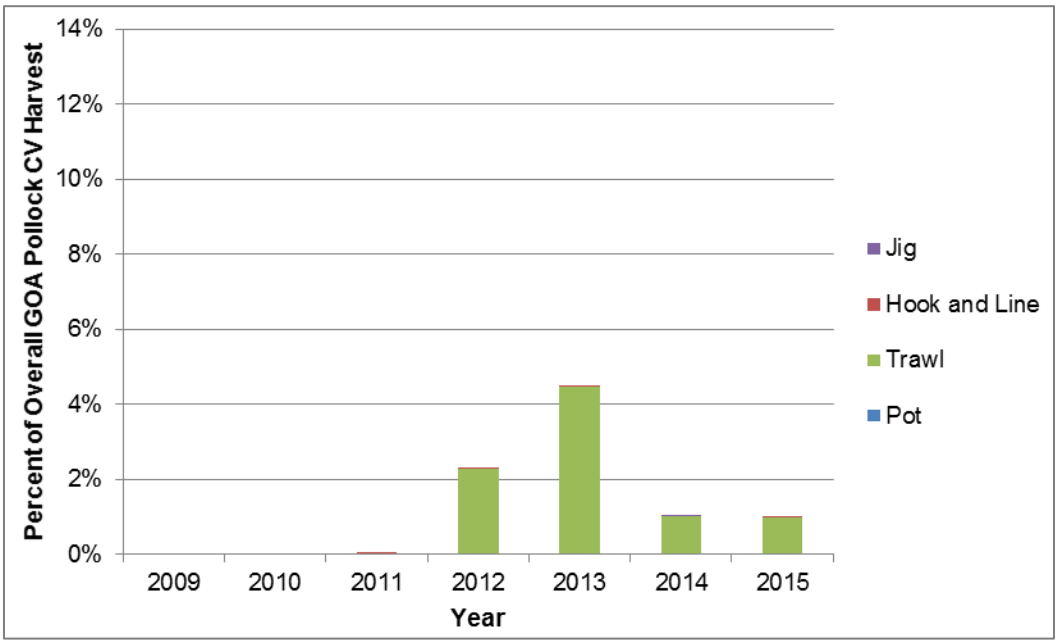
While Figure 12 represents the percentage of the overall GOA CV pollock harvest delivered to tender vessels, Figure 13 and Figure 14 show the distribution of those percentages in GOA reporting areas 610 and 620. As seen in the figures, trawl CVs were the primary sector delivering to tender vessels in these reporting areas. Tender deliveries in 630 are not graphically represented as they made up an average of one hundredth of a percent of the annual GOA CV pollock harvest from 2009 to 2015. The graphs also show that until 2012, tender activity was almost exclusively executed in area 610, and that the majority of tendering activity has occurred in that area from 2009 to 2015.

Figure 13 Percentage of overall (all GOA reporting areas) CV GOA pollock delivered to a tender vessel in area 610, 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Figure 14 Percentage of overall (all areas) CV GOA pollock delivered to a tender vessel in area 620, 2009-2015



Source: ADFG/AKR Fish Tickets and NMFS Alaska Region Catch Accounting System, data compiled by AKFIN in Comprehensive_BLEND_CA,

Appendix B: Costs and Benefits of tLandings

Background on Interagency Electronic Reporting System

The Interagency Electronic Reporting System (IERS) is a collaborative program for reporting commercial fishery landings administered by NMFS, ADF&G, and IPHC. The IERS consists of three main components: eLandings – a web-based application for immediate harvest data upload from internet-capable vessels or processors, seaLandings – a desktop application for vessels at sea without internet capability, and tLandings – a thumb drive application for tenders or buying stations. Currently, eLandings – or seaLandings when no internet connection is available – is required in halibut, sablefish, and crab fisheries per 50 CFR 679.5(e)(5). NMFS requires all FFP-holding shoreside or floating processors to use eLandings or other NMFS_approved software to submit landing reports for all groundfish species. All motherships FFP are required to enter landing information to eLandings. seaLandings may be used when internet is not available. CPs with an FFP are required to use eLandings, seaLandings, to submit Daily Production Reports.

