

# Options to Reduce the Potential for Shortages of Fixed Gear Lead Level 2 Observers

## Discussion Paper

September 14, 2016<sup>1</sup>

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## 1 Introduction

In June 2014, the Council tasked staff to prepare a discussion paper to evaluate regulatory and non-regulatory solutions to alleviate industry concern about the high potential for a shortage of fixed-gear lead level 2 (LL2) observers for catcher/processors using hook-and-line gear in the BSAI. These vessels are also known as “freezer longline vessels” or “longline catcher/processors (C/Ps). In 2014, industry and observer providers reported that several freezer longline vessel owners were unable to obtain a LL2 observer when one was needed. Observer providers and industry have submitted numerous letters comments and letters, and have testified to both the North Pacific Fishery Management Council (Council) and the Council’s Observer Advisory Committee (OAC), documenting their concerns that the supply of fixed gear LL2 observers is limited and that there is a high potential for the lack of availability of a LL2 observer which would delay or prevent a vessel operator from fishing. In addition, vessel owners and full coverage observer providers have expressed concerns about the limited opportunities for observers to gain

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the experience needed to obtain a LL2 endorsement, and the cost of vessels voluntarily taking a second observer to provide the experience needed for that second observer to qualify for a fixed gear LL2 endorsement.

A “level 2” endorsement requires an observer to satisfy specific training, certification, and experience requirements, including observing on vessels fishing for groundfish or halibut off Alaska. A “lead level 2” or LL2 endorsement for vessels using non-trawl (fixed) gear requires that an observer be endorsed as a level 2 observer and have completed two cruises or contracts of at least 10 days each and sampled at least 30 sets on a vessel using non-trawl gear (longline or pot gear).

Two factors have contributed to a concern about the availability of fixed gear LL2 observers: implementation of monitoring requirements for the Freezer Longline Cooperative (FLC) in 2012, and restructuring of the Observer Program in 2013. Under the monitoring requirements implemented in 2012, owners of freezer longline vessels could choose either to take two observers or to install a flow scale. Vessel owners selecting the flow scale option are required to carry a single fixed gear LL2 observer. All but one vessel participating in the voluntary BSAI Pacific cod Freezer Longline Cooperative have selected the scales option which requires one LL2 observer on the vessel.

Prior to restructuring of the Observer Program in 2013<sup>2</sup>, all vessels needing observer coverage contracted directly with permitted observer providers. Since 2013, all vessels and processors that participate in the federally managed halibut and groundfish fisheries off Alaska are assigned to one of two categories: (1) the full observer coverage category (“full coverage”), and (2) the partial observer coverage category (“partial coverage”). Vessels and processors in the full coverage category obtain observers by contracting directly with observer providers permitted by NMFS. Vessels and processors in the partial coverage category obtain observer coverage through a single observer provider who contracts directly with NMFS. Most fixed gear catcher vessels (CVs) are in the partial observer coverage category. These vessels are not required to carry LL2 observers and, consequently, they provide many of the opportunities for observers to gain the experience needed to qualify for a fixed gear LL2 endorsement. Prior to creation of the separate full and partial coverage categories in 2013, an observer employed by one of the permitted full coverage observer providers could have gained the experience necessary for a fixed gear LL2 endorsement from a catcher vessel or a catcher/processor contracting with the observer provider employing the observer, or with one of the other full coverage observer providers. With the creation of the separate full and partial coverage categories and the selection of a single observer provider for the partial coverage category, the opportunities for observers employed by the full coverage observer providers to gain the experience needed for a fixed gear LL2 endorsement have diminished. Few observers have worked in both the full and partial coverage categories since 2013.

In November 2014, NMFS, observer providers, and industry met to identify non-regulatory actions that could be taken to address the concern about the limited opportunities for observers to gain the experience necessary for a LL2 endorsement. Some measures were successfully implemented over the course of 2015. Nonetheless, after further discussion in October 2015, the Council reiterated the need to evaluate regulatory measures and additional non-regulatory measures that might provide more long-term solutions to the problems identified by the industry. Specifically, the Council requested that the following options be addressed in a discussion paper:

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<sup>2</sup> “Restructuring of the Observer Program” or “Observer Program restructuring” refers to the changes made to the funding and deployment system for deploying observers in the North Pacific groundfish and halibut fisheries. More information about Observer Program restructuring is in the final rule (77 FR 70062; November 21, 2012).

- 1) Allow deployment of a non-fixed gear LL2 observer on FLC vessels if the only alternative is that the vessel must stand down:
  - a) Deploy any non-LL2 observer
  - b) Deploy a trawl LL2 observer.
- 2) Allow observer experience on fixed gear vessels in other regions to count towards LL2 certification.
- 3) Allow full coverage providers to deploy observers on pot CVs (in the partial coverage category) to secure fixed gear LL2 certification.
- 4) Institute an at-sea training component to the Federal observer training program, whereby the agency would pay for fixed gear LL2 certification.
- 5) Encourage AIS to become a certified observer provider, and supply LL2 observers to FLC vessels.

In addition, the Council requested staff to identify other potential solutions that could “develop a sustainable, renewable and adequate pool” of fixed gear LL2 observers. The Observer Program has identified several non-regulatory actions to increase the preparedness of new LL2 observers deployed on freezer longline vessels, which are identified in Section 5.7. Additionally, NMFS has recommended the following additional alternative, which has been included in this paper:

- 6) Allow freezer longline vessels with flow scales to choose between a single LL2 observer or two level 2 observers.

These options represent a mix of regulatory and non-regulatory options. The regulatory options would require revisions to Federal regulations at 50 CFR part 679. Options 1, 2, and 6 are regulatory options because they would require revisions to regulations that specify observer coverage requirements for freezer longline vessels or requirements for fixed gear LL2 observer endorsements. A Regulatory Impact Review (RIR), Initial Regulatory Flexibility Analysis (IRFA), and review under the National Environmental Policy Act (NEPA) would need to be completed before the Council could take final action to recommend one of the regulatory options.

Options 3 and 5 are non-regulatory options because they would not require revisions to Federal regulations. Option 3 could involve changes in the contract for the partial coverage observer provider. Non-regulatory options do not require the preparation of an RIR/IRFA or NEPA analysis to implement. However, additional analysis could be done to better understand the implementation and impacts of the non-regulatory options. Option 4 could involve both regulatory and non-regulatory components.

Regarding Option 5, in March 2016, AIS submitted an application to NMFS to be certified as a full coverage observer provider. NMFS and the Council received letters and testimony from other full coverage observer providers expressing concerns about approving AIS’s application. At its June 2016 meeting, the Council passed a motion requesting that “NMFS postpone action on AIS’s application to be a full coverage observer provider until getting input from the Council after they have received the October white paper on LL2 observer issues that will include looking at the impacts of an observer provider being in the partial and full coverage categories in terms of 1) confidential fishery information; 2) reimbursements by the Federal government; and 3) other unfair competitive advantages.”

NMFS carefully considered the Council’s request to delay consideration of AIS’s permit application. However, for reasons explained in more detail in the permit approval letter and review board recommendations, on August 31, 2016, NMFS approved AIS’s application to be a full coverage observer

provider.<sup>3</sup> NMFS determined that AIS's application was complete and met all of the regulatory requirements for a full coverage observer provider permit. In addition, NMFS reviewed information asserting the AIS would have an unfair competitive advantage over other full coverage observer providers. While NMFS acknowledges that AIS may have a competitive advantage over other full coverage providers due to its ability to provide observers the opportunity to gain experience needed for a fixed gear LL2 endorsement through deployments in the partial observer coverage category, neither this situation nor any of the other circumstances identified by the other full coverage providers constituted an *unfair* competitive advantage. In addition, NMFS determined that the request to delay consideration of AIS's application until the analysis requested by the Council could be completed would have created a delay in review of AIS's permit application well beyond October 2016. Such a delay would have denied AIS the required timely review of an application it submitted based on a process described in regulation that did not specify a need for such an analysis or Council review.

The entrance of AIS as a full coverage observer provider may reduce the potential for a shortage of fixed gear LL2 observers in the future because, as of the end of 2015, AIS employed about 40 observers with fixed gear LL2 endorsements (see Table 2 of this discussion paper). However, the actual impact of AIS as a new full coverage provider is unknown. It is possible that the other full coverage observer providers will be able to supply the needed fixed gear LL2 observers in the future and that no industry member will seek a contract with AIS to provide LL2 observers. AIS may have different contract provisions or cost structure than the other providers which may affect the willingness of industry to contract with them. AIS observers with fixed gear LL2 endorsements may not be available when needed by freezer longline vessels. In addition, the fixed gear LL2 observers employed by AIS may have gained much of their prior experience on longline catcher vessels or pot vessels in the partial coverage category, which as noted in Section 5 of this discussion paper, does not necessarily properly prepare those observers to be a single observer on a freezer longline vessel.

NMFS recognizes that the potential for shortages of fixed gear LL2 observers in the future is of concern to the industry, observer providers, and the Council. Since the June 2016 Council meeting, analytical work on the LL2 issue has focused on two things: the analysis of the issues raised by the other full coverage observer providers and the Council about AIS's full coverage observer provider permit application (addressed separately in the permit approval letter), and an in-depth assessment of the experience needed to successfully monitor the freezer longline fleet, as a basis for evaluating the options in the paper.

This discussion paper provides the following information:

- Recommendations about possible next steps for this issue and any future discussion papers or analyses, in Section 2.
- History and background of the fixed gear LL2 shortage issue, in Section 3.
- Information about LL2 observer availability, in Section 4.
- The Observer Program's<sup>4</sup> evaluation of the experience requirements necessary to successfully deploy as a single LL2 observer on a freezer longline vessel, in Section 5; and
- Information about the options identified for further evaluation, in Section 6.

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<sup>3</sup> NMFS's August 31, 2016, letter approving AIS's permit application and the attached analysis supporting the review board's recommendations is available on the Council's website at [http://www.npfmc.org/wp-content/PDFdocuments/conservation\\_issues/Observer/AISpermitApprovalLtr083116.pdf](http://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/AISpermitApprovalLtr083116.pdf).

<sup>4</sup> Fishery Monitoring and Analysis Division, Alaska Fisheries Science Center, Seattle, Washington.

## 2 Next Steps and Council Action

This document includes a preliminary assessment of the regulatory and non-regulatory options suggested by the Council in October 2015 to evaluate their feasibility in resolving the potential shortage of LL2 observers. In light of the information presented in this discussion paper, analysts request Council input on the following questions:

1. Does a problem that requires further development of regulatory or non-regulatory options continue to exist? Specifically, does the combination of the actions taken in 2015 (described in Section 3.2), the Observer Program's proposed additional non-regulatory actions (described in Section 5.7), and the entrance of AIS as a full coverage observer provider, reduce the potential for a shortage of fixed gear LL2 observers enough to justify waiting to proceed with analysis of additional options?
2. If a problem currently exists, reconfirm or refine the elements of the problem. The elements of the problem that had been identified prior to June 2016 were concerns about:
  - i. the potential for a shortage of fixed gear LL2 observers and the associated lost fishing time to freezer longline vessels,
  - ii. the costs to industry of voluntarily taking a second observer to increase the supply of fixed gear LL2 observers, and
  - iii. a commitment to maintaining the standard of monitoring that is necessary to ensure continued high quality data.

The Council also expressed a concern in June 2016 about the issue of potential unfair competitive advantage from AIS becoming a full coverage provider. This concern is addressed in the analysis prepared by NMFS for the permit review process.

3. If further analysis is recommended, consider whether all of the remaining regulatory and non-regulatory options identified by the Council in October 2015 should continue to be analyzed. In Section 6, a preliminary assessment of the options in light of the Observer Program's recommendations in Section 5 of this discussion paper, about the experience requirements needed to successfully deploy as a single observer on a freezer longline vessel, may help the Council with this consideration.
4. If further analysis is recommended, are there any additional regulatory or non-regulatory options that should be further evaluated?

## 3 History of the issue

Concerns about LL2 observer availability first arose during the development of the freezer longline monitoring requirements in 2011. In 2012, NMFS modified equipment and operational requirements for freezer longline vessels named on a License Limitation Program (LLP) licenses endorsed to catch and process Pacific cod at sea with hook-and-line gear in the Bering Sea and Aleutian Islands Management Area (BSAI). These regulations require the vessel owners to select between two monitoring options: carry two observers so that all catch can be sampled, or carry one observer and use a motion-compensated scale to weigh Pacific cod before it is processed. Under both monitoring options, at least one observer must have the lead level 2 deployment endorsement. The rule also reduced the experience requirements for lead level 2 endorsed observers to address concerns raised by the observer providers about potential shortage of observers as a result of the new regulations (77 FR 59053, September 26, 2012).

There are different endorsements for observers based on experience. For the purposes of this discussion paper, LL2 means an observer with a fixed-gear lead level 2 deployment endorsement. A Level 2 endorsement means that an observer has completed 60 days of observer time, and has received an evaluation for their most recent deployment indicating that they met Observer Program expectations. A “lead” level 2 observer endorsement for a vessel using non-trawl gear (which is the case for the vessels affected by this action) also requires that the observer has completed two cruises or contracts of at least 10 days duration each, and sampled at least 30 sets on a vessel using non-trawl gear (either longline or pot gear).

