AGENDA C-3
OCTOBER 2012

MEMORANDUM

TO: Council and AP Members

FROM: Chris Oliver
Executive Director

ESTIMATED TIME
4 HOURS

DATE: September 25, 2012

SUBJECT: Observer Program

ACTION REQUIRED

(a) Review NMFS report on Observer Deployment Plan
(b) Review OAC report
(c) EM presentation on ALFA project

BACKGROUND

(a) Review NMFS report on Observer Deployment Plan

The Council is scheduled to review the 2013 Annual Deployment Plan at the October meeting. While a draft version of the deployment plan was released in early September, the draft focused primarily on the methodology for developing the deployment plan, and the final version, which will also include the proposed deployment rates for 2013, will be available by the time of the Council meeting.

The purpose of the deployment plan is to identify how NMFS will conduct science-driven deployment of observers into fishing operations conducted on vessels and plants within the "restructured" portion of the fleet, to meet NMFS' data needs. The document follows the proposed plan to deploy observers, as presented to the Council at their April and October 2010 meetings. The goal of the 2013 deployment plan is to address the data quality concern expressed within the Council's 2010 problem statement; i.e., to achieve a representative sample of fishing events, and to do this without exceeding available funds.

NMFS has prepared an outreach plan for observer restructuring implementation, which is attached as **Item C-3(a)**.

(b) Review OAC report

The Observer Advisory Committee (OAC) met September 17-18 in Seattle. The two primary tasks for the Committee at this meeting were to review the 2013 annual deployment plan and provide feedback and recommendations to the Council; and secondly, to provide recommendations about how electronic monitoring (EM) will function as a component of the restructured program. The Committee's report is attached as **Item C-3(b)**. The Committee highlighted seven recommendations to the Council on the deployment plan. While some of these items require clarification for implementation in 2013, others are major issues that need to be evaluated over the next 12-18 months. It is not intended that these recommendations delay implementation of

the program for 2013. Additionally, the report identifies three recommendations on EM, relating specifically to the 2013 pilot project and also to a longer-term strategic vision for EM.

(c) EM presentation on ALFA project

Dan Falvey will present a report on the second phase of the halibut fleet's pilot electronic monitoring program, which tested the logistical challenges of installing camera units on different types of vessels within the fleet.

Outreach Plan for Observer Restructuring Implementation

September 2012 Groundfish Plan Teams: Presentation of the annual deployment plan and other information about observer restructuring.

September 2012 Observer Advisory Committee: Presentation of the annual deployment plan and other information about observer restructuring

October 2012 Council meeting: Presentation of the annual deployment plan and other information about observer restructuring will be made to the North Pacific Fishery Management Council. Audio of this presentation is accessible via the internet. The draft deployment plan and other materials presented to the Council will be posted on the Council's website.

mid-October 2012: All catcher vessels with Federal Fisheries Permits who fished in 2012 will be entered by NMFS into the Observer Deployment System (ODDS). These catcher vessels likely will be in the partial observer coverage category for some or all of their fishing in 2013.

- NMFS also will contact vessel owners who have FFP endorsements for both catcher vessel and catcher/processor if these vessels appear to be eligible to apply for one of the allowance for small catcher/processors to be in the partial coverage category.

October 26, 2012: Letters will be sent to owners of all catcher vessels NMFS has identified as being in the partial coverage category for some or all of their fishing in 2013 (based on FFP endorsements and 2013 fishing activity).

- Those in the trip selection pool will be provided accounts in the ODDS system, asked to verify vessel registration information, and given instruction on how to log trips.

- Those in the vessel selection pool will be provided information about how to contact NMFS if they are interested in taking an electronic monitoring (EM) unit and notified they will be contacted again should they be selected for an observer or EM. Those in the vessel selection pool do not need to verify vessel registration information in ODDs at this time. They will be contact by letter in the future if they have been selected for observer coverage and will be provided written instructions at that time about how to obtain their observer.

- NMFS will note that FFPs holders will not be required to carry observers while they fish in the State of Alaska guideline harvest level groundfish fisheries, although they will be assessed a fee on any fish landed from those fisheries that are subtracted from a Federal groundfish total allowable catch limit.

mid-November 2012: eLandings training in Seattle for catcher/processors. Not likely to be an important outreach opportunity for observer restructuring because most of these vessels will remain in the full coverage category.

November 26, followed by February 25, May 24 and August 26 for subsequent quarters: Send letter to those in the vessel selection pool that are required to have observer coverage for the upcoming quarter.

November 27-29 Fish Expo NMFS staff will be manning a NOAA booth. We will prepare a one-page overview to be handed out at the booth.

November 30, 2012:

Final Rule and Standard Prices will be published in the *Federal Register*
Compliance Guide (Summary of Requirements) will be posted on AKR website.

Outreach activities that will not start until the final rule has been published.

late November/early December 2012:

- NMFS will send a letter to Registered Buyers that permits must be renewed by February 1st (to include information on annual permit cycle change and will include information on observer fees and how information will be provided about the fee liability associated with each landing.
- NMFS will send a letter to Federal Processor Permit holders about changes to the permit cycle, observer fees, and how information will be provided about the fee liability associated with each landing.
- NMFS will send a letter to all Federal Fisheries Permit holders (i.e. vessel owners) with logbooks and other information, including more information about the restructured observer program. All FFP holders in the partial observer coverage category should have already received one or more letters from NMFS, so we would put minimal reminder information in this mail out.

December 3-11, 2012: December Council meeting
Evening session demo of ODDS and eLandings component for calculation of the fee liability, if so recommended by the OAC and Council

December 2012 (date to be determined): Outreach meeting in Kodiak with demonstration of ODDs and eLandings component for calculation of the fee liability.

January/February 2013:

- Send Registered Buyers new permits with cover letter that will include information on observer fees
- Beginning 2014 Federal Processor Permit holders will also receive new annual permits

January 2013: Sand Point Outreach meeting
Association meetings (Whitefish Trawlers mtg Jan 16-18)

February 2013: Outreach meetings to Petersburg, Sitka, Homer targeting IFQ fishermen.

February 25, followed by May 24, and Aug 26: Send letter to those in vessel selection pool who are selected and requested to participate with EM. Note that NMFS is starting the EM selection in the second quarter as fishing in the targeted EM fishery is limited in the first quarter.

March 2013: eLandings trainings for processors, focusing on IFQ fisheries

(revised 9/11/12)

Observer Advisory Committee – Meeting Report
September 17 - 18, 2012
Alaska Fisheries Science Center, 7600 Sand Point Way, NE, Seattle
Building 4, Observer Training Room
8:30 am – 4:30 pm (Mon); 8:30 am – 4:30 pm (Tues)

Committee: Dan Hull (Chair), Bob Alverson, Julie Bonney, Dan Falvey, Kathy Hansen, Michael Lake, Paul MacGregor, David Polushkin, Joe Rehfuss, Darren Stewart, Anne Vanderhoeven. **Not present:** Jerry Bongen, Kenny Down, Brent Paine, Todd Loomis.

Agency Staff[1]: Diana Evans (NPFMC), Chris Oliver (NPFMC), Martin Loefflad (NMFS FMA), Craig Faunce (NMFS FMA), Farron Wallace (NMFS FMA), Heather Weikart (NMFS FMA), Gwen Schnaittacher (NMFS FMA), Lisa Thompson (NMFS FMA), Liz Chilton (NMFS FMA), Jennifer Cahalan (NMFS FMA/ PSFMC), Glenn Merrill (NMFS AKR), Jennifer Mondragon (NMFS AKR), Jason Gasper (NMFS AKR), Tom Meyer (NOAA GC), Nathan Lagerwey (NOAA OLE), Alicia Miller (NOAA OLE), Nicole Kimball (ADFG).

Other attendees included: Liz Mitchell (Association for Professional Observers), Lori Swanson (Groundfish Forum), Gregg Williams (International Pacific Halibut Commission), Dave Benson (Trident), Karl Haflinger (SeaState), Becca Robbins-Gisclair (Yukon River Delta Fisherman's Association/ Alaska Marine Conservation Council), Tim Carroll (Saltwater, Inc.), Dennis McManus (Midwater Trawlers Cooperative/ BS cod fisherman), Luke Szymanski (AIS, Inc.), Arvid Poshkus (AIS, Inc.), Ed Hansen (Southeast fisherman), Julianne Curry (Petersburg Vessel Owners Association), Matt Upton (U.S. Seafoods), Rob Rogers (Icicle), Troy Quinlan (Techsea), Oystein Lone (CP Pacific Sounder), Merrick Burden (Marine Conservation Alliance).

Agenda

I. Introductions
II. Review and approve agenda
    a. Council direction on OAC task
III. Update on implementation of observer restructuring
    a. Update on the development of the final rule
    b. Getting the nuts and bolts in place for implementation
    c. Planned outreach and education efforts
    d. Registration system and brief demonstration
IV. Draft 2013 observer deployment plan
    a. Presentation of the deployment plan
    b. Public comment
    c. Discussion and recommendations on deployment plan
V. Electronic monitoring
    a. Update on national white papers on electronic monitoring
    b. Update on EM halibut fleet project
    c. Discuss development of EM as part of restructured program
    d. What are required elements for regulating EM
    e. Public comment
    f. Discussion and recommendations
VI. Scheduling & other issues

[1] NPFMC – North Pacific Fishery Management Council; NMFS FMA – Fishery Monitoring and Assessment division at the National Marine Fisheries Service's Alaska Fisheries Science Center; PSFMC – Pacific States Marine Fisheries Commission; NMFS AKR – NMFS Alaska Region; NOAA GC – National Oceanic and Atmospheric Administration General Counsel; NOAA OLE – NOAA Office of Law Enforcement; ADFG – Alaska Department of Fish and Game.

1 Introductions and agenda

Introductions were made, and the agenda was approved. The Chair noted that some Committee members were not able to attend, and that while alternates are not officially permitted to sit on the Committee, the alternates could provide input during the public comment periods. The Chair identified that the Council provided two primary tasks for the Committee at this meeting. The first is to review the 2013 annual deployment plan, and provide feedback and recommendations to the Council. The Council is scheduled to review the deployment plan and the OAC report at its October 2012 meeting. In addition, the OAC is directed to provide recommendations about how electronic monitoring (EM) will function as a component of the restructured program, including recommendations on developing performance standards.

2 Update on implementation of observer restructuring

Final rule

Glenn Merrill (NMFS AKR) summarized the agency's progress with developing the final rule to implement the observer restructuring program. Responses have been drafted to all submitted comments, and the rule is in the final review stages. It is on schedule to be published by November 30, 2012. As the rule is still under review, he could not comment definitively on the nature of changes between the proposed and final rules, however at this stage, the changes are limited to technical modifications rather than substantial changes. Some examples include adjustments to accommodate changes resulting from the recently implemented freezer longline monitoring and reporting requirements, and to address the use of tenders. Additional explanation has also been provided on the electronic monitoring component of the program. The agency has an obligation to consult with the Council on changes between the proposed and final rule. As the rule will not have been finalized until after the October Council meeting, this consultation is likely to be by letter, or if necessary, teleconference, at the end of October. Martin Loefflad (NMFS FMA) recognized the tremendous work that has gone into developing the final rule by many staff at the NMFS regional office, and especially Brandee Gerke, who has recently taken a different position within the region.

Implementation update

Martin Loefflad updated the Committee on several recent developments. Last week, the agency awarded the observer provider contract for the partial coverage category to AIS, Inc. The company has been providing observer services for the Northeast Fishery Science Center for several years. A second contract has also been awarded to Saltwater, Inc. for providing EM support for the 2013 pilot project. The agency has also expanded an existing contract that supports the IFQ call-in center (NOAA Data Technician Office), and will be using the same infrastructure to provide call-in facilities for the observer program's registration system. Martin reported that funding has been allocated to support these various contracts. Additionally, a dedicated treasury account is being created, where the assessed fees from the program will be deposited.

Last week, Martin participated in the National Observer Program Advisory Team (NOPAT) meeting, which brings together NMFS' observer program managers from around the country, to deal with fiscal and operational issues. Martin highlighted last year's annual report, which includes a summary of how funding is allocated among observer programs in the various regions[2], noting that comparatively little of the national funding flows to Alaska. For next year, the national observer program has received a $4 million funding increase, however the program budget (in its entirety) has also been levied with a $1.9 million overhead charge, and the remainder of the new funding has been earmarked for catch share

[2] http://www.st.nmfs.noaa.gov/st4/nop/Outreach/FY_2011_NOP_Annual_Report_FINAL.pdf

programs, primarily in the southeast and northwest. The Committee asked some clarifying questions on the budget process, and mechanisms for how Alaska could receive a larger portion of the available funds.

Another fiscal issue that Martin noted is that it is proving difficult to hire new positions. FMA has been trying to fill two positions in Kodiak, but due to agency restrictions in response to the shrinking budget, all new hires need to go through headquarters, and are facing high levels of scrutiny. The Committee questioned whether two new positions would be sufficient to deal with the increased volume of debriefing that may arise from the restructured program, and Martin noted that they are able to supplement some of the permanent staff with contract staff.

Martin reported that the registration system has been developed and tested, and one demonstration has already been conducted with industry, at the June Council meeting in Kodiak. More such opportunities are planned for later in the year. Julie Bonney noted that, based on both her demonstration test of the registration system and knowledge of her fleet, the agency should expect many skippers to be registering trips by telephone, rather than through the online interface, at least initially. Jennifer Mondragon (NMFS AKR) also reported that the agency is working on an online system to display the fees that will be assessed, on a landing by landing basis. This system will be available to processors, as well as to vessels through the eLandings portal, and will show the accruing balance of the fee. The same system will also be used to process the year-end payment. She noted that for groundfish landings (although not for IFQ), there will be a 24 hour time lag before the fees display, as the information needs to be processed through the catch accounting system. The Committee asked questions about how the information will be displayed, and the level of detail that will be available to both the processor and the vessel. The Committee recommended that the system allow both the processor and harvester portions of the fee to be separately displayed.

Outreach

Martin distributed an outreach plan prepared by Sally Bibb (NMFS AKR), detailing opportunities for outreach on the restructured program, through the end of the year and the first quarter of 2013. Martin noted that the Coast Guard is also working on outreach with respect to the recent change that, as of October 16, 2012, requires all vessels operating outside of 3nm to complete a mandatory biennial dockside examination. The Committee commented that there will be logistical difficulties for vessels to meet this requirement, as the Coast Guard is underfunded for performing the dockside examinations, and there are very few qualified marine surveyors in Alaska who can be hired to perform the inspection. Nathan Lagerwey (NOAA OLE) also reported that his office is engaged in outreach to vessels that may be carrying an observer for the first time. A letter and poster has recently been sent out to vessel owners identifying expectations for how to treat the observer. The Committee discussed the outreach plan, and provided several additional suggestions, both during the discussion on this agenda item, and during the remainder of the meeting, which are all listed below.

- Develop several glossy pamphlets with an overview of the program, similar to those developed for the IFQ program.
- As the Small Entity Compliance Guide is intended more as a program user guide, it should not be titled as a "compliance guide".
- The compliance/user guide should include examples of the particular situations that may be applicable to different fishermen and vessel owners, and what is expected in these situations.
- Develop a one page briefing document designed specifically for observers, describing how the program will (or will not) affect observers. Distribute this one pager prior to the 4 day refresher trainings.

- Provide information to previously unobserved vessels about what the requirements are for housing an observer onboard. Other than a bunk, what other expectations or needs are there for sampling space, observation, or gear.
- Make sure the October 26 letter includes sufficient background to put the program in context, as it may be the first time many people have heard about the restructured program.
- Some of the people affected by the program don't have FFPs, so won't receive the October 26 letter, but will still be charged a tax on their groundfish landings. This situation should be included in the compliance/user guide, and addressed at outreach meetings, to spread the word. Also, consider whether there is a way to notify this group through the CFEC.
- Try to expand outreach meetings to additional communities. Perhaps local fishing associations can coordinate the meetings, with support from NMFS. A meeting in Homer in December would be helpful, before the cod A season starts.
- Try to coordinate outreach meetings with the Coast Guard, including offering dockside inspections at the same time.
- AIS should be encouraged to participate in outreach meetings, in order to put a face to the company.
- Outreach and training to processors is important, especially to those who get limited deliveries. The proposed webex training seems like a good approach, but also consider encouraging processors to attend community outreach meetings if possible.
- Consider sending outreach materials to the processors as soon as they are available, to post in the plants (e.g., begin now, with the NOAA Enforcement posters about how to treat an observer).
- Consider having a registration system demonstration at the IPHC annual meeting in January, either as an evening session, or perhaps a station in the lobby.
- Consider putting a demonstration of the registration system online, so that people can practice using it before implementation.
- Acknowledge in outreach materials and presentations that it may behoove fishermen to get protection and indemnity (P&I) insurance for the observer. This coverage is typically charged at a lower rate than coverage for active crewmembers on the vessel.

Registration System Demonstration

Craig Faunce (NMFS FMA) gave a powerpoint presentation describing the registration system, and showing relevant timelines and screenshots. He noted that the "registration system" essentially consists of two systems working as one, separately providing tools for the vessel and the trip selection pools. The first system, IVERS (Initial Vessel Electronic Registration System), is for vessels in the vessel selection pool, and has two purposes: to provide a vehicle for a vessel owner to dialogue with NMFS about the suitability of his vessel to carry an observer, and to provide a way for the observer provider to track logistics of coverage with these vessels. Vessels will be randomly selected for observer coverage two months before the beginning of each quarter. A letter will be sent 30 days before the quarter begins to notify the vessels of their selection. The letter must be answered within approximately two weeks, by logging into IVERS. In 2013, IVERS will not be accessible on smartphones. (Craig explained that for vessels that opt to call in to the system instead of using the online interface, the same systems will be used, only a data technician will be inputting the vessel's information into the computer based on the phone conversation, in lieu of the person doing it directly.) IVERS screens for two particular questions: are you planning to fish this quarter, and can you provide for an observer on your vessel.

The Committee clarified a number of operational, process issues with Craig. At least initially, NMFS personnel will be individually inspecting all vessels that have indicated they are unable to provide for an observer on their vessel, prior to the start of fishing in each quarter. Timing for these inspections will need to be worked out cooperatively between NMFS and the vessels. The Committee also asked whether the

same observer is likely to stay with a single boat during the entire 3 month season, if the vessel is fishing for the majority of the time. While this is not required under the program, it is likely that this would end up being the case. A further clarification related to the difficulty of notifying vessel owners that they have been selected for coverage, both because of changes in mailing addresses, and vessels being out fishing during the critical notification periods (especially during notification for the third quarter). The agency clarified that it is their responsibility to inform the vessel that it is required to have coverage, which differs from the trip selection pool, where the onus is on vessels to determine whether they need coverage. However, it is also possible for vessels to check, in the registration system, whether they have been selected to have coverage. Finally, Craig clarified that if a vessel is not part of the system, because he has never before fished in the Federal fishery, but wants to take an IFQ fisherman onboard for the first time, he does not have any responsibility to notify NMFS before he goes fishing. His Federal activity will be noted during that quarter, and the vessel will be automatically added to the vessel selection pool beginning with the following quarter.

The primary system, ODDS (Observer Declare and Deploy System), is designed to facilitate the random assignment of observers in the trip selection pool. A vessel owner or designated skipper must log each trip he intends to take, listing his intended dates and ports of departure and return. Craig clarified that the system does not require any declaration of where the vessel intends to fish, or in which target fishery it intends to participate. The system will randomly assign whether the trip needs to be observed or not. If it is to be observed, the observer provider has up to 72 hours after the trip log time to ensure that the observer is made available in the port. If the observer is not present, the provider defaults, and the vessel may leave to go fishing. Once the observer arrives, the vessel has 48 hours during which to leave on the trip. If the vessel doesn't leave during that time period, the vessel is considered to have defaulted, and on its next trip, will automatically be required to take an observer. The Committee again discussed with Craig how to deal with particular situations within this process, for example severe weather conditions, or logging multiple trips in advance. The system allows vessel owners (or designated skippers) to amend the timing of an unobserved trip, and allows observer providers to amend the timing of an observed trip. Alternatively, a vessel owner could log multiple trips to maintain flexibility in case of storms, and cancel those that do not work out. Note, if an observed trip is cancelled by the vessel, the next trip by that vessel will automatically be required to have an observer. Craig also clarified that a vessel owner does need to close out trips in the system, which allows the vessel owner to update the trip record with the actual dates and ports of departure and return. The system only allows a limited number of trips to be logged at any one time.

For both systems, the Committee raised situations where further clarification by the agency is needed. These are listed under the deployment report agenda item, as operational comments for NMFS.

3 Review of the 2013 Annual Deployment Plan

2013 ADP

Craig Faunce gave a presentation of the September 5th draft of the 2013 Annual Deployment Plan (ADP). Because the costs of an observer day are not yet available, as the contract with the observer provider has only recently been finalized, the September 5th draft focuses on methods, rather than describing the actual deployment rate that will be targeted for 2013. The goal of the deployment plan is to achieve representative coverage throughout the fishing year. It is anticipated that this goal will be achieved because there is a decreased ability and incentive for vessels to introduce an observer effect, as they are not paying for their own trips, and also because the distribution of trips should be proportional to fishing effort. Craig explained the intention to apply an equal rate of deployment both to trips (in the trip selection pool) and vessels (in the vessel selection pool). He noted that data from the vessel selection pool will also be extrapolated to the zero coverage fleet (vessels under 40' LOA, and jig vessels), so that the

deployment rate in the combined sector will actually be reduced. In the example slide presented, this rate (the effective rate) would be reduced by more than 50 percent, if there were twice as many vessels under 40' LOA as were in the vessel selection pool. Craig also presented five evaluation analyses that are included in the deployment plan. He noted that there had been consultation with stock assessment authors during the development of the plan, and that the Plan Team had reviewed the draft at their September meeting.

The Committee asked many clarifying questions of Craig, including about how deployment will work differently in the trip versus vessel selection pools, and how cost effectiveness is addressed in the deployment plan. The Committee asked what the incentive would be for a vessel in the vessel selected pool to take a camera if they also had to take an observer. Craig clarified that there would be two separate selections in the vessel selected pool. One selection would be for observers, and the other would be for that subset of the vessel selected pool that volunteered for the electronic monitoring pilot project. It is possible for a vessel in the vessel selected pool to take an observer, or a camera, or both, under the proposed selection process. The Committee also noted that there is a substantial reprogramming of observer effort from shoreside processors onto vessels, compared to the status quo.

Public Comment

Ten people provided public comment on this issue, and two written letters were distributed to the Committee. The majority of issues raised in public comment were subsequently captured in the Committee's discussions and recommendations. The two issues that were not addressed relate to obtaining prohibited species catch (PSC) data in the GOA trawl fisheries. One commenter noted that it is not clear from the 2013 draft deployment plan how the restructured program will address the Council's priority of getting better PSC data from the GOA trawl fisheries. The second commenter requested that this and future deployment plans should prioritize and provide for extended periods of 100% observer coverage for GOA trawl fisheries that have significant bycatch concerns.

Committee Discussion and Recommendations

First, the Committee noted that the September 5th draft of the deployment plan is incomplete, and does not include necessary information to adequately review the 2013 deployment plan. **The Committee expressed frustration that a substantially different version of the ADP is going to be presented to the Council in two weeks.** Without the proposed coverage rates for the vessel selection fleet, the Committee is limited in its ability to evaluate whether the ADP is achieving the objectives of the restructured observer program. Additionally, it is difficult for the Committee to express support for this deployment plan, knowing that this is not the final version.

Nonetheless, the Committee highlights the following significant recommendations to the Council regarding the 2013 ADP. The Committee notes that while some of these items require clarification for implementation in 2013, others are major issues that need to be evaluated over the next 12-18 months. It is not intended that these recommendations delay implementation of the program for 2013. Additionally, the Committee has identified some other comments, and a suite of required clarifications addressed primarily to the agency, which are captured in the table at the end of this section.

1. **The Committee recommends that the Council ask NMFS to clarify how a waiver from observer coverage is granted, if the observer provider is unable to provide an observer.** The Committee notes that a timely waiver, in the instance when an observer is not available to depart at the scheduled time, will be critical to the success of the program, especially in high-paced fisheries where even a four-hour delay can mean a substantial lost opportunity. Neither the proposed rule nor the deployment plan identifies what the process for granting a waiver will be, other than indicating that the vessel must receive one. It is, however, imperative that the wait time

for this process be minimal, for example, a phone call with an immediate answer. Note, the Committee understands that the system grants the observer provider 72 hours after the trip is logged to get an observer to the port of departure; for the vessel selection pool, such time windows have yet to be specified (see related comment in the table below).

2. **The Committee recommends that the Council ask NMFS to reconsider the timing requirements for requesting a release from observer coverage, and inspecting a vessel that has made that request.** Under the proposed rule, vessels that have been selected for coverage in a particular quarter are notified by letter 30 days before the start of the quarter, and need to respond to NMFS with a minimum of two weeks before the start of the quarter as to (a) whether they intend to fish, and (b) whether they are capable of providing for an observer on their vessel. The Committee noted that, especially for the 3rd quarter notification, two weeks is an insufficient period for vessel owners to respond to NMFS with their fishing plans for the upcoming quarter. Vessels may be at sea during that time period, and either unable to obtain their mail, or unable to access internet or telephone to call into the system. The agency indicated that there is nothing prohibiting them from sending out the notifications earlier than 30 days before the start of the quarter, therefore the Committee suggests that the agency adopt a longer timeframe. Additionally, the Committee clarified with NMFS that the agency needs to have a minimum of two weeks in order to arrange for a vessel inspection, if the vessel has indicated that it cannot provide for an observer. However, this minimum time period need not necessarily occur before the start of the quarter, but rather before the vessel takes its first trip of the quarter. Consequently, the Committee recommends that the language in the proposed rule reflect this change.

3. **The Committee recommends that the Council ask NMFS to reconsider the continuous three month coverage period for vessels in the vessel selection pool.** To have an observer onboard for 100% of all trips within a three month period is onerous for small vessels, especially in periods when they are fishing continuously throughout the time period (for example, during the first quarter for vessels participating in the GOA cod fishery, or during the summer for vessels fishing IFQ species). The cost to the vessel of carrying an observer onboard (for example, food and insurance costs) will be burdensome for long durations. Additionally, the length of this time period complicates the agency's ability to predict the number of sea days that will be required to cover this sector. The Committee noted that the three month period was originally proposed when it was thought that EM would be available as an alternative to a human observer, and it was thought that the installation and removal costs of the cameras would be better amortized over the longer time period. The Committee discussed several alternatives to the three-month duration. Members of the Committee noted that even if the coverage were shortened, there would be limited opportunities to game the system (by choosing not to fish during the time period a vessel is selected for coverage), because most of the affected vessels have external constraints dictating when they are available to fish their IFQ. Another suggestion was to require that a vessel be observed no more than 30 days within the 90 day period. This would address concerns about costs to the vessel of carrying an observer potentially for 90 days. It was also noted, however, that this might increase costs to the observer provider. A final suggestion was to hasten the development of appropriate EM systems.

4. **The Committee recommends that the Council reaffirm that crew members should not be displaced by the requirement to have an observer onboard.** This issue was discussed during the development of the observer restructuring analysis, and the Committee believes that the Council clearly signaled this policy as its intent. Martin Loefflad presented two contrasting examples of how a vessel's request for release from coverage is handled in other regions of NMFS, from stricter to more lenient interpretations. At Martin's request, the Committee discussed this issue, and recommends that the policy statement above should be the agency's guideline for reviewing requests for release from coverage.

5. **The Committee recommends that the difference between coverage in the vessel and trip selection pools be evaluated.** In the immediate term, the deployment plan should include a comparison of the number of trips and sea days proposed for 2013 in the vessel selection pool, as a direct measure to compare coverage rates between the sectors. The Committee also identified tools that can help the Council to assess whether the division of the fleet into these different pools is appropriate. For example, an evaluation should be conducted of whether vessels in each stratum (over and under 57.5' LOA) fish in similar or different areas, and are thus likely to have different catch and bycatch rates, or use different gear configurations. Members of the Committee contended that the length classes were established because vessel length is a measure of a vessel's relative ability to carry an observer, rather than because the catch composition would likely be different between the classes. Therefore it is important to conduct an evaluation to see if there is a basis for treating the two classes differently in terms of the observer data received from each pool. The agency noted that some catch composition analysis of the two groups was included in the observer restructuring analysis. The Committee clarified that given its concerns, the Committee recommends that the sampling methodology be reviewed by the SSC. Another concern that was discussed was that only the observer data from the vessel selection pool vessels will be used to extrapolate to the under 40' LOA vessels that have zero coverage. The low overall deployment rate when considering these two sectors in combination could lead to management based on highly uncertain data.

6. **The Committee recommends that the agency's decision to use an equal rate of deployment between the trip selection and vessel selection strata be evaluated against the Council's original objectives for the restructured program.** The Council's problem statement for the observer restructuring analysis highlighted that *"[T]he quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries."* The Committee is concerned that the deployment plan does not recognize that management needs differ among individual fisheries. There is a class of fisheries for which inseason data is imperative, for example, to manage inseason catch or PSC limits. For other fisheries, the constraint is not inseason actions so much as quota landings. These different situations lead to different priorities for observer data, and the need for a flexible program to address those needs. The Committee believes that the equal rate of deployment between strata ignores the needs of individual fisheries. Additionally, the Committee noted that throughout this process, there have been promises that the implementation of observer coverage in the previously unobserved fleet will be "low and slow". Members of the Committee objected that the deployment rate for the vessel selection pool, as proposed in the deployment plan, is not low and slow. A rough calculation, using the heat map figure in the deployment plan, indicates that approximately half of the available observer days will be allocated to previously unobserved vessels. Finally, the Committee is concerned that the restructured program has lost sight of the intent to consider cost effectiveness in deployment. An example that was frequently cited during the development of the analysis was that a vessel's trip that involved fishing IFQ for a day, followed by six days of salmon fishing, would not be required to carry an observer for all seven days of the trip, and that reasonable management decisions would ensure cost effectiveness in the program. As it has been set forth, however, the program and the deployment plan do not seem to contain any checks and balances to allow for reasonable management decisions. As a result, the Committee recommends that the Council ask for an evaluation of how the program, as it has been proposed, comports with all of the Council's original objectives.

   In discussion, the Committee did note that in the analysis, it was acknowledged that the first step for the restructured program would be to get a baseline of data for some initial period of time, with representative data from across all fisheries, and that subsequently, through the annual deployment plan, there would be flexibility to change and refine priorities. The issue of whether

the proposed 2013 deployment plan is consistent with the Council's objectives remains of concern to Committee members, however, especially as at this time, there is only a one-year time frame for evaluating where the program is headed. Additionally, it seems possible that there will only be a limited ability to make changes to the 2014 deployment plan as well (see initial comment in the table below).

7. **The Committee recommends that the Council address two situations that have arisen with respect to assigning vessels to the partial versus the full coverage categories.** First, the Committee recommends that the Council find a solution to allow vessels in the BSAI Pacific cod trawl catcher vessel fleet to continue to have 100% coverage in their fleet, even though they are currently in the partial coverage category. Vessels who participate in the cod fishery, and also fish in the Bering Sea AFA pollock fishery, have been voluntarily taking an observer 100% of the time, in accordance with the voluntary bycatch cooperative they have created to control halibut bycatch. While the Council was aware of this situation at the time of final action, the Council chose to put this fishery in the partial coverage category. Some options that may be considered, to allow the necessary coverage levels for the bycatch cooperative to continue, include the following: 1) move the fishery to the full coverage category (which will require regulatory change); 2) allow vessels to supplement partial coverage with pay-as-you-go to achieve 100% coverage. Also consider and mitigate any data bias that may arise with allowing vessels to voluntarily increase their coverage in the partial coverage fleet. Second, the Committee recommends that the Council reconsider the regulation that requires that if a vessel acts as a catcher processor (CP) for any part of the year, it is placed in the full coverage category for all fisheries. The Committee heard testimony from a vessel owner who fishes exclusively as a CP in the BSAI Pacific cod pot fishery, and for the remainder of the year in catcher vessel fisheries, and for whom the requirement for full coverage is substantially onerous.

The following table includes other comments on the deployment plan and operational recommendations for program implementation.

Comments on the annual deployment plan (ADP)	
Clarification as to whether the ADP can be changed	• It is still unclear whether change is possible to the 2013 deployment plan, while still meeting the goal of implementation in 2013 (e.g., making all vessels in the vessel selection pool subject to trip selection, or changing the duration of coverage for vessel selection vessels). • The likelihood of changing the basic elements of the deployment plan for 2014 is also unclear. Will there be pressure to retain the same basic program elements for 2014, given that at the time we are developing and commenting on the 2014 plan, there will not yet have been a complete year of fishing under the new program?
Additional comparisons needed in the ADP	• Program evaluation should compare the current metrics for assessing the rate of coverage (trip, vessel) with the overall percentage of catch that is observed. The Council should consider whether the volume of catch that is being observed meets the Council's objectives for the restructured program. • It will be useful to compare the current rate of observer coverage (for the zero + 30% fleets) to the predicted 2013 rate of coverage (for the zero + partial coverage fleets).
Conservatism in predicting the required number of observer days in the ADP	• The estimate of the number of observer days required for the proposed deployment rate, as will be established in the deployment plan, has a 90% probability of not exceeding available funds for the program in the startup year. This figure may not be sufficiently conservative, as it is based on the previous system, where fishermen had an incentive to minimize costs (because they were paying providers directly).
Long term evaluation	• Monitor how the 40' and 57.5' length class designations, for zero coverage, and differentiating between the selection pools in partial coverage, respectively, is affecting operational decisions for vessels.

Operational recommendations for NMFS	
Vessel selection pool process	• Need to address concern about letters reaching vessel owners in the vessel selected pool, especially for the quarter beginning July 1st, to inform them they have been selected for coverage (e.g., develop the ability to check online or through the call-in center). • NMFS may want to send letters by certified mail with return receipt, if the onus is on the agency to make sure the vessel owner has received the letter informing him he needs coverage. • Clarify the process for a vessel in the vessel selection pool which was selected for coverage, and initially indicated that they were not going to fish, when they change their mind and want to go fishing yet still comply with the coverage requirement. • If NMFS intends to request that any vessel that is claiming that they are unable to take a human observer make itself available in port at a specific time for the inspection, as much advance notice as possible needs to be given. • Clarify that the procedures for obtaining observer coverage in the vessel selection pool would use the procedures in the trip selection pool as guidelines. Due to dynamic nature of that fleet, a more flexible interpretation may be necessary. • Clarify what the process for requiring observer coverage will be if a vessel has a varying crew size from trip to trip (i.e., could sometimes accommodate an observer, but not other times). • Clarify whether the observer provider can require a vessel to house an observer onboard while the vessel is in its homeport (and the captain/crew want to be at home).
Amend an existing trip in the system	• While NMFS has identified that the ability to change the departure time and date for trips is available to the observer provider for observed trips, and the vessel owner for unobserved trips, need to reinforce that this utility is going to be critical to the success of online registration. • Vessel owners need to be able to change the port of embarkation and landing for an observed trip.
Observer safety	• Need to address concern that there is a higher risk for observer harassment[3] accompanying deployment on small vessels. The proximity between the observer and crew is very close, observers will likely be deployed continuously with the vessel for long periods of time (perhaps 3 months), and fishing occurs in remote areas where it may be difficult for the observer to be removed quickly from the situation. Some suggestions include education and outreach to vessels coming in to the program, and preparing protocols for resolving issues of conflict. • Prepare observers that having a safety decal does not automatically mean that a life raft will be available onboard the vessel. Some small vessels with a crew of <4 people on board are not required to carry a life raft. Note, the agency may wish to investigate the use of valise life rafts for observers, in these cases.
Reporting the fee	• Have it be identifiable to the vessel which portion of the fee is apportioned to the harvester and which to the processor.
Observer refuses to come onboard	• Clarify what is the process if an observer refuses to board a vessel.
Overriding existing regulations	• Clarify whether the current regulation, that certain vessels must always take an observer on trips in Southeast, is overridden by the restructured program.

4 Electronic Monitoring

National EM white papers

Martin Loefflad and Jennifer Mondragon provided an update on national NMFS plans to develop six white papers on electronic monitoring. Note, as used nationally, the range of technologies considered to be EM extend beyond cameras to include things like vessel monitoring systems (VMS), scales, electronic logbooks, and electronic landings systems. The six white papers address the following topics: 1) Analysis of existing EM technologies/programs; 2) Enforcement issues/impediments; 3) Legal/confidentiality

[3] Note, in this sentence, the term "harassment" is being used as defined by the Observer Program. Members of the Committee expressed sensitivity to the use of this term, which may have a different meaning to the layman. It was noted that in some cases, the risk may be of issues resulting from social incompatibility or personality conflicts.

concerns; 4) Research and development requirements; 5) Re-alignment of management and monitoring; and 6) Funding options. The papers were originally scheduled to be developed by fall 2012, however this has been delayed. The current plan is for the papers to be reviewed at NMFS internal leadership council meetings through the end of the year, after which feedback will be solicited from the Councils and Commissions, before making the papers (perhaps combined into a synthesis) available to the public. Martin and Jennifer are providing input into the national process, including the perspective that the end product ought to be a strategic vision for EM, not a top-down prescription of how it should be implemented. Additionally, they noted that there are a lot of operational EM (broad definition) systems in operation already in Alaska (e.g., VMS, e-logbooks, eLandings, electronic observer data entry and transmission), and that the only operational[4] video systems in place anywhere in the United States are in Alaska (cameras are used to monitor compliance in the BSAI Amendment 80 and pollock fleets, will be required shortly for the BSAI Freezer Longline Conservation Cooperative, and are used for bin monitoring in the Central GOA Rockfish Program).