NMFS has identified electronic reporting through eLandings, seaLandings or other NMFS-approved software as a way to improve data quality, automate processing of data, improve the process for correcting or updating information, and allow for availability of more timely data for fishery managers and reduction of duplicative reporting of similar information to multiple agencies.
Beginning with the 2016 fishing season, NMFS plans on modifying eLandings to include the unique ODDS receipt number. All vessels subject to partial observer coverage are required to log each trip into ODDS. Each trip, regardless of whether the trip is observed or unobserved, is given a unique number for the vessel's records and NMFS. Currently, the ODDS number is not entered in the landing report, resulting in a discontinuity between landing reports and the corresponding reference in the ODDS data. Consequently, the Observer Program identified data gaps in the 2013 and 2014 Annual Report. Entering the unique ODDS trip number on the eLandings landing reports will reconcile the information provided by trip-selection program and the landing report, thereby providing a comprehensive data package for analysis.

Since tender vessels transport harvested fish to a processor and do not process the fish themselves, they are not required to participate in the IERS. Currently, tender vessels provide a written fish ticket for received CV harvested groundfish. These fish tickets are compiled and provided to the shoreside processor upon delivery, which then prepares a cumulative landing report in eLandings. This process involves an employee at the processor entering the written data provided by the tender vessels into eLandings. Although there is an optional field in the eLandings landing report for tender identification number, there is currently no regulation requiring that tender deliveries be identified. If the tender vessel is not identified, there is no way to distinguish a tender delivery from a CV delivery to a processor. The landing report is associated with the CV and the processor the same as if the CV delivered to the processor directly.

The tLandings application is used locally on the tender and was developed for tender vessels without web access. The tLandings application is loaded onto a thumb drive with a list of the authorized users, the processor's vessel list, and a species list, and includes the option for the processor to add a price list. Landing reports are created and stored on the thumb drive. The application creates a printable fish ticket, that is printed onboard the tender vessel and signed by the delivering CV operator. Once the tender trip is completed, the thumb drive is provided to the shoreside processor for upload into the eLandings repository database. The processor then uploads the eLandings landing report to a central agency server. Validation protocols and business rules are imbedded in the application code to provide immediate validation at the point of reporting. Some values, such as number of fish, are calculated from an average weight that can be repeatedly determined throughout the fishery. All basic mathematical sums are

automated as well. This system requires one-time data entry on the tender vessel and the information is transferred to the processor, and then to the agency via eLandings. Digital harvest reports improve catch accounting and streamline the process. Though the use of tLandings is currently voluntary, the program is being utilized by a growing number of tender vessels and processors.[6]

In November 2015, Alaska Department of Fish & Game adopted a regulation to requiring the use of tLandings for tender vessels who have submitted 2,000 salmon fish tickets or bought over 20 million pounds of salmon in 2012, 2013, or 2014, and for all groundfish delivered to tender vessels. ADF&G estimated that roughly 55 tender vessels would meet the threshold for the new regulation, but many already use the tLandings system for IFQ, salmon, and groundfish reporting.

Current Status of tLandings

As part of the revised alternatives, staff has identified a tLandings reporting requirement as essential to further refining data quantifying CV deliveries to tender vessels in federal fisheries for both catch accounting and Observer Program purposes. The large volume of state Pacific cod deliveries to tender vessels indicates that a significant number of tender vessels may already be equipped with tLandings to meet state regulations, and there would be minimal cost to also use tLandings for federal groundfish harvest.

Additionally, industry has taken steps without regulatory requirements to utilize tLandings on their tender vessels. One processor recently required all contracted tender vessels to use tLandings, and there has been a general industry shift towards electronic reporting. These processors have identified tLandings as a benefit for recordkeeping and reporting.

Table 17 illustrates the number of tender vessels that received only Federal Pacific cod and pollock, only State Pacific cod and pollock, or both Federal and State Pacific cod and pollock in all reporting areas in a given year. These numbers are based on fish tickets reported by processors. While reporting from 2009 to 2012 may not accurately reflect the number of tender vessels that delivered catch, the 2013 to 2015 numbers are more representative of actual tender deliveries. Given that the State of Alaska implemented a tLandings recordkeeping and reporting requirement for all tender vessels receiving State groundfish, the tender vessels that participate in both fisheries will be equipped with tLandings. The vessels that would potentially be affected by a tLandings reporting requirement for federal groundfish delivered to tender vessels are those that exclusively receive Federal groundfish. However, a tender vessel exclusively receiving Federal groundfish one year does not suggest that it did not tender both Federal and State groundfish in the past. If that is the case, that tender vessel would already be equipped with tLandings. Additionally, Trident has recently required all contracted tender vessels to use tLandings. Though the exact number of Trident tender vessels that fall under the "only federal" category is unknown, that would reduce the number of tender vessels solely affected by a NMFS tLandings requirement.