In 2013, NMFS implemented the restructured funding and deployment systems of the Observer Program (77 FR 70062, November 21, 2012). Under the Observer Program, all vessels and processors in the groundfish and halibut fisheries off Alaska are placed into one of two categories: 1) the full observer coverage category, where vessels and processors obtain observer coverage by contracting directly with observer providers; and 2) the partial observer coverage category, where NMFS has the flexibility to deploy observers when and where they are needed, as described in the annual deployment plan that is developed by NMFS in consultation with the Council. NMFS funds observer deployment in the partial observer coverage category by assessing a 1.25 percent fee on the ex-vessel value of retained groundfish and halibut from vessels that are not in the full observer coverage category.

During the development of the FLC M&E requirements, observer providers and FLC representatives raised concerns about the necessity of the LL2 requirement and potential impacts on the availability of LL2 observers in the future. NMFS responded to the concerns raised in public testimony to the Council and in comments on the proposed rule by reevaluating the experience requirements for the LL2 fixed-gear endorsement and subsequently implementing reduced experience requirements in the final rule and by making adjustments in the Analysis. The changes in the Analysis did not alter conclusions or components of the final rule. NMFS stated “NMFS will continue to monitor the number of observers that become lead level 2 qualified in the fixed-gear fleet in the partial coverage category of the restructured Observer Program. NMFS could reconsider the monitoring requirements for the freezer longline fleet if there is a future shortage of lead level 2 observers.” in response to comment 5 on the FLC M&E proposed rule (77 FR 59053, September 26, 2012). This Analysis is summarized in Section 1.3 below.

In February 2014, full coverage observer providers again raised concerns about their ability to create new LL2 observers in the full coverage category. Three observer providers signed a letter to the council identifying the urgent need to evaluate the existing supply of LL2 observers and suggested pilot testing alternate experience requirements for observers deployed in the freezer longline fleet to avoid a shortage that would result in a vessel left stranded at the dock without a qualified observer available for deployment (Lake et. al, Jan 30, 2014). The OAC discussed the letter and proposal from the observer providers and noted that such a proposal would need to be implemented as a regulatory change and that this would not be a quick solution. The Committee recognized that if a lead level 2 observer is not available, the vessel experiences a hardship in that they would be unable to go fishing, and identified deploying a second inexperienced observer on some vessels as an interim solution. The OAC noted in their minutes that the Freezer longline sector is unwilling to take on this role, because of the cost (they have already made significant investments in flow scales in order to be able to take only one observer), and because of natural observer attrition, they would need to be training new observers in perpetuity.<sup>5</sup>

In May 2014, full coverage observer provider, AOI, Inc. sent a letter to the Observer Program detailing the decreasing number of LL2 observers within the company, and informed the Observer Program that they were initiating efforts to deploy second observers on some vessels to increase the LL2 pool. In this

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<sup>5</sup> February 2014 OAC meeting minutes are available on the Council's Web page:  
[http://legistar2.granicus.com/npfmc/meetings/2014/2/876\\_A\\_North\\_Pacific\\_Council\\_14-02-03\\_Meeting\\_Agenda.pdf](http://legistar2.granicus.com/npfmc/meetings/2014/2/876_A_North_Pacific_Council_14-02-03_Meeting_Agenda.pdf)

letter, AOI emphasized that these efforts were an interim measure and that a long term fix was still needed. AOI also identified additional actions the Observer Program could take to ensure observers fairly accrue credit toward LL2 endorsement (Lake, May 28, 2014).

In June 2014, the OAC reviewed information provided in the Annual report about the availability of LL2 observers and requested additional detail about the number of newly certified LL2 observers in the partial coverage category since 2013.

In August 2014 a letter exchange between Coastal Villages and Saltwater Inc. identified a situation where a qualified LL2 observer was not available for deployment. The circumstances of the situation anticipated the vessel would need to cut their trip short by approximately 5-6 days to return to port to avoid the observer provider violating the 90 day deployment limit. This action was anticipated to shorten the trip for the vessel resulting in lost revenues.

In 2014, SWI, Inc. describes the events leading to the situation where an observer was not available for deployment on the F/V Lilli Ann and largely attributes this example of a shortage to the limited opportunities for observers to earn the LL2 endorsement in the full coverage category and the smaller than expected number of observers that have earned a LL2 endorsement in the partial coverage category. SWI noted that at the time, the state of their LL2 observer supply was at “critical depletion” and that they had begun to deploy second observers at “considerable cost to industry” (Hansen to Ken Tippet, August 21, 2014). Coastal Villages provided a response to this letter identifying the estimated cost of carrying a second observer as approximately \$10,000 per trip (approximately 30 days under normal fishing conditions) and requesting urgent relief for the shortage of LL2 observers and identifying the need for alternate methods to develop LL2 observers that would be less financially burdensome to the industry (Tippet, August 22, 2014).

In a letter to NMFS in late August, 2014 the FLC summarized the experiences of 3 vessels that experienced delays and projected anticipated changes to fishing plans in September 2014. The FLC requested that NMFS adopt a policy to not enforce the LL2 requirement for the Freezer longline fleet. The FLC asserted that the LL2 endorsement is not required for an observer to successfully collect high quality data aboard the Freezer longline fleet and criticized the point made in the 2012 Analysis that the partial coverage category would provide new opportunities to create LL2 observers and urging that a shortage of LL2 observers is at a critical concern. The FLC described that members have deployed second observers in an effort to create more LL2 observers that may result in realized benefits in 2015, but does nothing to alleviate the immediate shortage and again identifying the need for a long term solution (See, August 28, 2014).

In September 2014, NMFS responded to the FLC by identifying a number of non-regulatory market-based solutions that could be implemented by observer providers and the Industry, referencing the Analysis prepared in 2012 and the response to comments published with the final rule and citing the Council’s request in June 2014 for a discussion paper and for staff to identify regulatory and non-regulatory alternatives “to develop a sustainable, renewable and adequate pool of fixed-gear, lead level 2 observers.” (NMFS, September 8, 2014).

Later in September, OAC recommended that a discussion paper about the LL2 issue be added as priority 14 on the list of observer Analytical priorities.<sup>6</sup> OAC noted in their minutes that the shortage of LL2 observers experienced during the summer 2014 was due to the limited opportunities in the full coverage category for new inexperienced observers to gain the requisite experience to earn the LL2 endorsement.

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<sup>6</sup> OAC report is available on the Web under Agenda item C1  
[http://legistar2.granicus.com/npfmc/meetings/2014/10/894\\_A\\_North\\_Pacific\\_Council\\_14-10-06\\_Meeting\\_Agenda.pdf](http://legistar2.granicus.com/npfmc/meetings/2014/10/894_A_North_Pacific_Council_14-10-06_Meeting_Agenda.pdf)

The OAC also provided some direction about what should be considered in a discussion paper to identify potential regulatory change to address the issue of LL2 observers. FLC stated that NMFS has a responsibility to solve the LL2 issue. The FLC further asserts that the LL2 requirement is not necessary because the boats have a flow scale and the data from a non-LL2 would be just as high quality. FLC supports cooperation with NMFS to further develop regulatory and non-regulatory solutions to reduce impacts on the freezer longline fleet.

In December 2014, the Council received a report from the FLC detailing topics discussed at a meeting between industry, observer providers, and the Observer Program. The letter detailed non-regulatory actions that all parties could take to improve the availability of LL2 observers in the short term, keeping in mind that a long term regulatory solution would still be needed. This letter and the actions taken by the three parties is discussed further in Section 3.2.

In June 2015, the OAC and the Council reviewed information provided by NMFS about the availability of LL2 observers in the 2014 Observer Program Annual Report.

In September 2015, NMFS presented the “Lead Level 2 Update” to the OAC recommended that regulatory solutions to the LL2 issue be evaluated and proposed that the “priority for regulatory options should be to address how to get observers the training they need for LL2 certification, rather than allowing inexperienced observers in the fleet.” NOAA Office of Law Enforcement noted that experienced observers are more likely to be able to resolve conflicts, and are better able to recognize sample interference and resolve potential problems sooner than less experienced observers. This recommendation was accompanied by a wide range of regulatory options for consideration and included a non-regulatory option, to encourage AIS to become a permitted observer provider.

In October 2015, the Council passed a motion requesting staff update the discussion paper requested at the June 2014 meeting and address considerations for regulatory changes to alleviate the ongoing shortage of LL2 observers and listed a number of concepts and options. One of the recommendations included in the Council’s October 2015 motion was to “[E]ncourage AIS to become a certified observer provider, and supply LL2 observers to FLC vessels.” AIS, Inc. (AIS) is the observer provider contracted by NMFS to provide observer services in the partial observer coverage category.

In March 2016, AIS submitted an application to NMFS be permitted as a full coverage observer provider. NMFS and the Council received letters and testimony from other full coverage observer providers opposing AIS’s application. At its June 2016 meeting, the Council passed a motion requesting that “NMFS postpone action on AIS’s application to be a full coverage observer provider until getting input from the Council after they have received the October white paper on LL2 observer issues that will include looking at the impacts of an observer provider being in the partial and full coverage categories in terms of 1) confidential fishery information; 2) reimbursements by the Federal government; and 3) other unfair competitive advantages.” For reasons explained in more detail in Attachment 1, on August 31, 2016, NMFS approved AIS’s application to be a full coverage observer provider.

### **3.1 Prior Analyses**

#### **Freezer Longline Monitoring and Enforcement**

In 2011 and 2012 NMFS, with input from the Council and the public, drafted a Regulatory Impact Review and Environmental Assessment (RIR/EA) for the regulatory action to modify monitoring and enforcement (M&E) requirements for freezer longline vessels, henceforth referred to as the M&E



RIR/EA.<sup>7</sup> The M&E RIR/EA analyzed 4 alternatives: (1) no action, (2) required use of motion-compensated scales, (3) required increased observer coverage, and (4) vessel operator choice of the scales option or the increased observer coverage option. NMFS supported Alternative 3, which would have required two observers for all vessels. However, the FLC expressed concern about the additional cost of carrying two observers. With compromise on both sides and direction from the Council, Alternative 4 was identified as the preferred alternative and implemented as the new monitoring requirements. Upon implementation, all but one freezer longline vessels chose the scale option under the monitoring regulations.

Issues identified during the development of the M&E RIR/EA included the cost to carry a second observer, the incremental costs associated with maintaining a pool of LL2 observers (including increased pay and incentives), limited opportunities for new observers to gain experience toward the LL2 endorsement, and an overall increase in demand for LL2 observer with a general sense of a diminishing LL2 pool of observers. Section 1.3.4 (and tables 14 and 15) of the M&E RIR/EA included a detailed analysis of the expected impacts of the LL2 requirement under the assumed conditions after the implementation of the M&E requirements and the Restructured Observer Program.

In that analysis, Analysts made conservative assumptions to overestimate fishing effort and relative demand for observers rather than underestimate effort and demand for observer. Analysts assumed all vessels participating in the fishery would fish year round to estimate maximum potential demand for LL2 observers. Analysts also estimated the potential opportunities for new observers to earn the LL2 endorsement under the new programs and identified other factors that might influence observer availability including, wages, demanding workload, and, personal preference for other assignments.

In the M&E RIR/EA, NMFS also noted the possibility that an increase in the demand for LL2 observers would result in increased pay for observers with this endorsement which would, in turn, have a positive impact on the supply of LL2 observers (see Section 1.3.4 of the analysis). Analysts noted that, at that time the observer providers did “not generally pay a significant premium to observers for lead level 2 qualifications or charge fishing companies more for providing them.”

In general, the implementation of the FLC M&E requirements increased demand for LL2 observers and at the same time, the restructured observer program shifted the opportunities for new observers to gain experience toward a LL2 fixed-gear endorsement. The M&E RIR/EA assumed that observers who earned a LL2 endorsement in the partial observer coverage category would be available for deployment on the freezer longline fleet. This has not proven to be the case under the restructured program through 2016.

With the approval of AIS’s permit application, the observer provider in the partial observer coverage category is now permitted to contract and provide observers in the full observer coverage category.

Until now, for observers who earned a LL2 endorsement in the partial coverage category to be deployed on a freezer longline vessel, the observer would have needed to change employers. To date, NMFS has witnessed very few observers moving from observing in the partial coverage category to employment in the full coverage category.

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<sup>7</sup> Regulatory Amendment to Modify Monitoring and Enforcement Requirements in the BSAI Freezer Longline Fleet, Regulatory Impact Review/environmental Assessment. NMFS. May 2012. Available on the NMFS Alaska Region Web site: [https://alaskafisheries.noaa.gov/sites/default/files/analyses/rirea\\_fllme0512.pdf](https://alaskafisheries.noaa.gov/sites/default/files/analyses/rirea_fllme0512.pdf).

### Observer Program Restructure

In the RIR/EA prepared for Amendment 86/76 (Observer Restructure), Analysts assumed that an observer provider could operate in both coverage categories simultaneously. With this in mind, analysts identified potential impacts of operating two separate observer service delivery models including logistical concerns and the potential administrative burden for NMFS and the Observer provider to administer two programs<sup>8</sup>. NMFS expected that labor costs in the partial coverage category would be greater than the labor costs in the full coverage category and that over time, this might result in an overall increase in observer compensation. To date, this assumption has not been realized as expected, largely because of the segregations of observer providers to one coverage category, resulting in a divided marketplace for the two categories.