Halibut Fleet EM Pilot Project

Dan Falvey presented a report on the second phase of the industry electronic monitoring program. The goal of the project, as developed with Martin after the March 2011 OAC meeting, has been to capture total removals on the subject vessels. It was specifically not designed to be an audit for logbooks, as is the goal of the Canadian EM system. The project field tested the two-camera system on ten vessels out of Sitka and Homer in phase 2, observing 21 trips and 76 hauls. Dan reported results for the four project objectives. He noted that operator engagement is critical for a successful program. In this pilot program, the incentive for participants was the development of EM to a point where it is a legitimate alternative to human observers. The field testing of EM hardware on a range of vessels met with some installation challenges, which were mostly overcome. The quality of video captured was medium to high quality, and the AFSC review of data from Phase 1 indicated that fish were able to be identified to the species level 90% of the time. Dan noted that when just counting fish (rather than every hook), the video could be adequately reviewed at 2 to 3 times the hauling speed. AFSC staff have not yet reviewed the data collected in Phase 2. The project successfully identified mechanisms to make the program cost effective, by making the control box (the most expensive portion of the system) able to be easily rotated among participants, and by maximizing the number of sea days observed for each installation. Finally, centering deployment of EM around particular ports, with a local port coordinator, is essential for success. The Committee discussed the project, and was supportive of the lessons learned. It was noted that the project did not address the cost of data review, which is an important element of an EM program; nor did it include a mechanism for assessing sample weights and lengths.

EM Pilot Project in the 2013 ADP

Farron Wallace (NMFS FMA) presented the background for the agency's development of the 2013 EM pilot project. He discussed two relevant EM projects elsewhere that have influenced the design of the project, namely the 2010 Northeast multispecies fishery and the British Columbia system. In the Northeast, NMFS was trying to monitor catch on a real-time basis, for monitoring annual catch limits[5]. This included a need to understand both total catch, and proportion of discards, by species. They concluded, in their written report, that EM could not currently meet this objective in its present form. In Canada, the principal impetus is to monitor the status of several rockfish stocks, which are individually allocated, and for which there is a 100% retention requirement. The program covers approximately 200 vessels, and includes requirements for logbooks, a check-in/check-out for each trip, EM sensors, EM imagery (of which there is a 10% audit, comparing it to the logbook), and dockside monitoring to

[4] There are pilot camera projects happening elsewhere, but they are not yet operational.
[5] http://www.nefsc.noaa.gov/fsb/ems/2010_EM_REPORT_FINAL.pdf

measure weights[6]. Farron also noted drawbacks with the Canadian system, including some species identification problems, and that no biological samples are available for discarded catch. Martin also noted that there is a penalty mechanism whereby if the accuracy of the logbook is outside of the allowed 5% error margin, the vessel can be required to pay for a more extensive review of the video imagery.

Farron identified the considerations that went into developing the 2013 program. He acknowledged that the industry pilot program can be used to identify installation and configuration requirements which need to be regulated. The ability for reliable systems to perform at appropriate standards of data quality must also be taken into consideration, as well as data storage requirements. Partnership is critical to an EM program, and requires a clear definition of the relative roles of the agency and industry. In 2013, the EM program will be a voluntary program, which will begin in the second calendar quarter. It will target hook and line vessels that have had an IFQ landing in the second to fourth quarters in prior years, with an LOA of between 40' and 57.5', and with a history of fishing out of Sitka, Homer, Petersburg, or Kodiak. Eligible vessel owners will receive a postcard in early November inviting them to participate in the program, which they must return by February 13 in order to be included. While the contract for the EM program has been awarded, the agency does not yet know how many camera units will be available. The management objective of the project relates to demersal shelf rockfish retention requirements. Farron also described how the program will be used for further developing EM. Additionally, the agency will be looking for opportunities to use other, non-camera EM systems that may be less expensive, for example GPS data loggers to assess fishing effort and location, electronic logbooks to provide discard estimates, or elandings.

The Committee discussed many issues with Farron, including more details on the nature of the project, whether its focus is on compliance or bycatch accounting, whether and how it builds on previous work, and how the project fits in with the Council's direction to look at EM as a tool to replace human observers. Farron explained that for next year (2013), EM data is not yet at a stage where it can be used to replace an observer. The agency's intention, however, has been to identify a scientifically-valid first year study focused on validating an important management assumption, which they have done. At the same time, collecting video sets up the ability to evaluate other questions, including those that have been raised in previous studies, and provides an opportunity to develop the infrastructure for integrating EM data into management. He also noted that the development of the Canadian model required a three to five year implementation plan.

The Committee also discussed the importance of deciding on the management objective to be achieved before designing the EM project. It was noted that both logistic (replacing human observers on vessels) and data (discard estimates in the halibut fleet) objectives have been offered for EM. The design of the program might vary, depending on which objective is the ultimate end goal for the Council. Defining the goal would also give the agency more latitude to design a program that both meets the goal, and meets the agency's obligations (e.g., to understand sources of fishing mortality in assessing annual catch limits). For example, the EM system need not necessarily rely exclusively on cameras; it may be possible to combine a lower deployment rate of human observers with fishing location and effort data, and still meet Council objectives.

Required Elements for Regulating EM

Martin provided a brief update on the regulatory requirements for an EM program. He noted that the agency already has successful experience of regulating EM where the burden is placed totally on the industry to have a working system, and industry provides NMFS with the data (e.g., BSAI Amendment

[6] Stanley, R.D., H.McElderry, T.Mawani, J.Koolman. 2011. "The Advantages of an Audit over a Census Approach to the Review of Video Imagery in Fishery Monitoring." http://icesjms.oxfordjournals.org/content/early/2011/05/09/icesjms.fsr058.short?rss=1

80, BSAI Amendment 91). To deploy EM in a regulated environment would require specification of several different elements, including, but not limited to: a) what industry would need to provide to NMFS; b) how would they make their vessels accessible for deployment (e.g., providing electrical power, allowing welding of EM components, etc.); and c) what would a vessel operator be required to do for maintenance out in the field (e.g., keep the camera lenses clean). The agency intends to develop a complete suite of elements from the pilot project, and also the national white papers as they develop.

The Chairman provided context for this discussion by noting that when the Council was informed that EM could not be required in the proposed rule because these details for implementation had not yet been developed, it was assumed that developing performance standards for EM was the next logical step, and the charge to the OAC was formulated accordingly. Given the agency's proposed EM pilot project, however, and the discussion of the Committee, it seems that the time is not yet ripe to initiate a regulatory package for EM.

Public Comment

Four people provided public comment on this issue. The issues that were raised in public comment were subsequently captured in the Committee's discussions and recommendations.

Committee Discussion and Recommendations

The Committee expressed its frustration with the change in direction by the agency with respect to EM programs. The Committee recalled its previous direction as to the priority for EM being to obtain discard estimates for the 40'-60' halibut and sablefish IFQ fleets (focusing on smaller vessels in the startup phase), which was approved by the Council in April 2011. In the industry pilot project, which was a joint effort with NMFS, this management objective was broadened to be estimation of total catch, agreed between the project developers and Martin Loefflad. The management objective that is described in the September 5th draft of the deployment plan is quite different, and focuses on using EM cameras to monitor compliance with rockfish retention requirements. Despite the indication about the importance of partnership, industry was not consulted in the change in management objective. The Committee also notes that there was originally an expectation that EM would be integrated as part of implementation; this was also changed at the last minute. The Committee would like to see the development of EM return to its original intent, namely to develop a system that can replace human observers on vessels, or for the agency to provide a thorough explanation of why that is not possible.

Additionally, the Committee makes the following three recommendations to the Council.

1. **Restate the management objective for the 2013 EM pilot project.** From the deployment plan, the focus of the EM project appears to be an enforcement one, to ensure compliance with rockfish retention standards. The Committee notes that it may be be very difficult to get volunteers for such a project. Through discussion with Farron, however, the Committee discerned that the intent of the management objective is to verify assumptions rather than enforce compliance. Additionally, the goals of the pilot project are more comprehensive, and equally important is the process of figuring out how to address obstacles in order to build an EM program capable of integrating with catch accounting in the future. The documentation should be reworded to more accurately reflect the intent of the project.
2. **Encourage NMFS FMA to work cooperatively with industry regarding further development of the 2013 pilot project.** One aspect of this cooperation is to identify an objective that industry will agree with, which does not focus on compliance. It would also greatly increase motivation to participate if there was an acknowledged connection between the willingness to carry EM, and the inability to carry a human observer. The Committee notes that the EM program

is not intended to be implemented until April, and believes there is still time for further effort to be put into how the pilot project develops. The agency may also want to consider focusing on a broader species group, as demersal shelf rockfish are only caught in the halibut fishery east of 140, which effectively excludes the community of Homer. Logistically, this cooperation should include scheduling an evening session at the October Council meeting, to discuss the management objectives of the pilot project with industry. Another avenue would be to create a better description of the proposed project, which would be circulated to industry prior to or in conjunction with the postcard inviting industry to participate in the program. This could include a discussion of how the proposed pilot program builds on previous work, and contributes to a longer-term goal. It might be advisable to delay the postcard inviting participation until the program is more clearly articulated. The goal of this recommendation is for FMA to build the necessary cooperation and partnership with industry which would encourage 30 to 60 vessels to volunteer for the program.

3. **The Committee recommends that the Council request that NMFS initiate the development of a strategic planning document for EM,** identifying the proposed management objective(s) or vision for EM in the next 3-5 years. The management objective needs to be agreed upon by stakeholders, the OAC, and the Council. The Committee discussed some possible objectives, such as minimizing human observers in the small boat fleet, or developing a more cost effective way to get at-sea data. The strategic plan should also lay out the standards that EM is intended to achieve. It should include clear benchmarks, and a timeline for evaluating progress toward achieving the objective(s). It should also show how work-to-date (both the industry pilot project, and the proposed 2013 NMFS pilot project) would fit in with this vision. The scope of the vision should include other sectors in the partial coverage category, not just the halibut and sablefish small vessel fleet. However, there may be different objectives for different segments of the fleet. Finally, the plan should also show how the EM objective fits into the overall integration of the Observer Program as a whole. A draft of the paper should be presented at the June 2013 Council meeting.

   The Committee noted that while the management objective initially needs to be defined with some urgency, to establish a common understanding of the end goal for EM development in the next few years, there also needs to be sufficient adaptability in the strategic plan to allow lessons to be incorporated from the first, and subsequent, years. A review of progress on the EM strategic plan should be part of the annual program performance evaluation scheduled for each June.

5 Scheduling

The Committee discussed the timing of future OAC meetings. The Chair suggests that the next OAC meeting be at or prior to the June 2013 Council meeting, to review the draft EM strategic plan, and also provide comment on the 2013 performance evaluation of the program. Given the timing of implementation, it does not seem feasible for the OAC to be directly involved in FMA's efforts to foster partnerships with industry for developing the 2013 EM pilot project. However, OAC members will likely participate informally in the evening session at the October meeting, and in other efforts to build cooperation.

AGENDA C-3
Supplemental
OCTOBER 2012

Subject: bycatch observation program
From: Chris Zwolinski <rikadog9@gmail.com>
Date: 9/25/2012 10:45 AM
To: npfmc.comments@noaa.gov
CC: haliut@akmarine.org

As it is your job to monitor our commercial fisheries, I urge you to continue and increase your observation program on the commercial vessels that are currently destroying our resources. The trawl fleet in Alaska is depleting our halibut, crab, and salmon fisheries with abandon in the name of the almighty dollar. In response, you propose to spread your limited observation crews to the smaller hook and line vessels that, while there is always bycatch, these boats have minimal impact.

I own a halibut ifq and have fished it since the concept of the program. I have watched my original weight value of said quota go down to less than half. The groundline fleet has a much smaller impact on bycatch than the trawl fleet. This is obvious, but you seem to restrict yourself from being an "inconvenience" to the politically powerful trawl fleet that continues to destroy our fishing future.

Please show some backbone and restrict the trawl fleet with more observers, strong cutbacks and sanctions.

Treat the cause, not the symptom.

Thank you.

Chris J Zwolinski
PO box 83218
Fairbanks, AK 99708

Subject: Small-scale commercial longline groups in Alaska
From: Anita Lara Montesanto Shirley <amontesantoshirley@coa.edu>
Date: 9/24/2012 3:08 PM
To: npfmc.comments@noaa.gov

Dear Chairman Olson,

I stand with small-scale commercial longline groups throughout Alaska. I support program changes focused on eliminating observer coverage manipulation by trawl vessels. To address the perceived fairness issues associated with excluding vessels under 57' from observer coverage and the cost of gathering at-sea data on bycatch and total removals, longline groups agreed to pay a reasonable fee to support the new program. In exchange, they have asked for a coverage option that works on small, community-based boats.

Electronic monitoring (EM) has been identified as that option by hook and line vessel owners across Alaska. To help develop this EM option, a coalition of longline organizations from Sitka, Homer, Juneau, and Petersburg ran a two year EM pilot project to demonstrate a practical and cost effective means of gathering the necessary at-sea data on total catch by longline vessels.

Despite the success of the EM pilot project, NMFS has back-tracked on their commitment to include EM as a viable alternative to human observers for small boats. Under NMFS' program, owners of vessels less than 57 feet who are assigned observers have two weeks to request a waiver, which may or may not be granted. If the waiver is not granted, these small vessels will be required to carry an observer on every fishing trip taken during that entire calendar quarter. The proposed regulations require the vessel operator to "work with the observer provider" to ensure coverage without giving any specifics related to advance notice, weather days or accommodating an observer when in port. This is yet another assault on the small boat fixed gear fleet.

Please provide a viable Electronic Monitoring alternative for vessels under 57 feet. It is the fair and equitable action to take.

Sincerely Yours,

Lara Shirley

College of the Atlantic

105 Eden St, Bar Harbor, ME 04609

Subject: Observer Programs: Size Matters
From: "GoingGreenie.org" <rosemarymorretta@GoingGreenie.org>
Date: 9/24/2012 3:28 PM
To: "npfmc.comments@noaa.gov" <npfmc.comments@noaa.gov>

Dear Chairman Olson,

I/We stand with small-scale commercial longline groups throughout Alaska. I/We support program changes focused on eliminating observer coverage manipulation by trawl vessels. To address the perceived fairness issues associated with excluding vessels under 57' from observer coverage and the cost of gathering at-sea data on bycatch and total removals, longline groups agreed to pay a reasonable fee to support the new program. In exchange, they have asked for a coverage option that works on small, community-based boats.

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Please provide a viable Electronic Monitoring alternative for vessels under 57 feet. It is the fair and equitable action to take.

Sincerely Yours,

Rosemary Morretta

57 Rockwell Road

Ridgefield, CT 06878

Subject: bycatch concerns
From: Judy Little <jjlittle@charter.net>
Date: 9/24/2012 5:44 PM
To: npfmc.comments@noaa.gov, halibut@akmarine.org

North Pacific Fishery Management Council

Dear Council,

I'm an Alaska Commercial Fisherman. I've fished halibut in area 3A for the last 37 years. I've also fished crab, shrimp, herring and salmon on a 38' vessel.

I am asking that the Council prioritize observer coverage for fisheries with bycatch concerns, particularly Gulf of Alaska trawl fisheries that catch Chinook salmon, halibut and Tanner crab as bycatch. These fisheries should have increased coverage from the old program.

More data is needed to understand the scale and impacts of bycatch for now and future generations to come. This is Alaskan waters and sustainability is mandated in the Alaskan constitution.

I support electronic monitoring as an alternative to human observing.

John Little
807 S Mountain Ave
Ashland, OR 97520

September 24, 2012

North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Re: Agenda Item C-3: Restructured Observer Program

Dear Chairman Olson and members of the Council:

The Alaska Marine Conservation Council (AMCC) appreciates the opportunity to comment on the 2013 Observer Deployment Plan and the Restructured Observer Program. The Alaska Marine Conservation Council (AMCC) is a non-profit dedicated to protecting Alaska's marine ecosystems and promoting healthy, ocean-dependent communities. A robust observer program which gives us accurate information about catch and bycatch in all of our fisheries is critical to the sustainable management of our fisheries. We therefore commend and applaud the North Pacific Fishery Management Council (the Council) and the National Marine Fisheries Association (NMFS) for moving forward with a restructured observer program. However, we have significant concerns with the 2013 Annual Deployment Plan. It is difficult to fully assess the plan because the draft at this time does not contain observer coverage rates. Yet it is apparent that under the equal probability sampling approach, trawl fisheries with significant bycatch problems will not receive additional coverage. Additionally, the 2013 plan does not include Electronic Monitoring (EM) as a viable alternative to human observers for the small boat fleet. As detailed below, these two concerns represent significant deviations from the promises made about the restructured program. We ask the Council to provide direction to the agency at this meeting to:

1. **Prioritize coverage on the Gulf of Alaska (GOA) trawl fleet to achieve a level of coverage which will reduce the opportunity for observer bias. While 100% coverage would be ideal, 60% coverage at a minimum would begin to address this issue.**

2. **Develop a specific timeline for implementation of an integrated approach that includes electronic monitoring as a viable alternative to meet at-sea monitoring requirements.**

AMCC as well as many other groups supported action to improve the observer program. Small boat fishermen, including our members, have voiced their willingness to pay fees to support better coverage to get better bycatch information. Under the current proposed deployment plan, however, it appears unlikely that these objectives will be realized and the program may fall short of the outcomes we all signed on to support.

PO Box 101145 Anchorage, AK 99510 www.akmarine.org
tel 907.277.5357 *fax* 907.277.5975 *email* amcc@akmarine.org

1. The restructured observer program should provide for increased coverage levels for GOA trawl fisheries to reduce the opportunity for observer bias and provide better estimates of PSC and bycatch.

The problem statement specifically states that: "The quality and utility of observer data suffer because coverage levels and deployment patterns cannot be effectively tailored to respond to current and future management needs and circumstances of individual fisheries."[1] The Council's action was specifically focused on addressing the issue of needing additional information from some fisheries to address specific management needs. Specifically, the issue of prohibited species catch (PSC) in the Gulf of Alaska (GOA) trawl fisheries was a guiding force behind the need for a restructured program. In numerous Council decisions, notably Amendments addressing Tanner crab bycatch, Chinook salmon bycatch and most recently addressing halibut bycatch, all in the Gulf of Alaska, the inaccuracies of the data available from the current observer program has been a central point of discussion. However, concerns with available data have been addressed throughout the Council debate on these topics with the promise that things would be better under the restructured observer program.

It is difficult to accurately assess levels of coverage in the 2013 deployment plan because the current draft does not include the coverage rates. However, it is apparent from the application of an "equal probability sampling"[2] plan that the fisheries which have higher interaction rates with species of concern will not have higher coverage rates. This runs directly counter both to the Council's specific goals and objectives for the observer program and the public's expectations of the improvements in data collection which would result from the new program.

With serious declines in Chinook salmon and halibut in the Gulf of Alaska, and huge impacts to those who fish directly for these species, accurate data on PSC is even more important now than it was when the Council took final action on the observer program. The 2013 Annual Deployment Plan states that equal probability sampling is preferable to adjusting sampling to size: "In studies that have compared catch estimates resulting from sampling with probabilities proportional to size (PPS) to those obtained through equal probability sampling (as proposed here), it has been found that equal probability sampling was preferable give the relatively marginal estimation benefits (if any) and greater logistical complexities that arise from implementing PPS."[3] The plan goes on to say that "...bycatch amounts obtained from observers deployed with equal probability sampling will be unbiased...."[4] While this may be true for statistics in a non-dynamic environment, in the fisheries context a lower rate of coverage leaves more room for significant bias via the observer effect. One of the instigating factors behind restructuring the observer program was the ability for boats in the

[1] North Pacific Fishery Management Council, Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 86 to the Fishery Management Plan for Groundfish of the Bering sea/Aleutian Islands Management Area and Amendment 76 to the Fishery Management Plan for Groundfish of the Gulf of Alaska, October 2010 at xi [hereinafter EA/RIR/IRFA].
[2] Alaska Fisheries Science Center, 2013 Observer Program Annual Deployment Plan, Draft Version, Sept. 5, 2012 at 7 [hereinafter 2013 Annual Deployment Plan].
[3] *Id* at 7-8.
[4] *Id.* at 8.

30% coverage category to pick when to carry an observer and to fish differently when an observer is present. The problem statement for the Council's action even says: "In addition, the existing program does not allow fishery managers to control when and where observers are deployed. This results in potential sources of bias that could jeopardize the statistical reliability of catch and bycatch data.[5] While the restructured program will eliminate the bias associated with picking when to carry an observer, a low coverage rate will still allow for a significant ability to fish differently with an observer on board. Logically, the higher the observer coverage rate, the less ability to create non-representative samples by fishing differently with an observer on board, because proportionally more of the catch will be harvested when an observer is present.

The argument in the deployment plan that equal probability sampling is as good as sampling proportionate to size also runs counter to the agency's position and the Council's past actions. For instance, in the context of the Bering Sea pollock fishery, it was determined that to enforce the sector specific limits on Chinook salmon bycatch in Amendment 91 that a minimum of 100% observer coverage was required. Ironically, this point is further enforced by another fishery in the Bering Sea: the trawl catcher vessel cod fleet in the Bering Sea, which under the restructured program is in the partial coverage category, is specifically requesting to be moved to the 100% coverage category. This is because the data generated under the partial coverage category is not accurate enough for their co-op management, which requires accurate accounting of bycatch at the individual vessel level.

A particular problem with the equal probability deployment occurs in relation to Tanner crab bycatch. In October 2010 the Council took action to create two areas in which 100% observer coverage would be required to gain better data about what the bycatch really is in those areas and design future management measures. The intent of this action was to get at least a full year of 100% coverage in these areas before the new observer program came on-line. Due to delays in regulation writing and implementation, this increased coverage requirement is not yet in place. At the time of Council action, getting additional data via 100% observer coverage was intended to gain a better understanding of the impacts of groundfish trawl fisheries on the rebuilding Tanner crab stocks in these specific areas. **Under the restructured program, the fleet of concern is in the partial coverage category, so the intent of this Council action has been completely lost.** Collecting this data is still important, particularly as Tanner crab stocks continue to struggle to rebuild, and is yet another reason that equal probability sampling does not meet the management needs of this fishery. **At a minimum, the fisheries of most concern, non-pelagic trawl fisheries, should be subject to a high level of observer coverage.**

Getting better data on PSC in the Gulf of Alaska trawl fleet was a major goal of the restructured program, as amply expressed both by the public and by the Council both in the problem statement and in deliberations on this action. As currently drafted, the 2013 Deployment Plan does not appear to meet this objective. **We therefore ask the Council to provide direction to the agency to prioritize coverage on the Gulf of Alaska trawl fleet to achieve a level of coverage which will reduce the opportunity for observer bias.** While 100% coverage

[5] EA/RIR/IRFA at xi.

would be ideal, 60% coverage at a minimum would be a big step towards addressing this issue. We also remain concerned that the need for additional data on Tanner crab bycatch in the specific areas designated by the Council for 100% observer coverage still exists, and this need should be addressed in the 2013 Deployment Plan.

2. Develop a specific timeline for implementation of an integrated approach that includes electronic monitoring as a viable alternative to meet at-sea monitoring requirements.

Throughout development and discussion of the restructured observer program, electronic monitoring (EM) has been presented as an option for the small boat fleet on which deploying observers could be challenging, expensive to the observer program, or both. In the 2013 Draft Deployment plan, however, electronic monitoring is included as an option for a limited part of the fleet in southeast Alaska, with a limited purpose. While the experience in this first year will feed into future EM development, it leaves small boats (in the 40 foot to 57.5 foot range) that were expecting to have the option of electronic monitoring in the position of having to carry a human observer.

The Alaska Longline Fishermen's Association (ALFA) launched a pilot program in 2010 to operationalize EM so NMFS could integrate EM coverage with human observers for 2013 implementation. The pilot program confirmed that EM provides the at-sea data managers need; EM is used extensively and successfully in Canada to monitor catch and bycatch on fixed gear vessels. Yet the 2013 Deployment Plan does not include EM as a viable alternative for meeting at-sea coverage requirements.

EM is a critical component of the observer program. The lack of an EM option in the 2013 deployment plan is a significant deficiency, and the Council should request that the agency develop a specific timeline for implementation of an integrated approach that includes electronic monitoring as a viable alternative to meet at-sea monitoring requirements.

In closing, while we continue to support the restructured observer program, we are concerned that as proposed, the deployment plan for 2013 will not achieve some of the primary reasons for restructuring the program. The Council has an opportunity to redirect the restructured program and ensure that the data collected under this program meets the Council's management needs. We urge you to take action now to keep the program on track. Thank you for your consideration of our comments.

Sincerely,

Kelly Harrell

Kelly Harrell
Executive Director

Subject: bycatch
From: Judy Little <fishqueen@charter.net>
Date: 9/24/2012 6:06 PM
To: npfmc.comments@noaa.gov

North Pacific Fishery Management Council

Dear Council,

My husband is an Alaska Commercial Fisherman. He's fished halibut in area 3A for the last 37 years. He's also fished crab, shrimp, herring and salmon on a 38' vessel.

I am asking that the Council prioritize observer coverage for fisheries with bycatch concerns, particularly Gulf of Alaska trawl fisheries that catch Chinook salmon, halibut and Tanner crab as bycatch. These fisheries should have increased coverage from the old program.

More data is needed to understand the scale and impacts of bycatch for now and future generations to come. My grandchildren are Alaskans and I want them to know how plentiful the halibut fishery can be. This is Alaskan waters and sustainability is mandated in the Alaskan constitution.

I support electronic monitoring as an alternative to human observing.

Judy Little
807 S Mountain Ave
Ashland, OR 97520

Subject: FW: comment... Michael Limacher
From: deborah limacher <debaloha@hotmail.com>
Date: 9/24/2012 6:55 PM
To: <npfmc.comments@noaa.gov>

I am Deborah's husband and have been a Cook Inlet eastside setnet permit holder for 20 years.. Have spoken throughout these years to many fisherman working on trawlers. They have all saw incredible amounts of King Salmon wasted for these many years past... It's no wonder our setnet fisherman were closed this season.. Every fish they waste cannot breed in all of the Alaska rivers..

This needs to be addressed and made a top priority for the States fishing to survive!! Thank You very much. Michael Limacher www.threecircle.org

---

From: debaloha@hotmail.com
To: npfmc.comments@noaa.gov
Subject: comment...
Date: Mon, 24 Sep 2012 16:53:49 +0000

To NPFMC, I have been a commercial fisherwoman since 1976 and have longlined halibut and crabbed the entire crab fishery and of late,I am an eastside setnetter here in Cook Inlet.As you know, our fishery was shut down this summer and I lost 1000's of dollars along with my crew losing all their hoped for summer wages.Fishing,along with a small amount of money for a vacation rental is my only means of support.I also realize that the chinook fishery is in a major downturn and I believe that this is due largely to the bycatch of the king salmon esp. in the Gulf of Alaska trawl fisheries.I also believe that using the word "by-catch" is an incomplete way to describe the wanton waste of our breed stock of kings!! I am asking the council to oritize observer coverage for these fisheries with bycatch concerns,as I said before,esp. the Gulf of Alaska trawl fishery that wastes thousands of pounds of chinook,halibut and tanner crab each year.We should also have increased monitoring so that these boats are being monitored 24/7..We need more data to understand the impacts of this.I also support the need for electronic monitoring as a viable at-sea monitoring program as an alternative to human observers. Thank you,deborah limacher,Pobox3001,Homer,Ak.99603

Subject: Trawler bycatch
From: Aaron Johnston <aaronjohnston@acs.sch.ae>
Date: 9/24/2012 7:04 PM
To: npfmc.comments@noaa.gov

Hello,
My name is Aaron Johnston and I have been commercial fishing in the Cook Inlet for 20+ years. I am a second generation fisherman there after my father.
It is now common knowledge that the King runs are low and we (440+ family businesses) on the East side were shut down this last season due to the low return. I harvest Sockeye Salmon and have a .4 incidental bycatch of Chinook.
I am very upset that this "environmental" injustice is allowed to continue as Trawlers are allowed to rape the ocean indiscriminently with no regard to the greater impact. We as setnetters have been environmental stewards for 120 years in the Cook Inlet ensuring healthy returns. It has been a source of pride for Alaska.
If there is anybody with the power to set some serious regulations for the Trawlers bycatch and who can see past the political pressure levied by big businesses to keep the status quo. They would be doing our world and country a great service. If there is no action on this, not only will small business like mine slowly decline into absence but the species itself will follow. Please take action.

--
Aaron Johnston
5th Grade
American Community School of Abu Dhabi

~ Celebrating 40 years of Excellence ~

Subject: Agenda Item C-3 Letter
From: Ian MacIntosh <jsirm20@hotmail.com>
Date: 9/24/2012 8:19 PM
To: <npfmc.comments@noaa.gov>, <halibut@akmarine.org>

My name is Ian MacIntosh, I own and operate the F/V Kittiwake, a 38' jig vessel homeported in Kodiak. The vast majority of my income is from pacific cod jigging, both federal and state seasons. Currently the only gear type I use is Jig. The changes to the observer program worry me. I believe that futher research on bycatch is needed in gulf of alaska fisheries. At the same time I know that some smaller vessels will suffer if required to carry a human observer on board. While I understand that I will likely be exempt from observer coverage this time around, If my vessel was two feet longer and I longlined, I could get stuck with an observer. I fish alone, with no crew, I like fishing this way. If I was required to bring an observer along it would cost me money to feed them (They aren't going to like what I eat.), they would get on my nerves and all for documenting one persons fishing efforts, a small fraction of a larger crews effort. Another extremely problematic aspect is that the smaller a vessel is, the more its fishing trips are dictated by the weather. For example, I will be fishing for cod this January and I will be lucky to get 5 fishing days in. furthermore I doubt Ill know which days Ill fish even the day before, and I often leave for a trip only to return an hour later due to weather. I would not have any objections to electronic monitoring, if the human observers were placed on larger boats that use higher impact gear types. In summary, a human observer on a vessel like mine is a waste of resources and an unreasonable burden on the fisherman.

Ian MacIntosh

My name is Aron Noerr and I am a set-gillnet fisherman for Rasta Fisherys, under the permit of debrah and micheal limacher in the Kenai district of cook inlet. I fish the sockeye salmon season, which due to low numbers of king salmon closed our fishery all but 1 day of the entire season.
The Council should prioritize observer coverage for fisheries with bycatch concerns, particularly Gulf of Alaska trawl fisheries that catch Chinook salmon, halibut and Tanner crab as bycatch. These fisheries should have increased coverage from the old program. more data is needed to understand the scale and impacts of bycatch.I support electronic monitoring as a viable at-sea monitoring alternative to human observers. as a fisherman, I am willing to help develop this option.

Aron,Noerr
anoerr@gmail.com

North Pacific Fishery Management Council
605 West 4th Ave, Suite 306
Anchorage, AK 99501
Fax: (907) 271-2817
Email: **npfmc.comments@noaa.gov**

September 24, 2012

Reference agenda item C-3

Dear North Pacific Fishery Management Council

I am writing today to urge you to get the critical observer program back on the track. I understand that your council will meet October 5-6th and will discuss this important issue during that meeting.

I am a resident of Alaska and a recreational fisherperson and consumer of fish. I know all too well how fortunate Alaska is to have such healthy fish stocks. That can change quickly if we do not ensure that our fish ecosystems remain healthy and that our fish are taken in sustainable numbers each year.

The Council should prioritize observer coverage for fisheries with bycatch concerns, particularly Gulf of Alaska trawl fisheries that catch Chinook salmon, halibut and Tanner crab as bycatch. It is essential that these fisheries have increased coverage from the old program.

I urge your members of the Council that more data is needed to understand the scale and impacts of bycatch.

I strongly support electronic monitoring as a viable at-sea monitoring alternative to human observers. This option is important for small boats who have limited space onboard.

Sincerely,

Karla Dutton
717 O Street #3
Anchorage, Alaska 99501
nautilusbeach27@gmail.com

Subject: Re: bycatch observation program
From: Chris Zwolinski <rikadog9@gmail.com>
Date: 9/25/2012 10:50 AM
To: npfmc.comments@noaa.gov
CC: halibut@akmarine.org

On Tue, Sep 25, 2012 at 10:45 AM, Chris Zwolinski <rikadog9@gmail.com> wrote:

> As it is your job to monitor our commercial fisheries, I urge you to continue and increase your observation program on the commercial vessels that are currently destroying our resources. The trawl fleet in Alaska is depleting our halibut, crab, and salmon fisheries with abandon in the name of the almighty dollar. In response, you propose to spread your limited observation crews to the smaller hook and line vessels that, while there is always bycatch, these boats have minimal impact.
>
> I own a halibut ifq and have fished it since the concept of the program. I have watched my original weight value of said quota go down to less than half. The groundline fleet has a much smaller impact on bycatch than the trawl fleet. This is obvious, but you seem to restrict yourself from being an "inconvenience" to the politically powerful trawl fleet that continues to destroy our fishing future.
>
> Please show some backbone and restrict the trawl fleet with more observers, strong cutbacks and sanctions.
>
> Treat the cause, not the symptom.
>
> Thank you.
>
> Chris J Zwolinski
> PO box 83218
> Fairbanks, AK 99708

North Pacific Fishery Management Council
210th Plenary Session – Anchorage Hilton Hotel
October 1-9, 2012

C-3(a) NMFS Report on Observer Deployment
For the Official Record: Ensuring 100% of Trawl Tows be Immediately Observed

Secretary Rebecca Blank, Chairman Eric Olson, Council members:

In the GOA trawl sector, I favor observers for 100% of the time (i.e. for all tows), for the first year of the new Observer Program. This is superior to diluting coverage by spreading personnel thin, across many hundreds of vessels in longline and pot fisheries, while leaving many trawl vessels unobserved.

You are well familiar with the role trawlers play in the high Bycatch and PSC catches and the environmental and economic harms of that gear type.

During the base year (2013?), the transitional deployment to other sectors and smaller sized vessels would still be possible for the most appropriate pot and longline vessels.

The Council should proceed with the GOA 100% Trawl Observed problem statement and proposal I have submitted many times since 2005. Not once was it adopted or put on the agenda, despite its clear reasoning. Had this been done earlier, today's problems and needs would be far better understood, and I believe millions of pounds of valuable halibut, black cod and other species saved.

After the harmful effects (and baseline data) of a year one full deployment to trawlers is known, and analysis reflects secondary species interaction, bycatch and Prohibited Species Catch activities fully, then we can move forward to wider spread deployment.

Please proceed with the prioritization of the greatest mass of fish in the GOA, for the one sector that has the most deleterious effects on other fishermen and communities. First things first, do not miss this opportunity (and duty) to go with full observer coverage for one year for the trawl sector.

Respectfully,

F/V STORMBIRD & NORTH POINT
P.O. Box 714; Kodiak, AK 99615

Alaska Longline
FISHERMEN'S ASSOCIATION

Office Box 1229 / Sitka, Alaska 99835 907.747.3400 / FAX 907.747.3462

September 25, 2012

Chairman Eric Olson
605 West 4th Avenue Ste. 306
Anchorage, AK 99510

Dear Chairman Olson,

I am submitting these comments on agenda item C-3 Observer Program Deployment Plan on behalf of the Alaska Longline Fishermen's Association (ALFA).

Two years ago in Sitka fishermen voiced their concerns that the Council was putting the cart before the horse by establishing a fee system to fund NMFS' observer program before requiring NMFS to provide deployment objectives and details. NMFS said "trust us." The currently released deployment plan, which contradicts many of the Council's stated objectives and commitments made to the industry by NMFS, validates those concerns.

ALFA members understood that better coverage of trawl vessels with Prohibited Species Catch (PSC) bycatch issues would be a primary objective of the restructured program. Instead the deployment plan will reduce coverage on PSC limited fisheries. ALFA members understood that the deployment of human observers on previously unobserved small boats would be "low and slow" until electronic monitoring was available as an alternative for meeting at-sea coverage requirements. The deployment plan establishes equal probability of deployment as a goal, which means more observers will be deployed in the previously unobserved fixed gear fleet than in any other fleet, and offers vessels the opportunity to take EM as a secondary compliance device in addition to a human observer.

Our membership expected NMFS to work from ALFA's EM pilot program to achieve efficiencies in monitoring the small boat fleet; instead the deployment plan assigns EM to small vessels for an entire calendar quarter even if that vessel harvests 500 pounds of quota in conjunction with a salmon trip. Our pilot program pre-wired boats to ensure EM devices could be efficiently moved from one boat to the next as soon as the first boat harvested its entire longline quota, which for 90% of the small boat fleet takes less than one month. ALFA's pilot program established the efficacy of EM in providing quality effort and catch composition data in the longline sector, yet the deployment plan dismisses EM for at sea catch accounting. It appears as if NMFS has chosen to ignore all that has been learned from the pilot program; the objectives for EM have been redefined and the deployment strategy is designed to drive up costs through imposed inefficiencies.

At the Observer Advisory Committee meeting, NMFS maintained EM was never intended to be an alternative tool for meeting observer program requirements. And yet a letter written by NMFS to the Council in May, 2012 states: "Our goal for a fully-integrated EM program in the North Pacific includes obtaining quality effort (location and quantity of gear set) and catch composition information from EM-observed vessels." The letter goes on to state: "The Council's October 2011 motion clarified the Council's goal of integrating EM into the Observer Program as an alternative tool for meeting program requirements and urged NMFS to advance in that direction." The directive in the letter to develop EM as "an alternative tool for meeting program requirements" seems quite clear and in direct contradiction to the agency's current position.