[6] *Ibid.*

Table 17 Overview of the number of tender vessels that received only Federal groundfish, only State groundfish, or both Federal and State groundfish in the BSAI and GOA areas in a given year

Year	Only Federal	Only State	Federal and State	Total Tender Vessels
2009	4	1	9	**14**
2010	4	5	11	**20**
2011	15	6	15	**36**
2012	21	3	18	**42**
2013	17	2	20	**39**
2014	15	5	19	**39**
2015	11	4	20	**35**

Source: ADFG/AKR Fish Tickets, data compiled by AKFIN

Cost and Benefit to Tender Vessels

To meet the goal of electronic reporting on board a tender, each vessel needs a laptop computer with a numeric key pad, an inexpensive laser printer with ink cartridges and paper, a magstripe reader, and thumb drives that contain the tLandings application. Using the tLandings system was estimated to increase the annual cost to outfit and operate a tender by $1,000 to $2,300, depending on the firm. Each tender using tLandings is required to have a laptop (with the tLandings program loaded), thumb-drives, a printer, a magstripe reader, and sufficient paper and ink to print the required copies of the fish tickets. The initial setup costs could be as little as $500 for a laptop and printer, but less expensive equipment will need to be replaced more often. One processor noted that tenders are not an equipment-friendly environment. Overall the annual cost of equipment on a tender was estimated to range from about $1,000 to $2,000. The cost depends on the types of computers and printers purchased. Costs also vary depending on how often the equipment needs to be replaced because of damage, failure, or simply being obsolete. In most cases, the primary costs for tender operators are associated with installing, learning, and operating the tLandings system. Overall, the monetary costs for tender operators were very small.[7]

Operating tLandings requires some training and practice for both the tender operators and the fish ticket clerk at the processor. If the tender operator is proficient using a computer they typically complete the tLandings reports themselves. Captains that do not have the necessary computer skills either get additional computer training or hire someone to complete the tLandings reports. Processing plant staff at one plant goes on each tender for about one hour to train the tLandings operator. After the initial training the plant staff still fields many radio and cell calls throughout the season to address questions as they arise. One company noted that no tender operator has ever declined the opportunity to work for their plant because of the tLandings system.[8]

Though these costs are inherent to the implementation of a tLandings requirement, many tender vessels may already be equipped for tLandings as a result of processor requirements or State groundfish requirements. Table 17 provides data that show the number of tender vessels that would be equipped with tLandings equipment and trained to utilize it due to their receiving State groundfish. However, the State requirement for tLandings will be effective in January 2016, and some tender vessels may opt out of receiving State groundfish to avoid having to use tLandings. If the number of tender vessels that receive both State and Federal groundfish catch during the year is consistent, roughly 11 to 17 tender vessels would be solely affected by a Federal tLandings requirement.

[7] *Ibid.*
[8] *Ibid.*

Cost and Benefit to Processors

The costs to processors of implementing a tLandings requirement primarily involve training tender vessel operators. Training of the tender operators on the tLandings system has been important and is usually provided by the processors that contract the tender; agency staff would typically provide training to the processor's staff and they would in turn provide a brief training session to their tender operators. Typically a full day of training has been used by processors for tender operators that were new to the system. Processors will often ask tender operators to repeat the training in subsequent years. Even providing an hour training session for experienced tender operators appears to decrease issues reported with the system.[9]

The cost of training in the Northern Economics analysis was described by salmon tender operators. Though it is a different fishery, the cost of training would be consistent with groundfish fisheries. Under the tLandings system one firm operating in Bristol Bay indicated that they spent approximately $2,500 to train their 18 tender operators and crew. This cost included the time of one administrative staff person (about five days), two hours of training for each tender operator before the season, and about one hour of additional training for each tender operator during the fishing season. Another operation did not indicate the costs, but did note that all tender operator crew were paid for training. They were compensated by the plant at their normal daily rate for approximately one day.

While training tendermen to utilize tLandings has a demonstrable associated cost, the three partner agencies associated with IERS have developed user manuals for all components of IERS that are available online. These manuals have streamlined the training associated with components of IERS and provide a reference for questions that may arise during day-to-day operations. Additionally, training modules have been developed for processors and tender vessel operators to familiarize themselves with the programs before having to submit a landing report. Recently, tLandings training videos have been produced with great success. These demonstrate steps the partner agencies have taken to mitigate IERS training costs to processors and tender vessels.