The expansion of the partial coverage category in the restructured observer program to include a new class of non-trawl catcher vessel, including halibut CVs, provided new opportunities for observers seeking LL2 experience. While this provided additional opportunity for observers to meet the LL2 endorsement requirements, these observers were largely unavailable for deployment on FLC vessels because they remained employed by AIS that only operated in the partial coverage category and was not permitted to provide observers in the full coverage category until August 2016.

### **3.2 Actions taken to mitigate a potential shortage of LL2 observers**

In 2014, the FLC prepared a letter providing an industry report on the LL2 observer workgroup meeting. This workgroup consisted of agency, industry, and observer provider representatives and met to find potential solutions to address the shortage of LL2 observers available for deployment on freezer longline vessels. Each of the three participating groups developed non-regulatory strategies to improve observer retention, training opportunities, and availability.<sup>9</sup> Commitments to action by observer providers, FLC vessels, and the North Pacific Observer Program are identified in Table 1. At the September 2015 Observer Advisory Committee meeting, representatives from agency, industry, and observer providers reported on the successful implementation of non-regulatory measures to address the shortage of fixed-gear LL2 observers that occurred during the summer of 2014 in the Freezer FLC fleet<sup>10</sup>.

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<sup>8</sup> The RIR/EA prepared for Amendment 86/76 is available on the Web at:

[https://alaskafisheries.noaa.gov/sites/default/files/analyses/amd86\\_amd76\\_eairirfa0311.pdf](https://alaskafisheries.noaa.gov/sites/default/files/analyses/amd86_amd76_eairirfa0311.pdf)

<sup>9</sup> "Industry Report on LL2 Observer Workgroup Meeting, November 13, 2014" Freezer Longline Coalition, presented to the NPFMC at the December 2014 meeting under agenda item B2.

<http://npfmc.legistar.com/gateway.aspx?M=F&ID=b6da11b8-25a6-475c-8ca0-b72c4e5dc866.pdf>

<sup>10</sup> [http://www.npfmc.org/wp-content/PDFdocuments/conservation\\_issues/Observer/LL2Update915.pdf](http://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/LL2Update915.pdf)

**Table 1** Summary of non-regulatory actions to improve LL2 observer availability, from November 2014 Work Group Meeting

<b>Goals</b>	<ul style="list-style-type: none"> <li>• Build pool of available LL2 observers</li> <li>• Enable full coverage observers to get their LL2 endorsement</li> <li>• Improve work environment and morale for observers on freezer longliners</li> <li>• Increase retention of trained LL2 observers</li> </ul>		
<b>Actions</b>	<b>NMFS</b>	<b>Freezer Longline Cooperative</b>	<b>Observer providers</b>
	<ul style="list-style-type: none"> <li>• Revise process for crediting voluntary second observers with hauls sampled</li> <li>• Revisions to address the heavy workload of a sole observer aboard a freezer longline vessel (revise the random sample tables)</li> <li>• Reduce observer debriefing backlog</li> <li>• Track status of LL2 observers</li> </ul>	<ul style="list-style-type: none"> <li>• Pay for voluntary second observers in order to build the pool of available LL2 observers</li> <li>• Outreach to FLC members and vessel captains about observer harassment</li> <li>• Limit fishing trips that start or extend over Christmas Day</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust observer contract lengths</li> <li>• Rotate assignments for LL2-endorsed observers between longline and trawl vessels</li> <li>• Increase pay for LL2-endorsed observers</li> </ul>

#### Voluntarily carry a second observer

The FLC reported that they had been working in cooperation with observer providers to carry a second, non-LL2 endorsed observer on FLC member vessels to provide non-LL2 observers the opportunity to gain experience necessary for the LL2 endorsement. Since 2014, 20 vessels in the FLC have voluntarily carried a second observer on 33 out of 833 trips (roughly 4 percent) while operating under the scales monitoring option. Voluntarily carrying a second observer provides a non-LL2 observers the opportunity to gain experience required to earn the LL2 endorsement. The FLC has expressed concerns regarding space, scheduling limitations, and the added cost for carrying a second observer, with special concern about carrying a second observer on smaller vessels with limited bunk space.

#### Other actions

One observer provider has included additional pay for LL2 assignments on a freezer longline vessel in their publicly available employment contract agreement. The OAC also heard reports that observers were more consistently being offered contracts that rotated between FLC and other assignments.

In response to concerns that observer harassment in the freezer longline fleet might undermine observer retention efforts, the FLC distributed a letter to FLC members dated October 31, 2014, addressing policies and responsibilities in regards to observers on board vessels. In this letter, the FLC advised captains or the ship's master to introduce observers at the vessel's safety meeting at the start of each trip, and to emphasize crew conduct policies toward observers.

The Observer Program explored options for adjusting credit for hauls on freezer longliners to ensure the non-LL2 observers had sufficient opportunity to gain the experience necessary for LL2 endorsement. In April 2015, the Observer Program implemented a policy within the context of existing regulations that lent flexibility to the accreditation of sampled hauls. Observer providers took advantage of this flexibility on two separate occasions since the implementation of the policy. They also reported a queue for observer debriefings that could be as long as three weeks. Some members of the workgroup agreed that addressing the debriefing backlog would improve observer retention and availability of LL2 observers for deployment.

#### Cost associated with non-regulatory solutions

The primary costs involved in the non-regulatory solutions that have been implemented in order to avoid a potential shortage of LL2 observers have been associated with voluntarily carrying a second observers by freezer longline cooperative members. Freezer longline vessels began voluntarily taking second observers in 2014, in order to build the pool of available LL2-endorsed observers. Following the November 2014 LL2 Workgroup meeting, NMFS changes to the process for crediting a voluntary second observer with sampled hauls made it likely for an observer to become LL2-endorsed on a single trip of approximately 30 days.

The 2015 Annual Report for the North Pacific Groundfish and Halibut Observer Program (NMFS 2016) used the invoices submitted by full coverage observer providers to calculate the average cost of observer coverage in the full coverage category in 2015 as \$375 per day. Using this program-wide average as a basis, a 30-day trip on a freezer longline vessel calculates to an estimated cost of \$11,250 for each observer. This tallies with the estimates of about \$10,000 per trip provided by various industry members, and equates to a cost of about \$2,300 to \$2,600 per week.

Appendix A provides some context for this expense with a brief fleet profile of the annual cycle of fishing activity for freezer longline vessels, and gross revenue from the fisheries in which they participate. While revenue and deliveries fluctuate throughout the year, depending on target fishery, season, and vessel activity, the average first wholesale revenue per vessel, ranges from approximately \$175,000 to \$212,000 per week. In this context, the additional cost of carrying a voluntary second observer is approximately 1 to 1.5 percent of first wholesale revenue for an average vessel, for the 30-day duration of a trip.

Information to assess other costs associated with the non-regulatory solutions pursued to date is not readily available. NMFS has received funding for additional observer program staff positions in recent years, which has helped to reduce the backlog in debriefing observers. Limited information is available about salary incentives for LL2-endorsed observers, though there is some suggestion that some companies may offer a slight increase in pay when a LL2-endorsed observer is observing on a freezer longline vessel.

### **3.3 Observing as a Profession**

The characteristics of the observer profession should be taken into account when describing the potential shortage of LL2-endorsed observers. Namely, observing is often considered a limited-time profession rather than a long term career. Noting high turnover rates, observer providers have often reported it difficult to provide ample opportunity for observers to fulfill the experience requirements necessary to deploy as a LL2 observer on freezer longline vessels.

During fall 2016, the NMFS National Observer Program (NOP) is conducting a survey of fishery observers in order to investigate incentives and disincentives for remaining an observer and to identify their subsequent career choices. The data will be used by the NOP and regional observer programs to

better understand the causes and consequence of increasing observer recruitment and retention rates. The survey results will be used by regional program managers to evaluate current observer provider contract requirements to increase observer retention. With a greater understanding of these data, observer retention may increase as a result of improved recruitment for observers. A series of questions designed to inform the LL2 issue is included in the survey. Data will be available to the regional observer programs upon completion of the survey and made available on the NOP website in 2017.

#### **4 Number of Observers and Fixed Gear LL2 Observer Availability**

There are a number of factors that influence the availability of LL2 observers for deployment on freezer longline vessels, including the number of observers that can gain the required experience, the number of prior observers with a LL2 endorsement that return to observing each year, and the number of prior observers willing to deploy on freezer longline vessels. The number of vessels fishing concurrently which need LL2 observers also varies seasonally (Appendix A provides a participation matrix that illustrates choke points during the year for LL2 observer needs in the freezer longline fleet). A total of 33 vessels fished in the freezer longline sector in 2015. NMFS has provided statistics about the number of newly qualified LL2 observers and the number of eligible LL2 observers, but actual availability depends on a specific observer's schedule and preferences. The following sections provide some descriptive information to provide insight into the available pool of LL2 observers since 2012.

NMFS has provided statistics in previous Observer Program Annual Reports<sup>11</sup> about the number of certified observers with the required experience for the non-trawl lead level 2 deployment endorsement. Observer certifications and related deployment endorsements such as LL2 are valid for 18 months from the date of issuance, unless the observer does not meet expectations on a deployment. The tables in this section were created using data from the Observer Program database. The number of observers include observers with a current observer certification who have debriefed within the last 18 months; NMFS considers these observers active in the workforce. A certified observer is an observer who has completed the 3-week training course and received their certification for deployment as an observer in the North Pacific. A qualified LL2 observer is a certified observer with the required experience necessary to obtain a LL2 deployment endorsement. The number of certified observers and eligible LL2 observers do not account for other factors that influence observer availability, such as change of employment or personal choices to work as an observer or not. These numbers represent the maximum number of observers that could potentially be available.<sup>12</sup>

Table 2 summarizes the number of active observers in both full coverage (FC) and partial coverage (PC) categories who have the experience necessary for the LL2 deployment endorsement. An observer was included in this table if the observer had a current certification and LL2 endorsement as of December 31 of each year. Table 3 provides information about the number of observers certified, the total number of observers deployed across the entire program, and the total number of observers deployed on freezer longline vessels for each year from 2012 to 2015. For any given year, the number of observers deployed is less than the number of observers certified to work as an observer. The same is true for observers qualified for the LL2 endorsement.

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<sup>11</sup> Observer Program Annual Reports are available on the Web at: <https://alaskafisheries.noaa.gov/fisheries/observer-program-reports>.

<sup>12</sup> The Observer Program requested data from observer providers showing, from the provider perspective, the number of LL2 observers that were available for work in a given week in 2015.

**Table 2** Number of newly qualified and total LL2 endorsed observers in the full coverage (FC) and partial coverage (PC) categories, from 2012 to 2015.

Year	Newly Qualified LL2 FC Observers	Total FC Observers LL2 Qualified	Total # FC Certified Observers	Newly Qualified LL2 PC Observers	Total PC Observers LL2 Qualified	Total # PC Certified Observers	Total Qualified LL2 Observers
2012	68	227	501	-----	-----	-----	227
2013	41	214	433	9	14	57	228
2014	22	176	493	20	33	79	209
2015	39	178	426	22	43	103	221

**Table 3** Total Number of Certified Observers, Number of Observers Deployed and Unique Individual Observers with a LL2 Endorsement that Deployed to Catcher/Processor Longline Vessels, 2012-2015.

Year	Total Number of Certified Observers	Total number of Observers Deployed	Total Number of LL2 Observers Deployed on Freezer Longline Vessels
2012	501	409	137
2013	490	407	114
2014	572	433	118
2015	529	454	113

It is very difficult to quantify the actual number of observers available, because there are many factors that influence an observer's choice to return to work as an observer. One observer provider responded to NMFS's request for information about the number of LL2 observers available for deployment on freezer longline vessels for each of the years from 2012 to 2015. Table 4 compares the observer provider's data to NMFS data for the number of LL2 qualified observers last employed by that provider. This comparison shows that the observer provider reported significantly fewer observers available than NMFS identified as eligible, ranging from 32 to 56 percent fewer observers, according to the observer provider.

**Table 4** Number of Qualified Lead Level 2 Observers Compared to the Number of Available Lead Level 2 Observers as Reported by One Observer Provider for Each Year 2012 To 2015.

Year	Number of LL2 Qualified Observers (NMFS)	Number of LL2 Observers Available (Provider)	% Difference = (NMFS – Provider)/ NMFS x 100
2012	79	44	44
2013	79	36	54
2014	59	26	56
2015	53	36	32

Table 5 shows the number of qualified LL2 observers by month and observer provider. Note that the numbers provided in this table reflect the number of observers eligible for the LL2 endorsement, but not the number of available LL2 observers. Availability takes into account factors such as observers who are on vacation, those who have gone back to school, or those who stopped observing to pursue another career. Therefore, the number of LL2 observers available for deployment would likely be less than the number of qualified observers provided by NMFS in Table 5.