Attached is a bulleted list of our concerns with the proposed deployment plan. Until these issues are resolved, ALFA asks that the Council direct NMFS to:

Implement a limited, pilot program approach over the next 3 to 5 years in deploying human observers on the previously unobserved fixed gear fleet with the goal of identifying and resolving, if possible, the logistical challenges of human observer deployment. ALFA asks that the pilot program remain in effect until an integrated electronic monitoring program is developed and implemented as a viable alternative to meet at-sea monitoring requirements.

At the core of ALFA's concern with the deployment plan is our certainty that the restructured observer program defined by this deployment plan will drive substantial QS consolidation in the small boat fleet without improving catch accounting in any fleet. ALFA members who have grimly held on to two or three thousand pounds through the Area 2C and now 3A quota free fall have achieved efficiencies through combination troll/halibut trips; now they will sell because the inefficiency of returning to port for an observer is unworkable and carrying an observer during three or four days of trolling for one longline set is ludicrous. Others with small quota holdings who have survived by taking quota share riders will sell because they cannot accommodate QS holders and an observer. While consolidation may make NMFS' job easier, it contradicts halibut/sablefish IFQ program goals and Magnuson-Stevens Act standards to protect fishery dependent communities.

In sum, ALFA supports the Council's commitment to eliminating bias from observer data and to more equitable sharing of observer program costs. **Our membership is willing to pay for the program and to provide at-sea data.** Again, we are not trying to avoid at-sea coverage. All we ask is that NMFS provide a deployment plan that works for the small boat fleet and accomplishes the original goals of restructuring the observer program.

Thank you for the opportunity to comment.
Sincerely,

Linda Behnken

Linda Behnken
(Executive Director, ALFA)

Alaska Observer Program

- Alaska's small boat, fixed gear fleet is predominately community-based and supplies vital jobs in isolated rural communities.
- Commitments made to the fleet by the Council and NMFS as the observer plan was developed have not been honored, such as:
    - A commitment to a "low and slow" approach to implementing human observer coverage in the previously unobserved fleet.
    - A filter to eliminate observer coverage on vessels that are not cost effective, such as trips in which halibut are caught incidental to salmon fishing
    - Implementation of an electronic monitoring alternative as an integrated part of the 2013 program
- As proposed, there is no integrated EM alternative for small vessels. In June 2010 the Council committed to including EM as an alternative for meeting at sea monitoring requirements.
- As proposed, there is no "low and slow" approach to implementing human observer coverage in the fixed gear fleet in conjunction with EM. Instead an "equal probability of deployment" policy is identified in the deployment plan.
- As proposed, there is no timeline for developing an alternative to human observer coverage for the previously unobserved fleet as was promised as part of this new plan.
- As proposed, there is no alternative to the requirement that small boats carry an observer for 100% of all trips in a quarter and "work with observer providers" to determine logistical details, despite wide-spread industry requests to change this burdensome provision.
- As a result, the restructured observer program will have a devastating effect on community based fishermen or will be extremely burdensome on vessels that have never carried an observer before, logistically expensive, and will displace crew.

We ask that the Council direct NMFS to:

Implement a limited, pilot program approach over the next 3 to 5 years in deploying human observers on the previously unobserved fixed gear fleet with the goal of identifying and resolving, if possible, the logistical challenges of human observer deployment. We ask that the pilot program remain in effect until an integrated electronic monitoring program is developed and implemented as a viable alternative to meet at-sea monitoring requirements.

MIDWATER TRAWLERS COOPERATIVE

P.O. Box 2352
NEWPORT, OREGON
PHONE: 541-265-9317 FAX: 541-265-4557

MTC

September 25, 2012

Eric Olson, Chairman
North Pacific Fishery Management Council
605 W 4th Avenue, Suite 306
Anchorage, AK 99501

VIA: npfmc.comments@noaa.gov

RE: Agenda C-3 Observer Program

Dear Chairman Olson and Council Members:

We would like to alert the Council that this new Observer Program will reduce incentives to avoid halibut bycatch in the Bering Sea AFA Catcher Vessel trawl fishery and will, therefore, result in more halibut being caught in the Cod fishery than under status quo. Adopting regulations that will increase the waste of halibut is unacceptable at anytime but especially now considering the politics of halibut.

By virtue of AFA and the Sideboard regulations that were adopted pursuant thereto, the Bering Sea cod fishery is at least partially rationalized. The vast majority of the Bering Sea catcher vessel cod fishery is harvested by AFA vessels and is done so pursuant to an Intercooperative Agreement. That Intercooperative Agreement assigns to all non-exempt AFA cod vessels an individual share of the Bering Sea cod cap and also a corresponding individual share of the halibut bycatch assigned to that fishery. If a non-exempt AFA cod vessel exceeds its harvest of either its cod cap or halibut bycatch it is subject to severe penalties. The Intercooperative Agreement treats the exempt AFA cod vessels somewhat differently. It assigns to each Coop a historical share of cod along with a corresponding amount of halibut bycatch for that Coop's exempt fleet. The Intercooperative Agreement provides that if the exempt vessels, in their respective Coop, successfully harvest their cod without exceeding the originally assigned halibut that it will receive more cod and more halibut so that the exempt vessels are able to fish unconstrained as respects to limits on the amount of cod they harvest as long as they do not exceed their proportional share of the halibut.

Pursuant to existing regulations the cod fleet is required to carry observers 30% of the time. Early on it became apparent that the individual incentives that were built into the Intercooperative Agreement did not work very well under that system because everyone fishing was assigned the fleet halibut bycatch rate so that those that practiced bycatch avoidance techniques did not receive individual benefits for their extra effort and expense. Finally, after considerable effort by the Intercooperative Administrator, Sea State and NMFS, a system was developed whereby vessels carrying observers were able to be assigned their individual halibut bycatch thus creating an incentive to carry observers 100% of the time. Individual accountability was achieved which rewards those who avoid halibut while pursuing cod.

As a result, more and more of the AFA cod vessels are electing to pay the additional costs to carry observers 100% of the time while participating in the cod fishery. These vessels then use the best known conservation techniques for avoiding halibut including use of expensive halibut excluders and have been able to achieve reduced halibut bycatch rates so as to assure the full harvest of their cod caps. In addition, the MTC AFA exempt cod vessels have begun carrying observers 100% of the time so as to assure that as a group within their Coop that the halibut rates are kept as low as possible and below the threshold so that they can continue to receive the benefits of their exemption.

Bottom line, that by virtue of AFA regulations, Intercooperative Agreement and the efforts of NMFS staff and others we have been able to achieve a system of individual accountability as it relates to halibut bycatch in the Bering Sea AFA cod fishery. The proposed regulations would inadvertently destroy that system if an option for these vessels to carry observers on a 100% basis is not found.

We have submitted written comment on the proposed regulations to NMFS offering solutions which could be adopted by NMFS in the regulatory process to solve this problem but we are not encouraged that NMFS is receptive even though the new program will take away all individual incentives to avoid halibut.

It is our hope the NPFMC will direct NMFS to solve the problem for 2013 and beyond in the regulatory process so we can continue 100% observer coverage at our own expense to maintain the individual incentives to avoid halibut thereby preventing unnecessary waste of the halibut resource. In the alternative we ask the Council to take emergency action to make 100% observer coverage possible for the AFA Cod CV fleet in the 2013 season.

As described above, the ability of AFA catcher vessels in the cod fishery to maintain 100% observer coverage is necessary to continue the rationalization that has been achieved and to continue and improve on the conservation of halibut bycatch.

Sincerely,

David Jincks
President

David Jincks, President
880 E. Bay Blvd * Newport, OR 97365 * (541) 265-9317 * Fax 265.4557 * Email: jincks@pioneer.net

Gustavus, Alaska
Sept. 25, 2012

Eric Olson, Chair
North Pacific Fishery Management Council

Re: Expanded Observer program for the Gulf of Alaska

Dear Chairman Olson:

I am a resident of a small coastal town in Southeast Alaska. I have done a small amount of commercial fishing in the past and presently fish salmon and halibut for personal use. I have been active on halibut bycatch issues, especially in regard to halibut.

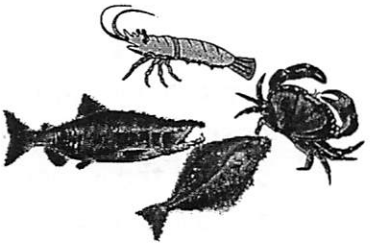
I hoped for improved Observer coverage to improve the quality of Gulf of Alaska bycatch data, especially for bycatch of halibut, salmon, and tanner crab. However, it sounds as though the program planned 2013 for fishing vessels in the GOA may do little to improve the quality of bycatch data while requiring some smaller boats to carry an extra person aboard even though they fish with gear types that are unlikely to have significant bycatch. Instead of using a random process to require a sample of all gear types, equally, to carry observers, the observer requirement should be focused on the gear types with bycatch concerns, notably GOA trawl fisheries.

I am aware of how difficult it is to carry an extra person (an Observer) aboard smaller fishing boats that in most cases are already using every square foot of space for work and crew living. Consequently Electronic Monitoring seems a much preferable way for fisheries management agencies to obtain needed data. Unfortunately, it appears that for 2013 electronic monitoring systems will be little deployed, leaving boats in the 40 to 57.5 ft. range in the position of having to carry a human observer.

Thank you for your attention.

Judy Brakel Box 94, Gustavus, AK 907-697-2287

Southeast Alaska Fishermen's Alliance
9369 North Douglas Highway
Juneau, AK 99801
Phone: 907-586-6652 Email: seafa@gci.net
Fax: 907-523-1168 Website: http://www.seafa.org



September 25, 2012

North Pacific Fishery Management Council
605 W. 4th Avenue, Suite 306
Anchorage, AK 99501-2252

RE: C-3 Observer Program

Dear Eric Olson, Chair and Council Members,

First we would like to preface that our comments are all based on September 5, 2012 draft annual deployment plan (ADP) and the materials in front of the OAC on September 17-18, 2012. It is extremely difficult to comment on the Deployment plan and the actual effects when the amount of deployment and how it will be divided between the vessel selection pool and trip selection pools are still unknown. Also unknown at this time is when and what will be published in the final rule.

The Restructured Observer Program and Deployment Plan are still not considering the differences in the small boats compared to the current vessels being observed. All along the organizations with small vessels previously unobserved have not said no to the observation program but have asked for a program that will work for our fleets while providing the information that we were told was needed for our fleet – estimation of discards or total catch estimation. It still does not seem that a workable system or "low and slow" as the Council stated it's intention was on the previously unobserved fleet will occur.

Electronic Monitoring

SEAFA was appalled to read in the ADP that the integrated EM program

was reduced down to the equivalent of a voluntary program for enforcement and compliance for rockfish retention where you might also have a human observer onboard (page 14). The small boat organizations have quite clearly stated throughout the Council process that we needed EM as an alternative to having a human observer onboard to make this program work for us. NMFS wrote a letter to the Council dated 5/31/12 to update the Council on the efforts and objectives to integrate EM into the restructure observer program by 2013. In this letter it stated, "The Council's October 2011 motion clarified the Council's goal of integrating EM into the Observer Program as an alternative tool for meeting program requirements and urged NMFS to advance in that direction." and "Our goal for a fully-integrated EM program in the North Pacific includes obtaining quality effort (location and quantity of gear set) and catch composition information from EM-observed vessels." It seems that while in May they were working towards the goals as it was generally understood, what was written in the ADP was for compliance monitoring instead.

The OAC Committee is recommending that the Management Objective be re-stated for the 2013 EM pilot project and to work with industry in the development of the management objective. SEAFA supports these OAC recommendations as well as **strongly supporting the recommendation that the Council request that NMFS initiate the development of a strategic planning document for EM.**

2013 Deployment Plan

Without a useable EM program in place in 2013, placing observers onboard for all fishing trips in a quarter for a previously unobserved vessel will be onerous and not the low and slow coverage that has been discussed during the Council process. **The OAC provided two possible suggestions, monthly notification and deployment, or 30 out of 90 days.**

The ADP is still short on details on the vessel selection pool and how various aspects will work. While we understand the desire to not put this information in regulation so that you have the flexibility to adapt, at some point minimum guidelines do need to be developed and available to the affected fishermen. The implication through the council process was that the deployment plan would have this information. What is the time frame

commitment to provide notice of a trip once you state that you are fishing for the quarter you were selected for? We would clarify that our intent as a member of the OAC regarding the not-displacing crew is important but there can and will be additional reasons for a vessel to request no human observer onboard (i.e crew displacement is not the only acceptable reason) and consideration on a case by case basis needs to be allowed. What is the waiver process for both vessel and trip selection pool? Who will actually be responsible for giving the waiver for both the vessel and trip selection pools and will the process occur on weekends?

The OAC picked up on page 7, recommendation #2 a problem with the 30 day notice and 2 week reply but the issue is greater than just those vessels asking for a relief from a human observer. All vessels in the vessel selection pool must respond within two weeks of the start of the quarter. Many of the vessels will not receive their mail within a month timeframe let alone respond within the small window provided. We agree with the OAC recommendation to provide longer notice time period. As a separate issue we would note that the inspection of a vessel that states it cannot take an observer does not need to occur within the 2 weeks prior to the quarter start but prior to actually fishing.

We would provide the observation that under recommendation #7 regarding the request of the BSAI Pacific Cod to maintain 100% coverage could have been addressed if the program had gone as had been implied during the Council process with the intent of the Council to direct observer coverage where needed and by priority rather than an equal rate random sampling. **Somewhere this program has lost several important aspects such as cost effectiveness, getting coverage where desired and needed, and not wasting resources on small poundage trips and vessels.** Under the current program in the draft APD you may be assigning for a quarterly monitoring a vessel that may hold only 49 pounds of quota share and that trip would have to be observed.

Overall, **SEAFA supports all recommendations provided in the OAC report.** While we have accepted observer coverage even against our members wishes we believe that due consideration of logistics has still not been given to the previously unobserved fleet for a program that will work.

We will be at the Council meeting the first three days on halibut charter issues but will not be able to stay for the Observer Program discussion but would be willing and available to speak to any council members while we are there.

Sincerely,

Kathy Hansen
Executive Director

Subject: Comment Letter on Agenda Item C-3 (b)-Receive OAC Report
From: "NIKOLAI A SIVERTSTOL" <NIKELAI1@COMCAST.NET>
Date: 9/25/2012 2:54 PM
To: <npfmc.comments@noaa.gov>

To whom it may concern:

It is my pleasure to submit the enclosed letter on behalf of Mr. Oystein Lone. Mr. Lone is owner/operator of FV Pacific Sounder. The letter addresses Agenda Item C-3(b) - Receive OAC Report. We sincerely hope for the Council's positive consideration, as the issue at hand could have a profound impact on our business.

Mr. Lone is currently on the fishing grounds, targeting sablefish. In his absence, he has asked that I submit this letter to the Council. I am the bookkeeper for FV Pacific Sounder, and take care of the company's shore-side presence when Mr. Lone is out fishing.

Sincerely,

Nikolai A Sivertstol
Accountant
FV PACIFIC SOUNDER
LONE LARSEN LLC
Office: 206.784.7766
Cell: 206.276.6906

—Attachments:

LETTER OBERVER PROGRAM 061612.pdf	658 KB

June 15, 2012

Mr. Glenn Merrill
Assistant Regional Administrator
Sustainable Fisheries Division
NMFS, Alaska Region
P.O. Box 21668
Juneau, Alaska 99802-1668

Attention: Ellen Sebastian

FDMS Docket Number NOAA-NMFS-2011-0210

My name is Oystein Lone and I am an operator and co-owner of the *F/V Pacific Sounder*. It is a 98 ft. vessel home-ported in Dutch Harbor, Alaska. The vessel fishes for crab & pot cod in the fall and winter. It is then converted into a long-lining catcher/processor for blast-frozen black cod, turbot, and iced halibut for the Aleutian Islands and Bering Sea in the spring, summer, and early fall. Altogether we keep the boat fishing for roughly 285 days per year. We use the rest of the year for shipyard, repairs, and maintenance. The vessel employs a crew of 5 deckhands and we usually use the same crew for crab and long lining. This boat was purchased in 2011 and we are just getting this business off the ground. We are writing to let you know of our concern regarding the proposed changes to the North Pacific observer program. These changes will have a significant impact on our business and we feel that NMFS should be made aware of these impacts.

We do not qualify for the 5,000# catch per day, partial observer coverage because the qualifying period is from 2003 to 2010 and our business started in 2011. Also, we do more than 1 metric ton of round fish per day, which prevents us from qualifying for the partial observer coverage. Operating as catcher/processor part-time pushes us into having 100% coverage at all times - for any Federal fishing. Traveling, offloading, and fishing would all have to be observed now. We are in a unique position because we operate as a catcher vessel for crab & pot cod but as a catcher/processor for sablefish and groundfish. Plus we operate with a small crew like a catcher boat. We are not aware of any other vessels that are in this situation.

If our boat were one of the larger catcher/processors and we had enough cod quota to fish year round, we could absorb the costs of the additional observer coverage. As of now we are paying 1.7% out of our Gross to pay observer costs, after this ruling goes into effect we will have to pay 5.7% of our gross to pay for observer coverage, and that is just Sablefish and Turbot/Halibut. If we fish catcher Pot Cod that rate would go up another 1% to 1.5% depending on length of season.

The proposed rule states that if you do any catcher/processor work during the year you need 100% observer coverage for all federal fishing whether acting as a catcher vessel only or as a C/P. This means that we need to have 100% coverage while

we are fishing pot cod. At that point, any profit we would have goes away and we will be forced out of that fishery as well. We are concerned that the regulations, as proposed, have not adequately considered the financial implications for smaller, multi-species vessels such as the *F/V Pacific Sounder.*

We have been strapped down last year trying to comply with laws from EPA and the Coast Guard ACSA program and have been forced to improve communications for daily reporting. This has all cost us a lot of money. Being a small boat owner, we are just trying to make a decent living for the crew, my partner and myself while still having enough profit to also keep up with vessel maintenance. We continually have to pay out money to keep up with regulations. This is extremely difficult for a small business such as ours. We would hope that public policy would be shaped to help small businesses such as ours to thrive, rather than forcing us out of business.

I have been fishing in Alaska for over 30 years. I have gone from working on deck, to running the wheelhouse, to owning my own boat. I am asking you to please look into this new ruling and to try to come up with a solution that will allow me to keep my business. Below I have listed some information on current expenses, new expenses due to the ruling and also some options as a solution.

Current Costs: As operator/owner *F/V Pacific Sounder* with 30% coverage, our

2011 Observer Fee's are roughly $33,165. This includes the fee of $375 per day, airfare of $3,600 and food at $30 per day.

Costs under Proposed Rule: 100% coverage total fee's - $102,825. At $375 per day it would come to $91,875 plus airfare and food. Please note, this calculation does not include fishing for pot cod as it would not be economically feasible for us to continue with that under the proposed regulations. Generally that would add another 30-40 days of fishing per year.

Here are a few options that I have come up with:

1. Extend the access period, which is currently 2003-2010, to 2012 or eliminate the control date altogether.
2. Raise the 1 metric ton limit to 4.5 metric tons per day
3. Eliminate the 100% observer time to vessels carrying a crew of 7 or less

If you have any questions or would like to speak with me you can reach me on the boat at 206-965-9539 or via email at pacificsounder@gmail.com. Thank you.

Sincerely,

Oystein Lone, owner/operator
F/V Pacific Sounder

Dave Kubiak
PO Box 193
Kodiak, Alaska 99615

September 24, 2012

North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501-2252

Re: Agenda Item C-3: Restructured Observer Program

Dear Chairman Olson and members of the Council:

I am a halibut fisherman from Kodiak. I have fished salmon, cod, crab, herring, and halibut as crew since 1961 and run my own boat since 1981.

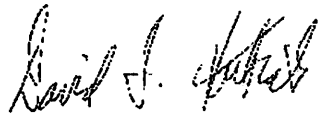
The restructured observer plan, as I understand it, is a big disappointment to me. The group that all this observer concern was to address, the trawlers, will have no greater coverage. Yet this is the problem that restructuring does not address. It seems that mission drift has occurred and restructuring has become disoriented and muddled. While getting bycatch data on all groups is useful, it is not the main problem.

Where is the electronic monitoring we were promised? The restructuring program without the electronic monitoring is a failure out of the box.

Many of us who will be in the pool to be monitored by observers do not operate in an industrial mode. We fish with family, we fish depending on weather, we fish on small platforms with no room for observers to set up shop, no extra bunks, no heads, no showers. With our small boats we have to make weather holds often, and as I understand it, we will have to schedule our trips in order to have the observer ready to go with us. If we call a weather hold, we lose their coverage and can't leave. This just won't work.

Please re-examine the observer restructuring, (I heard your pushback at the June meeting in Kodiak against PVOA) because as presented, it will not work for me and it will not produce the better data on trawlers, where the biggest problems with gaming bycatch occur.

Sincerely,



Dave Kubiak

Paul Olson, Attorney-at-Law
606 Merrill Street
Sitka, AK 99835
(907) 738-2400
polsonlaw@gmail.com

September 25, 2012

North Pacific Fishery Management Council
Eric Olson, Chairman
npfmc.comments@noaa.gov

Re: Agenda Item C-3, Observer Program Draft Deployment Plan

Dear Chair Olson:

Thank you for the opportunity to comment on the observer deployment plan. I submit the following comments on behalf of The Boat Company (TBC). TBC is a tax exempt, charitable, education foundation with a long history of operating in southeast Alaska. TBC and other stakeholders understood that a key motivation for observer program restructuring was to resolve longstanding concerns about the accuracy of data for trawl bycatch of Chinook, halibut and crab in the Gulf of Alaska (GOA). However, the draft deployment does not demonstrate an adequate commitment to resolving this issue and the restructured program appears unlikely to realize these objectives. While specific details are not available for public comment, the program design does not propose to increase coverage for fisheries with significant bycatch concerns – particularly GOA trawl fisheries. Given uncertainties about the viability of the ex-vessel fee funding mechanism, it appears that there is significant possibility that coverage levels would actually decrease under the "equal rate" approach indicated in the draft deployment plan.

TBC therefore submits that for the immediate future, the North Pacific Fisheries Management Council (hereinafter "the Council") should provide NMFS with sufficient direction to ensure that deployment plans prioritize and provide for extended periods of100% observer coverage for GOA trawl fisheries. High coverage levels are necessary because of the volume of removals, the likelihood that current data substantially underestimate bycatch levels and the unacceptably high variability of bycatch estimates at coverage levels of 30% or less. There is an urgent need to acquire comprehensive bycatch data on these fisheries and the deployment plan should reflect NMFS's previously stated intent to minimize or defer implementation of the program for particularly those fixed gear vessels less than 57.5 feet LOA until such time as an electronic monitoring option is available to meet additional data collection needs.

TBC's primary interest in the restructured observer program pertains to whether it implements sufficient coverage that is essential to addressing uncertainties with regard to the volume and cumulative effects of halibut, crab and Chinook bycatch on long-term conservation of those resources. A significant concern regarding declines in these populations is the absence of a monitoring program that accurately and precisely quantifies bycatch. There are a number of independent and agency studies showing that fishery managers need to tailor performance standards and coverage levels on a fishery and species-specific basis. The draft deployment plan, however,

fails to reflect the need for higher levels of coverage for fisheries that have significant levels of bycatch of commercially, recreationally and culturally significant species that are currently exhibiting significant and declining population trends.

TBC thus also encourages the North Pacific Fisheries Management Council (hereinafter "the Council") to direct NMFS staff to develop fishery specific standards and improve the deployment plan so that the restructured program mirrors similar efforts by other fishery managers to implement high levels of observer coverage that respond to the scale and variability of trawl bycatch as well as the impacts on other users of these important fishery resources. Based on the draft deployment plan, it appears that there will be randomization of observer coverage of trawl fisheries but overall coverage may actually decrease to divert observer effort to lower impact, smaller vessel fisheries with data collection needs that could be met in other ways. This is an unfortunate result and the Council should not approve the deployment plan without significant changes to appropriately guide observer allocations.

General Comments on the Draft Deployment Plan

TBC's comments on the proposed rule expressed the concern that it did not satisfy the requirement to establish a standardized bycatch reporting methodology since NMFS had opted to defer many of the details to the deployment plans. At this point, the draft plan still does not adequately demonstrate a commitment to acquiring comprehensive data on trawl bycatch. Because NMFS needs to manage these fisheries with real time data and PSC limit constraints and because of the uncertainty regarding the scale and composition of halibut, crab and Chinook removals, TBC expected that the deployment plan would reflect these data collection needs.[1] Instead, the specific details await final contracts and will not be available until after the close of the electronic public comment period for the October NPFMC meeting in Anchorage.

TBC also encouraged NMFS to develop fishery and species-specific standards to guide observer coverage allocations. The draft deployment plan instead adopted an approach that provides for equal coverage between two vessel class sizes regardless of fishery sector, fishing vessel capability to accommodate human observers, inseason management needs or bycatch levels. TBC thus requests that the Council carefully review the rationale and management direction for the partial coverage fleet provided on pages 7 and 8 of the draft deployment plan. NMFS intends to "allocate observer effort among trips in the trip-selection stratum and among vessels in the vessel selection stratum at an equal rate." TBC submits that the data collection needs and impacts from the vessel selection stratum are quite different, and that the explanations in the draft deployment plan for the equal rate observer allocations merit further scrutiny. The levels of accuracy and precision necessary to achieve reliable data for catch estimates, discards and rare species encounter differ by species and by fishery. But the approach in the deployment plan does not reflect an effort to deploy observers based on fishery and species-specific data needs.

NMFS also rejected an approach that would "adjust the probability of observer coverage to reflect the relative size of the fleet, either in terms of effort (trip length,

[1] The draft deployment plan acknowledges that greater in-season data specificity is necessary for fisheries operating under PSC caps (the full-coverage fleet) but does not adequately address why some PSC-limited fisheries require higher levels of coverage and others do not.

vessel size) or impact to the marine resource (magnitude of catch, or catch histories for example" based on a preference for equal probability sampling. This rationale fails to consider that NMFS can implement equal probability sampling for each major fishery gear group and target sampling effort on fisheries that have a significantly higher magnitude of impact on marine resources. The draft document cites studies finding that equal probability sampling was preferable given the costs of other methods that would achieve potentially more accurate estimates. It is important to note that, according to the online abstracts, those equal probability sampling studies were exclusive to trawl fisheries in Europe. As a result, it seems a stretch to use those results to guide observer coverage allocations between small vessels that may harvest ten or twenty thousand pounds of halibut in a year and large vessels that may catch and discard that many halibut or more in a single tow. Other observer programs in the United States have recognized that when fleets are diverse, it is necessary to stratify trips into fleet sectors with similar characteristics and it is disappointing that such an effort was not made in the draft deployment plan.

Further, one of the studies cited in the draft deployment plan actually used a vessel selection approach based on magnitude of catch – this method maximizes the information for each observer day at sea. If anything, this suggests that it would be wasteful to allocate equal coverage to small fixed gear vessels for most management objectives. The literature on the accuracy and precision of observer collected data is replete with references to the need for more accuracy and precision for fisheries managed in-season with bycatch limits. These management needs are not applicable to the IFQ fisheries. Similarly, the trawl fisheries have much higher impacts on a broader number of species of concern. Consequently, it does not make sense to monitor these fisheries at an equal rate.

Finally, the draft deployment plan also rejects "the preferential assignment of observers into fleet sectors that are perceived to have a greater potential to impact or encounter species whose populations are of special concern" on the ground that such preferential assignment may not yield better data or better meet management needs. This statement does not reflect the findings of independent scientific reviews and NMFS's own national guidance which emphasize higher levels of observer coverage for species of concern, particularly when encounter rates are highly variable. While the draft deployment plan suggests that there are differing constituent views on species of concern, there is widespread concern among diverse constituencies about the lack of data on commercially, recreationally and culturally significant halibut, crab and Chinook populations. These fish and shellfish merit special attention because of ongoing resource concerns and because of the lack of data on trawl fishery impacts.

In sum, the deployment plan needs more work to guide observer day allocations between fishery gear groups, sectors and species-specific data collection needs through a prioritization process. In the environmental assessment for the restructured program, NMFS stated that it would "need to prioritize the observer days that are available, given the funding level and the strata that have mandatory coverage, and assign them to the strata that yield the greatest benefit." But the decision to place observers on smaller fixed gear vessels and larger trawl vessels at an equal rate does not reflect an appropriate prioritization for observer coverage and the Council should direct NMFS staff to correct this problem before moving forward with a final deployment plan.

Halibut and Chinook Species of Concern: The Deployment Plan Needs to Ensure Higher Levels of Observer Coverage for Areas and Seasons of High Chinook Bycatch and to Monitor Halibut PSC

TBC's view is that an initial and ongoing emphasis on 100 percent observer coverage for many trawl fisheries is necessary to address significant uncertainties with current Chinook and halibut PSC estimates and impacts to specific populations. In cases where low levels of mortality may jeopardize the recovery of threatened or endangered species, increased precision can be necessary to determine incidental mortality. For example, 100 percent coverage is required in a number of U.S fisheries, at times on a seasonal basis, to measure interactions.

First, the draft deployment plan does not provide specific direction that can provide statistically reliable and data relevant to interactions with ESA listed Chinook and depleted local populations in the pollock trawl fishery. Further, the work done on Chinook PSC limit reductions demonstrates a high level of variability in bycatch, and for this reason high levels of coverage are appropriate to measure impacts on Alaska Chinook stocks as well as ESA listed stocks.

GOA coverage rates for pollock trawl fisheries have been comparatively low in respect to BSAI pollock trawl fisheries. The observed portion of the catch in the GOA ranged from 32 to 37 percent between 2004 and 2007 while BSAI coverage ranged between 86 and 95 percent.[2] Scientists have not been able to estimate impacts of GOA groundfish fisheries on western Alaska or other stocks of Pacific salmon.[3] The observation levels are so low that it is impossible to monitor bycatch hot spots as has been done for the BSAI fleet.[4]

A dedicated commitment to acquire better data about Chinook stock composition and bycatch levels in the trawl fishery is critical in light of potential impacts on local population depletions. The acting Secretary of Commerce announced a disaster declaration for major Alaskan king salmon fisheries this past week. It is likely that pollock trawl fisheries have played a significant role in the declines of Yukon River Chinook fisheries.[5] There are similar concerns regarding GOA Chinook populations. Kodiak's Ayakulik and Karluk River stocks have consistently failed to achieve escapement goals in recent years.[6] Cook Inlet, Kenai Peninsula and Prince of William Sound Chinook stocks have had similar escapement problems over the past five years and the Alaska Department of Fish and Game is significantly restricting sport fishing on many of these river systems again this year to account for below-average returns.[7]

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[2] GOA Chinook Salmon Bycatch Discussion Paper, November 2010 at 4.
[3] Witherell, D., D. Ackely & C. Coon. 2002. An Overview of Salmon Bycatch in Alaska Groundfish Fisheries. Reprinted from the Alaska Fishery Research Bulletin, Vol. 9, No. 1, Summer 2002 at 62.
[4] *Id.* at 61.
[5] Heard, H.R., E Shevlyakov, O.V. Zikunov and R.E. McNicol. 2007. Chinook salmon – trends in abundance and biological characteristics. N. Pac. Andr. Fish Comm. Bull. 4:77-91.
[6] GOA Chinook Salmon Bycatch Discussion Paper, November 2010 at 19 – 20.
[7] *See* Alaska Department of Fish and Game emergency regulations for 2012; *available at* www.adfg.alaska.gov/index.cfm?adfg=fishingSportFishingInfo.R2&year_2012.

The prevailing hypothesis is that these failures are caused by something occurring in the ocean rather than freshwater habitat conditions.[8]

It is possible to provide for management measures that specifically respond to concerns about Chinook bycatch in GOA trawl fisheries. For example, Amendment 91 for the Bering Sea Chinook bycatch program established 100 percent observer coverage and requires a census of Chinook salmon in every haul or fishing trip.[9] Amendment 91 requires that "all salmon bycatch taken in the Bering Sea Pollock fishery be sorted by species and counted to ensure compliance with the salmon bycatch caps for the Pollock fishery."[10] Stock composition estimates of the Chinook salmon bycatch are needed for fishery managers to understand whether the trawl fisheries may be impacting salmon returns.[11] Given the recent fluctuations in GOA Chinook bycatch in the trawl fisheries, including peak years of exceeding PSC limits, the deployment plan needs to prioritize observer coverage at levels well above the 30 percent. It is probably necessary to adopt a census approach for Chinook bycatch in light of the salmon crisis in southcentral and western Alaska given current data deficiencies.

TBC submits that the deployment plan also needed to demonstrate a dedicated effort to implement 100% observer coverage for, at minimum, those GOA trawl fisheries with high levels of halibut bycatch. This conforms to the recommendations of expert scientists from the International Pacific Halibut Commission (IPHC) and other trawl fishery observer programs. The IPHC has expressed serious concerns about the long term health of the halibut resource and how trawl bycatch – particularly of juvenile halibut - affects the ability of the resource to recover from the current and steep decline in the exploitable biomass. The IPHC has also stated that improved estimation of halibut bycatch mortality is more important in the GOA than in the BSAI fisheries because the ratio of halibut mortality to groundfish catch is more than twice as high.[12] Current estimates are thought to be at best only minimum estimates of total halibut mortality. The IPHC's recent harvest rate reductions in area 3B reflect an inadequate knowledge of bycatch mortality because the data deficiencies are a source of uncertainty in understanding stock dynamics and determining appropriate yield.[13]

The level of precision needed to measure halibut bycatch is quite high because of resource uncertainties, the volume of halibut taken as bycatch and the variability of bycatch rates. [14] To address these concerns, Areas 2A (Washington, Oregon and California coasts), 2B (British Columbia) and 4 (Bering Sea/Aleutian Islands) all implement 100 percent observer coverage for trawl fisheries.[15] Canada has a

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[8] *See* http://www.adn.com/2012/06/23/2517571/decline-in-king-salmon-is-rooted.html (indicating that trawl bycatch is one of those ocean "conditions" thought to be responsible for the crisis).

[9] 75 Fed. Reg. at 53030.

[10] NOAA NMFS Tech Memo AFSC-232 at 13.

[11] *Id.*.

[12] IPHC, 2011. Effect of reducing bycatch limits in the Gulf of Alaska on the halibut exploitable biomass and spawning potential, including downstream effects from halibut migration at 2-3. March 2011 at 2 – 3.

[13] *Id.*

[14] Babcock et al, at 12 (citing Karp and McElderry 1999).

[15] Williams, G. 2011.

comprehensive, industry funded 100 percent port monitoring program and a joint-industry/Department funded at-sea observer program that requires 100 percent observer coverage for all trawl fisheries except mid-water hake trips.[16]

The Council should also consider 100% observer coverage as one of the tools necessary to meet bycatch reduction directives in the Magnuson Stevens Act. At the recent NPFMC/IPHC workshop on halibut bycatch, fishery managers from British Columbia and the Pacific Northwest who implement 100 percent coverage programs cited the coverage level as a specific tool to minimize bycatch in trawl fisheries.[17] Amendment 80 vessels in Alaska also achieved 40 percent halibut bycatch reductions during implementation of the 200 percent observer coverage program.[18] Cited improvements included changed fishing patterns such as exploratory tows and shorter tow lengths.[19] Canadian fishery managers also cited more careful handling practices that have reduced bycatch mortality rates to levels well below GOA counterparts. In sum, 100 percent observer coverage is a primary tool to meet the obligation to minimize bycatch because increased observer coverage decreases actual bycatch and decreases release mortalities.

The deployment plan would thus benefit from a sector by sector analysis of specific trawl fisheries that require high levels of coverage to monitor halibut bycatch. For example, the shallow water flatfish fishery includes 24 boats that on average killed 18 metric tons of halibut while harvesting 231 metric tons of flatfish. The true extent of bycatch and mortality estimates is unclear - in 2010, less than 1% of the shallow-water flatfish catch was sampled by observers.[20] Given the absence of meaningful baseline data for the shallow water flatfish and other GOA trawl fisheries, TBC requests that the Council direct NMFS to prioritize these fisheries in initial observer allocations in the final deployment plan.

Performance Standards Must Reflect Fishery and Species-Specific Coverage Needs

TBC's view is that 100% observer coverage – essentially, a census approach – is necessary for many GOA trawl fisheries. However, the approach taken in the draft deployment plan still does not demonstrate an adequate consideration of even lower coverage levels that respond to NMFS's national programmatic guidance and other reviews that look at the precision of estimates derived from observer collected data. Consequently, the draft deployment plan does not provide any assurance that observer coverage levels of less than 50% will be adequate to obtain sufficiently precise estimates of salmon, crab and halibut bycatch in partial coverage trawl fisheries using NMFS's own standards. NMFS measures the precision of bycatch estimates by coefficients of variation.[21] In essence, the coefficient of variation refers to the extent to

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[16] Fisheries and Oceans Canada, Pacific Region Integrated Fisheries Management Plan, Groundfish, February 21, 2011 to February 20, 2013 at 35 - 37.
[17] NPFMC/NMFS 2012 at 17.
[18] *Id.*
[19] *Id.*
[20] Turnock, B. et al. 2011. Assessment of the Shallow-water Flatfish Complex in the Gulf of Alaska for 2012, Table 4.A.2.
[21] NMFS. 2004. Evaluating bycatch: a national approach to standardized bycatch monitoring programs. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/SPO-66, 108 p. at 35. Please

which bycatch estimates would vary in repeated sampling.[22] Smaller coefficients of variation mean that the estimate is more precise; for example, a 0 percent coefficient of variation means that there is no variance and that there are no errors if the estimation is unbiased. A 30% coefficient of variation means that the size of the standard deviation is 30% as large as the estimate. In others words, if the coefficient of variation for halibut bycatch is 30%, the actual halibut PSC in a sampled fisheries could easily exceed the 2,000 mt GOA limit by 600mt.