There are cost efficiencies associated with the use of tLandings for processors. Specifically, there would be considerably less staff time devoted to data entry. Since there is already an eLandings reporting requirement, processors likely already have staff proficient with the IERS software, so there would be little additional staff training required for processor catch reporting personnel. Additionally, the business rules built into the IERS are an important factor in reducing data entry errors. Many of the data fields are subject to these business rules. The information entered and submitted in the eLandings System is validated against database tables and programmed business rules. If the information submitted passes validation, the program will accept the information. If the information entered in a field fails validation, the eLandings System will send a message to the user that identifies the specific problem. Examples of fields that use these validation systems include: the statistical areas, vessel numbers, permit numbers, species codes, product codes, and others. As a result of the many business rules implemented there is a much smaller chance of misreported data or transposed data entries. Fixing these problems at the time they are entered into the system greatly reduces the time required to find and correct these errors later. It also reduces the possibility that incorrect data will be used to make future management decisions.

Cost and Benefit to NMFS

NMFS has already identified the benefits of an eLandings reporting requirement for processors, specifically the timeliness and reliability of data. Almost real-time access to the data is important for fisheries that operate under cooperatives and individual fishing quotas. These fisheries cannot have

[9] *Ibid.*

substantial lags between when the fish are harvested and available in the eLandings system to agency staff and quota holders. Substantial delays in access to the landings data render those programs impossible to manage and enforce.[10]

The use of tLandings will enable the agency to identify tender deliveries, which is currently not possible for any tender landings where the tender has not been recorded. tLandings also adds additional efficiencies in the transfer of reliable data. The ability for processors to upload the completed data from tLandings means landing reports can be provided to NMFS more quickly and with greater reliability. Tender vessels providing digital data greatly reduces the likelihood of inefficiencies associated with unreadable fish tickets. If fish tickets are unreadable, NMFS and/or the processor have to go to extra lengths to either decipher the information provided or follow up with the vessel that submitted the fish ticket. Both of these involve greater investment of staff time and resources. Because the tLandings and eLandings report have a number of automated fields to ensure data consistency and reliability, there is less likelihood for errors, benefitting agency staff by requiring less staff time to verify data accuracy.

[10] *Ibid.*

Appendix C: Relevant Regulations

50 CFR 679.2 – Definitions

This appendix contains regulations relevant to understanding this action. The first section is definitions relevant to Federal Fishing Regulations for Fisheries of the Exclusive Economic Zone off Alaska found at 50 CFR 679.2.

Associated processor means:
(1) Relationship with a buying station. A mothership or catcher/processor issued an FFP, or a shoreside processor or SFP issued an FPP, with a contractual relationship with a buying station to § 679.2 Definitions.
(2) Relationship with a custom processor. A mothership or catcher/processor issued an FFP or a shoreside processor or SFP issued an FPP, with a contractual relationship with a custom processor to process groundfish on its behalf.
Buying station means a tender vessel or land-based entity that receives unprocessed groundfish from a vessel for delivery to a shoreside processor, stationary floating processor, or mothership and that does not process those fish.
Fishing trip means:

(3) **Groundfish and Halibut Observer Program**. With respect to subpart E of this part, one of the following periods:

(i) For a catcher vessel delivering to a shoreside processor or stationary floating processor, the period of time that begins when a catcher vessel departs a port to harvest fish until the offload or transfer of all fish from that vessel.

(ii) For a catcher vessel delivering to a tender vessel, the period of time that begins when a catcher vessel departs a port to harvest fish until the vessel returns to a port in which a shoreside processor or stationary floating processor with a valid FPP is located.

Tender vessel (see also the definition of "buying station" under this section) means a vessel that is used to transport unprocessed fish or shellfish received from another vessel to an associated processor.

Transfer means:
(1) Groundfish fisheries of the GOA and BSAI. Any loading, offloading, shipment or receipt of any IFQ sablefish or other groundfish product by a mothership, catcher/ processor, shoreside processor, or stationary floating processor, including quantities transferred inside or outside the EEZ, within any state's territorial waters, within the internal waters of any state, at any shoreside processor, stationary floating processor, or at any offsite meal reduction plant.
(2) IFQ halibut and CDQ halibut fisheries. Any loading, offloading, or shipment of any IFQ halibut or CDQ halibut product including quantities transferred inside or outside the EEZ, within any state's territorial waters, within the internal waters of any state, at any shoreside processor, stationary floating processor, or at any offsite meal reduction plant.