**Table 5 Number of LL2 qualifying observers by month and observer provider, 2015**

Month	Weeks	Providers					Total
		A	B	C	D	E	
January	1-5	35	79	3	62	27	206
February	5-9	37	80	3	61	28	209
March	9-14	40	79	3	59	28	209
April	14-18	41	78	3	61	27	210
May	18-22	41	80	3	60	27	211
June	23-27	42	79	3	56	27	207
July	27-31	43	79	3	54	26	205
August	31-36	41	78	3	54	26	202
September	36-40	37	78	3	54	26	198
October	40-44	40	81	3	53	26	203
November	44-49	39	90	3	51	25	208
December	49-53	41	92	3	50	25	211

## 5 Experience Requirements for Fixed Gear LL2 Observers

### 5.1 Observer Program Recommendations

Since 2012, observers with a LL2 endorsement have been deployed as the sole observer on freezer longline vessels participating in a voluntary cooperative management program for the BSAI Pacific cod fishery<sup>13</sup>. NMFS expected that this situation would create challenges for a single observer. However, with actual experience deploying a single observer on the freezer longline vessels, the Observer Program has identified numerous challenges that are described in more detail in this section. As a result of these challenges, the Observer Program is concerned that even the current experience requirements for a fixed gear LL2 endorsement, which allows prior experience on longline catcher vessels or vessels using pot gear, are not adequate to properly prepare a single observer to be deployed for the first time on a freezer longline vessel. While experiences on other vessel types (catcher vessels) or vessels using other gear types (pot or trawl gear) are important in gaining experience in certain aspects of observer data collection at sea, the best experience for deployment on a freezer longline vessel is gained by direct experience on a freezer longline vessel. Ideally an observer would have the opportunity to work alongside another observer on a freezer longline vessel before assuming the responsibility of a sole observer. Therefore, the Observer Program does not support further reductions in the experience requirements for a fixed gear LL2 endorsement.

Observer coverage requirements for trawl catcher/processors in catch share programs with transferable PSC allocations, such as the American Fisheries Act pollock fisheries, Amendment 80, and the Community Development Quota Program require two observers, at least one of which must be a LL2 observer with prior experience in trawl fisheries. In these fisheries, the second observer on the vessel is not required to have any prior experience and works a different shift from the LL2 observer. Fixed gear industry members have asked why NMFS allows an inexperienced observer to conduct sampling and other observer duties on their own on a trawl catcher/processor, but does not support anything less than a fixed gear LL2 observer on the freezer longline vessels. As described in this section, the sampling duties for an observer on freezer longline vessels are more complex and demanding than on trawl catcher/processors or on any other vessel type in the North Pacific. In addition, the presence of the LL2 observer on the trawl catcher/processors provides vital expertise and support to an inexperienced second observer. This support and expertise is available to the second observer in-person and on a daily or even

<sup>13</sup> The final rule (77 FR 59053, September 26, 2012) was effective October 26, 2012.

more frequent basis, if needed. These two circumstances make the challenges faced by a single observer on a freezer longline vessel very different from those faced by the second observer on a trawl catcher/processor.

Although NMFS is not, at this time, recommending further revisions to the experience requirements for fixed gear LL2 observers, the Observer Program will continue to evaluate non-regulatory options to support observers in this challenging deployment. These non-regulatory options include developing a new level 2 observer training component; holding a pre-cruise meeting with the vessel captain, Observer Program staff, and the observer; and revising data collection protocols for a single observer on a freezer longline vessel. These additional proposals are discussed in Section 5.7.

## **5.2 LL2 Observer Experience - What is Necessary for the Freezer Longline Vessels?**

Deployment as the sole observer on a freezer longline vessel subject to the additional monitoring requirements under 679.100 is currently one of the most demanding and difficult observer assignments in the North Pacific fisheries. This is the only catcher/processor fleet managed by a cooperative with individual vessel specific PSC accounting where only one observer is deployed. This fact and others related to the unique data collection demands and operational differences among the freezer longline vessels creates a very high pressure and high stress work environment. The quality of the data collected and the accuracy of catch and bycatch estimates used to manage this fleet is directly related to the skill of the individual observer and the successful completion of data collection duties by the sole observer deployed onboard a freezer longline vessel.

The basis for the existing data collection duties were developed early in the history of the Observer Program. These data collection tasks were developed with the vessel operations and data needs of the time in mind. In 2008, the Observer Program made a fundamental shift to the structure of the observer database (NORPAC) and associated data collection to establish the ability to calculate sample variance. This shift was critical for increasing the quality and value of observer data. This change added a level of complexity to the collection of longline data by spacing the collection of composition sampling throughout the haul via a systematic sample design, and documenting each sample independently. As a result, supplementary data collections such as sexed lengths and otoliths were also spread throughout the haul following the same systematic design. However, despite the modified data collection expectations, observers were expected to maintain the same level of data collections as they had before the increased workload. Under the coverage rules of the time, where two observers were a common occurrence, the data collections continued to be met.

Under the monitoring requirements implemented in 2012, freezer longline vessels could choose either to take two observers or to install a flow scale and carry a single LL2 observer. All but one vessel participating in the voluntary BSAI Pacific cod Freezer Longline Cooperative have installed a flow scale, thereby meeting Federal requirements by carrying one LL2 observer. This fundamentally changed the playing field for observers by reducing (or eliminating) the occurrence of working as an observer team. As the need for data increased through the development of limited access programs and fishery cooperatives, the pressures and stress placed on the observer also increased. These incremental changes over time have increased the difficulty of these assignments for an observer.

## **5.3 Relative Difficulty of Sampling on a Freezer Longline Vessel**

The observer onboard a longline vessel has more individual tasks to complete and the work is more difficult to successfully complete than data collection duties on other vessel and gear type assignments. The data collection expectations for freezer longline vessels have remained relatively unchanged



throughout the continually evolving Observer Program despite the changes to the way these data are used and the coverage requirements associated with the different vessel types (CV and C/P).

There are numerous challenges to deploying on freezer longline vessels, each of which is discussed in more detail below.

- Freezer longline vessels with flow scales are some of the only catcher/processors in Alaska where only one observer is deployed;
- Freezer longline vessels fish around the clock for extended deployments (up to 30 days or more) resulting in long hours and associated time management challenges;
- Freezer longline vessels are uniquely different and challenging from a sampling standpoint than other gear types (trawl, pot, cv longline);
- Rapid rate of catch being brought on board and associated sampling and data collection challenges;
- External pressures to provide data in a timely manner;
- Isolation due to lack of second observer.

A sole observer on a freezer longline vessel completes sampling duties around the clock on a random schedule. Other catcher/processors similarly managed under a cooperative structure are required to carry at least two observers. Not only do observers on these other catcher/processors benefit from the ability to work as an observer team, the data collection requirements are easier to accomplish than those on a longline vessel.

On longline vessels the collection of species composition data (total number and weight) is more difficult than other gear types because it is split between two discrete tasks: a total count or “tally” of species retrieved and the collection of weight data. For other gear types, such as trawl and pot gear, both components of the species composition samples are discretely collected at the same time and in one location. Additionally, this is more difficult on a freezer longline vessel than on a catcher vessel because these two tasks typically happen in different locations: the tally occurs at or above the roller station and weight samples are collected in the factory.

During the tally period, the observer monitors the line as it is brought onboard and identifies species (or species group) by sight up to five meters away. The observer notes how many fish of each species or species group are retained or discarded. Either during the tally sample or at a different time, the observer must work with the crew to collect specimens of each species to be weighed. This weight sample is used to estimate an average weight that is then extrapolated to the tally sample to estimate the total sample weight, which is again extrapolated to estimate total catch and total discard for the haul.

The challenge an observer faces on a freezer longline vessel is that the success of the tallying task and the quality of the data are completely dependent on the vessel crew retaining catch for the observer during the tally period. This is also true on longline catcher vessels, but the close proximity of the tally station to where the weight specimens are collected on a catcher vessel allows the observer to better monitor the collection of specimens and communicate with the crewman throughout the collection of weight specimens. This is not the case on freezer longline vessels. The observer must coordinate with the rollerman and often a crewmember in the factory to successfully retain the species intended for weight samples and collection of other biological specimens. For example, if an observer decides that all species during a tally period must be retained in order for the observer to collect specimens of each species to be weighed, the observer must notify the rollerman and factory crew in advance. As these specimens are retained by the crew while the observer is focused on the groundline retrieval, the observer cannot closely monitor the activity. As a result, the collection of specimens may not be sufficient for the observer’s data

collection needs, creating additional work for the observer on subsequent samples. In worse cases, the observer is required to collect additional specimens outside the sample design. On other gear types such as trawl catcher/processors the collection of composition samples is completed within the regular flow of fish in the presence of the observer and does not require the crew to significantly alter their work to accommodate the observer's needs. Additionally, the assistance from the crew that is needed to collect the observer's sample is limited in nature and has little effect on the crewman's own duties.

On a freezer longline vessel an observer is expected to sample a much greater portion of the haul than on a trawl catcher/processor; at least 20-33 percent of the entire set. This level of sampling effort is important to capture the diversity and stratification of catch on the line. On trawl vessels the total percentage of the catch that is monitored by the observer is generally on the order of less than 5 percent. In some situations, such as the Bering Sea pollock fishery, observers on catcher/processors may be able to achieve sample fractions closer to 30 percent. This is possible because of typically very low bycatch in this fishery. One major difference between sampling large sample sizes on a freezer longline vessels versus a trawl catcher/processor is that an observer on a trawl catcher/processor samples inside the factory for the duration of a sample whereas an observer on a freezer longline vessel is out on the deck for long periods of time exposed to the weather making this task more physically demanding on a freezer longline vessel.

On freezer longline vessels gear retrieval is typically much faster and average trip duration is much longer than on longline catcher vessels. Observers must work at a faster pace to collect species composition samples in order to keep track of all the species being retained and discarded during tally periods. Asking the vessel to slow down its fishing activity is generally not an option, so observers must adapt and do the best they can to keep up with the pace of gear retrieval. Fishing trips on freezer longline vessels average approximately 30 days and trips up to and exceeding 45 days are not uncommon. Continuous gear retrieval throughout the trip are common requiring the observer to complete physically straining work for 30 to 45 days in a row on a random sleep schedule, with little to no significant rest periods to recuperate and catch up on work.

Observers on vessels using longline gear have additional duties associated with collecting data about the vessel's fishing effort. For each vessel, an observer is required to obtain average hook counts ( $\frac{1}{5}$  of an average set, twice per week) throughout their deployment. When there are two observers, this is shared between the two thus allowing them to adapt to unexpected challenges throughout the day without altering the sample designs for the collection of species composition data. Because freezer longline vessels deploy much more gear overall than longline catcher vessels, a sole observer spends more time verifying gear. This cuts into time available for sampling, paperwork, and rest periods.

A sole observer on a freezer longline vessel must also monitor the flow scale test. On trawl catcher/processors with a flow scale, there are two observers and the test is usually scheduled around the same time every day. On a freezer longline vessel with only one observer the scale must still be tested at least once each day. This means the crew must work around the observer's random sample schedule and the observer's sleep schedule to ensure this task does not interfere with an observer's data collection duties.

As noted above, an observer deployed on a freezer longline vessel is solely responsible for collecting high quality data used by cooperative managers to monitor that vessel's quota and PSC. This situation is unique in quota management programs as cooperative managers track total catch and discards for each vessel on a daily basis. This has resulted in considerable pressure on observers to provide haul specific data to the vessel very quickly, sometimes faster than observers are required to transmit data to NMFS.

## **5.4 Skills Needed to Manage the Difficult Workload**

The additional tasks, random work schedule, physically and mentally demanding work, long trips with very few breaks and limited opportunities for sleep, as described above, add up to one of the most difficult and stressful observer assignments in the fisheries of the North Pacific. In order to meet the expectations for data quality on these vessels, a successful observer must be able to cope with these physical and mental stressors while carefully managing interactions with the captain and crew of the vessel to maintain a cooperative working relationship. Observers who are successful at accomplishing all these tasks have a solid understanding of sample techniques, are readily able to adapt to different vessel operations and changing fishing conditions, are very skilled at time management, and have excellent communication and conflict resolution skills.

### **5.4.1 Development of Sample Designs**

As described above, the collection of data on longline vessels differs significantly from that of other gear types in the amount of time it takes, the physical exposure to the elements, and the sample design. An observer on a longline vessel must create a sample design without the benefit of knowing the total availability of catch and how diverse that catch may be. The observer must be able to adapt to rapidly changing catch availability and fishing conditions, such as in the event the line breaks, hauling speed increases or decreases, the vessel reverses the direction of hauling the gear, or if the vessel moves to a different line in the middle of gear retrieval. Although there are conceptual overlaps with data collections on the other gear types, an observer must be able to adapt and apply a variety of sampling techniques in every part of their work onboard a longline vessel not seen in other fisheries. On other gear types such as a trawl catcher/processors, the characteristics of the total catch can be seen when the codend is brought on deck, allowing the observer to develop an appropriate sample design before data collection begins. On these vessels, altering a sample design mid-collection is relatively uncommon compared to a vessel using fixed gear.

### **5.4.2 Time management**

On a freezer longline vessel an observer is expected to collect multiple data components throughout a haul and at different locations for tally and weight/specimen data. An observer cannot perform multiple tasks at once because they require the observer to be in different locations and focused on the specific task at hand. Often, an observer must complete the collection and weighing of fish quickly in order to be prepared to begin the next randomly chosen tally period. If bycatch is abundant, and tally periods are close together, the observer may need to adjust their sample plan to adequately manage their time while still adhering to random sample techniques. Due to these and other data collection duties throughout the retrieval of a haul, it is not uncommon for an observer to work throughout an entire sampled haul with little or no time for rest, food, and to complete data entry. On other gear types such as trawl catcher/processors, the observer has the option of collecting the fish associated with their sample unit, storing the fish and walking away to address other tasks without any negative effects to the quality of their data. On a vessel using longline gear, this is not an option and each task has to be completed in its entirety to maintain the quality of the data.