The coefficient of variation is important for observer programs because it informs deployment allocation decisions. Low levels of observer coverage generally yield high levels of error for both target species and bycatch.[23] In general, national guidance for NMFS's observer programs recommends a precision goal in the range of 20 – 30% coefficient of variation for protected species and fishery resources.[24] The rationale for this performance standard derives from studies showing that for target species and some bycatch species, error decreases rapidly up to 30% observer coverage levels and then decreases more slowly with further coverage increases.[25] In other words, in many cases, NMFS position is that the benefit of increasing precision through increased observer coverage is generally outweighed by the costs of increased coverage at a 30% coefficient of variation for many species and fisheries.[26]

However, NMFS national guidance on bycatch reporting methodologies does recognize that there are cases where higher levels of precision are important such as for protected species or when the benefits of additional coverage reflect important management objectives and justify the additional costs. Higher precision is particularly important for bycatch species such as salmon. NMFS scientists have found that variability of salmon bycatch estimates in BSAI pollock fisheries was high until haul sampling rates reached 50 to 70 % coverage levels.[27]

But the draft deployment plan and the environmental assessment for this restructured program do not clearly specify a precision performance standard. More importantly, they do not demonstrate an effort to develop fishery- and species-specific coefficients

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note that in the literature, coefficient of variation is usually abbreviated as CV. To avoid confusion, it is not abbreviated in this letter as CV is primarily used in the supporting documentation for the restructured program to refer to catcher vessels.

[22] NMFS. 2004 at 47.

[23] Dorn, M.W., S.K. Gaichas, S.M. Fitzgerald, and S.A. Bibb. 1997a. Evaluation of haul weight estimation procedures used by at-sea observers in pollock fisheries off Alaska. NOAA National Marine Fisheries Service, AFSC Processed Report 97-07; Dorn, M.W., J. Ianelli, and S. Gaichas. 1997b. Uncertainty in estimates of total catch for target and bycatch species at varying observer coverage levels in the Alaska Groundfish Fisheries. Unpublished manuscript. Alaska Fisheries Science Center.

[24] NMFS. 2004.

[25] *Id.*; *see also* Volstad, J.H., W. Richkus, S. Gaurin, and R. Easton. 1997. Analytical and statistical review of procedures for the collection and analysis of commercial fishery data used for management and assessment of groundfish stocks in the U.S. exclusive economic zone off Alaska. Final Report to NOAA NMFS North Pacific Groundfish Observer Program. Versar, Inc.

[26] NMFS 2004 at 57 – 60.

[27] Turnock, J. and W. Karp. 1997. Estimation of salmon bycatch in the 1995 pollock fishery in the Bering Sea/Aleutian Islands: A comparison of methods based on observer sampling and counts of salmn retained by fishing vessel and processing plant personnel. Unpublished report.

of variation. The deployment plan does not implement specific observer coverage levels that correspond to those measurements in order to account for the bycatch of species where higher precision is necessary to address estimate variation and management objectives for protected species and PSC limits. Consequently, there is no clear guidance to ensure that observer allocations will be sufficient to achieve even a 30% coefficient of variation performance standard and more importantly, the fishery- and species specific performance standards that are necessary to account for critical bycatch species.

The omission of fishery- and species-specific performance standards is disappointing because during the 1990s, the Alaska Fisheries Science Center (AFSC) and contracted scientists calculated the CV values at different coverage levels for BSAI fisheries and the results generally indicated that 30 percent observer coverage levels are inadequate to achieve precision in the range of a 20 - 30% coefficient of variation performance standard in catch estimates for many species.[28] The studies showed that "the coverage required for any [coefficient of variation] performance standards varies widely between the species in a fishery."[29] In many cases, observer coverage levels of 50 to 80% were necessary to meet the performance standard. Other prior work indicated significant variability in samples obtained from fleets with high coverage levels, suggesting that NMFS had enough prior information to prescribe haul-specific coverage levels of 50 to 70 percent.[30] The table below displays some of the information provided in the environmental assessment for the restructured program from 1990s studies conducted in the Bering Sea. Lower coefficient of variation numbers reflect more precise estimates.

Fishery and Bycatch Species	Observer Coverage Required for a 20% coefficient of variation	Coefficient of variation at 30% observer coverage levels
BS Cod Bottom Trawl: Tanner Crab	70%	.45 (45%)

[28] NMFS. 2011. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 86 to the Fishery Management Plan for Groundfish of the Bering Sea/Aleutian Islands Management Area and Amendment 76 to the Fishery Management Plan for Groundfish of the Gulf of Alaska. Pp. 173 – 174.

[29] *Id.*

[30] Karp, W.A. & H. McElderry. 1999 Catch Monitoring by Fisheries Observers in the United States and Canada. Nolan, C.P., ed. Proceedings of the International Conference on Integrated Fisheries Monitoring. Sydney, Aus. February 1999. Pp. 261 – 284.

BSAI Pollock A Season: Chinook salmon	50	.39
BSAI Pollock A Season: other salmon	80	.53
BSAI Pollock B Season: Chinook Salmon	60	.36
BSAI Yellowfin Sole: Halibut	60	.32
BSAI Yellowfin Sole: King Crab	80 - 90	.59 – 61
BS Flatfish trawl: Halibut	40	.28

The AFSC studies are consistent with other independent reviews showing that statistically reliable estimates require higher levels of observer coverage for rare species or species with highly variable catch rates such as crab or Chinook.[31] A 2003 study ran simulations to measure the level of observer coverage necessary to achieve a specified level of accuracy and precision and concluded that unless managers can show that lower levels provide sufficient precision and accuracy, "if the bycatch species is rare, observer programs should adopt coverage levels of at least 50%." [32] A 2007 review of the 30% coefficient of variation standard as used by the mid-Atlantic

[31] Babock, E. & E. Pikitch. 2003. How Much Observer Coverage is Enough to Adequately Assess Bycatch? Oceana, Washington D.C. at 5.
[32] *Id.*

and New England Fishery Management Councils indicates that even that performance standard could yield imprecise estimates for various management objectives that include bycatch monitoring:

> [Coefficient of variations] of 30% in a catch estimate would produce a high amount of error variability in catch estimates on an interannual basis. Most common stock assessment methods such as VPA, catchage, and surplus production models assume that catch is known without error. This is never the case, but in many fisheries, catch seems to be estimated with fairly high precision and this assumption is not badly violated. However, should the CV in the total catch approach 30%, this could cause the results from the methods and recommended TACs to vary quite a bit from year to year, and also create a serious source of stock assessment error. The effect of error variability in landings estimates on stock assessment and management performance in TAC systems has to my knowledge rarely been evaluated. Thus, the effect of a 30% CV in bycatch and possibly landing estimates could conceivably be expected to lead to a source of bias in stock assessments and the TAC recommendations that come out of them.[33]

NMFS acknowledged that it would require 78% observer coverage levels to achieve a 20% coefficient of variation for the fisheries covered in the studies.[34] The agency then explains that funding or logistical constraints make this difficult and that there must be filters to govern allocations. But the draft deployment plan does not demonstrate an effort to ensure that coverage levels correspond to performance standards for precision. TBC submits that the Council should direct NMFS staff to prioritize coverage levels that can assure acceptable levels of error for key bycatch species.

Accuracy: The Need for Coverage Levels to Reduce Observer Bias

A related problem is that a coefficient of variation standard can be meaningless if the data sample, even a random sample, is biased – that is not representative of the fishery. NMFS has not provided enough information to show how bycatch estimates will account for relevant biases – particularly the observer effect. NMFS states that unbiased estimates require either 100% observer coverage or random sampling.[35] But bias can be significant at low coverage levels and the draft deployment plan did not adequately assess variances associated with bias at coverage levels likely to be implemented under the restructured program.[36] Even levels of coverage below 100 percent can bias total bycatch estimates.[37]

Observers affect decisions about where to fish, what to target, how to deploy gear and how crew members handle bycatch species. Most comparisons of landings and trip data from observed and unobserved trips show variations, particularly in spatial distribution.[38] Researchers have identified significant differences in particular from groundfish trawl fisheries showing that observed data is not representative of the fleet as a whole.[39] This means that bycatch rates estimated from observed trips may not

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[33] McAllister, M.K., 2007. Review of the Northeast Regional Standardized Bycatch Reporting Methodology. Lenfest Ocean Program.
[34] NMFS 2011 at 177.
[35] *Id.* at 155.
[36] Babock et al. at 6.
[37] *Id.* at 7.
[38] McAllister, 2007; *see also* NPFMC/IPHC 2012 at 10 – 11.
[39] Sampson, 2002. Final Report to the Oregon Trawl Commission on Analysis of Data from the At –Sea Data Collection Report. Oregon State University, Newport, Oregon.

accurately reflect overall bycatch rates and can bias estimates.[40] Researchers have concluded that true random vessel selection is very difficult, and that 30 percent coverage levels may only be adequate to ensure representative sampling *if there is no observer effect bias:*

> If random selection of vessels were possible, *and the observer effect was not of concern*, estimates of frequently occurring species with acceptable error bounds could be made by sampling approximately 30 percent of the vessels. For less frequently occurring species, a much larger proportion of the fleet would have to be sampled.[41]

Trawl bycatch monitoring implicates both the concerns with observer effect and the presence of less frequently occurring species. The random sampling approach of the restructured program is intended to reduce the bias associated with the existing program. But the supporting analysis does not provide enough information to evaluate the extent to which the observer effect can bias estimates at 30 percent or lower levels of coverage. It is necessary to monitor for observer effect bias and possible to reduce bias by increasing the sample.[42] A bycatch reporting methodology needs to establish a mechanism that allows NMFS to estimate the potential bias in bycatch estimates provided by observed trips relative to unobserved trips.[43] The issue that needs to be addressed is not merely whether the restructured program will reduce bias associated with the existing program but rather whether the program will reduce bias in a manner sufficient to produce statistically reliable data. Again, the appropriate solution is to implement higher coverage levels and particularly 100% coverage for fisheries with significant bycatch concerns.

NMFS Needs to Establish a Clear Mechanism for Public Comment on the Annual Deployment Plans

A final concern is that there appears to be a need for a clear public process to review the annual deployment plans. Under the proposed rule, NMFS would release an observer report by September 1 of each year to propose coverage rates for the final year and review the financial status of the program.[44] NMFS acknowledges that a "public review and feedback process would serve to ensure NMFS's annual observer plan captures as much information, and is as transparent, as possible" and that it "intends to use the public comment period to enhance or fine tune the plan and its compliance with national standards, including its use of the best scientific information available." [45]

But there is no clear direction for how NMFS will solicit and respond to public comment. Instead, the proposed rule only provides for consultation with NPFMC and there is no formal approval process regarding the deployment plan.[46] The draft deployment plan lacks details about actual deployments and thus makes it difficult to provide comment on critical aspects of the plan. TBC works with a number of fishery

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[40] Babock et al. at 7.
[41] Karp, 1999 (emphasis added).
[42] Babock et al. at 8.
[43] *See* McAllister, 2007.
[44] 77 Fed. Reg. at 23344.
[45] Observer EA at 96.
[46] 77 Fed. Reg. at 23345.

and conservation groups and is aware that the draft deployment plan has generated considerable controversy among various stakeholders. The chosen review procedure – particularly in light of the scant deployment detail - deprives the public of the opportunity to participate in and provide advice on the establishment and administration of components of FMPs. This procedure is inconsistent with the express public participation purposes of the MSA.[47]

TBC has significant concerns that the proposed rule is sufficiently devoid of performance standards and management priorities that NMFS conceivably could fail to adequately monitor and report bycatch due to funding shortfalls and misplaced priorities without any public process for obtaining feedback from or ensuring accountability to stakeholders. While there may be a need for some flexibility to adjust coverage levels to respond to collected data and changing conditions, that flexibility must be informed by prescriptive standards and subject to meaningful public comment. To the extent that it is appropriate to defer deployment logistics to the annual review, the Council should work with NMFS to improve public participation in the development of deployment plans through a procedure such as an abbreviated rulemaking or other appropriate framework procedure that provides adequate notice and opportunity for public comment.

Conclusion

Thank you for considering these comments. TBC recognizes the efforts of the NPFMC and NMFS to address the flaws with the existing observer program and regrets having to request that the Council direct NMFS to re-evaluate the proposed deployments. However, the need to improve data on trawl bycatch is urgent. A 30% coverage goal spread among diverse fleets and funded through a flawed mechanism that relies primarily on a declining revenue source (halibut IFQ ex-vessel fees) raises significant questions about whether the deployment plan will acquire sufficiently reliable bycatch data. TBC thus urges the Council to direct NMFS to substantially rework its proposed deployments. In particular, NMFS needs to (1) revisit the equal rate approach and its stratification scheme; (2) identify applicable performance standards necessary to minimize error variability on a fishery- and species-specific basis and adjust coverage levels to meet those performance standards while also accounting for bias associated with the observer effect; (3) fulfill its promise to "go slow" on smaller fixed gear vessels and prioritize trawl bycatch data collection needs and (4) provide for a public comment process that allows for meaningful comment on specific coverage allocations.

Sincerely,

Paul Olson

[47] 16 U.S.C. § 1801(b)(5).

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Juneau, AK 99801 USA www.oceana.org

September 25, 2012

Mr. Eric Olson, Chair
North Pacific Fishery Management Council
605 W. Fourth Avenue, Suite 306
Anchorage, AK 99501-2252

Dr. Jim Balsiger, Regional Administrator
NOAA Fisheries, Alaska Region
709 West Ninth Street
Juneau, AK 99802-1668

Re: Agenda item C-3 Observer Program

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

The National Marine Fisheries Service (NMFS) and North Pacific Fishery Management Council (NPFMC) recognized long ago that the ability to quickly monitor fisheries, including target catches, bycatch, and interactions with other ecosystem components is necessary for successful fishery management. The observer program is an essential part of fulfilling this role. The proposed restructured Alaska Groundfish Observer Program, if implemented well and with the original intent of the program, will help further cement the reputation that the North Pacific has some of the best-managed fisheries in the world.

Unfortunately, it appears that NMFS is having difficulty articulating a clear path forward for the first year of implementation. As best we are aware, NMFS has yet to propose the levels of observer coverage on the various sectors of the fleet needed to address specific data needs.

Recognizing that there are different management and monitoring needs for different fisheries targeting different fish species, we recommend that the first year of the restructured program be focused on putting more observers on trawl vessels for increased monitoring of trawl fisheries. A significant portion of the catch from some of the trawl fisheries, including the shallow-water flatfish, Pacific cod, rex sole, and arrowtooth flounder fisheries, currently is not monitored. For example, in 2010, less than 1% of the shallow-water flatfish catch was sampled by observers[1]. This level of sampling is clearly inadequate, as the shallow-water flatfish fishery has some of the highest estimated bycatch of halibut. Given the low observer coverage currently in place and the changes in vessel behavior in some fisheries when an observer is on board, it is likely that the bycatch is much higher than estimated. There is, therefore, a particular need to increase observer coverage on these trawl vessels.

In order to increase accuracy of bycatch estimates and to reduce the potential for observer bias, observer coverage should be increased across the trawl fleet. The NPFMC has taken action to

[1] Turnock, B., T. A'mar, and T. Wilderbuer. 2011. Assessment of the Shallow-water Flatfish Complex in the Gulf of Alaska for 2012, Table 4.A.2.

curb bycatch of prohibited salmon, crab, and halibut in several fisheries in recent years, and these protections can only be implemented fully with better monitoring. Clearly, the trawl fisheries need to be better observed, and we urge the Council to recommend that NMFS prioritize increasing observer coverage for all trawl vessels during deployment of the restructured observer program.

Sincerely,

Susan Murray
Senior Director, Pacific
Oceana

Mr. Eric Olson, Chair

North Pacific Fishery Management Council

605 West 4th Ave. Ste 306

Anchorage, AK 99615

RE: Agenda item C-3 Restructured Observer Program

Dear Chairman Olson and members of the council:

I have fished out of Kodiak for over 32 years and was hoping that this restructured observer program was going to give some really valid data about what is truly going on in the GOA. Lately the Kodiak rumors have been sounding like that the fixed gear fleets are going to tasked with the majority of the new observer coverage while pretty much leaving the trawl fleet with very close to what they have had for coverage in the past.

Although I agree that there is a need for increased monitoring of the fixed gear fleet this concept of leaving the trawl fleet with approximately 30% coverage is unacceptable. This would be a significant deviation from promises made about the restructured program.

The restructured observer program should provide for increased coverage's for GOA trawl fisheries to reduce the opportunity for observer bias and give better estimates of PSC and bycatch.

At a very minimum there should be a serious effort to monitor the "shallow water flats" fisheries since this is where the greatest impact occurs on benthic habitat, PSC, and bycatch. It has been very frustrating over the years to see the destruction of the bottom and the needless mortality of numerous species of high value fish while targeting very low value species.

I am supportive of the restructuring program but remain concerned that the deployment program for 2013 will not achieve some of the primary reasons for restructuring the program. I urge you to redirect the restructured program and ensure that the data collected meets the Council's management needs.

Thank you,

Peter Thompson

PO Box 3037

Kodiak, AK 99615

PROPOSAL # 1000 King Salmon

END CHINOOK SALMON BY CATCH

(Sept. 2012)

Issue: 1. All trawlers; but pollock trawlers in particular are killing too many Chinook wild salmon and not allowing enough necessary escapement numbers to get into the rivers to spawn. 2. Subsistence people of Alaska couldn't harvest fish as all rivers were closed because escapement wasn't being fulfilled, while trawlers were still fishing and still are fishing.

Why Change current policy: 1- If by catch numbers are not lowered to a specific cap of a total of 20,000 total for the whole state of Alaska including the Gulf of Alaska & the Bering Sea; sustainable spawning numbers will not be reached and the fishery will not survive. 2-The People of Alaska by law own and have first right to these fish and the trawlers are intercepting them before we have a chance to harvest for ourselves or see enough escapement.

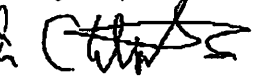
What happens with no change: 1. The sustainability of the Chinook salmon runs to all rivers on the coast of Alaska will disappear altogether within a few short years. 2. Subsistence people of Alaska will be starving and/or can't afford to buy food in the store. Our way of life is in jeopardy as we rely heavily on subsistence fishing.

Who will benefit: All salmon runs, Alaskans, all Alaskan rivers, Alaskan river habitat, our way of life, local economy & tourism.

Demands:

1. Cut the by catch limit to 20,000 fish for the whole state in all Alaskan waters. With a reduction implemented over the next 5 years or less starting with a 25% percent reduction beginning in the 2013 spawning season
2. There be an honest unbiased "watcher" on each & every trawling boat no matter what size the boat or what they are fishing. The watcher will be accountable for properly documenting catch counts & by catch counts of ALL nets brought in with fish at all times that said boat is fishing. The trawling business shall provide salary for said "watchers" on each boat. "Unbiased" means hiring someone not affiliated with the trawling business or the CDQ programs at all.
3. The by catch numbers never be allowed to reach highs of 2002 or anything above 20,000 total for the year ever again.
4. All by catch be processed by trawlers & donated to western native villages at trawlers expense & not be taken out of Alaska to be sold.

We the undersigned people represent all the areas of Alaska

Sign: 

Date: Sept. 24, 2012

REVISE COMMUNITY QUOTA ENTITY REGULATIONS TO ALLOW PURCHASE OF ALL BLOCK SIZES OF HALIBUT AND SABLEFISH QUOTA SHARES

WHEREAS, the Koniag-KANA roundtable is the Kodiak area Regional Summit working co-operatively to understand and solve issues for ANCSA corporations and tribal entities in the Kodiak region; and

WHEREAS, commercial fishing has been essential to Kodiak's native peoples since the Russian occupation; and

WHEREAS, commercial fishing access and opportunities, particularly for entry level fishermen, in and around Kodiak have declined substantially over the past 30 years: and

WHEREAS, the decline in fishing access and opportunity has been particularly acute in Kodiak's 6 rural communities; and

WHEREAS, the North Pacific Fisheries Management Council created the Community Quota Entity Program that enables qualifying communities to purchase and hold Federal fishing quota shares and permits; and

WHEREAS, all 6 of Kodiak's rural communities qualify for the Community Quota Entity Program and the only two active CQE's are in the Kodiak region: and

WHEREAS, the regulations developed for the Community Quota Entity Program limit the size of the blocks of quota that can be purchased by the CQE and prohibit purchase of smaller quota blocks; and

WHEREAS, limiting the size of block purchases for the Community Quota Entity is contrary to the purposes of the CQE program and has resulted in locally held halibut quota being sold outside the community; and

WHEREAS, any locally held quota sold outside the community is very difficult to replace;

THEREFORE, be it resolved that the North Pacific Fisheries Management Council revise the Community Quota Entity regulations so that Community Quota Entities can purchase ALL block sizes of halibut and sablefish quota shares; and

BE IT FURTHER RESOLVED that the North Pacific Fisheries Management Council continues to develop fishery regulations that encourage and support successful Community Quota Entities in the Gulf of Alaska and the Kodiak region.

IN WITNESS WHEREOF, I have executed my name as a representative of the Koniag-KANA Roundtable this 20th day of September, 2012 .

William Anderson, Jr.
Koniag-KANA Roundtable

Submitted by: Koniag-KANA Roundtable
194 Alimaq Drive
Kodiak, Alaska 99615
(907) 486-2530

To: Whom it may concern, & North Pacific Fisheries Management Council:

Date: September 24, 2012

Request: We the undersigned request that you submit our proposal;

PROPOSAL # 1000 King Salmon By Catch

for review and consideration for full discussion at the October 2012 Anchorage Alaska meetings agenda. We feel this issue has to be addressed now and to not be delayed for anytime in the future; as it will be too late for the said fish (Chinook salmon). Further action needs to be taken immediately as we know that this has been revised but we feel your action isn't enough and it needs to be readdressed immediately. We feel through numbers and facts that a total by catch in the Bering Sea & Gulf of total 85,000 fish totally unacceptable. These by catch numbers reflect lost spawning numbers from every river in Alaska. Respectfully we ask for an agenda time & date at the October 2012 meetings.

The governor has already declared a "disaster" for the state's fishing. Receiving monies is not going to solve the problem of fish not being allowed to reach their prospective river. The disaster is stated, now one of the problems causing the disaster needs to be addressed immediately: By catch of Chinook salmon.

Please call either Jimmy Hurley or Julie Smith with your answer. Thank you:

Signed:

Jimmy Hurley: Nushagak River: 907-444-1503, 907-464-3356

Julie A Smith: Anchor River: 907-299-3741, 907-235-1044

John Sharrer: Kenai River

Ivan Ivan: Yukon River

Mike Williams: Kuskokwim River

Peter Christopher: Nushagak River

James Roberts: Yukon River

Sergi Chuckwak: Naknek River

Melvin Brown: Naknek River

PROPOSAL # 1000 King Salmon By Catch

END CHINOOK SALMON BY CATCH

September 24, 2012

Issue: 1. All trawlers; but Pollock trawlers in particular are killing too many Chinook wild salmon and not allowing enough necessary escapement numbers to get into the rivers to spawn. 2. Subsistence people of Alaska couldn't harvest fish as all rivers were closed because escapement wasn't being fulfilled, while trawlers were still fishing and still are fishing.

Why Change current policy: 1- If by catch numbers are not lowered to a specific cap of a total of 20,000 total for the whole state of Alaska including the Gulf of Alaska & the Bering Sea; sustainable spawning numbers will not be reached and the fishery will not survive. 2-The People of Alaska by law own and have first right to these fish and the trawlers are intercepting them before we have a chance to harvest for ourselves or see enough escapement.

What happens with no change: 1. The sustainability of the Chinook salmon runs to all rivers on the coast of Alaska will disappear altogether within a few short years. 2. Subsistence people of Alaska will be starving and/or can't afford to buy food in the store. Our way of life is in jeopardy as we rely heavily on subsistence fishing.

Who will benefit: All salmon runs, Alaskans, all Alaskan rivers, Alaskan river habitat, our way of life, local economy & tourism.

Demands:

1. Cut the by catch limit to 20,000 total fish for the whole state in all Alaskan waters.. This includes all fishing areas contained within Alaskan boundaries & all boats that have salmon by catch. Implement a reduction plan over the next 5 years or less starting with a 25% percent reduction beginning in the 2013 spawning season.
2. There be an honest unbiased "watcher" on each & every trawling boat no matter what size the boat or what they are fishing. The watcher will be accountable for properly documenting catch counts & by catch counts of ALL nets brought in with fish at all times that said boat is fishing. This information should also be backed up with video from said boats. The trawling business shall provide salary for said "watchers" on each boat. "Unbiased" means hiring someone not affiliated with the trawling business or the CDQ programs at all.
3. The by catch numbers never be allowed to reach highs of 2002 or anything above 20,000 total for the year ever again. If possible it should be lower than 20,000 total after the 5 year readjustment period.
4. All by catch be processed by trawlers & donated to western native villages at trawlers expense & not be taken out of Alaska to be sold.

Jimmy Hurley 907-444-1503, 907-464-3356: Julie Smith 907-299-3741

FISHING VESSEL OWNERS' ASSOCIATION
INCORPORATED

4005 20TH AVE. W., ROOM 232
SEATTLE, WASHINGTON 98199-1290
PHONE (206) 284-4720 • FAX (206) 283-3341

SINCE 1914

September 25, 2012

Mr. Eric Olson, Chairman
North Pacific Fishery Management Council
605 West 4th, Suite 306
Anchorage, AK 99501

RE: C-3 Observer Program

Dear Chairman Olson:

I am forwarding the following comments regarding Agenda Item C-3, The Observer Program, on behalf of the members of the Fishing Vessel Owners Association (FVOA). The FVOA is a trade association representing 98 family-owned longline vessels, all of which participate in the sablefish and halibut QS programs. The majority of our vessels will be part of the observer groups for vessels greater than 57.5 feet LOA.

The members of the FVOA are supportive of the implementation of the new observer program beginning January 1, 2013. In fact, the MSA observer (assessment authority) for the NPFMC to assess the fleet was promoted by FVOA to the Council in the 1980's and with the Council's support, the observer amendment to the MSA was achieved. Though the members understand the importance of the implementation of the program on January 1, 2013, there are several areas regarding the deployment strategies that give us concern. The following are some of our deployment and coverage concerns which were discussed at the Observer Committee (OC) meeting in Seattle.

1. We were told the new program would focus on getting a "bigger bang for the buck." We interpreted these comments to mean the program would focus on maximum coverage for the least amount of costs. The deployment design presented at the Observer Committee meeting Seattle on September 17-18, does not achieve this goal. Instead, the focus of the new observer program both for vessels >57.5 feet overall and those <57.5 is about coverage of the individual vessels regardless of the amount of fish extracted.

As an example, there are about 800 vessels in the category of <57.5. The vast majority of the QS holders in this category have less than 5000 lbs of halibut and/or sablefish. We see a lot of travel expenses and observer expenses for very little actual coverage of what is being harvested. Our comments and concerns on this matter are similar for the fleet >57.5 ', particularly for the QS fleet. The program as presented will focus on numbers of vessels covered rather than overall resource impacts. We see this as a design weakness.

2. There wasn't any secondary goal presented at the Observer Committee meeting in Seattle, such as to cover at a minimum a certain amount of the trawl caught Pacific cod, trawl caught arrowtooth flounders, and halibut or sablefish harvested by the longline fleet. A program that may

cover 30% of 1500 vessels but only ends up with less than 15% of the resource covered is not what our group thought was being advertised when we supported the observer amendments. We distinctly were told that the program would focus on where the largest impacts on the resource were occurring. We see the first year deployment plan defective in the area of coverage of harvested impacts.

3. Neither the final rule nor comments made by NMFS at the Observer Committee meeting suggest that the definition of a "trip" has been fixed. The "gaming" of the existing program was an overarching concern by NMFS as to why the amendments for the new observer program needed to be completed. As we interpret the final rule, there are no performance standards that define a trip such as a minimum amount of fish, days required for coverage, or required poundage to be observed. We see this as a major deficiency in the program. We were told if vessel owners "gamed" the new program, they could be immediately required to take an observer for their next trip. No where do we see this authority in the final rule nor do we see it in any of the deployment designs. This was the primary concern by NMFS which lead to justifying the amendment process of the existing program. We do not see the remedy to the problem everyone agreed was there. We do not believe all of the goals of the Council can be met without a fix to the definition of a trip.

4. It has been suggested by our Marine Stewardship Certifiers for halibut and sablefish that the observer program as presented September 17-18, looks very much like a pilot program. The design to over-compensate on numbers of vessels rather than balancing coverage with harvestable quota impacts will likely reveal deficiencies that can be compensated for in 2014. This was not how the program was introduced to us nor was it advertised as such when the fleet commented on the proposed amendments. With all of the observer programs that NMFS runs, a pilot program should not be needed.

5. It was unclear at the OC meeting if "in-season management" of hard caps on different species, such as halibut and salmon, will be effective with the proposed new deployment design.

In summary, the NMFS has many observers programs it is currently administering from New England to Hawaii, including the Alaska program since 1990. It does not seem reasonable that a pilot program design is in order for the Gulf of Alaska. FVOA was expecting a more mature and robust program that focused on resource impacts that would assist the Council in the determination of total removals and accountability of the various hard caps that have been adopted in the GOA for halibut and salmon. It is the concern of FVOA that this very important observer program based on the initial deployment design will take over two years to correct itself in order to more fully achieve goals the Council has set out. We would encourage the Council to insist that an adequate amount of harvest is covered in order to better fulfill the expectations of this new program. The lack of a definition of a "trip" is a major deficiency and needs a remedy before the program begins on January 1, 2013. This is a costly program which should be reasonably designed and fair to all fishermen.

Sincerely,

Robert D. Alverson
Manager

RDA:cmb

September 25, 2012

Mr. Eric Olsen, Chairman
North Pacific Fishery Management Council
605 W. 4th Ave., Suite 306
Anchorage, Alaska 99501

RE: Agenda Item C-3, Groundfish Observer Program

Dear Chairman Olsen,

The members of United Catcher Boats (UCB) would like to present the following comments and concerns regarding the proposed changes to the North Pacific Fishery Observer Program with implementation of the new fee-based, partial coverage system. UCB has 67 vessels that participate in the Bering Sea/Aleutian Islands (BSAI) and Gulf of Alaska groundfish trawl fisheries. Our primary fisheries include the Bering Sea Mothership and Shoreside CV AFA Pollock fishery, the BSAI Pacific Cod CV trawl fishery and the GOA Pollock, Cod and Rockfish fisheries.

Throughout the North Pacific Fishery Management Council's (NPFMC) development of a new hybrid Observer Program, UCB has expressed its support of improved collection and use of harvest data collected by observers onboard vessels and processing facilities. We also supported the continuation of the "Pay-As-You-Go' deployment system for vessels that are currently 100% observed and/or are governed by Catch Share regulations. However, upon review of the new observer program's Proposed Rule, we realize that the new program will result in much lower quality harvest data for the BSAI P. Cod Catcher Vessel Trawl fishery than what is currently collected and used. Moreover, use of this new program will result in much higher Halibut PSC bycatch rates for the BSAI P. Cod trawl fleet.

Therefore, we request that the North Pacific Council (NPFMC) initiate an Emergency Rule action at this meeting to provide an exemption to the new fee-based system for vessels participating in the BSAI P. Cod Catcher Vessel Trawl fishery for the first half of 2013. This exemption will allow vessel owners the

4005 20th Ave. W - Suite 116, Fisherman's Terminal • Seattle, WA 98199 • Tel. (206) 282-2599 • Fax (206) 282-2414

choice to participate in the 'Pay-As-You-Go' original program and have observer coverage 100 percent of the fishing time, rather than being placed in the new fee-based program.

Secondly, we request that the NPFMC initiate a Regulatory Amendment action to modify the new Observer Program Final Rule (yet to be published) that would examine long-term solutions to the problem faced by vessel owners requiring individual vessel observer harvest data. This could include tasking the Council staff with the development of a discussion paper that provides information about current use of observer coverage at the individual vessel level that is a prerequisite to the best management of Halibut PSC in the BSAI cod trawl fishery.

Use of the new fee-based system for vessels targeting P. Cod in the BSAI CV trawl fishery will result in poorer quality of harvest data, especially Halibut PSC data at the individual vessel level. We have serious concerns that this poor data will result in assigning halibut PSC rates to our vessels that are not accurate or correct.

Over the past two years, the AFA CV fleet involved in the BSAI P. Cod trawl fishery (both Exempt and Non-exempt) has used the AFA CV Intercooperative Agreement to help reduce halibut bycatch rates for the AFA CV fleet when targeting P. Cod, thereby obtaining our P. Cod harvest allocation. Our efforts require the accurate accounting of bycatch at the individual vessel level. Through the AFA cooperative management program, the BSAI P. Cod fishery is mostly rationalized. Annual Halibut PSC and P. cod harvest amounts are assigned to the coop members at the individual vessel level and vessels have to stay within their individual PSC and P. Cod harvest allocations. Thus, we developed a system with individual incentives for fishermen to reduce the encounter rate of halibut. However, this system requires 100% observer coverage and monitored at the individual vessel level rather than at the fleet-wide level.

Applying a fleet-wide Halibut PSC rate, or amount, to individual vessels participating in the BSAI P. Cod trawl CV fishery is problematic. Assigning accurate bycatch rates at the individual vessel level is not possible. Those vessel operators employing bycatch avoidance measures like halibut excluder devices or avoiding areas and times of high halibut abundance will not receive the benefits of their actions when they a fleet-wide average bycatch rate is applied. Individual accountability requires 100% observer coverage. With this system, vessel operators who avoid halibut are rewarded.

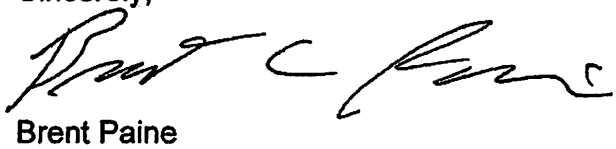
Applying the new fee-based observer program to the vessels in the BSAI P. Cod CV trawl fishery would inadvertently destroy that system if an option for these vessels to carry observers on a 100% basis is not allowed. This is a step backwards for both the fishing industry and NMFS in achieving the goal of better

accounting of PSC bycatch, and more importantly, achieving meaningful reductions in PSC rates.

The NPFMC's Observer Advisory Committee presented a similar recommendation to you in their meeting report from their September 17-18, 2012 meeting (bullet point 7, page 9).

Thank you for consideration of our suggested request.

Sincerely,



Brent Paine

Petersburg Vessel Owners Association

PO Box 232
Petersburg, AK 99833
Phone & Fax: 907.772.9323
pvoa@gci.net • www.pvoaonline.org

September 25, 2012

Mr. Eric Olson, Chair
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501
npfmc.comments@noaa.gov

RE: OBSERVER DEPLOYMENT PLAN, AGENDA ITEM C-3.

Dear Chairman Olson and members of the Council,

The Petersburg Vessel Owners Association (PVOA) is a diverse group of over 100 commercial fishermen and businesses based in Alaska. Our members provide millions of meals to the public annually by participating in a variety of fisheries statewide with our foremost interest being the commercial halibut, sablefish, and Pacific cod fisheries managed by the North Pacific Fishery Management Council. PVOA appreciates the opportunity to comment on agenda item C-3, Observer Deployment Plan.

PVOA continues to note concern with the development of the restructured observer program which now includes previously unobserved halibut, sablefish, and cod vessels. PVOA members are fully committed to providing managers with necessary data to manage our federal fisheries. PVOA members are also aware of and willing to pay the ex-vessel value based fee for the restructured observer program in order to ensure that Alaska's fisheries continue to be the best managed in the world. PVOA was in attendance at the September 2012 Observer Advisory Committee (OAC) meeting and we have also read the draft deployment plan. We offer the following concerns for further Council consideration.

The restructured observer program has transitioned away from a "go low and go slow" observer deployment plan. The current draft deployment plan for 2013 assigns observer coverage based on the number of trips taken by each fleet in Alaska. When the Council took final action on the restructured observer program, it was understood that observers would be primarily deployed to get the best 'bang for your buck' by assigning higher observer coverage rates to PSC limited fisheries and to vessels within sectors with high catch rates. Due to

observers being placed based on number of trips, the draft deployment plan appears to be placing observers on a high portion of the *previously unobserved* fleets due to the high number of trips these fleets take (previously unobserved halibut, sablefish, pot cod and hook and line cod vessels).

The "vessel" selected pool appears to be over-burdensome to the previously unobserved fleet. Vessels in the vessel selected pool would be required to carry an observer for the entire quarter if selected. This would be an enormous burden to vessels that are family style operations and have never carried an observer before. **Although we recommend exploring the OAC recommendations further on this issue, it may also be appropriate to consider giving vessels in the vessel selected pool the option to remain in the vessel selected pool or to be included in the "trip" selected pool for the first few years of the program.**

EM continues to not be an option for vessels previously unobserved. Regardless of their size or species caught, PVOA members continue to advocate for the ability to carry a camera to collect fisheries data. Although many vessels in the under 57.5 feet halibut and sablefish fleet will have trouble carrying a human observer, so will vessels over 57.5 feet and so will vessels in other fisheries besides the halibut and sablefish fisheries. The previously unobserved pot cod and hook and line cod fleet may also benefit from the ability to carry a camera.