Note: transfer definition does not include tenders

50 CFR 679.51 – Observer Requirements for Vessels and Plants

50 CFR 679.51 deals with observer requirements for vessels and plants, but the regulations defining responsibilities found at 50 CFR 679.51(e) are particularly important for this issue. This section defines safe conditions that would be applicable to any vessel carrying an observer, and would extend to tender vessels or authorized vessels if either of those component options are selected under Alternative 3. As such, part of the costs associated with allowing vessels other than CVs to transport observers to the fishing grounds would be found in this section. This section also contains the regulations governing at-sea transfers of observers.

(e) *Responsibilities—*
(1) *Vessel responsibilities.* An operator of a vessel required to carry one or more observers must:
(i) *Accommodations and food.* Provide, at no cost to observers or the United States, accommodations and food on the vessel for the observer or observers that are equivalent to those provided for officers, engineers, foremen, deck-bosses, or other management level personnel of the vessel.
(ii) *Safe conditions.* (A) Maintain safe conditions on the vessel for the protection of observers including adherence to all U.S. Coast Guard and other applicable rules, regulations, or statutes pertaining to safe operation of the vessel.
(B) Have on board:
(*1*) A valid Commercial Fishing Vessel Safety Decal issued within the past 2 years that certifies compliance with regulations found in 33 CFR Chapter I and 46 CFR Chapter I;
(*2*) A certificate of compliance issued pursuant to 46 CFR 28.710; or
(*3*) A valid certificate of inspection pursuant to 46 U.S.C. 3311.
(iii) *Transmission of data.* Facilitate transmission of observer data by:
(A) *Observer use of equipment.* Allowing observers to use the vessel's communications equipment and personnel, on request, for the confidential entry, transmission, and receipt of work-related messages, at no cost to the observers or the United States.
(B) *Communication equipment requirements.* In the case of an operator of a catcher/processor, mothership, a catcher vessel 125 ft. LOA or longer (except for a vessel fishing for groundfish with pot gear), or a catcher vessel participating in the Rockfish Program:
(*1*) *Observer access to computer.* Making a computer available for use by the observer. This computer must be connected to a communication device that provides a point-to-point connection to the NMFS host computer.
(*2*) *NMFS-supplied software.* Ensuring that the catcher/processor, mothership, or catcher vessel specified in paragraph (e)(1) of this section has installed the most recent release of NMFS data entry software provided by the Regional Administrator, or other approved software.
(*3*) *Functional and operational equipment.* Ensuring that the communication equipment required in paragraph (e)(1)(iii)(B) of this section and that is used by observers to enter and transmit data, is fully functional and operational. "Functional" means that all the tasks and components of the NMFS supplied, or other approved, software described at paragraph (e)(1)(iii)(B)(*2*) of this section and the data transmissions to NMFS can be executed effectively aboard the vessel by the communications equipment.
(iv) *Vessel position.* Allow observers access to, and the use of, the vessel's navigation equipment and personnel, on request, to determine the vessel's position.
(v) *Access.* Allow observers free and unobstructed access to the vessel's bridge, trawl or working decks, holding bins, processing areas, freezer spaces, weight scales, cargo holds, and any other space that may be used to hold, process, weigh, or store fish or fish products at any time.
(vi) *Prior notification.* Notify observers at least 15 minutes before fish are brought on board, or fish and fish products are transferred from the vessel, to allow sampling the catch or observing the transfer, unless the observers specifically request not to be notified.

(vii) *Records.* Allow observers to inspect and copy the vessel's DFL, DCPL, product transfer forms, any other logbook or document required by regulations, printouts or tallies of scale weights, scale calibration records, bin sensor readouts, and production records.
(viii) *Assistance.* Provide all other reasonable assistance to enable observers to carry out their duties, including, but not limited to:

(A) Measuring decks, codends, and holding bins.

(B) Providing the observers with a safe work area adjacent to the sample collection site.

(C) Collecting bycatch when requested by the observers.

(D) Collecting and carrying baskets of fish when requested by observers.

(E) Allowing observers to determine the sex of fish when this procedure will not decrease the value of a significant portion of the catch.

(F) Collecting all seabirds that are incidentally taken on the observer-sampled portions of hauls using hook-and-line gear or as requested by an observer during non-sampled portions of hauls.

(ix) *Transfer at sea.*

(A) Ensure that transfers of observers at sea are carried out during daylight hours, under safe conditions, and with the agreement of observers involved.

(B) Notify observers at least 3 hours before observers are transferred, such that the observers can collect personal belongings, equipment, and scientific samples.

(C) Provide a safe pilot ladder and conduct the transfer to ensure the safety of observers during transfers.

(D) Provide an experienced crew member to assist observers in the small boat or raft in which any transfer is made.