A sole observer assigned to a vessel with a 24-hour hauling schedule randomly selects hauls to sample using a Random Sampling Table and/or a Random Break Table. Both of these tools dictate the hauls a sole observer is responsible to sample. Due to the random component of this haul selection method, sampled hauls often occur back to back. As data is collected throughout the haul, the time for an observer to complete the sampling duties is directly related to the time it takes to retrieve a haul. This routinely results in work shifts that exceed 12 hours. On some vessels a single haul can take well over 12 hours to retrieve. During non-sampled hauls an observer has a limited amount of time to eat, sleep, and complete data entry. Irregular sleep for irregular periods of time combined with long periods of hard work

compromises an observer's health and wellbeing which can have a direct impact on the quality of data if an observer becomes fatigued, ill, or injured. For these reasons, the observer workload restrictions that apply to all vessels in full coverage ("may not exceed 12 consecutive hours in a 24-hour period") are in conflict with the data collection requirements for a single observer on a freezer longline vessel. Therefore, existing observer workload restrictions do not effectively address the workload challenges for these observers. On other vessel types such as trawl catcher/processors, the work is shared between two or more observers. The observers work a predictable 12 hour shift allowing them to develop a rhythm to their work. On catcher vessels the vessels either do shorter trips and/or have down time during the day allowing the observer to develop a similar predictable rhythm.

#### **5.4.3 Communication and Conflict Resolution**

An observer on a freezer longline vessel must develop and maintain cooperative working relationships with key crewmembers to accomplish the most basic data collection tasks. An observer must rely on the vessel operator for information about each set, including but not limited to, total number of segments, direction of hauling, estimates for how long it will take to retrieve, and specific notification of selected segments so the observer is on deck and ready to tally when their selected segment comes up. The observer must then effectively communicate and coordinate with the rollerman and other crew in the factory for the retention of specific fish species for average weights and specimen collection. This level of reliance on vessel crew to perform the basic functions of data collection is unique to the freezer longline fleet. In nearly all other fisheries and vessel operations, the observer has more direct oversight and direct involvement in the collection of samples. On trawl vessels, not only does the observer have more direct involvement with the collection of the fish for their samples, the collection of catch can be done within the standard flow of fish which does not require the crew to alter their own work flow to meet the observer's needs.

Because of this increased reliance on assistance from vessel personnel, an observer must have highly developed communication and conflict resolution skills. The observer needs to be able to state requests clearly and to correct crew actions if they are not consistent with the sample requests. If conflict arises, it can create a significantly stressful environment for the observer since so much pressure is placed on the successful collection of data.

#### **5.4.4 Independence and Resilience**

An observer assigned as the sole observer on a freezer longline vessel takes on the hardest and most stressful assignment in this program and does this independently. When two observers are deployed there are certain responsibilities that are shared, lessening the workload on each individual observer and allow the observers to work scheduled shifts, improving the daily quality of life and stress levels. Like all other observers, a sole observer has access to Observer Program staff to provide answers to sampling questions, but when two observers are deployed to a catcher/processor vessel, they can rely on each other for support and immediate assistance in specific situations. A sole observer must rely only on their own knowledge, skills and confidence to tackle the significantly stressful everyday situations onboard a freezer longline vessel.

### **5.5 Skill Development**

Observers develop the skills described above through a variety of methods. Generally, these are skills required by all observers to be successful and are gained during trainings and briefings, at-sea application of the concepts learned in the classroom, and practice applying the sampling techniques for the various gear types. With each new gear type an observer is assigned to, there is a learning curve. Newer, less experienced observers are expected to take a bit more time to become proficient with the application of random sample techniques. Sample effort builds as an observer gains experience and can complete

sampling duties more quickly. Observers also gain communication skills as they become more familiar interacting with vessel operators and crew. The development of these skills is represented in the current path to earning a LL2 endorsement. The first step of which is to earn a level 2 endorsement that is achieved after an observer has successfully completed 60 days of data collection on any vessel type.

The initial 3-week observer certification training is designed to provide an observer with the basic understanding of all the various skills and knowledge required for successful data collection on all possible gear types. During each subsequent debriefing and briefing prior to a new deployment, observers receive additional information, reminders, and practice on the various duties associated with sampling.

Although training provided by the Observer Program is designed to incorporate hands on practice of sampling techniques by utilizing videos and in-class exercise to provide an observer with the basic understanding of the various skills and knowledge required for successful data collection, it is not possible to recreate in the classroom the atmosphere of being at sea. For this reason there is no replacement for at-sea experience. Deployment on any vessel after initial observer training allows an observer to become accustomed to life at sea and help make the connections between the concepts they learned in class and the application of those concepts to the reality of a commercial fishing. This fact is reflected in the process for earning a LL2 endorsement.

There is no substitute for on the job experience, and the best and most applicable experience for an observer to become proficient in the skills necessary for successful data collection on a freezer longline vessel is to work on that vessel type with another observer. This allows an observer unfamiliar with the vessel type to work closely with an experienced observer, providing real time feedback, guidance, and decreasing the stress and pressure for both observers.

## **5.6 Feedback from Observers**

On a regular basis, observers are encouraged to provide the Observer Program with input regarding the program and any specific recommendations or comments they may have regarding sampling protocols. This input led to the modification of the Random Sample Tables (RSTs) in 2015, sampling protocols, and has informed the information presented in this discussion paper.

Additionally, in August 2016, an email was sent to all currently certified North Pacific observers requesting their input on deployments on freezer longline vessels (Appendix B). A total of 11 responses were received from observers and their thoughts from the emails are summarized in this section, and excerpts specifically relevant to the LL2 topic are included in Appendix C. Statistics are also provided with each excerpt to provide context for each observer's direct accounts by providing information about their experience with the program and fixed gear LL2 experience.

In general, all the observers agreed unanimously that deployment on a freezer longline vessel is the most challenging deployment in the North Pacific fisheries. According to one observer it "epitomizes all of the difficulties working on fishing vessels in Alaska." The workload is greater, trips are longer, and these deployments are more mentally and physically taxing. However, many also felt it was one of the most rewarding types of deployments once they were able to establish a solid understanding of working on freezer longline vessels. Many agreed that there is no way an inexperienced observer can be fully prepared for a freezer longline deployment, but a process could be established to increase the chances for success.

Overall, there were five common themes consistently discussed by the observers: the necessary experience to work on a freezer longline vessel, challenging workload and sampling requirements,

inadequate pay, physical and mental challenges, and the positive aspect of observing on freezer longline vessels.

Overall, the observers were concerned about maintaining data quality and that decreasing requirements and experience level would have a negative impact. It was also noted that inexperienced observers do not have experience with flow scales and this should be a required skill needed to observe on a freezer longline vessel. The majority of observers felt it was imperative to place a new observer with one who was experienced to guide them through sampling protocols and appropriate time management. All perspectives noted that freezer longline vessels have the greatest workload of any of the other observed fisheries. Being able to distribute the workload between two observers was frequently mentioned as the best resolution and would provide 100 percent sampled catch, a constant supply of new lead level 2 observers, and minimize burnout. Many noted that this would be equitable to all other C/P fisheries in the North Pacific which have flow scales and are required to carry two observers.

Other issues that were noted include a perception of inadequate compensation for these taxing deployments, particularly given the demanding work, and the need to rotate observers frequently to avoid burnout.

Lastly, the observer accounts noted that freezer longline vessel deployments are mentally and physically taxing. While the Random Break Table and Random Sampling Table are used, it still results in irregular sleep and eating patterns. Ultimately, it is important to the observers to consider their health and safety as paramount to this analysis and make the “observer experience and fishing industry a better place to work.”

## **5.7 Additional Non-Regulatory Actions to Support Fixed Gear LL2 Observers**

The Observer Program recognizes that the current data collection expectations for observers on freezer longline vessels was established based on the assumption that the longline vessel would carry two observers. The current sampling expectations do not take the revised monitoring requirements for freezer longline vessels into account, and have had a negative effect on the observers. The observer has been placed in a situation where their health and safety may become compromised as a direct result of the expected workload. Additionally, the quality of the data achieved by these observers may be reduced.

In addition, there is a tradeoff between the quantity and quality of data that can be collected between one or two observers. It is unrealistic to expect a single observer to collect the same quantity of data as two observers. In a situation where the same quantity of data is collected, the quality of that data will likely suffer. Therefore, in the absence of two observers the observer program recommends that the data collections protocols be altered to a level manageable by the single observers. Reductions in data collections would reflect expectations reasonable for a single observer. Addressing this imbalance of available sampling effort with the expectations of the data product would begin to address the stress and pressures associated with sampling on these freezer longline vessels.

As a result of the evaluation of the challenges and data collection requirements described in this discussion paper, Observer Program staff have identified several non-regulatory changes to Observer Program procedures and policies that could increase the preparedness of new LL2 observers deployed on freezer longline vessels. These recommendations include:

- Implement a new training for observers who have successfully earned their level 2 endorsement and are on track to become fixed gear LL2 endorsed.

- Implement a pre-cruise requirement where FMA staff will meet with vessel crew and the observer prior to the observer's first trip on the vessel.
- Revise data collection protocols for a single observer on freezer longline vessels.

The Observer Program will continue to research these ideas and provide additional information in the future if it intends to implement any of these proposals.

## 6 Options

In October 2015, the Council requested that the following options be addressed in this discussion paper:

- 1) Allow deployment of a non-fixed gear LL2 observer on FLC vessels if the only alternative is that the vessel must stand down:
  - a) Deploy any non-LL2 observer
  - b) Deploy a trawl LL2 observer.
- 2) Allow observer experience on fixed gear vessels in other regions to count towards LL2 certification.
- 3) Allow full coverage providers to deploy observers on pot CVs (in the partial coverage category) to secure fixed gear LL2 certification.
- 4) Institute an at-sea training component to the Federal observer training program, whereby the agency would pay for fixed gear LL2 certification.
- 5) Encourage AIS to become a certified observer provider, and supply LL2 observers to FLC vessels.

In addition, the Council requested staff to identify other potential solutions that could “develop a sustainable, renewable and adequate pool” of fixed gear LL2 observers. The Observer Program has identified several non-regulatory actions to increase the preparedness of new LL2 observers deployed on freezer longline vessels, which are identified in Section 5.7. NMFS has also recommended the following additional alternative, which has been included in this paper:

- 6) Allow freezer longline vessels with flow scales to choose between a single LL2 observer or two level 2 observers.

### 6.1 Allow deployment of a non-fixed gear LL2 observer on FLC vessels if the only alternative is that the vessel must stand down

- Deploy any non-LL2 observer
- Deploy a trawl LL2 observer

This option would require revising regulations to provide an exemption or additional regulatory options to the LL2 observer requirement for freezer longline vessels if a fixed gear LL2 observer was not available when a vessel owner or operator wanted to go fishing. This option would require development of an administrative process described in regulation that would contain the requirements under which NMFS would approve the deployment of an alternative observer. This process likely would require written notification to NMFS that a vessel owner was unable to obtain a fixed gear LL2 observer, documentation that the vessel owner had provided adequate notice to all of the permitted full coverage observer providers, documentation from all of the full coverage observer providers that no fixed gear LL2 observer

was available at that time, and identification of the specific alternative observer proposed for deployment on the vessel.

A number of times over the last 20 years, NMFS received requests for exemptions from observer requirements when a vessel owner was unable to obtain the observer they needed when they wanted to go fishing. NMFS has never supported such exemptions because of the precedent this would set and the potential it would create to undermine enforcement of any other observer coverage requirements. If NMFS was willing to suspend, exempt, or offer alternatives to observer experience requirements in a particular situation or fishery, then it may have difficulty imposing penalties in other situations that involved similar circumstances.

NMFS' position opposing exemptions to observer coverage and experience requirements also is based on the rationale that the minimum requirements to collect the data needed to conserve and management the North Pacific fisheries are in place in current regulations. If these are not the minimum requirements necessary, then the requirements should be revised rather than suspended or exempted.

Based on the review of the challenges and data collection needs for freezer longline vessels selecting the flow scale option, which are described in Section 5, NMFS does not support reductions in the experience requirements for fixed gear LL2 observers operating as the sole observer on a freezer longline vessel. Such reductions in the experience requirements would increase the number of observers that are not adequately prepared to collect data in the challenging environment onboard these vessels.

## **6.2 Allow observer experience on fixed-gear vessels in other regions to count towards LL2 endorsement**

The requirement for the experience “in the groundfish or halibut fisheries off Alaska” is a component of the requirements to obtain a “level 2” endorsement. Specifically, regulations at § 679.53(a)(5)(iv) require the following:

(iv) *Level 2 endorsements.* A certified observer may obtain a level 2 endorsement to their certification. A level 2 endorsement is required for purposes of performing observer duties aboard vessels or stationary floating processors or at shoreside processors participating in fisheries as prescribed in §679.51(a)(2)(vi)(A) through (E). A level 2 endorsement to an observer's certification may be obtained if the observer meets the following requirements:

(A) Previously served as an observer ***in the groundfish or halibut fisheries off Alaska*** and has completed at least 60 days of observer data collection;

.... (*The remaining requirements for a level 2 endorsement and the LL2 endorsements are not included in this excerpt.*)

The data collection requirements for observers in the Observer Program have been developed over time and are specific to the conservation and management needs of the North Pacific groundfish and halibut fisheries. Although experience in other observer programs may help an observer adapt to Observer Program data collection expectations, it does not replace the experience gained by deployment and data collection onboard vessels in the North Pacific fisheries.