In closing, we urge the Council to re-commit to the intention to "go low and go slow" on all previously unobserved vessels regardless of size or fishery. PVOA also encourages the Council to re-commit to the development of a workable EM program utilizing the ALFA pilot project and incorporating various EM programs from around the world to create an EM system that sets the standard for all other EM programs.

Thank you for your time and attention to this important matter. If we can provide further information or answer any questions as you continue to restructure the observer program, please feel free to contact us.

Sincerely,

Julianne Curry
Director

Subject: bycatch monitoring
From: "Greg Demers" <gdemers@horizonsatellite.com>
Date: 9/25/2012 4:26 PM
To: <npfmc.comments@noaa.gov>
CC: <halibut@akmarine.org>

As a 38 year resident of Alaska, an avid sportfisherman, a father of an Alaskan commercial fisherman, and a retired Alaska Dept of Fish & Game (Comm Fish) employee, I have a strong personal interest in the management and health of Alaska's fisheries.
As such, I am asking the NPFC and NOAA to take strong measures to strengthen the observer program , particularly as it relates to king salmon and halibut, but also tanner crab.
King salmon and halibut are, in my opinion, the most valuable and prized of all Alaska's fish species. Kings, in particular, are now a species of great concern. I have watched a steady decline in the numbers and size of kings in the Kenai Peninsula rivers that my family and I have fished over the past three decades. To think of those magnificent fish being caught and wasted for the sake of the pollack trawl fishery makes me sick. And the same for halibut. Bycatch must be greatly reduced now, before it's too late, and the waste must stop !

Sincerely,
Greg Demers
Homer, Alaska

Subject: 100% electronic or observer coverage ob trawl boats in the GOA
From: Nancy Hillstrand <halibuts@gmail.com>
Date: 9/25/2012 5:05 PM
To: npfmc.comments@noaa.gov

Pioneer Alaskan Fisheries Inc.
P.O. Box 674
Homer, Alaska 99603
Sept 24th 2012

Greetings,
We have been a fisheries Corporation in Alaska fishing clean for over 50 years. Please increase observer coverage for the trawl fisheries in the Gulf of Alaska. The wanton waste from Bycatch in this area is impacting local communities, business' in a profound way. Wanton waste in any fisheries is unacceptable and electronic coverage is required on 100% of all boats at all times immediately take action.
Sincerely
Nancy Hillstrand

Subject: Letter to Council
From: "Tom" <tomevich@comcast.net>
Date: 9/26/2012 7:16 AM
To: "Council letters" <npfmc.comments@noaa.gov>

Dear Chairman Olson and members of the Council,

I own and operate a trawler based in Sand Point, Alaska with a LLP for both the Western and Central Gulf of Alaska. My fishing is done primarily in the Western Gulf.

If this Council is sincere about reducing by-catch it will begin to develop a catch share plan where by-catch is allocated to the vessel based on production history of the target specie. This reflects effort and investment of that vessel. If this Council is sincere about supporting and increasing the economic viability of the trawl fleet and the communities where they are based, it will begin to develop a catch share plan. If this Council, for what ever reason, supports the chaos that has taken place, and is taking place in the 2012 C and D pollock seasons, it should support status quo. I ask that if the Council moves forward with a catch share plan for the Central Gulf and that the Western Gulf be included.

Most Sincerely,

Tom Evich
Owner/Operator
F/V Karen Evich

Dear Members of the Council,

My wife and I own and operate a small combination longline/troller that we fish with our two boys, ages 9 and 11. Our fishing time is family time. We often troll for three to four days, then make a longline set to catch what little halibut we have left in Areas 2C and 3A.

Space is limited on our boat, so we have watched restructuring of the observer program with some concern. I attended the Sitka outreach meetings and was reassured by NMFS that electronic monitoring would be developed by NOAA, working in partnership with ALFA, as an alternative to human observers for the small fixed gear fleet. I am happy to fill out a logbook, take a camera or data logger, and provide NMFS with all the at-sea data NOAA can use for management purposes. But we cannot safely fit another person on our boat. We don't have an extra bunk and we cannot provide any privacy. If we had to carry an observer, we would not be able to fish combination trips, which will further reduce the profitability of our fishing business. The deployment plan NMFS has proposed does not work for the small boat fleet, that is why ALFA worked hard with NMFS to make EM cost effective. Please direct NOAA not to assign observers to the small boat fleet until they can provide EM as an alternative to meeting at sea monitoring requirements.

The priority of the observer program should be better coverage on PSC limited fisheries. The Council should be concerned about halibut, salmon and crab bycatch. The small amount of halibut and groundfish taken by the small boat fleet is no threat to the resource. Please take the time to develop a monitoring program that works for Alaska's community based small boat fleet.

Sincerely,

Kent Barkhau

Richard Davis
2347 Kevin Court
Juneau, AK 99801
F/V West Bank

North Pacific Fisheries Management Council
605 West 4th Ave., Suite 306
Anchorage, AK 99501

September 24, 2012

Greetings Chairman Olson and NPFMC Members,

Thank you for the opportunity to comment on NOAA's proposed comprehensive Federal fisheries expanded Observer Program.

I fish small IFQs on a Southeast salmon troll-, gillnet-, and longline- combination boat. Situated similarly to hundreds of other small black cod and halibut IFQ longliners, I object to the agency's (NOAA) unwillingness to include an Electronic Monitoring (EM) observer option for the under 60' fleet. NOAA's attempt to produce a comprehensive program hastily, rather than thoroughly, usefully and durably, makes the fleet wonder how the NPFMC Council would not insist that NOAA include a camera option to requiring a human observer on small vessels. We firmly and universally believe that an EM option is essential, and, early in the development of this program, NOAA agreed!

Now, absent of a camera option for us in NOAA's plan, our tax assessment for funding the program will be spent hastily, without regard to the size and available space constraints characteristic of the small boat longline fleet. Obvious to me is the rush to implement the observer program, which eclipses and absolves NOAA of its obligations or agreements to fit the small boat fleet well into the program. The input of the small boat fleet in the program's development must not have had basis or merit. In the industry we work in, rushing things increases human risk and increases stress on equipment.

Please direct NOAA to devote the appropriate time and resources that incorporate EM details into making the program efficient, compact, and workable. NOAA can build this observer program slowly, and make effective alterations that work well within the small boat fleet, until Electronic Monitoring is an element of the program. As proposed, it won't work for the agency or the small boat industry.

Sincerely,

Richard Davis

Subject: Agenda item C-3 - bycatch observers
From: sue libenson <suelibenson@gmail.com>
Date: 9/25/2012 3:42 PM
To: npfmc.comments@noaa.gov

As an occasional deckhand, yearly salmon subsistence fisherman, Fish and Game Bristol Bay fish counter, and lover of king salmon, I am concerned that the Council needs to focus resources where it matters - on collecting consistent data on bycatch, especially in fisheries with a history of king salmon bycatch such as the Gulf of Alaska trawl fishery. Let's focus on getting the best information we can about the fisheries that really matter.

Sue Libenson
Haines, AK 99827

Subject: Bycatch
From: James Moody <info@southeastsportfishing.com>
Date: 9/25/2012 10:36 AM
To: npfmc.comments@noaa.gov

Eric Olson, Chairman
North Pacific Fishery Management Council
Item C3

I am owner and operator of First City Charters in Ketchikan Alaska.With the crash in king salmon and halibut stocks threw out Alaska. I think that we need to know just what we are taking out of our oceans and not just guessing. Its a big ocean and know one see what goes on out there. I would like to see observer coverage for fisheries with bycatch concerns, particularly Gulf of Alaska trawl fisheries that catch Chinook salmon, halibut and Tanner crab as bycatch. These fisheries should have increased coverage from the old program. I would also like to see electronic monitoring as a viable at-sea monitoring alternative to human observers.

Respectfully,
Jim Moody

First City Charters
Ketchikan Alaska

Subject: comment...
From: deborah limacher <debaloha@hotmail.com>
Date: 9/24/2012 8:53 AM
To: <npfmc.comments@noaa.gov>

To NPFMC, I have been a commercial fisherwoman since 1976 and have longlined halibut and crabbed the entire crab fishery and of late,I am an eastside setnetter here in Cook Inlet.As you know, our fishery was shut down this summer and I lost 1000's of dollars along with my crew losing all their hoped for summer wages.Fishing,along with a small amount of money for a vacation rental is my only means of support.I also realize that the chinook fishery is in a major downturn and I believe that this is due largely to the bycatch of the king salmon esp. in the Gulf of Alaska trawl fisheries.I also believe that using the word "by-catch" is an incomplete way to describe the wanton waste of our breed stock of kings!! I am asking the council to oritize observer coverage for these fisheries with bycatch concerns,as I said before,esp. the Gulf of Alaska trawl fishery that wastes thousands of pounds of chinook,halibut and tanner crab each year.We should also have increased monitoring so that these boats are being monitored 24/7..We need more data to understand the impacts of this.I also support the need for electronic monitoring as a viable at-sea monitoring program as an alternative to human observers. Thank you,deborah limacher,Pobox3001,Homer,Ak.99603

Subject: 2012 King Salmon By-catch
From: Albert Bowling <zentattoo@yahoo.com>
Date: 9/23/2012 12:05 PM
To: npfmc.comments@noaa.gov

Greetings: I see where the North Pacific Fisheries Management Council will be meeting here in Anchorage during October, but I am unable to attend any meetings. Because of south central Alaska's poor returns of king salmon, I'm interested in the amount of by-catch the large commercial trawler/industry hauled out of the water this year and what happeded to those fish.

Thank you, Albert Bowling
7009 Cape Lisburne Loop
Anchorage

Subject: Bycatch
From: Cash Joyce <cashjoyce@gmail.com>
Date: 9/22/2012 12:53 PM
To: "npfmc.comments@noaa.gov" <npfmc.comments@noaa.gov>

Why not allow all harvested species of fish to count on the quotas. Then allow all to be marketable for that species marketable rate. Of course the undesired species will count as a penalty toward the boats quota. All fish caught will be brought to the dinner table. No want and waste.

$

OUZINKIE NATIVE CORPORATION

P.O. Box 89
Ouzinkie, Alaska 99644
Ph: (907) 680-2208, Fax: (907) 680-2268, Email: salmonlaker@yahoo.com

September 20, 2012

North Pacific Fisheries Management Council
605 W. 4th Ave.
Anchorage, AK 99615

Re: Support for Kodiak Island Borough and City of Kodiak Joint Resolutions FY2013-9&10 Regarding Comprehensive Management of Prohibited Species Catch by the Trawl Fishery in the Central Gulf of Alaska

Dear Chairman Eric Olsen and Council members:

Ouzinkie Native Corporation on behalf of its shareholders and the residents of Ouzinkie is committed to maintaining and expanding fishing opportunities in Ouzinkie as well as the conservation and stewardship of marine resources and resource habitat. We continue to believe that all bycatch, including trawl bycatch, should be reduced by the North Pacific Fisheries Management Council. We have reviewed the Council's motion regarding your October discussion "developing a program to provide tools for effective management of PSC, incentives for minimization of bycatch and vessel level accountability for the Central Gulf of Alaska trawl groundfish fisheries". How this program may be developed is very important to Ouzinkie.

Kodiak Island Borough and the City of Kodiak have developed suggested goals for the Council to consider as you discuss GOA trawl groundfish bycatch reduction. Ouzinkie Native Corporation has reviewed these goals and we concur with KIB and Kodiak City that these goals should be adopted by the Council and incorporated into any problem statement and elements and options for analysis that the Council may consider. We believe these goals represent the starting point for the Council's discussion.

Ouzinkie Native Corporation is adamant that trawl groundfish processing opportunities be retained for our community. The Council should not even consider any type of closed class of processors and/or landing requirements specific to the City of Kodiak. In addition, ONC would encourage the Council to limit consolidation that may occur in the trawl fishery. Maintaining the current fleet will continue to provide needed crew jobs and fishing opportunities.

Thank you for your consideration of Ouzinkie's support for the 10 programmatic goals outlined in the KIB and Kodiak City resolution as well as our concern to preserve community processing opportunities.

Very truly yours,

Jackie Muller, Chairman

Subject: Bycatch
From: Craig Matkin <comatkin@gmail.com>
Date: 9/20/2012 1:29 PM
To: npfmc.comments@noaa.gov

My name is Craig Matkin. I was a commercial fisherman for 20 years but I am now a marine mammal biologist extremely concerned about Chinook salmon bycatch in the Gulf of Alaska. One of my projects has focused on fish eating killer whales in Gulf of Alaska. We have found that Chinook salmon (along with Coho salmon) are primary foods in their diet. It is becoming clear that their survival is dependent on these fish.

There is just not enough good data to properly assess the scale and impacts of bycatch at this time. I ask that the Council prioritize observer coverage for fisheries with bycatch concerns, particularly the Gulf of Alaska trawl fisheries that catch Chinook salmon as bycatch. Please insure that these fisheries have increased coverage from the old bycatch program.

I also believe that electronic monitoring is a viable at-sea monitoring alternative to human observers. This option is important for small boats who have limited space onboard and I urge you to pursue this.

Sincerely,

Craig Matkin
North Gulf Oceanic Society
Homer, Alaska 99603

Mandont

2013 Observer Program

NMFS Annual Deployment Plan

October 2012

Fishery Monitoring and Analysis Division, Alaska Fisheries Science Center
National Marine Fisheries Service, NOAA
7600 Sand Point Way NE, Seattle, WA 98115

Table of Contents

1.0 Purpose

This work documents the plans of the National Marine Fisheries Service (NMFS) to assign observers to collect independent information from fishing operations conducted in the North Pacific under the authority of the Fishery Management Plans (FMPs) for the Bering Sea and Aleutian Islands (BSAI), and the Gulf of Alaska (GOA), during the calendar year of 2013. The timing and content of this Annual Deployment Plan (ADP) follow the specifications of the North Pacific Fishery Management Council (Council) in their October 2010 final action motion to "restructure" the North Pacific Groundfish Observer Program (NPGOP; see NPFMC 2010). This document is focused on reporting changes to the timing, location, and magnitude of observer-derived information that are anticipated to occur as a result of observers being deployed by NMFS into fishing operations conducted on vessels and plants within the "restructured" portion of the fleet in 2013 compared to the *status quo*.

Details on the legal authority and purpose of the ADP are found in the Proposed Rule (NOAA 2012a). As indicated in the proposed rule, the ADP follows Section 313 of the MSA (16 U.S.C1862), which authorized the Council to prepare a fisheries research plan that requires observers to be deployed in the North Pacific fisheries and establishes a system of fees. The intent of the ADP is not to adjust policy, but rather focus on science driven deployment to meet NMFS data needs. Some aspects of observer deployment can be adjusted through the ADP, including the assignment of vessels to the selection pools or the allocation strategy used to deploy observers in the partial coverage category. The Council may provide NMFS input on the priority of particular data collection goals and NMFS will consider adjustments to how observers are deployed in the partial coverage category to achieve those goals. However, such adjustments to future deployment plans would best be made after a scientific evaluation of data collected under the restructured observer program had been performed by an analytic group (such as that used to help create this document). The analysis would evaluate the impact of changes in observer deployment and identify areas where improvements are needed to collect the data necessary to conserve and manage the groundfish and halibut fisheries as required to maintain a scientifically rigorous data collection program.

2.0 The 2013 Annual Deployment Plan

2.1 The current NPGOP sampling design

Since 2008 the NPGOP has employed a hierarchical (nested) sampling design consisting of five levels (Cahalan et al. 2010). At the lowest and most granular level (level 5), specimens including ageing structures (e.g., otoliths, spines, and vertebrae), and reproductive tissues (e.g., to be used for assessing gonad maturation or sex identification) are obtained from a simple random sample of individual fish. These individual fish comprise the fourth level of the design, and are used for sex/length determination[1]. Such "sex/length fish" represent a random sample of individual fish contained within the third level of the design: the species composition sample. The species and sample size for sex/length fish are determined largely by request to FMA by the Status of Stocks and Marine Assessment group scientists of the Alaska Fishery Science Center (AFSC). Species composition data result from a systematic random sample of the second level of the design, i.e., the haul (total unsorted catch). If a systematic random sample of species composition data is not possible, observers are instructed to obtain a simple random sample or opportunistic sampling of the haul. These species composition data are used to determine the relative abundances of all species captured by fishing gear, not just those retained by the vessel or plant. Generally, all hauls on a trip are sampled, however in cases where the observer cannot sample every haul, hauls are randomly selected for sampling by observers. Hauls are a component of the first level of the sampling design, the trip.

[1] In addition, auxiliary tissues for genetics and stomachs are collected from salmon and selected groundfish respectively under certain circumstances.

Randomization is a component of the NPGOP sampling design at all levels with the exception of the first level. Although the current NPGOP sampling design has trip as the first level, the deployment of observers in some instances may be based on vessels. In such instances, the vessel would constitute a new level of the sampling design above trips (since trips are nested within vessels). Consequently, this ADP is only concerned with addressing proposed changes to the first level of the NPGOP sampling design and the anticipated outcomes of those changes. Sampling that incorporates randomization is desirable at all levels of the NPGOP design since (1) sampling theory dictates that randomization at all levels allows for unbiased estimation (2) sampling is generally preferential over a census because it is more cost efficient, is less prone to bias than an imperfectly implemented census (one subject to logistical constraints), and can result in greater data quality (Cochran 1977). Nevertheless, there are cases in Alaska where a census has been implemented. For example, in the case of salmon prohibited species management in the Bering Sea walleye pollock (*Theragra chalcogramma*) fishery, NMFS has chosen the a census approach and attempted to mitigate the risk of bias resulting from an imperfect census through use of video monitoring and enforcement efforts.

2.2 Goal for 2013

This document follows the proposed plan to deploy observers as presented to the Council at their April and October 2010 meetings. Having gained control over the deployment of observers as a result of Council action, the goal of this ADP is to address the data quality concern expressed within Council's 2010 problem statement; i.e., to achieve a representative sample of fishing events, and to do this without exceeding available funds. This will in a large part be accomplished by incorporating randomization into the first tier of the NPGOP sampling design.

2.3 Deployment strata for 2013

Since the trip or vessel constitutes the highest level of the NPGOP sampling design, it is important that either complete observation or a representative sample of trips or vessels is accomplished. Achieving a representative sample of the population of fishing trips or vessels through randomization aids stock assessment scientists as well as in-season managers of fishery quotas. These benefits in turn help sustain conservation goals and economic opportunities of fishers.

There are two classes of vessels on which fishing trips are observed: 1) catcher processors (CP) and motherships (M) that characteristically take longer trips further from shore and 2) catcher vessels which need to limit their trip duration due to concerns over product quality and hold space. Trips taken on CP and M vessels belong to a class of vessels requiring "full-coverage" (all fishing trips observed; Table 1) because they discard and process fish onboard. Since catcher vessels belonging to catch share programs with "prohibited species caps" (PSC) require greater in-season data specificity, those vessels fishing under the authority of the (1) American Fisheries Act (AFA) walleye pollock fishery in the Bering Sea, (2) Amendment 80 to the BSAI FMP, and (3) the central GOA Rockfish Program (RP) as well as processing facilities receiving AFA deliveries are also placed within this full-coverage category. These entities are not considered further in this document since they are to obtain their observers using *status quo* (pay-as-you-go) methods and do not fall under random deployment.

There are also vessels and plants that because of the size of their operations would be logistically challenging to place observers on board (vessels under 40 feet length overall), have small amounts of catch (catcher vessels fishing with jig gear), or fall outside of the jurisdiction of NMFS (vessels fishing for groundfish in state Guideline Harvest Level (GHL) fisheries). For 2013, these entities constitute the "zero-coverage" category and will have zero probability of their vessels/fishing events being observed.

Two exceptions to the above full and zero coverage categories were made by the Council and are included in Council's motion and the proposed rule (NOAA 2012a). First, CP vessels (those with a CP endorsement on their Federal Fisheries Permit (FFP)) with a history of maximum daily production of 1 metric ton as determined by the Alaska Regional Offices (AKRO) Catch Accounting System (CAS) will

not be required to carry full observer coverage. Second, a vessel with a history of both CP and CV activity in a single calendar year, and owners of CPs with an average daily groundfish production of less than 5,000 lbs in the most recent full calendar year from January 2003 through January 2010, are given a one-time choice to be treated as a CP with full coverage requirements or as a CV under the trip selection pool.

It is important for NMFS to document assumptions regarding the catch of vessels exempted from observer coverage. The NMFS estimates catch through the CAS. The CAS uses two types of estimators of at-sea discards depending on the type of estimation: a deterministic imputation method for groundfish discard on observed trips; and a ratio estimation procedure for groundfish discard on unobserved trips and PSC estimation (Cahalan et al. 2010)[2]. The estimation techniques used in the CAS rely on the basic assumption that catch for observed events represents unobserved events and that the underlying data reasonably conform to statistical assumptions on which ratio estimators are based. When these assumptions are violated, bias and decreased efficiency may be introduced. Current CAS methods rely on the post-stratification of observer information to decrease potential biases and increase precision of the estimates. Evaluation of these assumptions is critical towards understanding and improving the estimation techniques currently used in CAS. Random deployment will greatly improve NMFS's ability to evaluate the statistical properties of estimators and improve catch estimation procedures. The necessary catch estimation assumptions described above are identical to those used in the current program - only which operations are exempted from observer coverage and which operations receive observer coverage differ between the current and restructured observer deployments.

The remainder of this document focuses on fishing operations that are in the "partial-coverage" category: (1) CVs designated on an Federal Fisheries Permit (FFP) when directed fishing for groundfish in federally managed or parallel fisheries (defined as fisheries concurrently open for both state and Federal waters where catch comes off the federal catch limit), that do not fall under the full coverage category, (2) CVs fishing for halibut or sablefish (*Anoplopoma fimbria*) individual fishing quota (IFQ) or community development quota (CDQ), (3) shoreside or stationary floating processors not in the full coverage category, and (4) CPs meeting the previously described full coverage exemption. Within the partial coverage category, there are two deployment strata defined- the (1) "trip-selection" stratum and the (2) "vessel-selection" stratum (Table 1).

2.3.1. Trip-selection stratum

Vessels fishing trawl gear, vessels fishing hook-and-line and pot gear that are also greater than 57.5 feet overall, and shoreside and floating processing facilities comprise the trip-selection stratum. Approximately 60 days prior to the start of the year, registered owners will receive a letter informing them that they are required to log all intended future trips for their vessel using a supplied username and password into a web-based system (that is also accessible by telephone). This system, termed the Observer Declare and Deploy System (ODDS), was developed by NMFS to facilitate the assignment of observers to future fishing events on a trip-by-trip basis. As described in the proposed rule, ODDS works by providing vessel operators (either owners or their designated captains) with an account through which they shall enter their anticipated fishing trips. More than one trip can be entered- three if the start time of the first trip and the end time of the last trip span more than 72 hours, six if not. Anticipated target fishery is not required- only the port of departure and landing with the anticipated start and end times of the trip. Each trip must be entered at least 72 hours before anticipated departure to allow the vessels' observer provider time to deploy an observer. If the contractor provider cannot provide an observer to the vessel, the vessel may be granted a release from coverage by NMFS and go fishing. If the provider obtains an observer for the trip, the vessel may still opt to defer a trip for up to 48 hours from the anticipated departure to account for unanticipated events such as poor weather conditions. If, however, after this

[2] CV retained catch is taken from landings reports and is not considered in this discussion.

additional 48 hour period has passed and the vessel has still not departed, that trip is cancelled by the ODDS, the observer is released from the vessel to be deployed elsewhere, and the vessel's next logged trip will require observer coverage.

Trip-selection systems have been successfully instituted elsewhere in the nation such as in the system administrated by the Northeast Groundfish Observer Program. Trip-selection systems work by having participants (potentially all) in a stratum observed for a short duration at a time. Trip selection systems reduce the potential negative influence of vessel operators' decisions to artificially manipulate which fishing events are observed by postponing the outcome of the trip selection (i.e., to be observed or not to be observed) until after the final trip details have been entered. Furthermore, the ODDS is designed so that (1) if selected for coverage, a "to be observed" trip can only be cancelled by the observer provider responsible for obtaining an observer, and (2) if a vessel does cancel a "to be observed" trip, the vessel's next logged trip status will change to "to be observed".

2.3.2 Vessel-selection stratum

Vessels fishing hook-and-line and pot gear between 40 and 57.5 feet in length overall will constitute the "vessel-selection" stratum. Approximately 60 days prior to the start of the year, registered owners will receive a letter informing them that their vessel may be selected for observer coverage during any of the calendar quarters in the upcoming year. This letter will provide details for the owner to update their vessel's registration information as well as how to obtain the required USCG safety decal. Included with this letter will be a self addressed post card where owners can indicate to NMFS if they would be willing to participate in a voluntary Electronic Monitoring (EM) study described in section 3.0. Vessel operators who would like to volunteer for the EM project must return the post card by February 1st, 2013 or NMFS will assume that the vessel owner does not want to participate in the EM program.

Vessels in the vessel-selection stratum will be randomly selected for mandatory observer coverage approximately 30 days prior to the start of each calendar quarter. Owners of selected vessels will be notified through the U.S. postal service of their selection, given contact information for their observer provider, and given a username and password. This information can be used to access a vessel-selection survey that provides a way for owners of vessels that have been selected for observer coverage in the vessel-selection stratum to verify their contact and vessel information and provides a forum for communication with NMFS. The vessel-selection survey will be available online or by phone if the vessel owner chooses. Owners will be asked to provide their intent to fish in the upcoming quarter to improve the logistical efficiency of observer assignment and deployment in this stratum[3]. In addition, the survey will provide owners of vessels with a way to provide a rationale as to why their vessel may not be able to accommodate an observer. Answers to these two questions will be needed by NMFS a minimum of two weeks prior to the vessels' first fishing trip of the quarter of selection in order to provide time for scheduling and conducting an on-site evaluation by NMFS. NMFS will assume the vessel intends to fish and can accommodate an observer in cases where they have not received a response to the vessel-selection survey from a vessel operator.

Vessel selection systems similar to that proposed for the vessel selection stratum have been successfully implemented elsewhere in the nation such as in the Northwest Groundfish Observer Program. These systems work to reduce the logistical complexities associated with having large amounts of participants. However, because the number of vessels that can be observed is likely to be low relative to the total number of vessels in the sample population and to reduce the operator's ability to manipulate fishing events (for example by not fishing at all if selected) there is a need to increase the duration of observer coverage for selected vessels. This ADP adopts the duration of a calendar quarter for selected vessels in this stratum. Therefore, selected vessels in this stratum will be responsible for carrying an observer for all of its fishing during the quarter for which they have been selected by working directly with their observer

[3] NMFS plans to query database records to ensure against discrepancies if owners declare their intent is not to fish.

provider. In this ADP, if any portion of a trip falls within a calendar quarter for which the vessel was selected the entire trip will be subject to observer coverage. The duration of coverage in this ADP will help the observer program obtain data from as many of the target fisheries, locations, and times the vessel participates in, was proposed to the Council in documents between 2010 and present, and was first presented to the Council's Observer Advisory Committee in September of 2011.

The definitions for the vessel and trip stratum were determined through an analysis conducted on 2007 and 2008 landings data using recursive binary partitioning – a technique that repetitively splits groups of the variable in question (here landed weight) by variations in a suite of potential cofactors in order to maximize their differences (NPFMC and NOAA 2011). Thus the division of these strata based on a vessel size of 57.5 feet in length overall was due to the fact that there were many vessels of length 58 feet and many vessels of length 57 feet (thus the difference between them was determined to be 57.5). Since the dynamics of vessel size in the fleet is likely to change, and alternative ways to group fishing events also likely to change, the definitions for the trip and vessel strata used here are limited to the 2013 calendar year only.

2.4 How observer effort will be allocated among strata

2.4.1 At-sea sampling

Stratified sampling, such as used here, requires that sample units (trips or vessels) be assigned to one-and-only-one stratum and that within a stratum a single sampling design and estimation process is used. Hence, the partial coverage trip selection stratum and the full coverage stratum are two separate strata and estimation calculations will reflect this. By definition, each trip (or vessel) must be assigned to a stratum before any fishing occurs, the probability of selection must be based on the stratum, and this probability must be known for all observed and unobserved trips (or vessels).

It is nearly impossible to assign observers to a specific fishery since fisheries may be defined by some or all of a combination of area (determined at *the end* of a fishing trip), fishing cooperative, gear type, and trip target (also determined *after* the trip is completed). In addition, fishers do not always fish in the areas nor realize the catch they intended to before the fishing trip began. If observers were deployed randomly onto vessels or fishing trips through stratified random selection (sampling) where every sample unit (vessels or trips) had an equal chance of being selected, then (on average) the proportion of the fisheries (and areas) observed would be proportional to the fisheries (and areas) that fishers participated in.

An immediate benefit to assigning observers to trips with equal probability (within a stratum) is the ability to estimate the 'observer deployment' effect. Since observer coverage within a time/area/gear type/target designation should be proportional to the actual fishing patterns within the same 'fishery' deviations of coverage proportions from the expected values given fishing patterns will be due to errors in reporting of trips (in ODDS) or catch (on landing reports). Regardless of the cause, identifying the magnitude of this potential problem will guide efforts to increase the effectiveness of observer deployment and catch estimation processes.

It may seem intuitive to adjust the probability of observer coverage to reflect the relative size of the fleet, either in terms of effort (trip length, vessel size) or impact to the marine resource (magnitude of catch, or catch histories for example). However in studies that have compared catch estimates resulting from sampling with probabilities proportional to size (PPS) to those obtained through equal probability sampling (as proposed here), it has been found that equal probability sampling was preferable given the relatively marginal estimation benefits (if any) and greater logistical complexities that arise from implementing PPS (Allen et al. 2001; Cotter et al. 2002).

Similarly, the preferential assignment of observers into fleet sectors that are perceived to have a greater potential to impact or encounter species whose populations are of special concern (generally due to a depressed state of the population) may not result in data and hence catch estimates of higher quality or

that better meet management needs. For example, constituents differ on what those species of special concern are and the suite of species of interest may vary over time. Regardless, if the population of such a special species is large, and encounter rates by fishers is common, then the bycatch amounts obtained from observers deployed with equal probability sampling will be unbiased and sampling will be robust enough to capture such events without compromising the catch estimates of other, more abundant species. If however, the bycatch rates for a special species are low, and/or fishing encounters infrequent, then it is possible that a sample may not capture the rare event or if the event is captured, the variance in the resulting catch estimate may be high.

Since the CAS estimates groundfish and PSC catch within sampling strata (vessel or trip selection strata), a change in the sampling rate within a year constitutes the creation of new sampling strata (trips that are subject to the new rate) and therefore has ramifications on catch estimation and evaluation of current estimation procedures. For example, the change in sampling rate marks a point in time that would require creation of an additional stratification of observer information and consequent estimation within that new stratum, but the CAS relies on programming algorithms to provide in-season estimates of catch that may not recognize the new stratum. Changing the programming of the CAS cannot be done quickly enough to accommodate dynamic sampling rates or employ some other procedure (i.e., sample weighting) on an in-season basis.

For the previously described reasons, this ADP will allocate observer effort among trips in the trip selection stratum and among vessels in the vessel selection stratum so that these two strata are sampled at the same rate, and it is the intent of NMFS to keep this value constant throughout the year. For example, each vessel has an x % chance of carrying an observer for a quarter in the vessel-selection stratum while each declared trip in the trip selection stratum has the same x % chance of carrying an observer. This allocation scheme was proposed in documents presented to the Council during 2010 (NPFMC and NOAA 2011).

2.4.2 Dockside sampling

While stock-assessment scientists and in-season managers represent the primary clients of observer data, there are other reasons to deploy observers. Regulations specify full observer coverage for AFA pollock deliveries to monitor salmon bycatch in the Bering Sea. Salmon bycatch in the AFA pollock fishery is enumerated and systematically sampled for genetic tissues following a protocol developed by Pella and Geiger (2009), and there is similar interest in using observers to perform these same tasks in the GOA. While NMFS and industry have worked cooperatively since the start of 2012, new regulations that became effective late in 2012 now require industry to set aside salmon caught as bycatch within the GOA pollock fishery at processing facilities so that the salmon can be tallied and recorded by observers (NOAA 2012b). In order to provide complete monitoring of all pollock offloads, for 2013, observers will be deployed under this ADP to shoreside and floating processors to enumerate and genetically sample salmon bycatch in GOA pollock deliveries since funds to pay for observers are limited. The NMFS and their contracted observer provider will coordinate with the plants to realize this observer coverage. This dockside sampling approach continues to be dependent on the industry retaining salmon and making them available for observer sampling. The ability of NMFS collect an unbiased genetic sample of salmon is dependent on the assumption of full retention of salmon and this will be evaluated.

2.5. Evaluation of the program goal

The evaluation of the program goals will follow the protocols used for the preparation of stock assessments in Alaska. This process utilizes the most recent full year of data (2011) for comparisons between current state (2011 data collected by NPGOP) and a future state (2011 as restructured and sampled according to this ADP). Where appropriate, formulations have been provided using the abbreviations in Table 2 to clarify our methods. We chose the R environment (R Core Development Team, 2011) as the preferred platform on which to conduct data analyses.

Five "evaluation analysis" have been conducted:

1. Cost and fishing effort information were used to simulate total annual program costs under different sampling rate scenarios to determine a final deployment rate to be used in 2013.
2. Simulations were performed to calculate the difference in observer coverage that would have been expected in a prior year of fishing in the partial coverage CV fleet between the (a) actual NPGOP sampling effort and (b) the anticipated sampling effort if that same prior year had been sampled according to this ADP. Comparisons were made at a scale that serves in-season managers (the first main client of observer data).
3. Extrapolations were used to evaluate potential differences in the amount of tissues that had been collected by the NPGOP in 2011 and those that which would be expected to have been collected had the year been sampled according to this ADP. Comparative summaries were made by data type (length or tissues) for a species to serve stock assessment authors and ecosystem scientists (the second main client of observer data).
4. Estimates were made to evaluate the cost of dockside salmon sampling in pollock offloads and its potential impact in terms of at-sea coverage rates.
5. Comparisons in terms of the number of participants, trips, and catch observed by the NPGOP in a prior year and that same year as if sampled according to this ADP were made for the entire fleet.

2.5.1 Evaluation analysis 1: Determination of the deployment rate (r)

The deployment rate (r) of observers into the 2013 at-sea partial coverage category fleet was determined through simulation of 2011 landings information. The basic components of this analysis included the amount of fishing effort conducted by the fleet, and the cost per observer day. Details on how effort was generated can be found in the Appendix 2 and Figure A3-1. Cost estimates derive from confidential contract information negotiated between NOAA's acquisition and grants office and the selected observer provider. The simulated deployment rate was determined from an evaluation of estimated annual program costs assessed against the risk of exceeding the observer program's available funds. One simulation consisted of a random draw of unique trips within the trip-selection stratum, and unique vessel-quarter combinations in the vessel-selection stratum, each with a probability of being observed equal to r.

Total program costs from a single simulation trial (C_S) were determined by summing the number of simulated trips that would have been sampled in the trip-selection stratum and adding these costs to that of observing all trips for selected vessels in each quarter (c_{QV}), or

$$C_S = \sum_{i=1}^{n} c_i + \sum_{Q=1}^{4} \sum_{v=1}^{V} c_{QV}$$

where S indexes the simulated draw of landings (equivalent of trips) made by CVs in 2011 that would belong to the trip-selection stratum and all trips of selected vessels in a quarter that made landings in 2011 that would belong to the vessel-selection stratum. Prior to the establishment of a final contract agreement between an observer provider and NMFS (observer contract), the cost (c) of a trip (n) was originally explored as a function of the base cost rate (B, \$ day^{-1}) estimated to occur from a contract between NMFS and an observer provider (observer contract) added to a random draw of incidental costs (I, \$ day^{-1}) for a trip that has been determined from past invoice data and multiplied for each day (d) so that

$$c_i = (B + I_i) \times d_i$$

and

$$c_{QV} = \sum_{i=1}^{N_{QV}} (B + I_i) \times d_i \, .$$

Upon achievement of the observer contract, these formulations were changed to use the actual contracted values for B, and incidental costs were not included. Instead, incidental costs in simulations were accounted for by reducing the total available funds for the deployment of observers for the upcoming year by the total "not-to-exceed" incidental travel costs for the entire year from the observer contract. Reducing the remaining budget further by the amount of money calculated for dockside deployment in section 2.5.4 resulted in an available "at-sea" budget for the deployment of observers.

Two-thousand values of C_S constituted a set of simulations. The distribution of C_S values from a set was evaluated against the desired outcome that between 88 and 92% of C_S values were at or below the at-sea budget. If the desired outcome was not achieved, the initial rate of sampling was adjusted, another set of simulations was generated, and the evaluation was conducted again. This entire process was repeated until a set of simulations achieved the desired outcome. Based on this evaluation, the deployment rate was 13.03968, or 13.0. The histogram of C_S values from the final set of simulated trials is depicted in Figure 1 and the process for simulating costs and rates is depicted in Figure A3-2.

2.5.2 Evaluation analysis 2: Anticipated changes to CV coverage

Having established a deployment rate, this next analysis was performed to evaluate the questions:

- How much and where is at-sea coverage expected to be realized in 2013 as a result of this deployment plan?
- How does it compare to current levels in the partial coverage category of the CV fleet?