Currently, there is a limited amount of turnover of observers across regions. Any observer transferring to the North Pacific from a different region is required to complete a 3-week observer training prior to their first deployment in the North Pacific, and they must meet all the same expectations of other newly trained observers. These requirements include, but are not limited to completing a mid-cruise debriefing during



their first two deployments and working under a lead observer when two observers are required. These requirements are all intended to help the observer adapt their knowledge, skill and abilities to the data collection expectations of the Observer Program.

In the observer training environment, observers from other programs have been found to approach learning the North Pacific sampling tasks by focusing on the differences in data collection, rather than taking a more holistic approach. These trainees often make assumptions about the North Pacific Observer Program's sampling goals, assuming the data is used in the same way. These observers essentially need to be "re-programmed" in the training environment to ensure they follow the North Pacific Observer Program's sampling methods and strategies. As noted in Section 5, the Observer Program recommends that allowing prior experience on a longline catcher vessel or a vessel using pot gear to qualify observers for a fixed gear LL2 endorsement are not necessarily adequate to properly prepare an observer for the challenges of deployment as a single LL2 observer on a freezer longline vessels.

### **6.3 Allow full-coverage providers to deploy observers on pot CVs (in partial coverage category) to secure fixed-gear LL2 endorsement**

Although analysts have not had time to conduct an in depth review of this option, it appears to be a non-regulatory option that would require modification of the current contract for observer coverage in the partial observer category. Currently, a single observer provider, AIS, is contracted by NMFS to provide observers for the partial coverage category. This option would require modification of the contract to allow other full coverage observer providers to deploy observers in the partial coverage category to provide those observers with opportunities to gain experience needed for a fixed gear LL2 endorsement. NMFS has not had the time to more fully analyze this proposal. Such an analysis would require further evaluation of the process for amending a contract in this way, the potential costs of such an amendment, and the impacts that this option would have on the annual deployment plan and Observer Declare and Deploy System (the computer application used to select observed trips in the partial coverage category). Because of the lead time required to amend the Federal observer contract, implementing just the contract amendment, once its scope has been identified, would take at least 18 months.

An alternative interpretation of this option would be to allow full coverage providers to place observers on pot CVs in partial coverage, during trips where the vessel has not been selected for observer coverage, and thus not interfering with the vessel's obligations to comply with selection under the partial coverage program. The intention would be for pot CVs to volunteer to take full coverage observers to allow them to get their LL2 endorsement, presumably, for some form of compensation. However, this would be problematic for a number of reasons. Being a voluntary program, NMFS would not be able to use the data, would have no reason or means to debrief the observers, and therefore would not be able to credit them for the experience. There are also concerns about deploying observers into a sector that is not covered under regulation for observer health and safety reasons (the regulations do not apply because they are not required to carry observers on those trips).

Under either interpretation, the Observer Program discussion in Section 5 highlights that prior experience on a longline catcher vessel or a vessel using pot gear to qualify observers for a fixed gear LL2 endorsement is not necessarily adequate to properly prepare an observer for the challenges of deployment as a single LL2 observer on a freezer longline vessels.

#### **6.4 Institute an at-sea training component to the Federal observer training program, whereby the agency would pay for fixed gear LL2 endorsement**

This option would require NMFS to pay for level 2 observers to gain the experience onboard fishing vessels to qualify for the fixed gear LL2 endorsement. It could be either a regulatory or a non-regulatory option, depending on how it was implemented. As a non-regulatory option, it would require NMFS to pay for the deployments in the full coverage category that currently are used for observers with a level 2 endorsement to gain the experience required in § 679.53(a)(5)(v)(C) to complete two observer cruises (contracts) of at least 10 days each and to sample at least 30 sets on a vessel using nontrawl gear. As a regulatory option, it could require revisions to or removal of the regulations defining the experience required for a fixed gear LL2 endorsement from Federal regulations.

The development of this option is complex and potentially time-intensive. In addition to the question of reallocating money within the NMFS budget to support such a training program, there are several other questions that would need to be evaluated. These include, but are not limited to: Is it possible to justify the design of such a program on a limited scale, to effectively replace the current voluntary second observer program that industry is supporting? Or would this need to be a comprehensive program, and apply to all LL2 endorsements in the North Pacific, for fixed gear and trawl gear? Logistically, either such program would likely be set up as a contract, and would that offer an unfair advantage to the observer provider that won the contract?

#### **6.5 Encourage AIS to become a certified observer provider, and supply LL2 observers to FLC vessels**

As noted in the Introduction to this discussion paper, NMFS approved AIS as a full coverage observer provider on August 31, 2016. Additional detail about the permit review process and the factors considered in reviewing AIS's permit application are in the enclosure to NMFS's August 31, 2016 letter.

As discussed in Section 1, the entrance of AIS as a full coverage observer provider may reduce the potential for a shortage of fixed gear LL2 observers in the future because, as of the end of 2015, AIS employed about 40 observers with fixed gear LL2 endorsements (see Table 2 of this discussion paper). However, the actual impact of AIS as a new full coverage provider is unknown. It is possible that the other full coverage observer providers will be able to supply the needed fixed gear LL2 observers in the future and that no industry member will seek a contract with AIS to provide LL2 observers. AIS may have different contract provisions or cost structure than the other providers which may affect the willingness of industry to contract with them. AIS observers with fixed gear LL2 endorsements may not be available when needed by freezer longline vessels.

The Observer Program recommended that prior experience on a longline catcher vessel or pot vessel is not necessarily adequate to properly prepare an observer for the challenges of being a single observer on a freezer longline vessel. Therefore, observers who have earned their LL2 endorsement by exclusively deploying on catcher vessels would benefit from additional training and support from Observer Program staff as described in the Observer Program recommendations in Section 5.7.

#### **6.6 Change regulations to allow freezer longline vessels with flow scales to choose between a single LL2 observer or two level 2 observers**

This option would modify regulations at 679.100 to require freezer longline vessels that selected the scales option to carry two observers. Two observers, one of whom must have the LL2 endorsement, were originally proposed by NMFS early in the development of the freezer longline voluntary cooperative

monitoring and enforcement requirements, which is consistent with current requirements for trawl catcher/processors and motherships in catch share programs with transferable PSC. The existing coverage requirement options were a compromise between the industry and NMFS. All but one vessel operates with a flow scale and is, therefore, required to carry one fixed gear LL2 observer. The one vessel without a flow scale carries two observers, one of which is required to have the fixed gear LL2 endorsement.

Any increase in the number of observers a vessel took to comply with the scale monitoring option would increase direct observer coverage costs. The costs of this option would be offset by the industry's current costs associated with taking voluntary second observers, however, as that program would no longer be necessary. Requiring a second observer on these vessels would address NMFS's concerns about the challenges faced by a single observer on the freezer longline vessel. This option would provide the opportunity for two experienced observers to operate as a team, to support and advise each other about their data collection duties, and to provide each observer a more regular and manageable work schedule.

This option would address many of the concerns raised in previous sections about the need for experienced LL2 endorsed observers or the combined experience and shared workload of two observers working together as a team. This option would apply to all vessels and not just to vessels that are forced to stand down because a fixed gear LL2 observer was not available when a vessel owner or operator wanted to go fishing. This option would provide additional flexibility to vessel operators and observer provider companies to select among two options, and would also provide a mechanism for continued generation of new LL2 endorsed observers who obtained their prior experience on a freezer longline vessel.

## 6.7 Summary of options

Option	Implementation	Feasibility for addressing potential LL2 shortage
1. <b>Allow non-LL2 observer when LL2 is unavailable</b>	Regulatory amendment required	<ul style="list-style-type: none"> <li>NMFS is opposed to granting exemptions to observer coverage and experience requirements, both for the precedent it sets, and the potential to undermine enforcement of other observer coverage requirements.</li> <li>NMFS does not support reductions in the experience requirements for fixed gear LL2 observers, because it would increase the number of observers that are not adequately prepared to collect data in the challenging environment onboard these vessels.</li> </ul>
2. <b>Allow experience from other regions to count towards LL2</b>	Regulatory amendment required	<ul style="list-style-type: none"> <li>The Observer Program has found that observers from other regions need a training experience in order to be “re-programmed” to ensure they follow the North Pacific Observer Program’s sampling methods and strategies.</li> </ul>
3. <b>Allow full coverage providers to deploy on pot CVs</b>	Change to partial coverage contract required	<ul style="list-style-type: none"> <li>If implemented as part of the partial coverage program, will need to evaluate how to amend the contract, which is a lengthy process.</li> <li>Allowing pot CVs to take observers on a voluntary basis to get their LL2 endorsement presents difficulties as NMFS would not be able to use the data, and therefore would have no reason or means to debrief observers; also on voluntary trips, observers would not be protected by health and safety regulations.</li> <li>The Observer Program recommends that prior experience on a longline catcher vessel or pot vessel is not necessarily adequate to properly prepare an observer for the challenges of being a single observer on a freezer longline vessel.</li> </ul>
4. <b>NMFS at-sea training to endorse LL2 observers</b>	Could be regulatory or non-regulatory	<ul style="list-style-type: none"> <li>Development of this option will be complex, and raises many policy and logistical questions in addition to the obvious one of having to reallocate funding to support the program.</li> </ul>
5. <b>Encourage AIS to be full coverage provider</b>	Done	<ul style="list-style-type: none"> <li>May reduce the potential for a shortage, as AIS employs observers with LL2 endorsements, but actual impact is unknown.</li> <li>Depends, for example, on whether other full coverage providers are able to supply the needed LL2 observers, whether the AIS contract provisions or cost structure is attractive to industry, and/or whether AIS observers are available when needed by the freezer longline vessels.</li> <li>Most observers employed by AIS have earned their LL2 endorsement with experience on catcher vessels. The Observer Program recommends that prior experience on a longline catcher vessel or pot vessel is not necessarily adequate to properly prepare an observer for the challenges of being a single observer on a freezer longline vessel.</li> </ul>
6. <b>Allow FLL to carry either a single LL2 or two level 2 observers</b>	Regulatory amendment required	<ul style="list-style-type: none"> <li>Addresses NMFS’ concerns about challenges faced by a single observer, provides for 2 experienced observers to work as a team with shared experience and workload.</li> <li>Provides flexibility to vessels and providers, and provides a mechanism to generate more LL2 endorsed observers.</li> <li>Increased costs incurred when this option is selected, but removes the need for a voluntary second observer program to pre-empt future shortages.</li> </ul>

## **7 Contributors**

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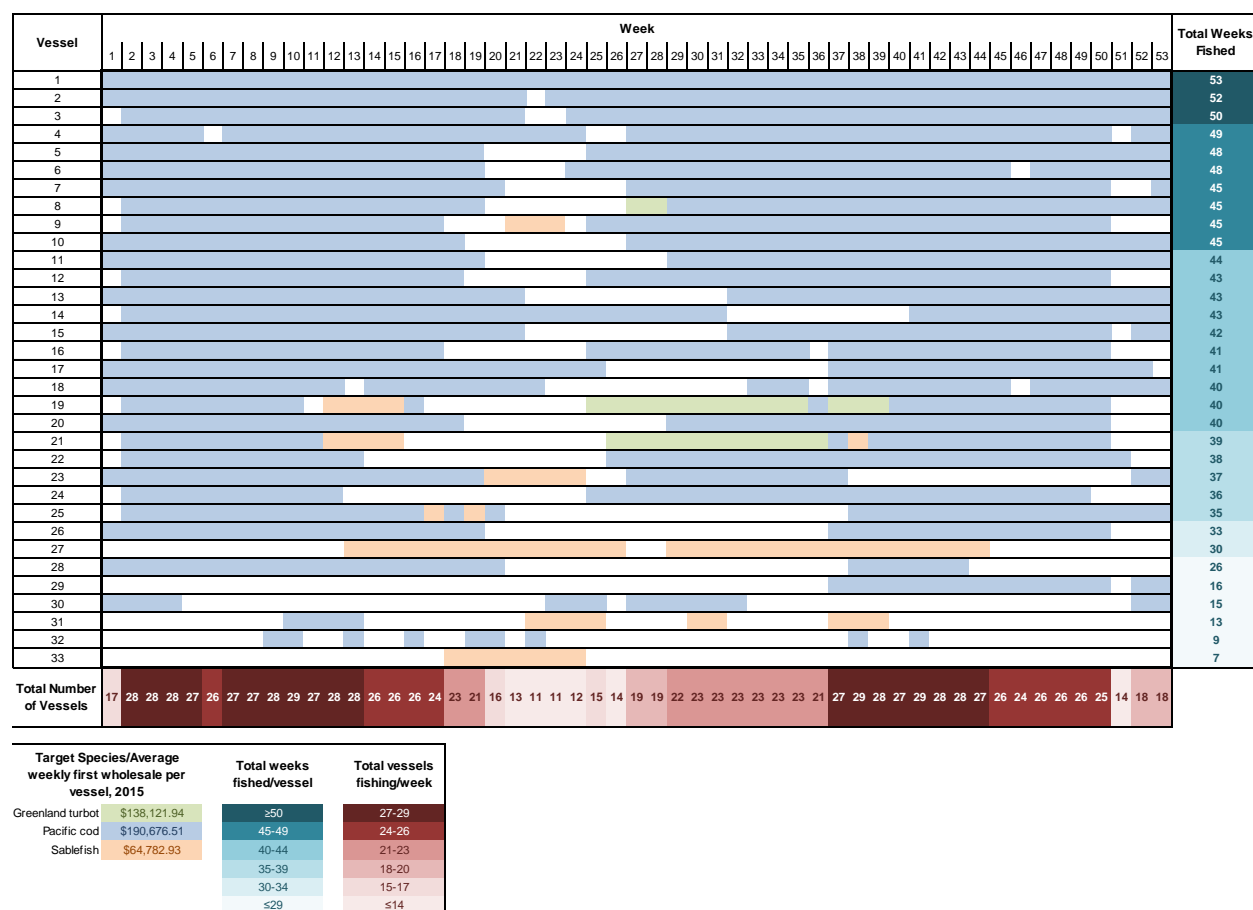
Persons consulted included Stacey Hansen (Saltwater, Inc.), Michael Lake (Alaskan Observers, Inc.), Troy Quinlan (TechSea), Chad See (Freezer Longline Cooperative).