Any examination of changes in CV at-sea observer data needs to be done at scales relevant to the main clients of the observer program. Stock assessment scientists use data from biological tissues such as otoliths and observer length-frequency samples to generate age-length keys to estimate catch-at-age. Some authors examine their catch data at spatial and temporal scales equivalent to the FMP area/year stratum, while others aggregate catch, length and age compositions at the season/NMFS Area scale (e.g., Dorn et al. 2011, Thompson and Lauth 2011). In contrast, the CAS estimation procedures for CVs generally use a post-stratification procedure (with the exception of census salmon) to match observed discard rates with landing information. The definition of post strata depend on whether groundfish or PSC is being estimated (Cahalan et al 2010). The coarsest resolution used in defining post-strata for observer information is at the FMP area, gear, and target; whereas the finest resolution is specific to a vessel's observed trip.

Weighing the ease of calculation, the need for specificity by clients of observer data and the need for a clear interpretation of results, past and anticipated future observed and unobserved fishing effort was examined at the gear/FMP area/target/week scale. A data set was generated that equates to landings made in 2011 in what would constitute the partial coverage category for the CV fleet in 2013. Trips were enumerated for the criteria described above and used to generate heat maps and histograms. Heat maps simultaneously depict the number of trips in a week (column) and gear/FMP area/target (row) combination (i.e. a heatmap cell), and the number of observed trips in a cell. Three heat maps were generated for comparison. In the first map, the cell colors depict the proportion of trips in a cell that were observed in 2011 (Figure 2). In the second map, cell colors depict the proportion of trips in a cell expected to be observed (that is, the *average* number of observed trips in that cell from the final set of 2000 simulations; Figure 3). The third map depicts the difference in the relative coverage values from Figures 2 and 3, expressed as Figure 2 color relative coverage values minus Figure 3 color relative coverage values (Figure 4). While there is variation in the amount of observer coverage in each heat map cell in Figure 3, this variance is not depicted.

Compared to heat maps that express data in a graphical table format and are good at identifying the distribution of values of interest with respect to time and space, histograms depict the relative frequency and distribution of different values of interest. As an alternative way to depict the information provided in

Figure 4, histograms were generated from the trip and relative observer coverage data in Figures 2 and 3 for each FMP/gear type/Target. These plots depict the difference in the distribution of current and anticipated observer coverage rates by hook and line gear (Figure 5), pot gear (Figure 6) and trawl gear (Figure 7). A graphical representation of the process through which the deployment rate is set and these figures were created is depicted in Figure A3-2.

From Figures 2 through 7, the following conclusions can be made.

- Observer coverage in the current deployment system was heavily skewed into BSAI trawl cod fishery during weeks 4-17 and in the GOA trawl cod fishery during weeks 39-41.
- Observer coverage anticipated from this ADP would be expected to result in a greater number of gear/FMP area/target/week combinations that had at least some observer data within them than was realized in 2011 even though future deployment is anticipated to occur at a lower rate based on trips than current deployment rules based on days. This is especially true for the hook and line fleet, of which a large number are under 60 feet in length and fish halibut.
- The median coverage rate anticipated under this ADP is greater than that of the current program in seven of seven FMP area/target combinations for hook and line gear, three of four combinations for pot gear, and 7 of 12 combinations for trawl gear. For pot gear, median values of coverage declined between current and future simulations in the BSAI sablefish fishery. For similar comparisons made for trawl gear, median values of coverage declined for BSAI cod and GOA arrowtooth, and median values were similar for GOA cod and GOA pollock.

2.5.3 Evaluation Analysis 3: Anticipated changes to the number of lengths and specimens

Since the specimens collected by observers are used by stock assessment scientists, it is important to gauge the potential impact that changes in the deployment of observers will have on the amount of tissues collected. Each year, FMA solicits requests for changes in their observer training manual from other groups including stock assessors within the AFSC and the number of specimens collected annually can change based on their responses. Perhaps the most important sources of change with respect to the number of specimens observers collect are the fish length and specimen tables (e.g., pgs 13-25 to 13-34, NMFS 2010). These tables dictate the type, the amount, and from what species observers collect lengths and specimens from each haul based on the predominant species in that haul, and what FMP the vessel is fishing. Out of necessity, in order to determine the number of specimens we would anticipate to be collected from this deployment plan, the decision was made to calculate tissue accumulation rates where applicable assuming that the rates in the future would be identical to those in the past (that is, the table of instructions to observers did not change). In practice, NMFS may adjust these sampling rates to address potential shortfalls for stock assessment.

There are three potential sources of length and tissue information: those collected at-sea on a CV, those collected at-sea on at CP or M, and those collected from CV deliveries dockside. Within each of these sources, the current (i.e. 2011 actual data) and the future (2011 data based on the 2013 deployment methods) number of lengths and specimens needed to be obtained and calculated respectfully. Since separate calculations needed to be made for each potential source of length and tissue data, data summaries from this exercise were made at the FMP area/source/species level of aggregation. For a workflow diagram of length and tissue analyses the reader is referred to Figure A3-3.

The simplest calculation was the enumeration of lengths and tissues from the 2011 observer database NORPAC that provided a baseline from which to evaluate future changes.

Future length measurements and biological specimens from dockside sources were calculated by enumerating only those lengths and specimens collected from within the BSAI AFA fishery, and adding these values to the number of reported Chinook (a.k.a. King) salmon (*Oncorhynchus tshawytscha*) and

non-Chinook salmon landed in 2011 from the GOA[4] that had been multiplied by 0.1 and 0.3 respectfully since these sampling rates represent those currently used by the NPGOP for salmon tissue collections following the instructions to observers that originated from AFSC genetic scientists at the Auke Bay Laboratories (NMFS 2010).

Since the reporting timeframe for CP and M data is the day, future lengths and specimens from this sector of the fleet were calculated by summing the number of lengths and specimens collected by observers (x) from within this fleet (both from those entities that required full coverage, G, and those that required partial coverage, P), dividing these values by the number of observed days (d) to yield a "tissue accumulation rate" (per day), and multiplying this rate by the expected change in number of CP and M days expected to be observed in 2013 (that is, total days (D) minus the observed (O) days). This value was then be added to the number of length measurements and biological specimens collected from this fleet by NPGOP. Alternatively these calculations can be expressed as:

$$x_{CP13} = \left[\frac{x_G + x_{P_o}}{d_G + d_{P_o}} \times \left(D - (d_G + d_{P_o})\right)\right] + x_G + x_{P_o}$$

where

$$D = d_{P_U} + d_G + d_{P_o} = d_{P_U} + d_O.$$

Creating estimates of future length and specimen counts from within the CV sector of the fleet was a challenging aspect of this evaluation. Using similar expansion logic to that used above, the anticipated number of lengths and specimens for 2013 was calculated from the expansion of an accumulation rate (here for each FMP area/target/species combination) that had been derived using existing information. However, unlike the CP and M sector of the fleet that report catch in terms of days, the CV fleet reports fishing effort and catch in units of trips (n). Therefore, for the CV fleet, the number of anticipated future tissues and lengths (x) for each species was determined by multiplying a "tissue accumulation rate" determined from NPGOP sampling in the 2011 partial coverage category by the number of anticipated observed trips to occur in a FMP area/target. Therefore, the mean estimated number of lengths and specimens for a species can be expressed as:

$$\bar{x}_{CV13} = x_J + round\frac{A}{n_S}$$

where

$$A = \left[\left(\frac{x_{Y_O}}{n_{Y_O}}\right) \times S\right],$$

and J represents the 2011 sector of the fleet that has full coverage due to cooperative membership (and would remain under full coverage in 2013), Y_O is the 2011 partial coverage CV fleet, S represents a simulated number of observed trips from the 2011 landings data that would be classified as belonging to the 2013 partial coverage category using the rate defined in section 2.5.1 and n_S is the number of simulated draws of trips (chosen to be 2000 here- Table 2). Similarly the 0.025 and the 0.975 quantiles of A added to x_J yielded the upper and lower confidence bounds for the estimates of $\bar{x}_{CV13}$.

Summaries of the actual and anticipated future lengths and specimens to result from this ADP are presented in Tables 3 and 4 for the BSAI and GOA respectfully.

[4] as reported by the Alaska Fisheries Information Network (AKFIN)

Since it is difficult to gain a broad program-wide understanding of the potential impacts of a restructured observer program from summary tables, for each FMP area/species, relative differences in the total amount of each tissue type (lengths, ageing structures, maturities, and stomachs) were calculated from:

$$\Delta_x = \frac{x_e - x_O}{x_O}$$

so that the estimated (e) number of tissues to have been collected in 2011 using 2013 ADP sampling procedures is compared to those actually collected in 2011 (O). Plots of Δ_x were made with respect to values of x realized in 2011 to determine whether patterns were evident among species within an FMP (Figure 8). As anticipated, the magnitude of changes in lengths and tissues was negatively related to the values of x realized in 2011. In other words, those species that saw large numbers of lengths and ages collected in 2011 are anticipated to experience the least relative change from those values as a result of the restructured program and *vise versa*. Most of these differences are the result of changes in dockside observer deployment strategies. For example, a large relative increase in GOA Chinook salmon lengths would be offset by a relatively large decrease in GOA pollock and cod ageing structures (otoliths). However while a decrease in total maturity and stomach samples would also be anticipated for GOA pollock, similar values for cod are expected to increase (Figure 8). The at-sea collection rates that are included in the instructions to 2013 observers are likely to be adjusted to account for these differences.

2.5.4 Evaluation Analysis 4: Anticipated cost of dockside sampling for GOA salmon genetics

Tracking the bycatch of salmon in the pollock fishery has been an ongoing concern for NMFS and the Council. Bycatch of Chinook salmon in the GOA pollock fishery has historically accounted for the greatest proportion of Chinook salmon taken in the GOA groundfish fisheries (NMFS 2012). To address these concerns, the Council took action in June of 2011 which capped the Chinook bycatch in 2012 in the GOA, and NMFS is working with industry to collect salmon tissues from this bycatch (NOAA 2012b).

The amount of observer time and money required to sample pollock offloads in the GOA for salmon genetics was estimated in several steps. First, the total amount of salmon (W) in each GOA pollock offload (L) each day (d) during 2011 was enumerated. Next, the sum of the number of Chinook salmon (K) divided by 10 and the number of chum salmon (H) divided by 30 will be used as a proxy for the number of genetic samples taken in each offload (x_l) following the instructions to observers that originated from AFSC genetic scientists at the Auke Bay Laboratories (NMFS 2010). Using the time-per-task values from prior analyses of observer duties at-sea as a guide (MRAG 2004), the number of total salmon was multiplied by 0.008 and the number of genetic samples multiplied by 0.17 to determine the observer workload in units of hours per offload. The mean value ($\bar{t}$) among offloads was then multiplied against the number of GOA pollock landings made each day to yield the daily observer workload. Next this daily observer workload was divided by a 12 hour day, rounded, and a value of one added to yield the number of observers required for this day (f_d). This calculation is presented in this way under the assumption that partial days would be billed to NMFS by the observer contractor as a full day. Multiplying the contract value of an observer day by the number of observers required for each GOA pollock offload day and summing yielded the total cost of this task. Expressed mathematically these calculations read as:

$$total\ cost = \sum_{d=1}^{D} f_d \times \$cost\ of\ observer\ day$$

where

$$f_d = \left[round \frac{(L_d \times \bar{t})}{12} \right] + 1$$

and

$$\bar{t} = \frac{\sum_{l=1}^{L} (W_l \times 0.008) + (x_l \times 0.17)}{L}$$

and

$$x_l = \frac{K_l}{10} + \frac{H_l}{30}.$$

To evaluate the impact of this task on the at-sea deployment rate, the total cost of the task defined above was converted into at-sea days by dividing by the contract estimate of an at-sea day to yield the number of potential at-sea days. Dividing f_d by the estimated at-sea fishing effort days for the 2013 partial coverage fleet yielded the "cost" of GOA dockside observer deployment in terms of the at-sea deployment rate. The dockside work effort (days) in this ADP represented less than a third of a percent of the total 2013 at-sea partial-coverage category fleet effort. For a workflow diagram the reader is referred to Figure A3-4.

2.5.5 Evaluation Analysis 5: Summary of total observer deployment in the fleet

Up until now, the evaluation analyses of restructure have dealt with individual aspects of the program. Here, evaluations between the actual 2011 observer data, and that expected had 2011 been sampled under this ADP was conducted with respect to three metrics for the entire fleet. The first of these metrics is the number of vessels, which is a proxy for the number of fishery participants "in the program." The second metric is the number of days, which equates not only to fishing effort, but also to costs. Finally, the total catch was evaluated since this metric equates to resource use and impact by the fleet.

Data for fleet evaluations come from multiple sources. For a workflow diagram of how total fleet comparisons were generated, the reader is referred to Figure A3-5. Table 5 contains the output from these comparisons. Comparisons of 2011 actual observer coverage to that expected had 2011 been sampled according to this ADP reveal that the restructured program would have reduced the number of vessels without any chance of observer coverage and increased the number of vessels in the partial coverage category with little change in the full coverage category. Consequently, the sampling rate for the partial coverage fleet according to this ADP is reduced compared to that achieved in 2011. However, since CPs are all within the 2013 ADP full-coverage category and these vessels fish disproportionately greater days and catch compared to CVs, when partial and full coverage fleets are combined, sampling under this ADP would have resulted in a small net increase in observer coverage in terms of total vessels, days, and catch compared to 2011 actual values.

2.6 Methods to evaluate the 2013 Observer program in 2013

In the Council's June 2012 meeting, NMFS proposed that in June of each year they would deliver a report on how participants in the fleet adjusted to the new ADP, and termed this the "ADP performance report." While a complete list of elements to be included in this future document is beyond the scope of this ADP, we will include how NMFS will be tracking key performance metrics. To address the second portion of this ADP's objective (do not run out of funds), the NFMS needs to track ongoing expenses against available funds. Following the example used in the Northeast Groundfish Observer Program, the relative cumulative days fished in the partial coverage stratum (normalized so it sums to 1) in the most recent past year will be plotted against the relative cumulative cost of observer deployment in the current year derived from (a) the number of days and cost per day in the ODDS, and (b) the number of days in debriefed status within NORPAC. While (a) represents anticipated costs to NMFS in near real time, (b)

represents actual billable costs to NMFS, but will be delayed by up to 90 days since this is the maximum deployment for an observer prior to debriefing. In addition, the rates of observer coverage in terms of trips for the partial coverage category portion of the fleet from *e*Landings reports will be compared to those declared in ODDS and those for which NORPAC data exists. Deviations from expected values of coverage given ODDS deployment rates will be interpreted as the combination of both random error (unintentional) and intentional forces (e.g., the observer effect). Comparisons between these deviations among various fisheries, ports, and times of year will be used to gain insight as to which of these forces are responsible for observed patterns, and will be used to recommend targeted outreach, education, and enforcement activities to portions of the fleet. This "deploy and evaluate" approach represents an iterative improvement of the deployment efficiency of observers by NMFS.

3.0 Innovation for 2013

This 2013 NPGOP EM project strategy and design incorporates many of the lessons learned from past studies in Alaska and elsewhere- for example those summarized before the Pacific Fisheries Management Council at their April 2012 meeting (Appendix 1; Environmental Defense Fund 2012). Many (if not all) of these studies would not have been possible without close cooperation from the fishing industry (industry). It is obvious that building a strong working relationship with the industry is essential to the future success of an EM program in the North Pacific.

The objective of EM deployment in 2013 is to evaluate the efficacy of EM to identify species and the disposition of those species covered by the full retention requirements for Demersal Shelf rockfish in the hook-and-line fishery operating out of southeastern Alaska (NMFS reporting area 649 and 650) and, if funding permits the Central Gulf of Alaska (NMFS reporting area 630). Towards this end, a contract was developed by NMFS for a business to construct, deploy, and maintain a video based EM system on vessels in the vessel-selection stratum. Vessel operators whose vessels are within the vessel-selection stratum and have indicated they would like to volunteer for the EM program will be included in the list of vessels that will be randomly selected from to determine EM deployment to occur in each calendar quarter. However, given financial limitations, to meet OAC intent, and improve logistical efficiencies, EM systems will not be deployed until the second calendar quarter (April 1st) and will only be deployed on vessels with a history of fishing from the ports of Homer, Petersburg, Sitka, and (if funding permits) Kodiak. The number of vessels that will receive EM within any given quarter will be equal to the number of EM units available. This will be determined upon finalization of a test video that will guide final development of an EM system that will be deployed and from which the final cost will be determined. . Vessels selected for an EM system will be notified through the U.S. Postal Service 30 days prior to the start of the calendar quarter. The letter will contain instructions and contact information for the EM contractor to get the system installed prior to the first fishing trip of the calendar quarter. Following system installation, the EM contractor will provide detailed instructions and training on how to operate and maintain the EM system to ensure the camera system continues to deliver clear footage throughout a trip. Upon completion of all fishing trips for the calendar quarter the EM system will be removed, hard drives replaced and prepared for integration onto another vessel. Video data will be analyzed by NMFS after retrieval to evaluate operators' ability to maintain the EM system and results will be reported to the Council.

The assignment of EM systems to vessels will not preclude their observation by human observers. The deployment of EM units onto vessels that carry and do not carry human observers will allow NMFS to evaluate if the presence of an observer influences catch and discard rates. Furthermore, to address concerns over misreporting, dockside monitoring will be incorporated into the study design. For trips that carry a human observer and EM, data from four sources can be compared: at-sea counts of rockfish from cameras, at-sea counts from observers, dockside counts from the at-sea observer who follows the catch

dockside, and dockside counts from industry (i.e. landing) reports. Although not simple to accomplish, the FMA has successfully embarked on this type of study and data comparison in the past (Faunce 2011).

Almost all EM applications in recent years have focused on the use of cameras. The use of alternative EM units to cameras that are less expensive may provide an opportunity for broader coverage throughout the fleet. The NMFS intends to develop non-camera systems that would collect set and haul positions, skipper estimates of discard and catch per set using a paper log or an electronic logbook that is currently in development. In addition, non-camera systems may include passive monitoring techniques such as GPS and sensors such as data loggers to determine fishing effort and location. Development of these systems will be entirely dependent upon funding that has yet been identified.

4.0 Acknowledgements

This work originates from a September 5, 2012 draft version that was produced by the Observer Restructure Analysis Group (ORAnG). The ORAnG was formed in July 2011 to provide analytical guidance and support towards the effective and efficient deployment of observers in the North Pacific. The group is comprised of (in alphabetical order): Teresa Amar (AFSC/ Resource Ecology and Fisheries Management Division, REFM), Jennifer Cahalan (Pacific States Marine Fisheries Commission and AFSC/FMA), Craig H. Faunce (lead, AFSC/FMA), Jason Gapser (core member, AKRO), Sandra Lowe (AFSC/REFM), Jennifer Mondragon (AKRO), Farron Wallace (core member, AFSC/FMA) and Ray Webster (IPHC). Additional review and guidance on the deployment of dockside observers was provided by Martin Loefflad (Director, AFSC/FMA) and Patti Nelson (Deputy Director, AFSC/FMA). ODDS programming is being performed by AFSC/FMA staff members Paul Packer and Martin Park with testing and documentation by Glenn Campbell under the management of Doug Turnbull, with consultation from Craig Faunce and Farron Wallace.

5.0 Literature Cited

Allen, M., Kilpatrick, D., Armstrong, M., Briggs, R., Perez, N. and Course, G. 2001. Evaluation of sampling methods to quantify discarded fish using data collected during discards project EC 95/094 by Northern Ireland, England and Spain. Fisheries Research, 49: 241-254.

Cahalan, J., Mondragon, J., and Gasper, J. 2010. Catch sampling and estimation in the federal groundfish fisheries off Alaska. NOAA Technical Memo NMFS-AFSC-205: 51 pp.

Cochran, W. G. 1977. Sampling techniques. John Wiley and Sons, Inc. New York. 428 p.

Cotter, A. J. R., Course, G., Buckland, S., and Garrod, C. 2002. A PPS sample survey of English fishing vessels to estimate discarding and retention of North Sea cod, haddock, and whiting. Fisheries Research, 55: 25-35.

Environmental Defense Fund. 2012. Electronic monitoring: Lessons learned and recommendations for further development. A Review of EM Pilot Studies Relevant to U.S. Groundfish Fisheries. Accessed on 8/28/12 from http://www.pcouncil.org/wp content/uploads/I4d_SUP_PC2_APR2012BB.pdf.

Dorn, M. W., Aydin, K., Barbeaux, S. J., Guttormsen, M., Spalinger, K., and Palsson, W. 2011. Assessment of the Walleye Pollock stock in the Gulf of Alaska. *In* Stock assessment and fishery evaluation report for the groundfish resources of the Gulf of Alaska, pp. 33-148. Alaska Fisheries Science Center, Seattle.

Faunce, C. H. 2011. A comparison between industry and observer catch compositions within the Gulf of Alaska rockfish fishery. ICES Journal of Marine Science, 68: 1769-1777.

MRAG Americas, Inc. 2004. Evaluation and analysis of current field sampling used in North Pacific Groundfish fisheries Annex to the report of Task 1: Report on the second series of field trials to

test proposed alternative sampling methods. 46 pp. Available from the Alaska Fisheries Science Center, Fisheries Monitoring and Analysis Division, Seattle.

NMFS (National Marine Fisheries Service). 2012. Chinook salmon prohibited species catch in the Gulf of Alaska Pollock Fishery. February 2012 Final Environmental Assessment/ Regulatory Impact Review/ Initial Regulatory Flexibility Analysis for Amendment 93 to the Fishery Management Plan for Groundfish of the Gulf of Alaska. 296 pp. plus Appendices. Accessed on August 23, 2012 at http://www.fakr.noaa.gov/sustainablefisheries/amds/93/amd93eariririrfa0212.pdf

NMFS 2010. 2011 Observer Sampling Manual. Accessed on July 30, 2012 at http://www.afsc.noaa.gov/FMA/Manual_pages/MANUAL_pdfs/manual2011.pdf.

NOAA (National Oceanic and Atmospheric Administration) 2012a. Groundfish Fisheries of the Exclusive Economic Zone off Alaska and Pacific Halibut Fisheries; Observer Program 50 CFR Part 679 [Docket No. 110831549–2180–01]. Federal Register / Vol. 77, No. 75 / Wednesday, April 18, 2012 / Proposed Rules. Accessed on April 20, 2012 at http://alaskafisheries.noaa.gov/prules/77fr23326.pdf.

NOAA (National Oceanic and Atmospheric Administration) 2012b. Fisheries of the exclusive economic zone off Alaska; Chinook salmon bycatch management in the Gulf of Alaska pollock fishery; Amendment 93 50 CFR Parts 679-680 [Docket No. 110627357-2209-03]. Federal Register / Vol. 77, No. 140 / Friday, July 20, 2012 / Rules and Regulations. Accessed on August 30th, 2012 at http://www.gpo.gov/fdsys/pkg/FR-2012-07-20/pdf/2012-17289.pdf

NPFMC (North Pacific Fisheries management Council). 2010. Council Final Motion on Observer Restructuring BSAI Amendment 86/GOA Amendment 76, October 8, 2010. Accessed on 8/30/12 at http://www.fakr.noaa.gov/npfmc/PDFdocuments/conservation_issues/Observer/ObserverMotion1010.pdf

NPFMC (North Pacific Fishery Management Council) and NOAA. 2011. Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for Proposed Amendment 86 to the Fishery Management Plan for Groundfish of the Bering sea/Aleutian Islands Management Area and Amendment 76 to the Fishery Management Plan for Groundfish of the Gulf of Alaska Restructuring the Program for Observer Procurement and Deployment in the North Pacific, Secretarial Review Draft. March 2011. Accessed on August 30th 2012 at http://www.fakr.noaa.gov/analyses/observer/A86%20and%2076%20ea_rir_irfa.ea.pdf.

Pella, J. J., and H.J. Geiger, H. J. 2009. Sampling considerations for estimating geographic origins of Chinook salmon bycatch in the Bering Sea Pollock fishery. ICES Document, Alaska Department of Fish and Game, Special Publication No. 09-08, Anchorage.

R Development Core Team (2011). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0, URL http://www.R-project.org.

Thompson, S. K., and Lauth, R. R. 2011. Assessment of the Pacific cod stock in the Eastern Bering Sea and Aleutian Islands Area. In Stock Assessment and Fishery Evaluation Report for the Bering Sea and Aleutian Islands, pp. 269-476. Alaska Fisheries Science Center, Seattle.

6.0 Tables.

Table 1. Coverage strata for the 2013 ADP. Table is organized by vessel type for non-CDQ fisheries (A), and by target for CDQ fisheries (B).

	Zero Coverage	Partial-Vessel Selection	Partial-Trip Selection	Full Coverage
Vessel type		**A. Non-CDQ Fisheries**		
CV	Jig gear State GHL fisheries <40'LOA	between 40' and 57.5' LOA	>57.5' and not in RP or AFA	BS AFA Pollock vessels CGOA RP
CP	none	none	Vessels meeting CP exemption criteria	All non-exempted CPs[5]
M	none	none	none	All
Target		**B. CDQ Fishery**		
Halibut	none	Hook and line	Hook and line	None
Sablefish	none	Hook and line	Hook and line	None
Sablefish	none	Pot	Pot	None
Pollock	none	none	none	All trawl gear and motherships
Other groundfish	none	Pot	Pot	All trawl and hook-and-line

[5] Includes jig gear.

Table 2. Symbols used in calculations in the order they appear.

Symbol	Definition
r	Rate (selection probability in simulations).
N	Trips.
N_{CV13}	N trips taken in the CV partial coverage fleet according to 2013 (ADP) definitions.
S	Simulated trips sampled from N_{CV13}.
c_i	Cost for trip i.
Q	Calendar quarter.
V	Vessel, v=1,...V vessels.
B	Base cost rate ($ day^{-1}) from contract between NMFS and the selected observer provider(s).
I	A random draw from a distribution of CV invoice incidental costs ($ day^{-1}).
D	Calendar days.
N_{Qv}	N trips taken in vessel v in quarter Q.
CV13	Catcher vessel data defined by 2013 observer deployment rules.
X	Number of biological tissues. In 2.5.3- Includes lengths, ageing structures (otoliths, spines and vertebrae), sexual maturity assessments, and stomachs. In 2.5.4 includes only lengths and genetic samples).
CP13	Catcher processor/Mothership data defined by 2013 observer deployment rules.
G	2011 full coverage CP and M sector of the fleet.
P	2011 partial coverage CP and M sector of the fleet.
O	Observed in 2011.
U	Unobserved in 2011.
J	2011 full coverage CV sector of the fleet due to membership in cooperatives.
Y	2011 partial coverage CV sector of the fleet.
A	Simulated number of tissues for a species/FMP area/target.
Δ	Change in, difference between.
e	Estimated value using 2013 (ADP) definitions.
W	Number of salmon.
L	Number of GOA pollock offloads.
K	Number of king salmon.
H	Number of chum salmon.
T	Observer working time (hours^{-1})
F	Number of observers.

Table 3. Summary of length and tissues collected from species by observers in 2011 (labeled as actual) and those estimated to be collected if 2011 had been sampled according to this ADP (labeled as future) from the Bering Sea and Aleutian Islands. For catcher vessel data, the mean and upper and lower 95% bounds are provided.

Species	Actual Lengths	Future Lengths	Lower 95% L	Upper 95% L	Actual ageing	Future ageing	Lower 95% A	Upper 95% A	Actual Maturities	Future Maturities	Lower 95% M	Upper 95% M	Actual Stomachs	Future Stomachs	Lower 95% S	Upper 95% S
ALASKA PLAICE	14,328	14,335	14,335	14,335	686	686	686	686	-	-	-	-	-	-	-	-
ALASKA SKATE	28,766	35,292	35,255	35,332	-	-	-	-	-	-	-	-	-	-	-	-
ALEUTIAN SKATE	2,552	3,300	3,287	3,314	-	-	-	-	-	-	-	-	-	-	-	-
ANGULATUS TANNER	676	402	272	544	-	-	-	-	-	-	-	-	-	-	-	-
ARROWTOOTH FLOUNDER	887	893	893	893	5	5	5	5	346	346	346	346	307	307	307	307
ATKA MACKEREL	20,351	20,361	20,361	20,361	1,976	1,977	1,977	1,977	-	-	-	-	-	-	-	-
BAIRDI TANNER CRAB	24,277	21,212	20,639	21,804	-	-	-	-	-	-	-	-	-	-	-	-
BERING SKATE	3,626	4,681	4,681	4,682	-	-	-	-	-	-	-	-	-	-	-	-
BIG SKATE	217	249	246	251	-	-	-	-	-	-	-	-	-	-	-	-
BIGMOUTH SCULPIN	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
BLUE KING CRAB	234	300	300	300	-	-	-	-	-	-	-	-	-	-	-	-
BROWN KING CRAB	10,816	9,578	8,347	10,918	-	-	-	-	-	-	-	-	-	-	-	-
BUTTER SOLE	21	21	21	21	-	-	-	-	-	-	-	-	-	-	-	-
CHINOOK SALMON	2,634	2,635	2,635	2,636	-	-	-	-	-	-	-	-	-	-	-	-
CHUM SALMON	6,792	6,802	6,802	6,802	-	-	-	-	-	-	-	-	-	-	-	-
COHO SALMON	36	37	37	37	-	-	-	-	-	-	-	-	-	-	-	-
COMMANDER SKATE	521	671	671	671	-	-	-	-	-	-	-	-	-	-	-	-
COUESI KING CRAB	534	331	243	427	-	-	-	-	-	-	-	-	-	-	-	-
DARK ROCKFISH	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
DEEPSEA SKATE	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
DUSKY ROCKFISH	1,197	1,198	1,198	1,198	36	36	36	36	-	-	-	-	-	-	-	-
FLATHEAD SOLE	16,192	16,304	16,303	16,306	877	882	882	882	-	-	-	-	-	-	-	-
GIANT GRENADIER	2,799	3,389	3,342	3,440	-	-	-	-	-	-	-	-	-	-	-	-
GREAT SCULPIN	3,476	3,489	3,488	3,489	-	-	-	-	-	-	-	-	-	-	-	-
HYBRID TANNER CRAB	25	26	26	26	-	-	-	-	-	-	-	-	-	-	-	-
KAMCHATKA FLOUNDER	373	373	373	373	-	-	-	-	-	-	-	-	-	-	-	-
LONGNOSE SKATE	12	14	14	15	-	-	-	-	-	-	-	-	-	-	-	-
LYRE CRAB UNIDENTIFIED	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
MUD SKATE	497	551	551	551	-	-	-	-	-	-	-	-	-	-	-	-
NORTHERN ROCK SOLE	48,778	48,747	48,739	48,754	2,151	2,152	2,152	2,152	-	-	-	-	-	-	-	-
NORTHERN ROCKFISH	1,596	1,600	1,600	1,600	469	470	470	470	-	-	-	-	-	-	-	-
OCTOPUS UNIDENTIFIED	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OPILIO TANNER CRAB	20,343	22,547	22,449	22,649	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC COD	180,900	206,743	205,100	208,398	2,438	2,130	2,113	2,147	1,281	1,134	1,127	1,141	319	316	316	317
PACIFIC HALIBUT	52,908	54,574	54,276	54,885	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC OCEAN PERCH	12,109	12,115	12,115	12,115	2,809	2,810	2,810	2,810	-	-	-	-	-	-	-	-
PACIFIC SLEEPER SHARK	9	10	10	10	-	-	-	-	-	-	-	-	-	-	-	-
PARALOMIS MULTISPINA	2	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
PINK SALMON	189	189	189	189	-	-	-	-	-	-	-	-	-	-	-	-
PLAIN SCULPIN	7,064	7,067	7,067	7,068	-	-	-	-	-	-	-	-	-	-	-	-
POLLOCK	345,971	345,658	345,644	345,672	6,608	6,600	6,599	6,600	4,570	4,567	4,567	4,567	1,673	1,674	1,674	1,674
RED KING CRAB	2,098	2,472	2,471	2,473	-	-	-	-	-	-	-	-	-	-	-	-
REX SOLE	27	27	27	27	-	-	-	-	-	-	-	-	-	-	-	-
ROCK SOLE UNIDENTIFIED	1,362	1,363	1,363	1,363	26	26	26	26	-	-	-	-	-	-	-	-
ROUGHEYE ROCKFISH	849	1,029	1,025	1,033	177	196	195	197	-	-	-	-	-	-	-	-
ROUGHTAIL SKATE	12	16	16	16	-	-	-	-	-	-	-	-	-	-	-	-
SABLEFISH (BLACKCOD)	13,443	10,577	9,046	12,285	1,919	1,512	1,315	1,726	-	-	-	-	-	-	-	-
SALMON SHARK	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
SHORTRAKER ROCKFISH	1,158	1,502	1,464	1,543	312	397	386	409	-	-	-	-	-	-	-	-
SHORTSPINE THORNYHEAD	1,893	2,239	2,239	2,239	528	619	619	619	-	-	-	-	-	-	-	-
SOCKEYE SALMON	26	26	26	26	-	-	-	-	-	-	-	-	-	-	-	-
SOUTHERN ROCK SOLE	119	119	119	119	5	5	5	5	-	-	-	-	-	-	-	-
SPINY DOGFISH SHARK	2	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
SQUID UNIDENTIFIED	5,775	5,776	5,776	5,776	-	-	-	-	-	-	-	-	-	-	-	-
TANNERI TANNER	338	213	156	277	-	-	-	-	-	-	-	-	-	-	-	-
TURBOT (GREENLAND)	7,110	8,359	8,359	8,359	410	465	465	465	-	-	-	-	-	-	-	-
WARTY SCULPIN	18	18	18	18	-	-	-	-	-	-	-	-	-	-	-	-
WHITEBLOTCHED SKATE	1,575	3,222	2,700	3,768	-	-	-	-	-	-	-	-	-	-	-	-
WHITEBROW SKATE	122	156	156	156	-	-	-	-	-	-	-	-	-	-	-	-
YELLOW IRISH LORD	8	8	8	8	-	-	-	-	-	-	-	-	-	-	-	-
YELLOWFIN SOLE	124,293	124,424	124,424	124,424	5,533	5,538	5,538	5,538	-	-	-	-	-	-	-	-
Grand Total	**971,946**	**1,007,256**	**1,000,918**	**1,013,992**	**26,965**	**26,506**	**26,279**	**26,750**	**6,197**	**6,047**	**6,040**	**6,054**	**2,299**	**2,297**	**2,297**	**2,298**

Table 4. Summary of length and tissues collected from species by observers in 2011 (labeled as actual) and those estimated to be collected if 2011 had been sampled according to this ADP (labeled as future) in the Gulf of Alaska. Format follows Table 2.

Species	Actual Lengths	Future Lengths	Lower 95% L	Upper 95% L	Actual ageing	Future ageing	Lower 95% A	Upper 95% A	Actual Maturities	Future Maturities	Lower 95% M	Upper 95% M	Actual Stomachs	Future Stomachs	Lower 95% S	Upper 95% S
ALASKA SKATE	154	174	167	183	-	-	-	-	-	-	-	-	-	-	-	-
ALEUTIAN SKATE	835	1,003	991	1,016	-	-	-	-	-	-	-	-	-	-	-	-
ARROWTOOTH FLOUNDER	11,315	11,068	10,611	11,533	8	6	6	6	-	-	-	-	-	-	-	-
ATKA MACKEREL	473	653	653	653	96	133	133	133	-	-	-	-	-	-	-	-
BAIRDI TANNER CRAB	767	888	852	928	-	-	-	-	-	-	-	-	-	-	-	-
BERING SKATE	459	603	589	618	-	-	-	-	-	-	-	-	-	-	-	-
BIG SKATE	660	777	748	810	-	-	-	-	-	-	-	-	-	-	-	-
BLUE KING CRAB	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
BROWN KING CRAB	6	6	6	6	-	-	-	-	-	-	-	-	-	-	-	-
BUTTER SOLE	113	73	72	75	15	-	-	-	-	-	-	-	-	-	-	-
CHINOOK SALMON	300	1,448	1,446	1,450	-	-	-	-	-	-	-	-	-	-	-	-
COMMANDER SKATE	6	7	7	7	-	-	-	-	-	-	-	-	-	-	-	-
COUESI KING CRAB	5	6	5	6	-	-	-	-	-	-	-	-	-	-	-	-
DARK ROCKFISH	39	54	54	54	2	3	3	3	-	-	-	-	-	-	-	-
DOVER SOLE	190	184	180	189	25	23	23	23	-	-	-	-	-	-	-	-
DUSKY ROCKFISH	3,550	4,162	4,158	4,168	837	977	973	983	-	-	-	-	-	-	-	-
ENGLISH SOLE	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FLATHEAD SOLE	2,849	2,161	1,993	2,345	453	253	240	267	-	-	-	-	-	-	-	-
GIANT GRENADIER	3,118	4,931	4,524	5,367	-	-	-	-	-	-	-	-	-	-	-	-
LONGNOSE SKATE	416	531	516	548	-	-	-	-	-	-	-	-	-	-	-	-
LONGSPINE THORNYHEAD ROCKFISH	2	3	3	3	2	3	3	3	-	-	-	-	-	-	-	-
NORTHERN ROCK SOLE	647	521	368	703	65	35	23	50	-	-	-	-	-	-	-	-
NORTHERN ROCKFISH	5,121	6,091	6,088	6,094	1,271	1,528	1,525	1,531	-	-	-	-	-	-	-	-
OCTOPUS UNIDENTIFIED	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
OPILIO TANNER CRAB	2	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC COD	43,734	34,514	32,641	36,439	3,705	356	340	373	33	34	32	36	27	28	26	29
PACIFIC HALIBUT	9,900	11,179	10,569	11,813	-	-	-	-	-	-	-	-	-	-	-	-
PACIFIC OCEAN PERCH	9,800	11,246	11,138	11,398	2,224	2,581	2,554	2,620	-	-	-	-	-	-	-	-
PACIFIC SLEEPER SHARK	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
POLLOCK	20,742	6,648	5,741	7,588	3,964	1,114	958	1,273	24	18	15	20	25	18	15	21
REDSTRIPE ROCKFISH	16	16	16	16	5	5	5	5	-	-	-	-	-	-	-	-
REX SOLE	3,874	4,257	4,224	4,300	462	356	355	358	-	-	-	-	-	-	-	-
ROCK SOLE UNIDENTIFIED	50	13	13	14	16	1	1	1	-	-	-	-	-	-	-	-
ROUGHEYE ROCKFISH	993	1,716	1,601	1,840	328	681	624	743	-	-	-	-	-	-	-	-
ROUGHTAIL SKATE	2	3	3	4	-	-	-	-	-	-	-	-	-	-	-	-
SABLEFISH (BLACKCOD)	14,827	25,292	22,944	27,824	2,038	3,159	2,873	3,461	-	-	-	-	-	-	-	-
SALMON SHARK	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
SHORTRAKER ROCKFISH	1,012	1,752	1,611	1,901	380	708	651	771	-	-	-	-	-	-	-	-
SHORTSPINE THORNYHEAD	1,719	1,717	1,699	1,737	405	432	427	437	-	-	-	-	-	-	-	-
SOUTHERN ROCK SOLE	758	472	360	604	99	19	14	24	-	-	-	-	-	-	-	-
SPINY DOGFISH SHARK	6	9	8	11	-	-	-	-	-	-	-	-	-	-	-	-
TANNERI TANNER	50	71	63	80	-	-	-	-	-	-	-	-	-	-	-	-
YELLOW IRISH LORD	164	137	89	195	-	-	-	-	-	-	-	-	-	-	-	-
NON-CHINOOK SALMON	52	85	83	87	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	**138,733**	**134,478**	**126,841**	**142,615**	**16,400**	**12,373**	**11,731**	**13,065**	**57**	**52**	**47**	**56**	**52**	**46**	**41**	**50**

Table 5. Comparisons between the number of vessels, days and Catch (metric tons, MT) realized and observed in 2011 (A.), 2011 as-restructured (2011 sampled according to this ADP, B), and the differences between them (C, or B minus A.). Data are summarized by the zero, partial and full-coverage portions of the fleet. Note the definitions of these fleet components changes between A and B.

Coverage Category	Vessels	Days	Catch (MT)
A. Actual 2011			
		2011 Actual	
Zero	1,383	35,577	102,464.60
Partial	187	11,890	163,070.54
Full	171	22,188	1,814,487.90
		2011 Observed	
Partial	147	3,416	53,888.46
Full	167	20,258	1,733,079.44
		2011 Proportion observed	
Partial	0.79	0.29	0.33
Full	0.98	0.91	0.96
Combined	**0.18**	**0.34**	**0.86**
B. Restructured 2011			
		Restructured 2011	
Zero	949	15,594	28,583.43
Partial	787	31,803	237,826.40
Full	168	22,070	1,813,190.50
		Restructued 2011 observed	
Partial	345	4,134	30,917.43
Full	168	22,070	1,813,190.50
		Proportion observed- Restructure	
Partial	0.44	0.13	0.13
Full	1.00	1.00	1.00
Combined	**0.27**	**0.38**	**0.89**
C. Change from Actual 2011			
		Change from 2011 Actual	
Zero	(434)	(19,983)	(73,881.17)
Partial	600	19,913	74,755.86
Full	(3)	(118)	(1,297.40)
		Change from 2011 observed	
Partial	198	718	(22,971.03)
Full	1	1,812	80,111.06
		Change in proportion observed	
Partial	(0.35)	(0.16)	(0.20)
Full	0.02	0.09	0.04
Combined	**0.09**	**0.04**	**0.03**

7.0 Figures

Figure 1. Histogram of 2000 simulated total annual program costs for a deployment rate of 0.13 The dashed black line is the at-sea budget that 50% of the simulated at-sea program costs were at or below, the red line is the actual at-sea deployment budget, the blue dashed line is the at-sea budget that 90% of the simulated at-sea program costs were at or below, and the dashed yellow line is the at-sea budget that 95% of the simulated at-sea program costs were at or below. Actual program costs are not depicted.

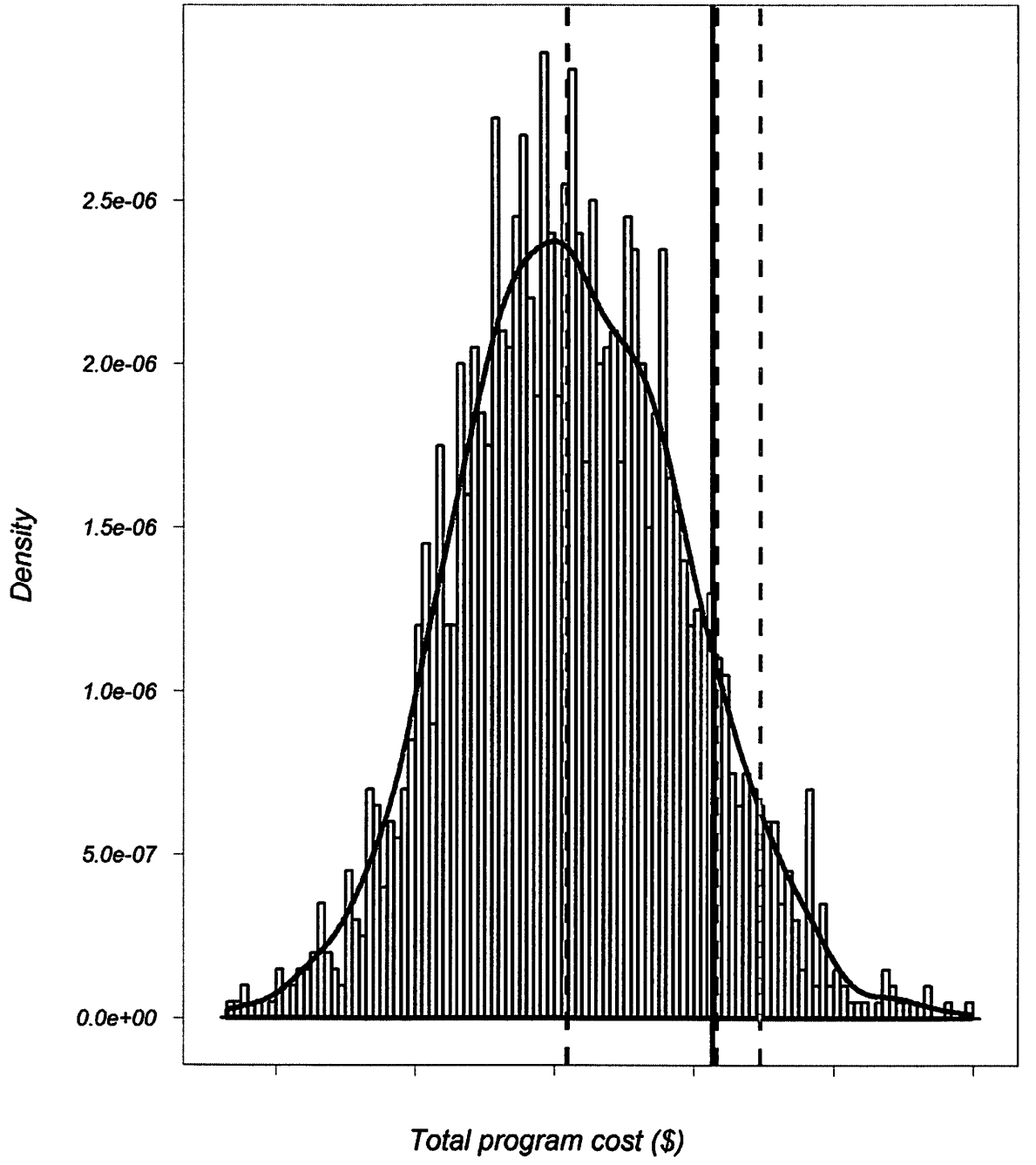


Figure 2. Heat map depiction of the number of trips (cell values) and the relative proportion of cell values that were observed in the 2011 NPGOP fleet for vessels that would constitute "trip-selection" and "vessel-selection" strata in the 2013 restructured program (colors). Row values indicate combinations of gear type (space) FMP (space) Target. Gear abbreviations: HAL=Hook-and-line gear, POT=Pot gear, TRW=Trawl gear. FMP abbreviations: BSAI=Bering Sea and Aleutian Islands, GOA=Gulf of Alaska. Target Abbreviations: ATH=Arrowtooth flounder, COD=Pacific Cod, DWF=Deep water flatfish, HAL=Pacific halibut, FSL=Flathead sole, OTH=Other, POL=Walleye pollock, REX=Rex sole, RCK=Rockfish, SBL=Sablefish, SWF=Shallow-water flatfish.

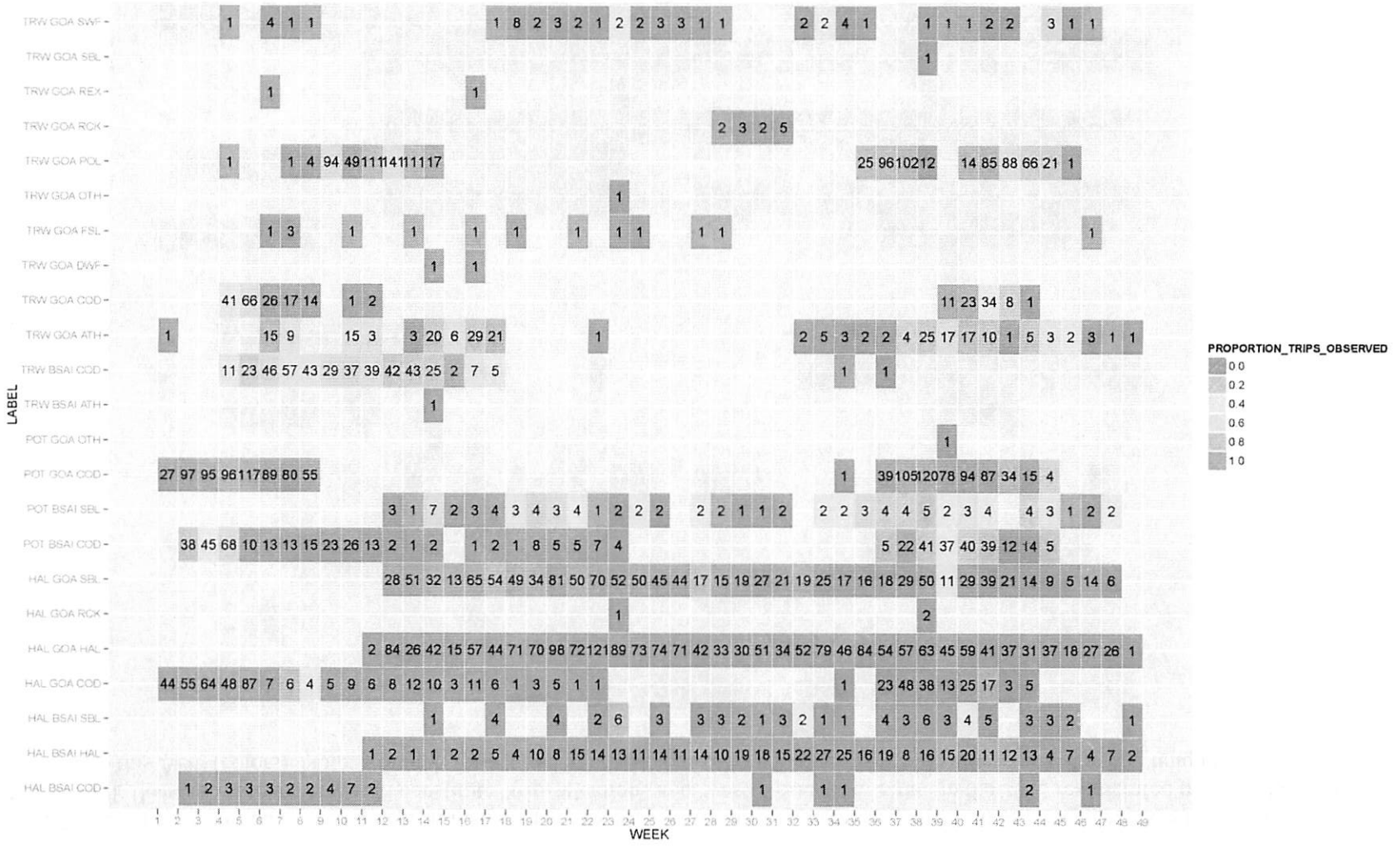


Figure 3. Heat map depiction of the number of realized trips in 2011 (cell values) and those that would have been expected to be observed had the 2011 NPGOP fleet for vessels that would constitute "trip-selection" and "vessel-selection" strata in the 2013 restructured program been observed according to this ADP (colors). Note: although format and abbreviations follow Figure 2, legend values and colors are unique to this figure.

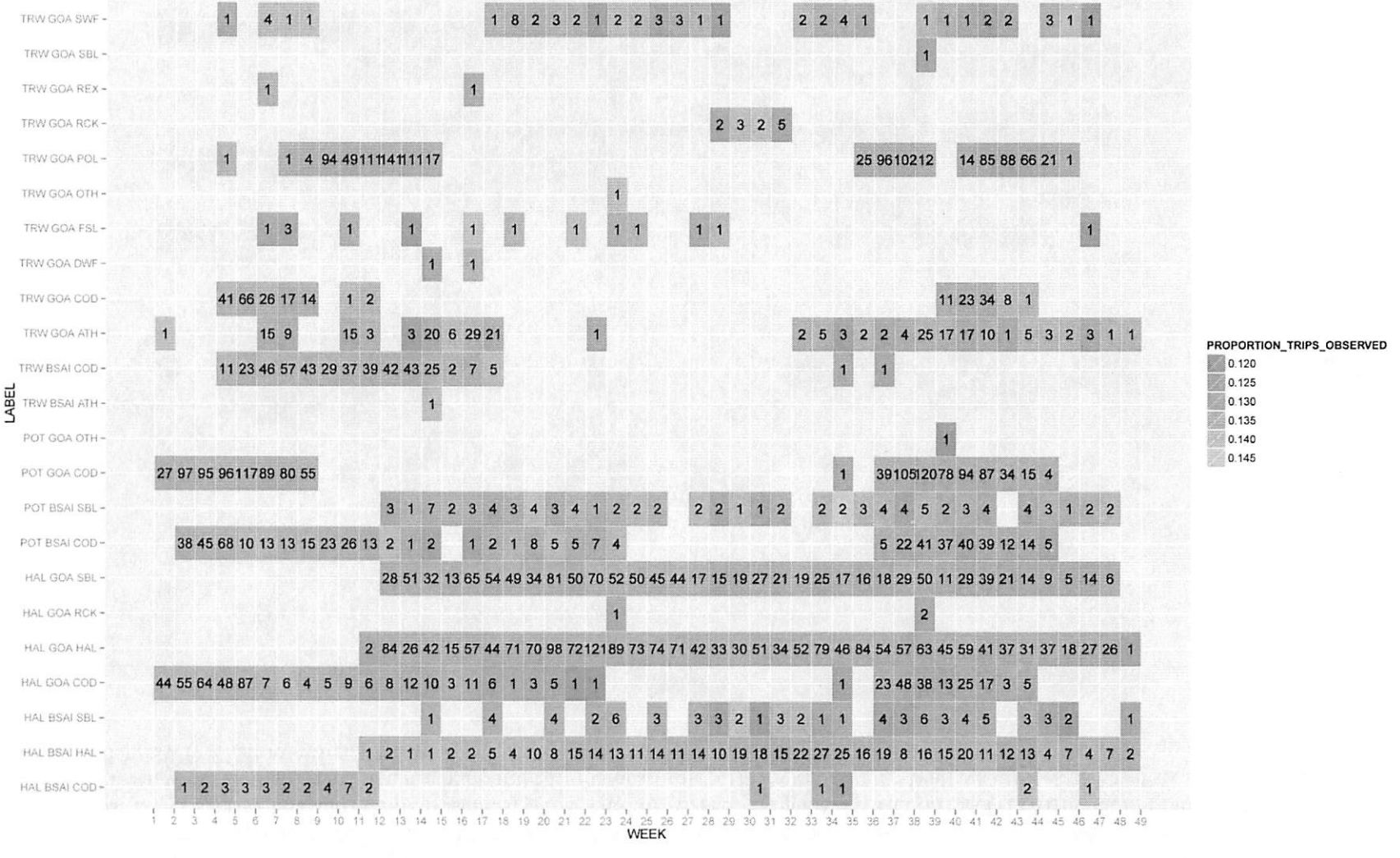


Figure 4. Heat map depiction of the differences between the coverage rates from Figure 2 minus those in Figure 3. Note: although format and abbreviations follow Figure 2, legend values and colors are unique to this figure.

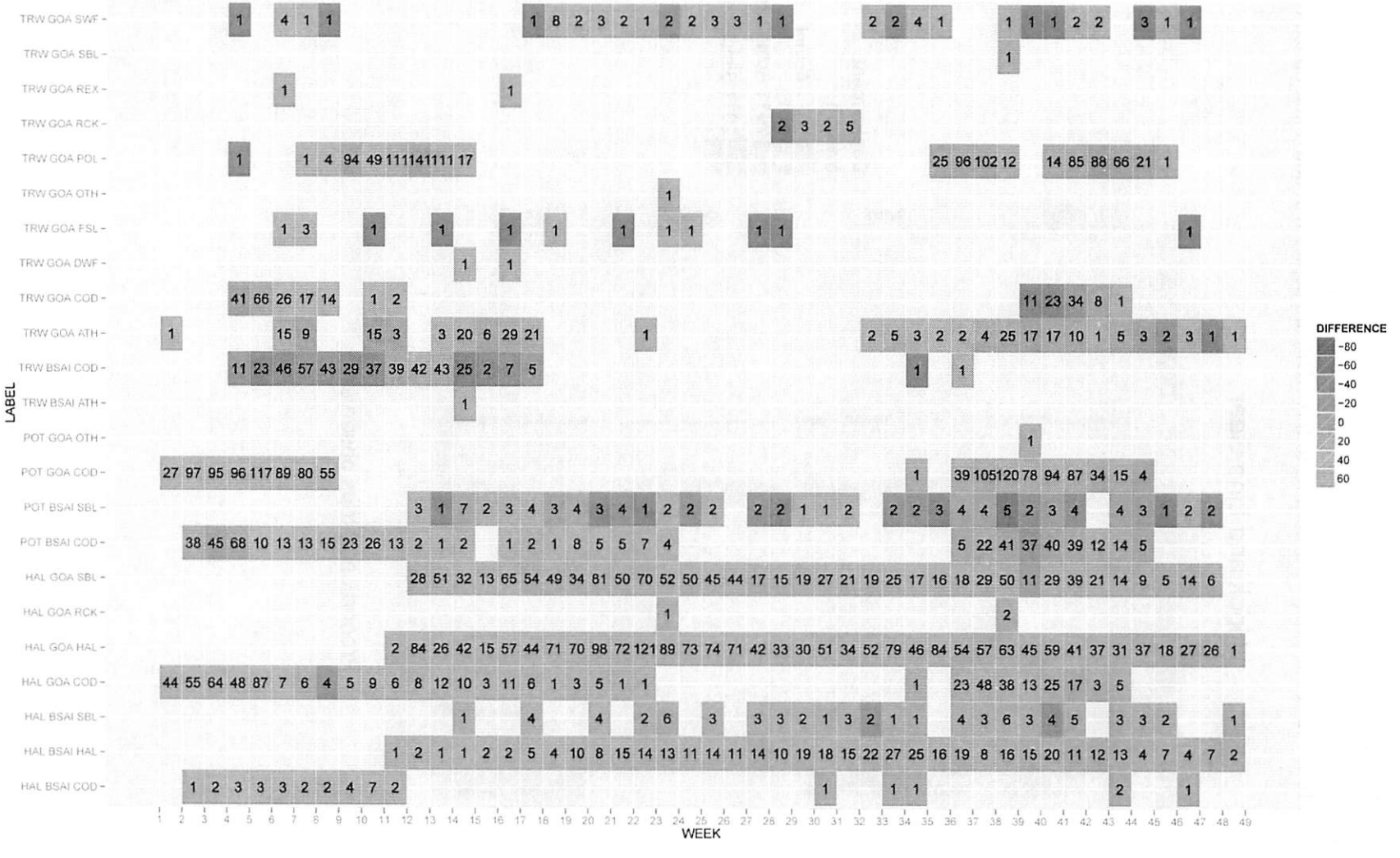


Figure 5. Histograms depicting the number of trips in each relative coverage rate depicted in Figures 2 and 3 for the 2013 partial coverage stratum CV fishing hook and line gear within each FMP (columns) and target (rows). Abbreviations follow Figure 2. Median (50 percentile) values for current (2011 NPGOP) and future (2011 as sampled according to this ADP) are depicted at horizontal dotted lines.

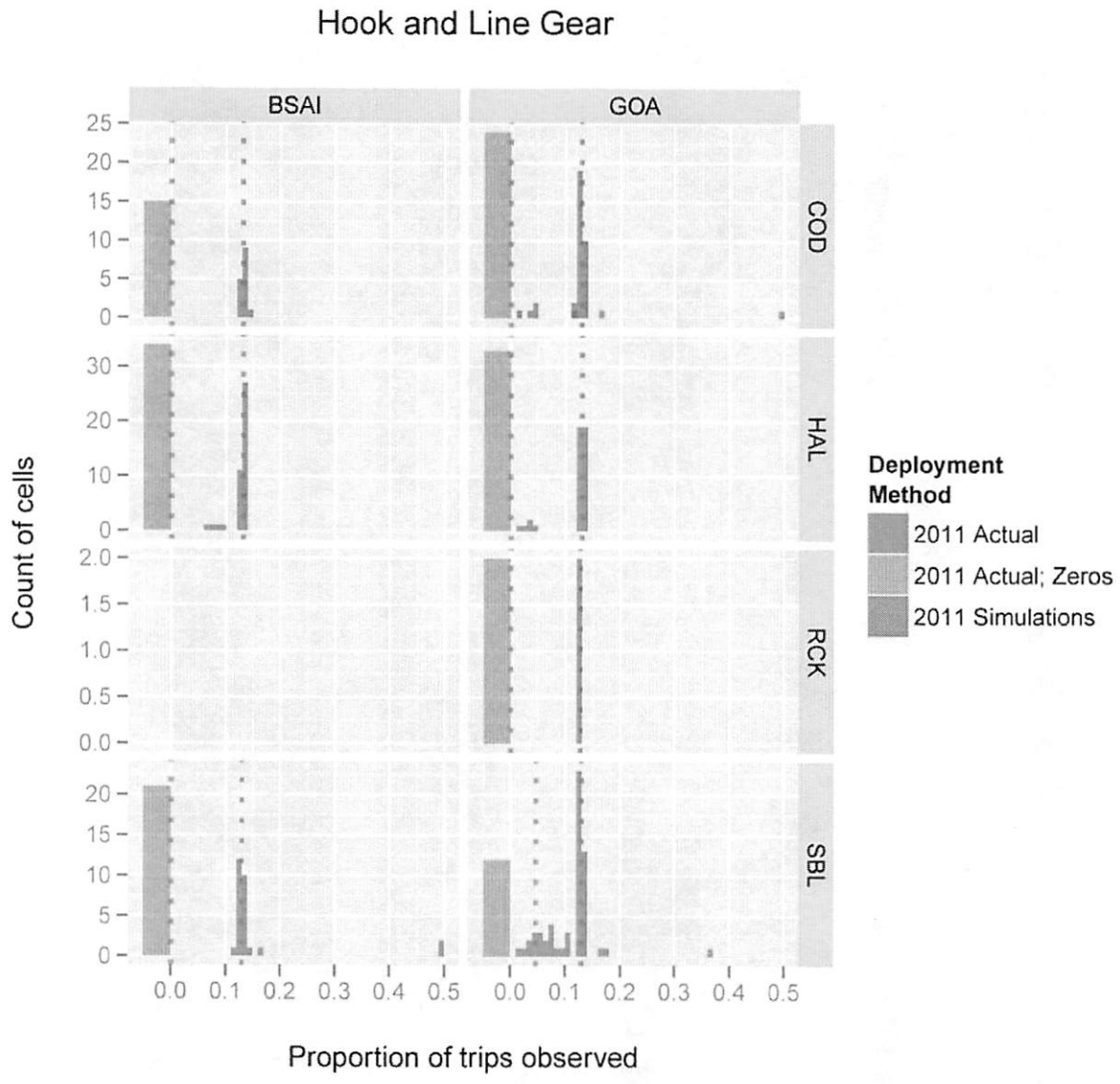


Figure 6. Histograms depicting the number of trips in each relative coverage rate depicted in Figures 2 and 3 for the 2013 partial coverage stratum CV fishing pot gear within each FMP (columns) and fisheries (rows). Format follows figure 5. Abbreviations follow Figure 2.

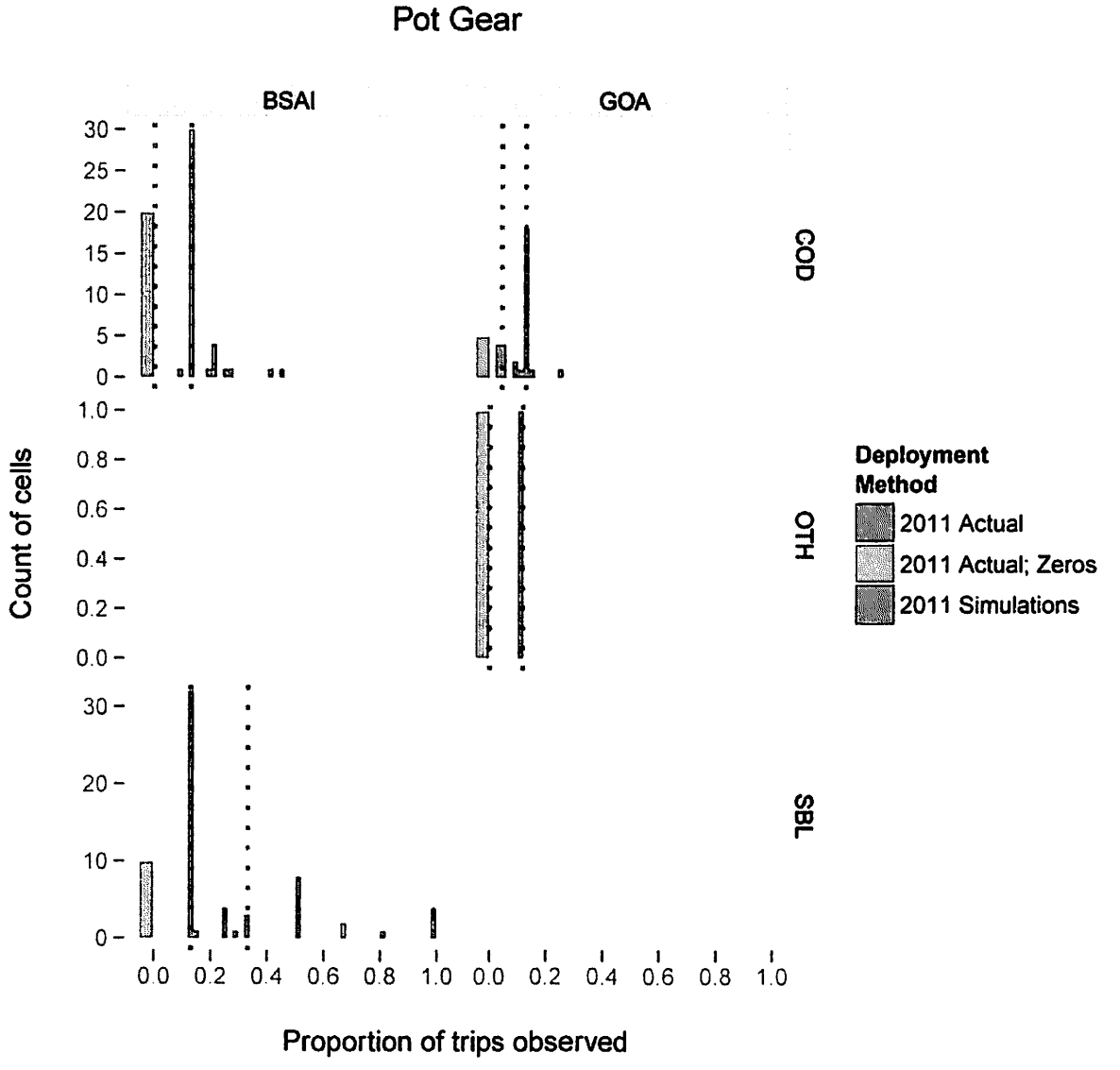


Figure 7. Histograms depicting the number of trips in each relative coverage rate depicted in Figures 2 and 3 for the 2013 partial coverage stratum CV fishing trawl gear within each FMP (columns) and fisheries (Rows). Format follows figure 5. Abbreviations follow Figure 2.

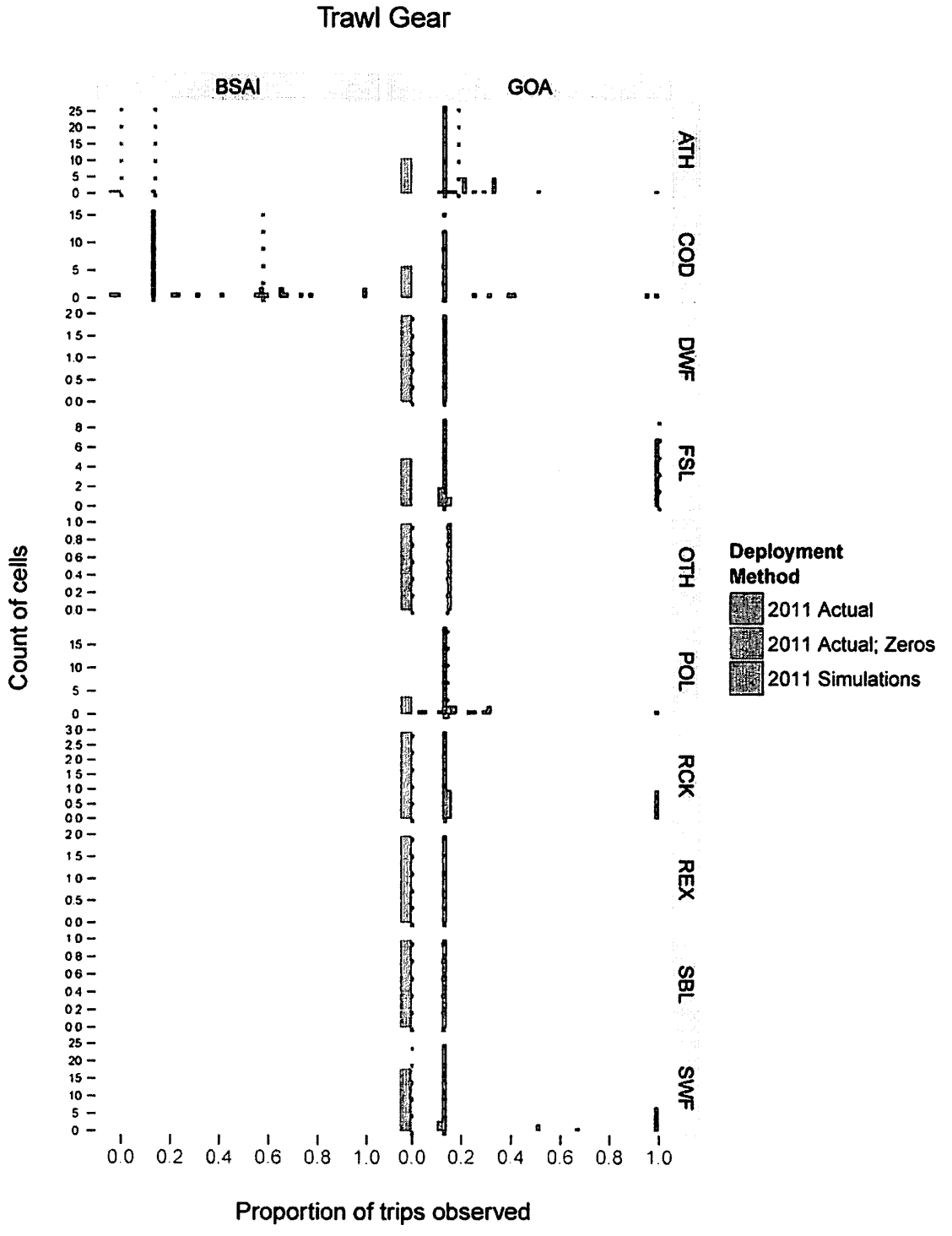
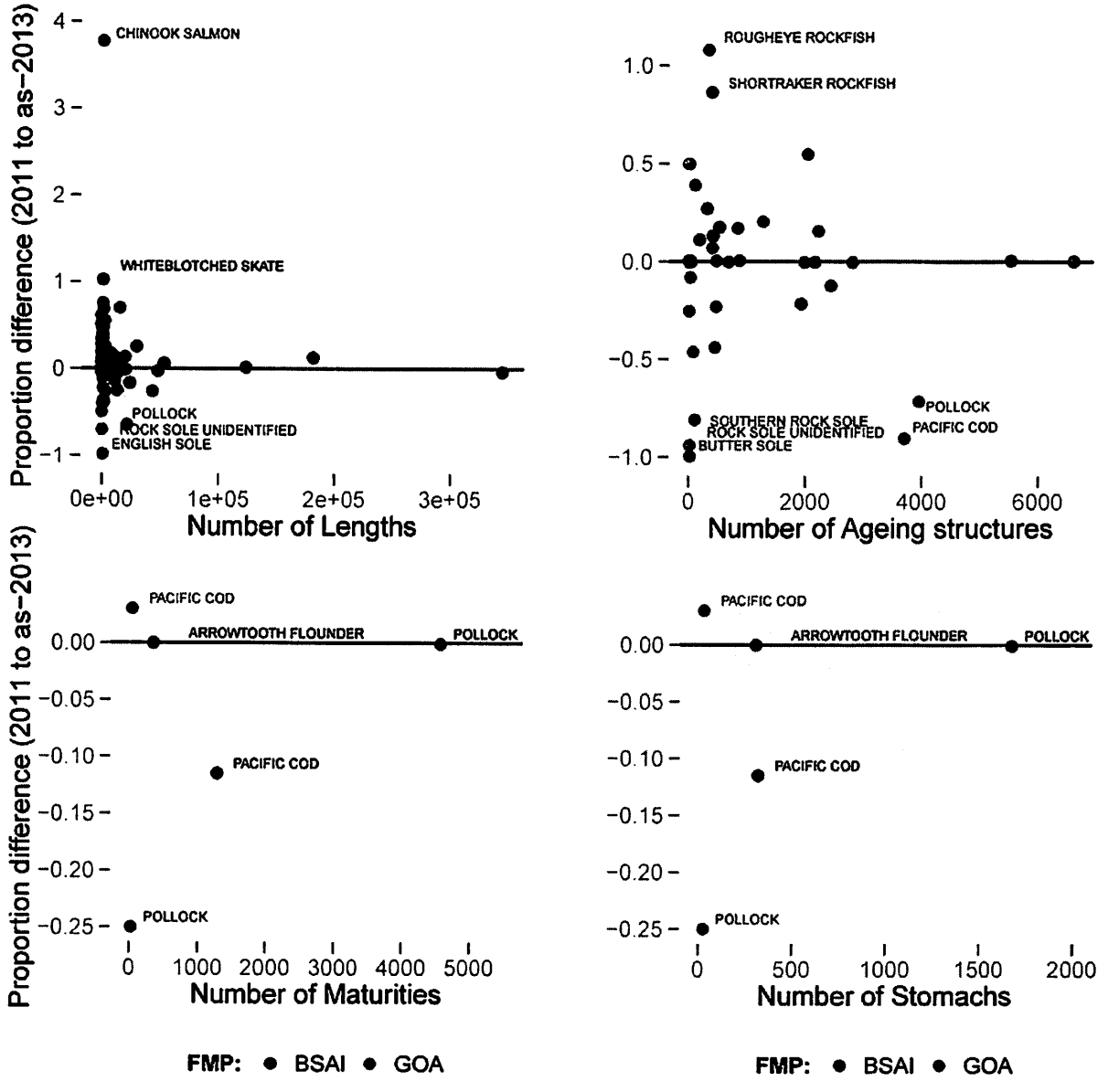


Figure 8. Difference plots between the number of lengths and tissues that were collected by NPGOP observers in 2011 compared to the number that would have been expected had 2011 been sampled according to this ADP within each FMP. Point labels are somewhat arbitrary and are depicted to reflect those species that exhibited the greatest difference values where graphic space is limited.



Appendix 1. Background information

History of the North Pacific Groundfish Observer Program (NPGOP)

Observers are people who collect independent information on the total impact of fishing operations on natural resources. The deployment of observers onto fishing vessels began in the Bering sea in 1973 and in the remainder of the North Pacific in 1975 (Wall et al. 1981, Nelson et al. 1981). Fisheries in the North Pacific were initially prosecuted exclusively by foreign and later by "joint venture" operations where a developing domestic fleet of catcher vessels delivered to foreign owned processing vessels. During the foreign and joint venture operations, foreign vessels carried fisheries observers at their expense, while domestic vessels were exempted from this "observer coverage". As foreign vessels' rights to fish in the U.S. Exclusive Economic Zone (EEZ) were reduced over time, it became obvious that observer coverage would be necessary for the emerging domestic fleet. At the onset of fully domestic fishery operations in 1990, the NPGOP was established as an interim observer program with rules governing observer coverage codified in regulations that stand to be amended in 2012.