## Appendix A – Freezer Longline Fleet Profile

This appendix provides a brief profile of the freezer longline fleet activity, as context for the LL2 observer availability discussion. The freezer longline vessels are members of a voluntary cooperative, the Freezer Longline Cooperative, which includes all holders of catcher processor LLP licenses endorsed for BSAI Pacific cod. Most of the fleet's harvest is in the BSAI Pacific cod fishery, although the fleet also targets GOA Pacific cod, IFQ sablefish, Greenland turbot, and IFO halibut.

Since establishing the voluntary cooperative in mid-2010, the freezer longline vessels fish year-round, as demonstrated in Figure 1. The figure breaks down vessel activity by week for the 33 vessels that were active in 2015. The blue, green, and yellow colors in the main part of the figure represent the primary target of the vessel during that week. The furthest right column summarizes the number of weeks each individual vessel was active in 2015. The bottom row of the matrix shows the number of unique vessels that were active in a given week. For example, the deep red shows when between 27 and 29 vessels were active during a week. The figure illustrates the times of the year when the freezer longline fleet is most active, and potential choke-points in LL2-endorsed observer availability. In a more simple representation, Figure 2 illustrates the average number of vessels participating, by quarter.

**Figure 1** Participation matrix for freezer longline vessels executing the Greenland turbot, Pacific cod, and sablefish fisheries, all areas, 2015



Source: NMFS Catch Accounting System, compiled by AKFIN.

**Figure 2** Average number of freezer longline vessels executing the Pacific cod fishery in all areas per week, 2015

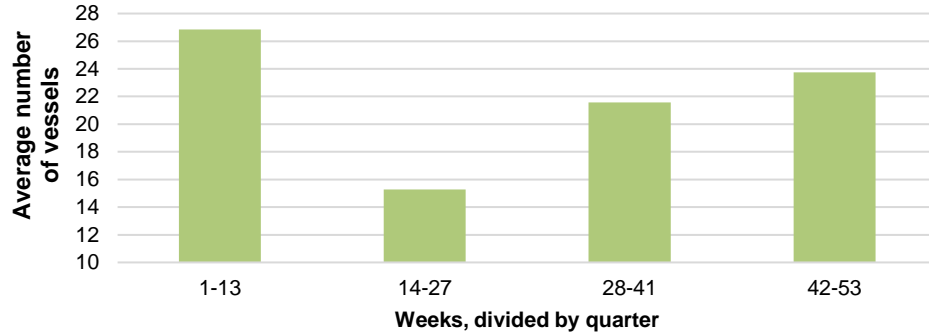
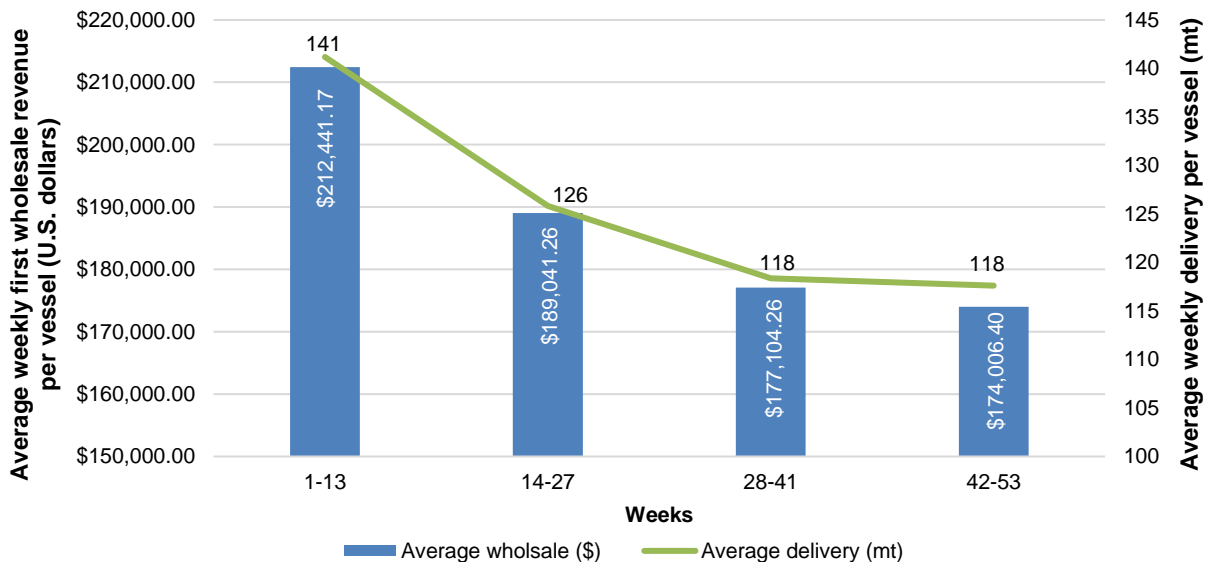


Figure 1 also lists the average weekly first wholesale revenue from each target fishery, based on an annual average, in the bottom left hand corner. The weekly first wholesale revenue per vessel in 2015 was approximately \$191,000 for Pacific cod, \$138,000 for Greenland turbot, and \$65,000 for sablefish. These values are useful for a broad brush understanding of the gross value of the freezer longline fishery, but do not reflect the seasonal differences in the fishery. There is a high concentration of Pacific cod in the first quarter (weeks 1 through 13), increasing the catch per unit effort. Conversely, during the spring and summer months, Pacific cod disperse and begin to aggregate again during the winter months. Figure 3 illustrates the average weekly delivery and first wholesale revenue per vessel, per quarter, in all areas during the 2015 calendar year. For example, during weeks 1 through 13 (the first quarter), each of the average 27 vessels per week delivered an average of 141 mt of product with a first wholesale revenue of about \$212,440. Therefore, simple multiplication will show that during each of the first 13 weeks of the 2015 season, the total production of the Pacific cod freezer longline fishery was about 3,807 mt per week, worth more than \$5.7 million per week. This equates to an average of roughly \$0.68/pound.

Similar calculations for each quarter show that each has an average first wholesale value of roughly \$0.68/pound, with the exception of weeks 42 through 53, which was about \$0.67/pound. This suggests that higher and lower prices throughout the year are not the result of fluctuating Pacific cod prices.

**Figure 3** Average weekly delivery and first wholesale revenue per vessel for the Pacific cod freezer longline fishery in all areas, 2015



## Appendix B – Request notice for input from observers

Below is the email notice sent to all certified North Pacific Observers from the Observer Program.

### Observer Input Needed!

Hi All,

The North Pacific Fisheries Management Council (Council) staff, in conjunction with North Pacific Observer Program and Alaska Region staff, are currently working on the lead level 2 discussion paper. This discussion paper evaluates lead level 2 observer availability for deployment on the BSAI freezer longline fleet and will be presented at the October Council meeting in Anchorage, AK.

We are gathering first-hand observer accounts to be incorporated into this paper. Any insight from you pertaining to longline catcher processor deployments, the experience needed to work on these vessels, hours, workload, training, etc. would be greatly appreciated. Your observer input is vital to incorporating the observer perspective into the analysis of this subject as part of the Council process and fisheries management in Alaskan fisheries. Your name will be kept confidential and all input is intended for inclusion into the discussion paper.

If you are interested in any background information regarding this topic, please refer to the June Council newsletter and the Final Rule published in September 2012.

If you have any questions, contact Gwynne Schnaittacher regarding this subject.

Thanks!  
FMA



## Appendix C – Excerpts from Observers

In August 2016, an email from the Observer Program was sent to 480 certified North Pacific Observers requesting their input on freezer longline vessel deployments. In total, eleven observers responded. The following appendix provides the responses from the observers, their relative experience in the fishery by noting total number of deployment days, number of fixed gear vessels they worked on, and the number of sampled hauls. The observers' names have been removed for confidentiality reasons.

### Observer A

*Observer since 1999*

*1462 deployment days*

*8 fixed gear vessels with 350 sampled hauls*

My experience has taught me that there is really no way you can prepare observers for being on their first longliner. The first trip or contract ends up being an eye-opening experience. Longlining epitomizes all of the difficulties of working on fishing vessels in Alaska. Constant exposure to cold/windy weather, long trips with little port time, ... working constantly with little sleep, the inability to establish a regular sleeping and eating routine (basic biological functions are irregular). Sampling-wise time management is key: in order to do the job effectively you need to be a good time manager. You need to be able to work up your samples, subsamples, length samples, specimen samples, and viability samples within a certain amount of time because you will either miss your next tally period or you won't. You don't have that kind of freedom (gray area) on trawlers as there is usually a bit of leeway to get the sample at a certain weight unit. On the flip side of the coin, observing on a longliner can be one of the most rewarding experiences you can have in Alaska. The challenge will make you a better observer and a better worker overall. You will feel as if you can conquer anything in life after a difficult longline contract. The skill set you will build is only part of that – it is the overall experience of it

There is no way you can prepare an observer for their first longliner but we can have a process that increases the chances of success for first time longliners. A successful first deployment will mean higher data quality overall and the likelihood that the observer will come back to longline again. I did not perform well on my first longline deployment and the experience stuck in my mind as something awful. I was fearful of being on the next two longliners many years later...

The value of having a good, experienced lead on your first longliner is that you have someone who can show you the practical necessities of doing the job, such as:

- Tools such as tally counters and the tally clipboard
- How to stay warm for potentially long periods of time on an unsheltered deck
- How to set up a sample frame
- When to do hook counts
- When to collect halibut viabilities and how

These are all items that get inexperienced and unprepared observers in trouble during their first assignment.

I really don't have any opinions as to what qualifications or experience level is needed. I like the idea of a preparatory booklet. I believe that should be given out to observers at any experience level. Preparation is the key. Nothing is worse than getting on a longliner and not knowing what you are getting into. It takes a long time to adapt if you are unprepared. I also believe that any observer has the potential to do well on a longliner. I think if we were to increase the experience level needed to become Level 2 certified, we would be missing out on the opportunity to train some good leads. Experience doesn't mean

better. Many observers get stuck in their ways and develop a hard to break preference for certain vessel types. An observer that has been around for a few years may look to longline opportunities mostly because the money is pretty good. But I do think that an experienced observer can succeed on their first trip or contract without a lead.

What criteria should be used for determining that an experienced observer has that potential?

- Some combination of sea days and sampled hauls or different fishery types
- At least 3 successful contracts with no zero deployment scores
- Personality characteristics such as conscientiousness, good sense of humor, good temperament, etc. I don't want to give the impression that we should exclude those that do not display these characteristics, but I think it's a good idea to actively recruit them
- The ability to work independently on a drastically different vessel type
- the will or desire to do it

Give the booklet to them and see if they understand it and are willing to do a longliner. Give them the choice. For less experienced observers that fall below a certain combination of sea days and sampled hauls, they would be best working with an experienced observer. The combination of the booklet and the lead observer will serve as excellent resources for the job ahead. Other ideas may be a separate class for longliner certification. Maybe create a short online course for observers to take at their leisure. Create an announcement or flyer with a list of incentives that lists the benefits of longline observing. Any observer can take the course and when they fulfill the other criteria above they can be placed on a list as having the displayed potential for longline observing.

## **Observer B**

*Observer since 2013*

*595 deployment days*

*2 fixed gear vessels with 60 sampled hauls*

It's pretty clear that the impetus for the original change was solely financially driven, without even a minimum of forethought as to where new leads will come from. The C/P trawl fleet has no issues with lead observers, every single haul is sampled, AND a flow scale is used, creating a very robust, high-quality data set that provides tremendously valuable information to regulatory interests as well as industry interests. C/P longliners rely upon a single observer, often overworked, to sample ~60% of hauls. The data set taken from these vessels is still of high-quality, due to the excellent work observers do, but how industry officials can look at 40% of hauls going unsampled as a good thing for their bottom line, is mystifying to me. In addition to this, the requirements for becoming a lead fixed gear observer are very low compared to the trawl fleet, another concession they enjoy. More experienced observers is better for observers, better for the industry, and better for the regulatory agencies.

It seems to me a higher-quality data set AND a complete solution to the lead level 2 issue can easily be obtained by mandating ALL C/P vessels, fixed gear or otherwise, be required to have both a flow scale and 2 observers (even better, make 100 hauls the requirement for all lead certifications). Why the longliners and pot boats get a "free pass" is beyond me. I for one, believe that lead level 2 observers are being taken advantage of by the fishing fleet AND our contractors. I enjoy the value that I provide for the observer program due to my experience, but it's clear to me that the reason why this sensible rule is not already in place is the longline fleet dragging their feet to avoid further regulation (no matter how sensible it is) and to save a few hundred bucks a day in one of the most valuable fisheries in the entire world.

### **Observer C**

*Observer since 2010  
759 deployment days  
5 fixed gear vessels and 555 sampled hauls*

I believe that it is crucial to have a lead level 2 certification while onboard longline vessels. My first boat was onboard a C/P longline vessel. Being new and dealing with the work load, collecting accurate data, and the elements is stressful. Now having most of my sea days spent onboard these types of vessels among all vessel types, I can say that it is the most difficult to deal with. You cannot rely on basic flow scale numbers, as present on M/V and C/P vessels targeting pollock. You have to think on your toes and be able to incorporate stratification of the catch which in my opinion is better left with someone with more experience that can see the bigger picture. Not saying that observers cannot understand the basic concept but actually collecting this data correctly while being new is not easy unless you are hard-working, passionate, and really want to do a good job. To add on to that, is the addition of the flow scale. It would never be advised to have two new people on amendment 91 vessels, for the basic fact that the quota is so crucial per boat. I believe this should be the same standard for the longline fleet and that being said I believe that there should be someone onboard who understands the FS. Most lead level 2 observers have dealt with flow scales and when dealing with fishing industry personal that haven't had much experience with this aspect can be an easier process, making things run more smoothly.

### **Observer D**

*Observer since 2006  
1739 deployment days  
19 fixed gear vessels with 853 sampled hauls.*

I think if an observer has been on a trawler and is lead certified then they should be able to work on longliners with maybe a 1-2 day that is only about sampling on a longliner. I would love it to go to two observers per vessel. I have not sampled with the new RNT though so I cannot comment on that. Not a one day with getting gear just a day with sample requirements for longliners only then have each new longline observer do a mid-season after first trip. I started when a new observer got on longliners first.

### **Observer E**

*Observer Since 2008  
476 deployment days  
4 fixed gear vessels with 212 sampled hauls*

I have been working in the North Pacific program off and on over the last eight years. I started observing before the longline lead certification was required. The first boat I ever worked on was a longliner. It was tough work back then, but it was nice to have the entire observer community to share the workload. Now that we have the longline lead requirement, you are almost obligated to work entirely in longlining. Some of my favorite boats have been longliners, but many can be horror stories of long hours for long periods of time. The system is broken in the sense that given the high matriculation rate, it is hard to get new observers trained to work longliners. The work load can vary, but generally it will always be more than any other gear type. If the boat is setting either really small or large sets, it can be almost impossible to keep up. I have worked a boat that had 70 plus mag sets that take 18 hours to complete. So every day of fishing, you may only be getting about 6 hours of sleep a night while they are setting the next set. Sometimes you may require some of that time off to finish paperwork. I have also had similar problems with boats that set really small sets that only take about 5 or 6 hours. You generally only get one set off at a time if you are keeping up with the random sample table, so you will only get short periods off to sleep. I have personally had really tough times with erratic sleep cycles for varying periods of time. We have the

random break table, but it is really difficult to establish a circadian rhythm when you are sleeping at different times of day. I have had my immune system crash and stayed sick for over a month with a chronic cough that has additionally exacerbated my lack of sleep. Couple sleep deprivation with the general physicality of tallying aboard the weather deck of a longliner, and this has the potential to be very dangerous. Studies have shown prolonged sleep deprivation can impair individuals to a point similar to having a blood alcohol concentration (BAC) of 0.1, which is over the legal limit for operating a motor vehicle. With the exception of the role man and maybe a pole gaffer, we are the only people required to be exposed to the elements. In cases of extreme weather, we can take a haul off, but there are no clear criteria and up to the discretion of the observer and officers. We are required to transmit data daily, but this can sometime be difficult if you are not adhering to a traditional 24 hour day. This mental and physical fatigue has also been a detriment to my data in some instances. I was grandfathered into the lead certification without having to do a trip on a longliner with a lead. Many of us don't have a choice in whether or not we want to longline, and many times it seems unfair when so much more is required of us with no additional compensation from most of the contractor companies. Changing the sampling protocol or requiring two observers like other gear types would alleviate many of these problems. Prioritizing observers' health and wellness should be pivotal in proper data collection.

## **Observer F**

*Observer since 2012*

*791 deployment days*

*7 fixed gear vessels with 437 sampled hauls*

I was lucky that before my first longliner I had a one day briefing where I was the only person with the trainer and was able to go over my job duties step by step. Although, I ended up being overwhelmed once I was on the vessel and sampling. This was also before the new sampling tables were created. I was sleeping whenever I had a chance and falling behind on my data entry into ATLAS. There were a few days where something in the factory had broken down and I was still needing to sample once they started again and I was awake for almost 24 hours with an hour nap here and there. The crew would usually forget to wake me up so I had to wake myself up to check on their progress or just stay up. I could tell that my mental acuity was not doing well on those days. I was just trying to get through 30 days without physically and mentally crashing. With the new sample tables, I think that longliners are easier to work than my first experiences. I don't feel as stressed out about the work load, and I have the mental preparedness for the long trips.

I think it's great to have 2 observers on a vessel because you're only working a 12 hour shift so the newer observer can ease into the role, and you have someone to check your work with. On the flip side, I also see how this is frustrating for the observers and the contractors. Some companies have more vessels willing to take, or have space for, 2 observers. Personally, as a lead longline observer there is the pressure to only do longline contracts and not work other vessel types. When most vessels do month long trips it is tiring, and mentally stressful not communicating with family and friends.

One thing that I have been confused about is whether pot vessel should also be a way to train observers for longliners. The sampling frames are set up the same which makes sense since they are both fixed gear, but I heard it had to do more with the flow scale, which I don't understand. It was not my duty to watch the flow scale tests on the pot vessel I was assigned. I gained my experience with flow scales on Amendment 80 C/Ps and Amendment 91 C/Ps. I've had vessel try tell me what is and isn't acceptable for flowscale test and if I was new I might actually believe them.

## Observer G

*Observer since 2010*

*553 deployment days*

*2 fixed gear vessels with 84 sampled hauls*

Whenever observers start sharing their longline stories it automatically means that you are in a different league than most observers could ever understand. The majority of longliners involve much more work and are exhausting both physically and mentally compared to any of the other gear types that observers can be put on. ...There is so much work that goes into being on a longliner; between the random sample schedule, tallying, actually sampling, halibut viabilities, hook counts, entering data in the computers, error reports, and the flow scale test, you don't have much time left in the day to sleep especially on boats that do more than 3 hauls in a day. I think it is absolutely ridiculous that observers who are on catcher boats are getting paid the same as an observer on a longliner if they have the same amount of sea days. I personally think that if you are on a longliner by yourself then you should be paid appropriately.

I think that if the longliner has the space they should have 2 observers on board because there is more than enough work for them both. Also every other boat that is a factory boat has two observers so why is longlining special and not required to have two? Especially when there is double the work compared to being on a pollock or flatfish factory boat. I have been on all gear types except for a pot boat, and longline is by far the hardest of all the gear types. I think that requiring someone to train you on that particular gear type is a great idea and that being on a pot boat will certify you is not a good idea. Nothing can prepare you for being on a longliner except for actually being put on one and trained by someone who has done it before and received a one from their debriefer.

## Observer H

*Observer since 2012*

*410 deployment days*

*4 fixed gear vessels with 312 sampled hauls*

As a longline guy who got thrown on one straight out of training before the regulations had changed saying that they needed to be accompanied by a lead I can easily say the work load was overwhelming... with trying to both remember all the things I should be doing along with trying to ID things I had only seen in a lab plus trying to sample. I felt so overwhelmed and confused most days. After the my mid cruise ... I had finally learned just how much work I was doing extra in the wrong areas and how little I was doing in the right areas. I had 19 pages of errors, was behind by 48 haul entries and my daily notes were more scribble than legible both due to my hand writing and the 16-24 hour days with 4-5 hours of broken sleep over the course of the first month. After ...straightened me out along with my in season telling me to use the RBT to catch up on haul entries and such it became much much easier but that was after I had a little more experience seeing how fast the line moved and generally what types of fish I would be seeing.

I strongly would recommend keeping the regulation in place that forces contractors to not put fresh faces on long liners straight out of training... I enjoy being on a long liner however because I get a lot more fresh air than factory boats or catcher vessels .... I also enjoy long lining as the crews seem closer and much more friendly. My CP trawlers have had friendly people but they are usually full of such large crews that you can't really meet and know everyone unless you get on a few of the smaller such ships which I haven't really had the pleasure of being assigned to. Also, the long liners I have been assigned to have all had very good food. I don't know if that is really common but I can't imagine why it wouldn't be. The fisherman that are on said ships are out for far longer trips than trawlers and as such their nutrition and caloric intake should be that much better in quality.

## **Observer I**

*Observer since 1995  
3694 deployment days  
47 fixed gear vessels with 2259 sampled hauls*

The problems with the random sample table (RST) and random break table (RBT) are trying to sleep randomly and long hours between breaks. I have kept close track of the number of hours I worked each day on my last 2, ninety day longline assignments. Both of these assignments, I used just the RST. My feelings are that it is not the number of hours worked in a day that is more difficult but, it is the lack of quality sleep. There are days that I find myself up 22, 24, 26, or 29 hours which is absurd. A normal person would require 2-3 days to recover from such overtime work. But, I then have lots of days where I only work 12 hours but sleep randomly. This all adds up in a person and is why I do not want to work a turn-and-burn. I need time to recover or I might become a zombie and develop a craving for human brains. I would suggest not to allow 2 consecutive 90 day longline assignments and not to allow more than 6 months of work on a longliner in a year. This is due to the random sleeping. I did hear of an observer who regularly does turn and burns on longliners all year long. However, it is my belief that this observer avoids the RST and RBT to sleep normal hours.

## **Observer J**

*Observer since 2014  
5 fixed gear vessels with 212 sampled hauls*

From my perspective, the hours and workload become a huge issue on some boats more than others. Getting all your work done (sampling, hook counts, AND paper work) and getting enough rest where you aren't dangerously tired is often difficult on many vessels. While this issue has been fixed for vessels that set huge sets that take all day to haul, boats that tend to set smaller sets of 20 mags or less are not as well addressed. NMFS encourages the use of the RST and RBT together. However, that still leaves us with time issues. Sure, I get 8 hours off sometimes, maybe even more, if I use both but I still am staying up over 24hrs on some of these smaller vessels even with my larger break and using both tables. By the time you're up for 36hrs a day, 30 days in a row, and then getting 8-12 hr breaks, I still find myself making potentially dangerous mistakes. I would love to see sample tables more conducive to these boats that end up working those hours that burn you out fast. A find 6-8hr breaks sufficient but not when you're still having to stay up past 24 hrs before that break occurs. I know this happens to me and to many of my coworkers, working hours that far outweigh our ability to recoup properly. The 30 hauls with a lead I still think is a great methodology of training. However, using pot vessels to train people to longline often leave huge points of interest unaddressed. There are different levels of importance for certain tasks for pot vessels versus longliners and I think many fixed gear certified people miss out on important things you should know when they are certified on a pot vessel and then go out longlining alone, never having had the helpful guide of a lead who knows their way around longlining. Important data and tasks are left to the wayside or potentially they are working in a harder not smarter method because they have never had a partner to show them how things are done. They have a manual and hearsay from others instead, which creates dissonance. Certification with a lead is important, and I think using pot vessels to certify leaves a lot to be desired often times. That is not to say they are useless for certification, just the manner in which they are currently used for certifying people for fixed gear could be improved upon greatly. I also am an advocate for having two observers per longliner. Having a partner to hook count with you (especially on boats where you could be doing 16 mag counts twice a week), keeping up with paper work, sampling all the hauls with 12hr shifts and not just a portion of them, and just having someone to back you up ..., would go an exceptionally long way in managing the cod fisheries and improving the observer work environment and morale. ... While it is not an impossible or inconceivable task going it alone, having a

second person to aid you would go an exceptionally long way in improving morale and encouraging more observers to not be so disinclined to longline. I hope some of this is helpful perspective from the observer side of things.

**Observer K**

*Observer since 1997*

*3216 deployment days*

*11 fixed gear vessels with 542 sampled hauls*

First, there is no shortage of LL lead certified people. Industry, contractors need to make it more desirable for us to do this grueling assignment. It seems that observers fresh out of the three week training are being deployed to Factory LL as a second to get their 30 hauls so they can get their LL certification. That is ridiculous. They have accomplished nothing independent and are evaluated solely on the leads work. Someone who has no experience with a random sample design, no experience with the fish id problems inherent of a LL. (I still get questioned about my halibut id out here).

If NMFS is concerned with getting quality data I think the minimum requirements should be 2 contracts (100+ days minimum) with a NMFS Met Expectations. The prospective LL trainee should have a good grasp of random sampling, and species id. I guess the 30 hauls would be sufficient as long as the observer did all the work.