In summary, the regulations established in 1990 required vessels 60-125 feet in length (overall) and all vessels fishing pot gear to carry observers at their own cost for 30% of their fishing days in a calendar quarter plus at least one trip in each fishery they participate in (termed the "30% fleet"), and vessels greater than 125 feet in length to carry an observer for 100% of their fishing days at their expense. Vessels less than 60 feet, those fishing jig gear or those fishing with trawl gear that deliver unsorted cod ends to processing vessels (termed "catcher processors" or CPs if the vessel also has catching ability and "mothership" or M if the vessel does not) were exempted from observer coverage. So too were catcher vessels that fished for Pacific halibut (*Hippoglossus stenolepis*). For shoreside processors, the rules governing observer coverage were based on the estimated tonnage processed in a calendar month: plants that processed less than 500 metric tons (t) a month are exempted from coverage, those that processed between 500 t and 1,000 t a month were required to be observed for 30% of the calendar days, and those that processed more than 1,000 t a month were required to be observed for each day in the month.

There were several shortcomings that were identified with the establishment of the NPGOP. First, decisions as to which trips were assigned an observer were made by the vessel owner/operator. Second, costs to the fleet were inequitable. Vessels required to obtain observer coverage pay the direct costs of that coverage to an observer provider. Although contracts for observer coverage were made between a vessel or plant operator and an observer provider, and costs were largely held in check through an open market for observer provider services, the cost of an "observer day" was greater than a day of fishing or processing without an observer. Since the cost of an observer day was fixed, the cost of observer coverage in terms of a day represented a disproportionately larger cost in terms of daily earnings for smaller entities than for larger ones (so-called economics of scale). In addition, since observers collect information such as bycatch (defined here as the catch of non-target species, including "prohibited species catch" (PSC) i.e. species not allowed to be caught with certain gear types, and protected species such as seabirds and marine mammals), and monitor for regulatory compliance, observer data are used by NMFS to constrain fishing operations through fishery closure or enforcement action. For all these reasons, there have been longstanding concerns that observer data may not represent the true operations of fishers. This so-called "observer effect" has been documented in the NPGOP (Faunce and Barbeaux 2011).

Towards a restructured observer program

Soon after the establishment of the domestic observer program, efforts were made by NMFS and the Council to provide NMFS control over where and when observers were deployed. Lacking that control, managers had no ability to address information needs through the directed collection of observer information. At issue was the fact that in order for NMFS to gain the control it desired, a funding

mechanism needed to be established, enabling NMFS to enter into contracts with observer providers; i.e., the NPGOP would have to be "restructured".

In 1992 the Magnuson Stevens Act was modified to allow for the establishment of a fee-collection system and a North Pacific Fisheries Observer fund. This system of fee collection was termed the "Research Plan" and was adopted by the Council in 1992 and implementation initiated by NMFS in 1994. One year later, after $5.5 M was collected to capitalize the North Pacific Fisheries Observer Fund, the Council rescinded its support for the Research Plan and NMFS returned the fees with interest the following year. In 1996 NMFS considered a joint operating agreement with the Pacific States Marine Fisheries Commission (PSMFC) envisioning that the PSFMC would serve as an observer provider, but that approach was abandoned over liability issues in 1998. In 2006 an amendment package was presented to the Council for NMFS to again levy fees and enter into direct contracts with observer provider companies. However, uncertainty on the cost implications of the Service Contract Act and Fair Labors Standards Act led the Council to delay action on the amendment package for another two years. In 2008 the Council directed NMFS to draft a discussion paper on the status of the 2006 fee obstacles. The Council drafted a problem statement at its December 2008 meeting that outlined shortcomings of the existing observer program that included: disproportionate costs to participants, lack of data on a large portion of the fleet, and the inability for NMFS and the Council to address management needs through the collection of observer information due to a lack of NMFS control over when and where observers were deployed. Addressing these shortcomings would form the basis for a proposed regulatory package implementing Amendment 86 to the FMP of BSAI and Amendment 76 to the FMP of the GOA.

At the April 2010 Council meeting, staff presented an initial review draft (EA/RIR/IRFA) for Amendments 86 and 76[6]. The rulemaking analysis described the rationale behind funding mechanisms for a restructured observer program and proposed a methodology for NMFS to procure and deploy observers to address the 2008 problem statement. Contained within this analysis were frequency histograms of fleet vessel sizes that showed large spikes at size categories just below 60 feet and 125 feet overall that suggested vessels at the maximum size for the zero and "30%" class of observer coverage were preferred in this fleet. The analysis also described the allocation of how NMFS would allocate observer coverage in the fleet under different funding scenarios as well as the acknowledgement that the first year of the program would be considered a pilot, and the requirements for moving towards a developing and optimized program were presented. Among the other data presented were a suite of tables showing the amount of funds required to enact a restructured program according to Council motion, alternatives whereby some portions of the fleet would be assessed a fee and others would not. Perhaps most surprising was that the analysis identified that collection of a 2% ex-vessel value fee (the maximum permissible by the Magnusson-Stevens Act) from all participants would not adequately fund all of the observer program coverage needs in some years, due largely to numerous catch-share programs that had been instituted since 2000 which required an observer for 100% of their operating days and in some cases two observers (termed confusingly as 200% coverage). These "full-coverage" vessels included the American Fisheries Act (AFA) which includes catcher vessels and catcher processors that fish walleye pollock (*Theragra chalcogramma*) in the BSAI, trawl catcher processors receiving certain groundfish allocations under Amendment 80, and the GOA Rockfish Program (RP) in the GOA.

In October 2010, the Council received the public review draft of the Amendment package that contained a requested suite of alternatives whereby various components of the restructured fleet (based largely on vessel size) would be exempted from paying a fee. Due to projected funding deficiencies and complex observer requirements intertwined with management of PSC caps under catch share programs, new regulations divide the fishing participants into two classes: those requiring observer coverage on all of their operation days (full-coverage), which would be kept in their current form (contracting directly with

[6] The secretarial review draft of this document can be accessed at http://www.fakr.noaa.gov/analyses/observer/A86%20and%2076%20ea_rir_irfa.ea.pdf.

observer providers at their expense); and all other entities that would constitute the "restructured" portion of the fleet and be subject to a fee (partial coverage). Vessels and plants in the full-coverage category would obtain coverage using a pay-as-you-go model and contract directly with NMFS-certified observer provider so all trips are observed and regulations governing coverage requirements are met (e.g., number and type of observers on each trip). In contrast, the partial coverage portion of the fleet would receive observers through an observer provider contracted directly with NMFS. Funding for the observer days on vessels in the partial-coverage category will be obtained through an ex-vessel fee on landings.

Small vessels present logistical challenges for the deployment of observers and NMFS concluded in the analysis that vessels sized below 39' LOA harvested less fish per trip then larger vessels. The first few years of the re-structured program will allow NMFS to better assess deployment needs on smaller vessels. The NMFS proposed an initial "zero-coverage" category to be comprised of vessels fishing hook-and-line or pot gear that are under 40 feet length overall, and all jig vessels, subject to modification in future deployment plans. In addition, consistent with existing regulations, trawl vessels delivering unsorted cod ends to motherships were to be exempt from coverage. The Council unanimously decided to move forward with the restructured observer program, and after considering exempting certain vessels from the fee, decided that all participants in the restructured fleet, whether they were slated for observer coverage or not, would be subject to a 1.25% fee to fund subsequent years of the observer program. The first years funding required start-up money from the federal government with a projected need of $3.8M. Furthermore, the Council specified that NMFS release an observer report by September 1 of each year that contains the proposed strata and coverage rates for the deployment of observers in the following calendar year (NPFMC 2010). Staff from the Fisheries Monitoring and Analysis Division (FMA), the body responsible for the training and data quality of observers in the NPGOP of the Alaska Fisheries Science Center (AFSC) organized an Observer Restructure Analysis Group (ORAnG) in July 2011 to provide analytical guidance and support towards the effective and efficient deployment of observers in the North Pacific. In April of 2012, the Council asked for an update on the progress of the observer report, which they received in June 2012. Since it is concerned with the deployment of observers, the observer report in the Council's October 2010 motion was renamed the Annual Deployment Plan (ADP).

Background to the 2013 Innovation

Compared to a human observer, electronic monitoring (EM) technologies offer a way to obtain independent fishery data onboard vessels where space is limited and/or safety is a concern. Since vessels pay for human observers on a cost-per-day basis in the current NPGOP, it has been proposed that EM technologies such as cameras offer cost-savings to fleet members, although in practice the results of such cost comparisons have been mixed (e.g. Bonney et al. 2009, Cahalan et al. 2010, Dalskov and Kindt-Larson 2009).

As expressed by the Council motion on proposed final regulations, EM is to be integrated into the restructured observer program (NPFMC, 2011). At the Council's Observer Advisory Committee (OAC) September 15-16, 2011 meeting it was concluded that the initial phase of the EM program should focus its initial efforts on IFQ vessels 40-57.5' in length that are not managed by real-time data and are not constrained by Prohibited Species Catch (PSC) (OAC, 2011).

One unforeseen limitation to EM implementation by NMFS following the recommendation of the OAC involves the definition of an IFQ vessel. IFQ is a quota management system where the right to harvest pacific halibut or sablefish is issued to a permit holder that is an *individual*. However, the OAC intent is to deploy EM on IFQ *vessels* of a certain length. Therefore, the NMFS is forced to define the EM eligible frame of vessels to those 40-57.5' in length that have an IFQ holder onboard. Unfortunately, an IFQ holder on board is unknown before a fishing trip begins, and it would be impractical to deploy and then retrieve EM equipment on a trip-by-trip basis. Since both IFQ halibut and sablefish seasons are open between March and November, and the deployment duration for vessels in the "vessel-selection" stratum

of this ADP is a calendar quarter for 40-57.5 foot long vessels, IFQ vessels were defined as those in the 2013 "vessel-selection" stratum that have a history of landing IFQ in prior years during quarters 2-4.

Case-studies of EM in the North Pacific

There are few case studies where video imagery has been used to extract data for catch estimation. This statement may seem to conflict with the understanding of fishers and their representatives in the North Pacific. In the development of this ADP between 2010 and 2012, there have been frequent references to "the Canadian model" without a full appreciation of how that model works. To clarify, in British Columbia camera systems have been used as an important monitoring tool in the commercial groundfish hook and line and trap fisheries. These fisheries are 100% monitored by cameras to capture video footage of hauling that are associated to Global Positioning System (GPS) and to winch sensors on all boats to identify set and haul locations. Vessel operators are required to maintain accurate logbook records of catch and discard and have 100% dockside monitoring of piece counts and weights. Because of the difficulty in identifying rockfish species and the potential for discard mortality, fishermen are required to retain and unload all rockfish, and biological data such as length and weight are collected dockside. A random selection of video data is used to audit fisher's self-reported records of discards and retained pieces to ensure rockfish landed weight and piece count provides an accurate record of total catch. Landed weights are used to track all quota species for each vessel. It is important to stress here that the management and official catch records for this system come from the vessels' logbook and dockside reports and not from the EM system. This is an example of an EM-*audit* system that has been in place since 2006 and appears to be successfully employed (Stanley et al. 2009; Stanley et al. 2011).

In Alaska, there have been a number of case studies that have explored the potential use of cameras and video imagery in the halibut longline fishery. The first of these was a feasibility study to monitor bycatch of short-tail albatross in the GOA (Geernaert et. al. 2001). In 2002, EM video imagery was successfully used to detect and monitor streamer line deployment and endangered seabird bycatch, but additional work was needed on species identification from the video (Ames et al. 2005). Two additional studies conducted in 2002 and 2004 onboard volunteer chartered vessels examined the accuracy of fishing effort and catch composition data collected by EM relative to the traditional at-sea observer methods (Ames 2005; Ames et al. 2007). A number of improvements based on the 2002 study results were incorporated into the 2004 study design and agreement between the EM data and the observer data increased. Species identification limitations were still evident in the later study, but the studies suggest EM technology for longline fisheries may have a potential role within a monitoring program.

In 2007, Cahalan et al. (2010) conducted a study on four volunteer commercial longline halibut fishing vessels during normal fishing operations to compare bycatch (numbers of fish) resulting from an observer census, a complete review of EM video, and standard NPGOP sampling. Although both EM and observer data sources were found to have lapses in data collection, EM data lapses tended to encompass large portions or entire trips. Comparison of species identification of catch between monitoring methods indicated statistically unbiased estimates and acceptable comparability for most species except for those such as shortraker (*Sebastes borealis*) and roughgeye (*Sebastes aleutianus*) rockfish that could not be identified beyond the species grouping levels using EM. Similarly, the estimated species-specific abundance (numbers) of fish between EM and observer collected data showed few statistically significant differences. Based on the results of this limited study, it was determined that this EM design could be used as an additional tool for catch monitoring in the commercial halibut fishery. However, the authors cautioned that EM is not an alternative to observers for collecting biological samples and the potential uses of EM would first need to be tailored to monitoring requirements and management needs[7].

[7] For example, EM camera systems lack the ability to captured mean weights of discarded species, which are the basis for catch estimation and would require untested assumptions as would mixed species groups where like species cannot be identified using video imagery.

The Northeast Fisheries Science Center (NEFSC) began a multi-year pilot program in 2010 to test EM technology to collect catch and fishing effort data aboard commercial vessels. The goal of the study was to evaluate the potential of EM to monitor retained and discarded catch on a real-time basis in the Northeast groundfish sector fleet (NOAA, 2011). This study identified a number of deficiencies that would first need to be addressed before EM technology could be considered in lieu of at-sea observers in the Northeast multispecies fishery. Recommendations to improve data quality included the development of a more reliable EM system and modifications to how discarded catch was handled by the crew. The NEFSC stated that further research would also required to improve the accuracy and reliability of species identification and to reliably monitor weights of discard by species, and identified the need to analyze multiple data sources to improve their ability to validate and identify discrepancies between observer and EM collected data. Given the issues identified under the first year of this pilot project, EM was not incorporated as a monitoring strategy in the 2012 fishing year by the NEFSC.

Most recently, the Alaska Longline Fishermen's Association (ALFA) received funding through a grant from the National Fish and Wildlife Foundation for 2011 and 2012 to focus on EM integration logistics for the small vessel fixed gear fleet in southeast Alaska. ALFA have developed an approach and successfully integrated camera based EM systems on multiple vessels and fishing configurations. The final report and results will be given at the September, 2012 OAC meeting[8]. FMA staff provided initial technical review of the electronic monitoring information obtained by this study in 2011 and 2012. At the end of that time, many of the data quality issues identified by earlier studies described in this section were still present. These include lapses of EM video data, poor video quality that degraded during a trip unless camera lenses were clean periodically, and difficulty with identification of some fishes to species level[9].

Literature Cited

Ames, R. T. 2005. The efficacy of electronic monitoring systems: a case study on the applicability of video technology for longline fisheries management. International Pacific Halibut Commission Scientific Report No. 80., Seattle.

Ames, R. T., Williams, G. H., and Fitzgerald, S. M. 2005. Using digital video monitoring systems in fisheries: Application for monitoring compliance of seabird avoidance devices and seabird mortility in pacific halibut longline fisheries. ICES Document NMFS-AFSC-152. 93 pp.

Ames, R. T., Leaman, B. M., and Ames, K. L. 2007. Evaluation of video technology for monitoring of multispecies longline catches. North American Journal of Fisheries Management, 27: 955-964.

Bonney, J. , Kinsolving, A., and McGauley, K. 2009. Continued assessment of an electronic monitoring system for quantifying at-sea halibut discards in the Central Gulf of Alaska rockfish fishery. EFP 08-01 Final report. Accessed on 7/31/12 at http://www.fakr.noaa.gov/sustainablefisheries /efp/efp08-01_halibutdiscards_rpt.pdf.

Cahalan, J., Leaman, B. M., Williams, G. H., Mason, B. H., and Karp, W. A. 2010. Bycatch characterization in the Pacific Halibut Fishery: a field test of electronic monitoring. NOAA Technical Memo NMFS-AFSC-213: 66.

Dalskov, J., and Kindt-Larson, L. 2009. Final report on fully documented fishery. Technical University of Denmark, National Institute of Aquatic Resources. 49 pp.

Faunce, C. H., and Barbeaux, S. J. 2011. The frequency and quantity of Alaskan groundfish catcher-vessel landings made with and without an observer. ICES Journal of Marine Science, 68: 1757-1763.

Geernaert, T. O., H. L. Gilroy, S. M. Kaimmer, G. H. Williams, and R. J. Trumble. 2001. A feasibility study that investigates options for monitoring bycatch of the Short-tailed albatross in the Pacific halibut fishery off Alaska. Int'l. Pac. Halibut Comm., Seattle, WA.

[8] Dan Falvey, personal communication.

[9] Farron Wallace and Paul McClusky, FMA staff, personal communication

Nelson Jr., R., French, R., and Wall, J. 1981. Sampling by U.S. observers on foreign fishing vessels in the eastern Bering Sea and Aleutian Island region, 1977-78. Marine Fisheries Review, 43: 1-19.

NOAA (National Oceanic and Atmospheric Administration). 2011. 2010 Northeast Multispecies fishery electronic monitoring pilot study. Letter dated 19 August 2011 in response to the report by Pria, M. J., Bryan, J. and McElderry, H. entitled New England electronic monitoring project 2010 annual report. Available at http://www.nefsc.noaa.gov/fsb/ems/2010_EM_REPORT_FINAL.pdf

NPFMC (North Pacific Fisheries management Council). 2011. Council motion. Observer restructuring (GOA Am.76/BSAI Am. 86) draft proposed rule and regulations. October 2, 2011. Accessed on 7/31/12 at http://www.fakr.noaa.gov/ npfmc/PDFdocuments/conservation_issues/Observer/observer_motion1011.pdf.

NPFMC. 2010. Council Final Motion on Observer Restructuring BSAI Amendment 86/GOA Amendment 76, October 8, 2010. Accessed on 8/30/12 at http://www.fakr.noaa.gov/npfmc/PDFdocuments/conservation_issues/Observer/ ObserverMotion1010.pdf

OAC (NPFMC / Observer Advisory Committee). 2011. Observer Advisory Committee – Meeting Report September 15 - 16, 2011. Accessed on August 30th, 2012 at http://www.fakr.noaa.gov/npfmc/ PDFdocuments/conservation_issues/Observer/911_OACreport.pdf.

Stanley, R. D., McElderry, H., Mawani, T., and Koolman, J. 2011. The advantages of an audit over a census approach to the review of video imagery in fishery monitoring. ICES Journal of Marine Science, Volume 68, number 8, 1621-1627.

Stanley, R. D., Olsen, N., and Fedoruk, A. 2009. Independent validation of the accuracy of Yelloweye rockfish catch estimates from the Canadian Groundfish Integration Pilot Project. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science, 1: 354-362.

Wall, J., French, R., and Nelson Jr., R. 1981. Foreign fisheries in the Gulf of Alaska, 1977-78. Marine Fisheries Review, 43: 20-35.

Appendix 2. Effort Calculations

Problem statement

This document outlines the rationale, process, and decisions used to estimate fishing effort (*E*) in terms of days and trips. Since it has been proposed that catcher processors and motherships will carry an observer for 100% of their trips and pay for their observers using *status quo* methods, these effort calculations are only concerned with the catcher vessel fleet. These estimates were necessary to generate potential at-sea and dockside sampling rates that could be afforded by the National Marine Fisheries Service (NMFS) as part of the 2013 Annual Deployment Plan.

Available data

Since the regulatory authority of the NMFS Observer program does not extend to State managed Guideline Harvest Level (GHL) fisheries, there is need to identify which trips occurred in each in GHL vs. non-GHL fisheries. In addition, since rules governing which trips belong in each selection stratum are based on gear and vessel size, these fields are necessary as well. Finally, these information need to be relevant to the unit of deployment, i.e, the trip.

Data for effort analyses come from several sources. The Alaska Regional Office's (AKRO) Catch Accounting System (CAS) contains the necessary tables to examine the enumeration (weight), identification (species), and disposition (retained vs. discarded) catch of Fishery Management Plan (FMP) defined groundfish and prohibited species as well as the relevant landing information such as vessel, port, date fishing began, date of landing, port of landing, gear type, management program, and NMFS statistical area in which the catch was made. In 2010 the Fisheries Monitoring and Analysis Division of the Alaska Fisheries Science Center (FMA) began to include the field linking *e*Landings to the observer records (report id) on their offload forms as part of their debriefing data requests for observers. This field is obtained from catcher vessel landing reports, and provides a link between the observer database NORPAC and the CAS, facilitating the identity as to which trips were observed for 2010 and 2011. In addition, since observer data represent independent information, decisions as to the validity of self-reported landing data can be assessed for observed trips.

Data limitations

Just as financial advisors warn their clients that "past performance does not guarantee future results", there is no guarantee that trends identified in the fishing effort of past years will adequately reflect future effort, especially if changes to the allocation of quotas occurs during the period between last available landings and observer data and the year of planned deployment.

There are limitations to broadly applying observer information to categorize the behavior and characteristics of all catcher vessel fishing operations. For example, prior to this ADP, observers were not deployed onboard catcher vessels fishing with jig or troll gear, or vessels that are less than 60' LOA. In addition, the proportion of observer coverage that occurs within each fishery (based on predominant species caught), NMFS statistical area, and gear type will greatly vary depending on the size of vessels and the type of management program they are fishing in. For example, there were three broad rules governing observer coverage requirements for catcher vessels. First, observers were to be deployed on 30% of the fishing *days* per quarter for catcher vessels 60-125' fishing hook and line or trawl gear, and 100% of fishing days per quarter for larger vessels. However, vessels over 60' LOA fishing pot gear retained 30% coverage based on *gear*. Second, any trip that a vessel fished under a cooperative management structure (e.g., AFA, RP, Amendment 80), was to be observed. Third, a vessel was required to obtain observer coverage for one trip in each fishery (defined by target species from landings) the vessel participated in each quarter. Vessel operators had control over which fishing operations were observed and not all ports vessels land catch at shore had been visited by observers.

Methods

A graphical representation of the process through which the fishing effort and trip definitions were determined is depicted in Figure A3-1. Since the electronic dockside reporting system for catcher vessels (*e*Landings) and current North Pacific Groundfish Observer Program (NPGOP) at-sea sampling and database structures were implemented in 2008, the three most recent years of information (2009-2011) were chosen as the time frame for investigation.

Defining a trip

Two options were examined to define a trip. The first was to concatenate a vessel's permit number and the "landing date" field on the landing report to generate a "trip label". The second was to treat each landing report (an auto-generated unique 6-digit number) as a separate trip. The first method is conservative in terms of total trips, and attempts to "correct" for the possibility that multiple landing reports are filed for the same trip while ignoring the possibility of multiple landings in a day, while the second method has the opposite assumptions. The first method is most problematic for small CDQ trips. To evaluate which definition would be appropriate for ADP evaluation analyses, the relative rates of "duplicate trips" were determined for the identifiers Program Management Code, NMFS area code, FMP area, Processor identification, and trip target separately for each trip definition by summing the number of duplicated trips and dividing by the total number of trips. Trip definitions based on landing report identification number was preferred because (1) the duplication rate was lower for this method than for the vessel and date method, (2) it is easy to match with observer records, and (3) the assumption that a report id was equivalent to a trip would at maximum, overestimate the number of true trips by 3-4%, which would in turn act as a buffer for NMFS against the risk of "over deploying", i.e. running out of observer funds due to deploying observers into trips at a rate that results in a greater number of observed trips than that afforded by available funds (last column of Table A2-1).

Creation of the OBSFRAME

The dataframe "DATAFRAME_OUT" was used to create a dataframe of landings information that corresponds to a sampling frame for years 2009-2011 following the proposed 2013 Annual Sampling Plan (OBSFRAME_OUT). Both DATAFRAME_OUT and OBSFRAME_OUT have an additional flag identifying whether a trip had been observed that was facilitated using the common field "landing report id" between landings source data and the observer database NORPAC. It is apparent that FMP Area and Processor ID are fields that are duplicated within a Report ID. The former of these is expected, while the latter is evidence of "split deliveries" in which a vessel made one landing, but completed two landing reports. Interestingly, when the landing report definition of a trip was applied to only those trips that would belong in a restructured observer program, duplication rates were greater than those when calculated across all CV trips (the last three rows of Table A2-1). It seems logical that larger vessels (i.e. those in the OBSFRAME_OUT) would have a greater proportion of split deliveries than vessels < 40' and those fishing jig or other gear.

Calculating trip duration

Accurate accounting of fishing effort in terms of days is very important because it translates effort into costs since traditionally observer providers have contracted with vessels at a "daily rate"[10]. While landing reports have the fields describing the date when gear was first put into the water during a trip (date fishing began) and the date fish were landed (date of landing), the difference between these two times may not adequately reflect trip duration because it does not contain the span of time from departure (i.e. leaving the dock) to the date fishing began. In addition, for split deliveries, it is unclear whether the vessel reported the date of landing for the first delivery or of the last and in some cases (particularly IFQ) the date fishing began may reflect the date a vessel left a dock. Finally, for the purposes of observer coverage, a trip in which fishing began and landing date were the same would not be free, yet it would be

[10] Personal communication and e-mail correspondence between Heather Weikart and Craig Faunce (both of FMA) during January-March 2012.

a "zero-day" trip if one were to simply subtract the two dates on the landing report. To help alleviate some of these issues, for any given landing report, the minimum "date fishing began" and the maximum "date of landing" were labeled as START DATE (START) and END DATE (END) respectfully and used in duration calculations.

Although limited, there exists observer data from catcher vessels that can be used to gauge the relative difference between trip duration, defined as the difference between the two dates in the landings reports and the "Embark date" and "Disembark date" reported in NORPAC. Unlike the duration on landing reports, the duration using the fields above should reflect the true duration of the trip from cast-off to tie-on of the dock. Trips used for comparisons were constrained to those that would have defined and constituted the 2013 trip-selection deployment strata that occurred during 2010 and 2011.

Time data from NORPAC fishing trips are specific to the second, whereas data from "OBSFRAME_OUT" (and ultimately *e*Landings) is specific only to the day (times default to midnight). A total of 713 and 842 trips in the OBSFRAME_OUT dataframe were recorded as observed during 2010 and 2011 respectfully (the *e*Landings report id was not required in NORPAC until 2010), from a total of 166 unique vessels during that period (147 in 2010 and 151 in 2011) ranging from 60 to 176' in length.

Two different methods were used to calculate the duration of an OBSFRAME trip using landings source fields: (1) the difference between START and END with time removed (dates only, labeled as Tix), and (2) the same as #1 but with an additional day added (labeled as Tix round). Similarly, the duration of an OBSFRAME trip using NORPAC source fields was defined in two ways: (1) rounded durations to the nearest day (labeled as Obs) and (2) durations with an additional half day added (labeled as Obs round). Only a half day was added to NORPAC source durations because these trips had a greater specificity, and many trips that ended in the morning would not account for that day of observer coverage.

Three differences were calculated between NORPAC and *e*Landings source durations: The first was calculated from Obs – Tix, the second was Obs Round – Tix and the third was Obs round – Tix round. From these comparisons, difference values greater than zero indicated longer durations from NORPAC source data than landings source data, while negative difference values indicated the opposite condition. Difference values of zero were desired. From the distribution plots of differences, it appears that the addition of one full day to landing durations matches well with the observer durations with an additional half day (Figure A2-1). Thus trip durations from landings were adjusted to be defined as 1+(END minus START) rounded to the nearest whole day.

Enumerating yearly effort

The total fishing effort in terms of days was calculated by summing the total trip duration in terms of days for each unique landing report within each year that was contained within the dataframe OBSFRAME (Table A2-2).

Tables and Figures.

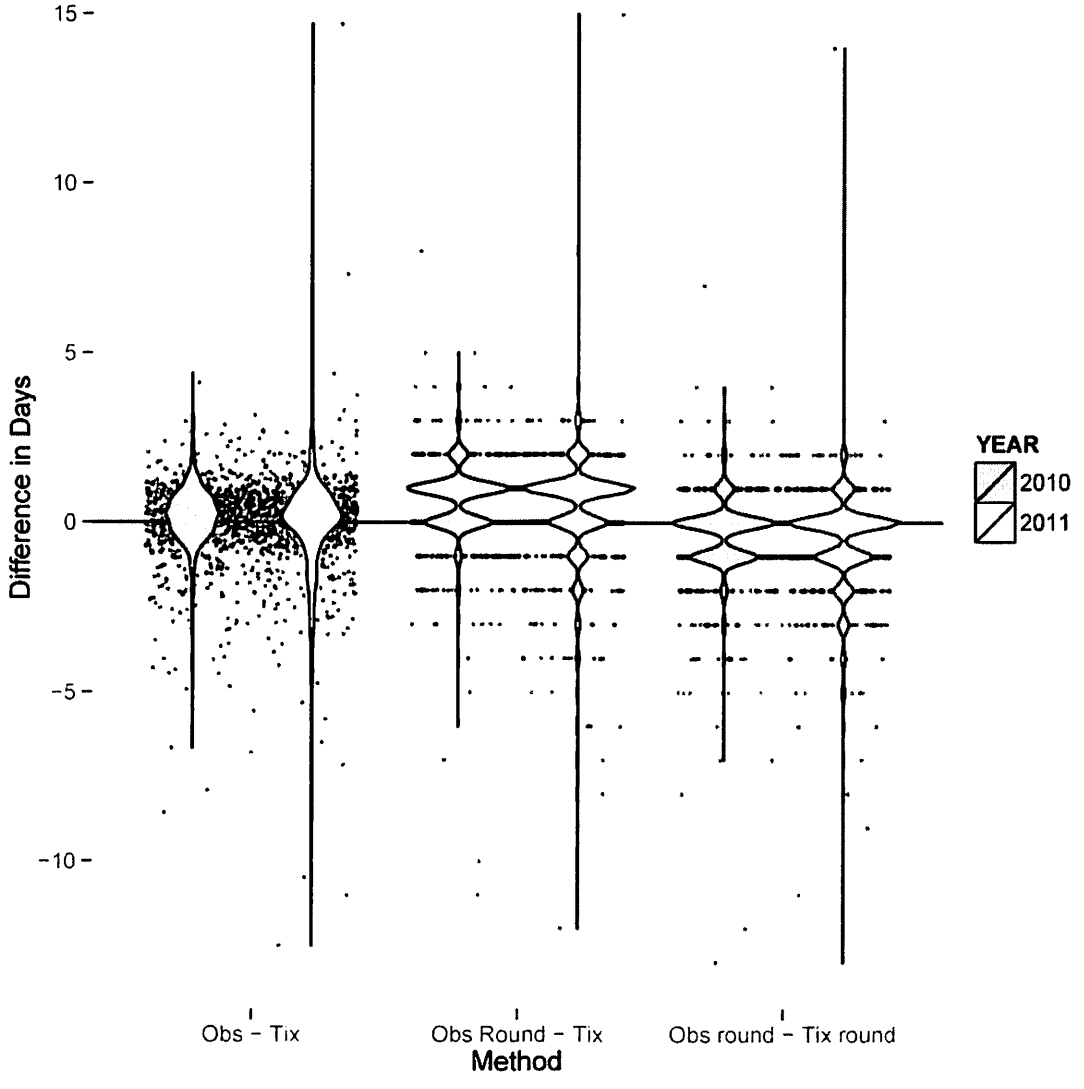
Table A2-1. Summary of duplication rate for trips defined by two methods (vessel ID + Start date or by report id). Duplication rates are expressed as the percent value from each year (2009-2011). The Report column refers to the percentage the total number of trips defined by vessel and date that had duplicate report ids. Application of the Report ID trip definition to trips that would constitute a restructured sampling frame for the CV sector of the fleet in 2011 are depicted in the last three rows of the table.

Method	Year	Mgt. Code	Area	FMP	Processor	Target	Report
Vessel + Date	**2009**	0.874	8.037	0.496	0.362	0.400	3.903
Vessel + Date	**2010**	0.635	7.042	0.419	0.237	0.370	3.961
Vessel + Date	**2011**	0.877	8.956	0.529	0.245	0.264	4.407
Report ID	**2009**	0.588	7.492	0.475	0	0.028	NA
Report ID	**2010**	0.461	6.571	0.381	0	0.046	NA
Report ID	**2011**	0.553	8.484	0.491	0	0.043	NA
Report ID (OBSFRAME)	**2009**	0.794	9.453	0.836	0	0.056	NA
Report ID (OBSFRAME)	**2010**	0.621	7.947	0.494	0	0.051	NA
Report ID (OBSFRAME)	**2011**	0.700	8.757	0.788	0	0.050	NA

Table A2-2. Total number of trip duration days calculated for each year within what would constitute the 2013 partial coverage CV sampling frame.

Year	Days
2009	30,402
2010	32,306
2011	31,803

Figure A2-1. Violin and scatter plot of differences in the duration of trips defined in three different ways (see text for details). The width of the violin plots corresponds to the amount of data, so that wider positions have more data. Similarly, the appearance of the scatter points behind each violin plot is more intense (darker in color) where more data occur.



Appendix 3. Abbreviated methods

This section depicts the workflow, including source (input) and sink (output) files used in this document. It is intended to serve as a quick reference guide to the methods used to produce the ADP and supporting appendices. Input database tables and output file names are denoted as circles, while specific processes (the task performed on the data) are depicted in boxes.

Figure A3-1. Workflow diagram of effort calculations used in Appendix 2.

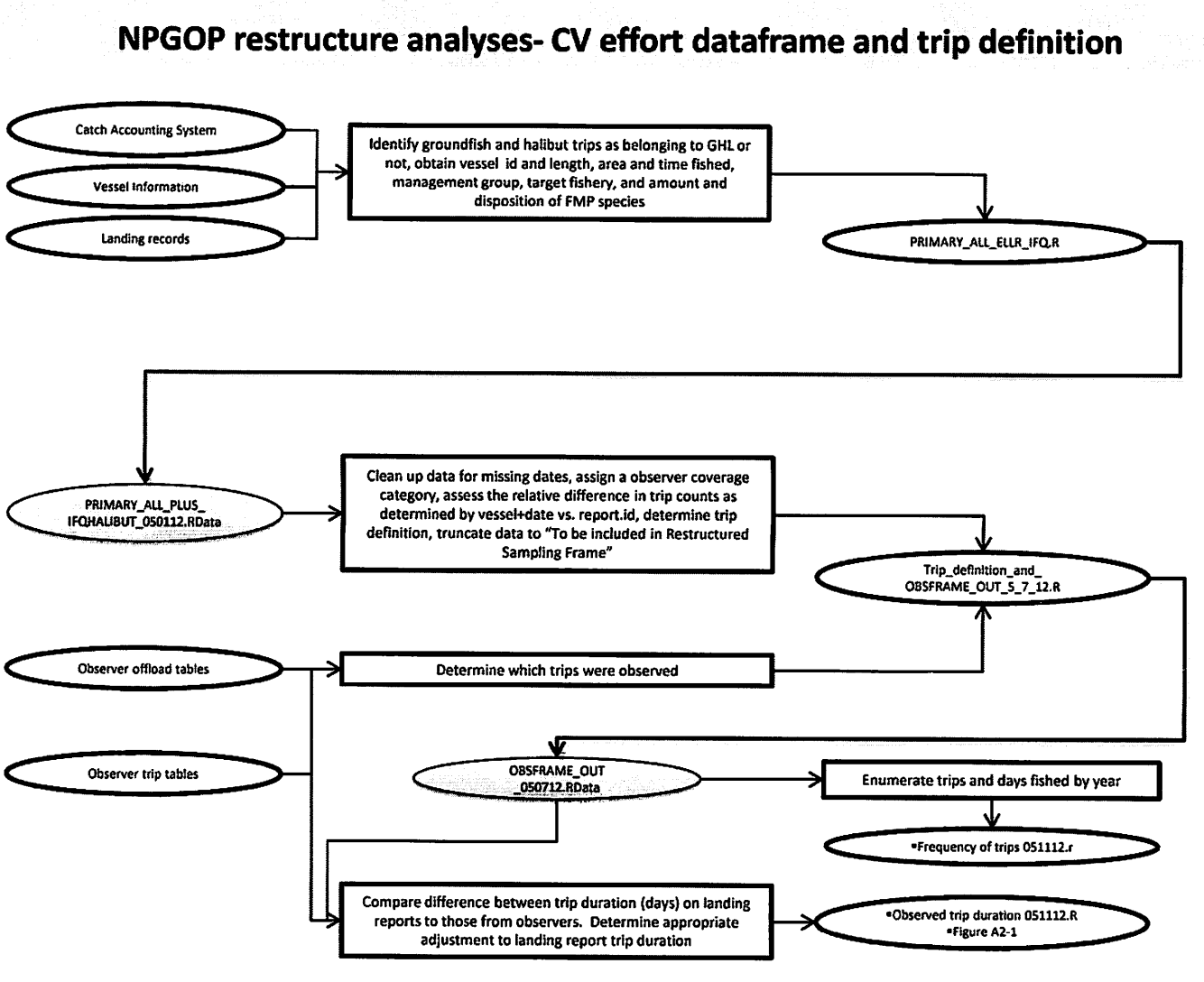


Figure A3-2. Workflow diagram of CV simulations.

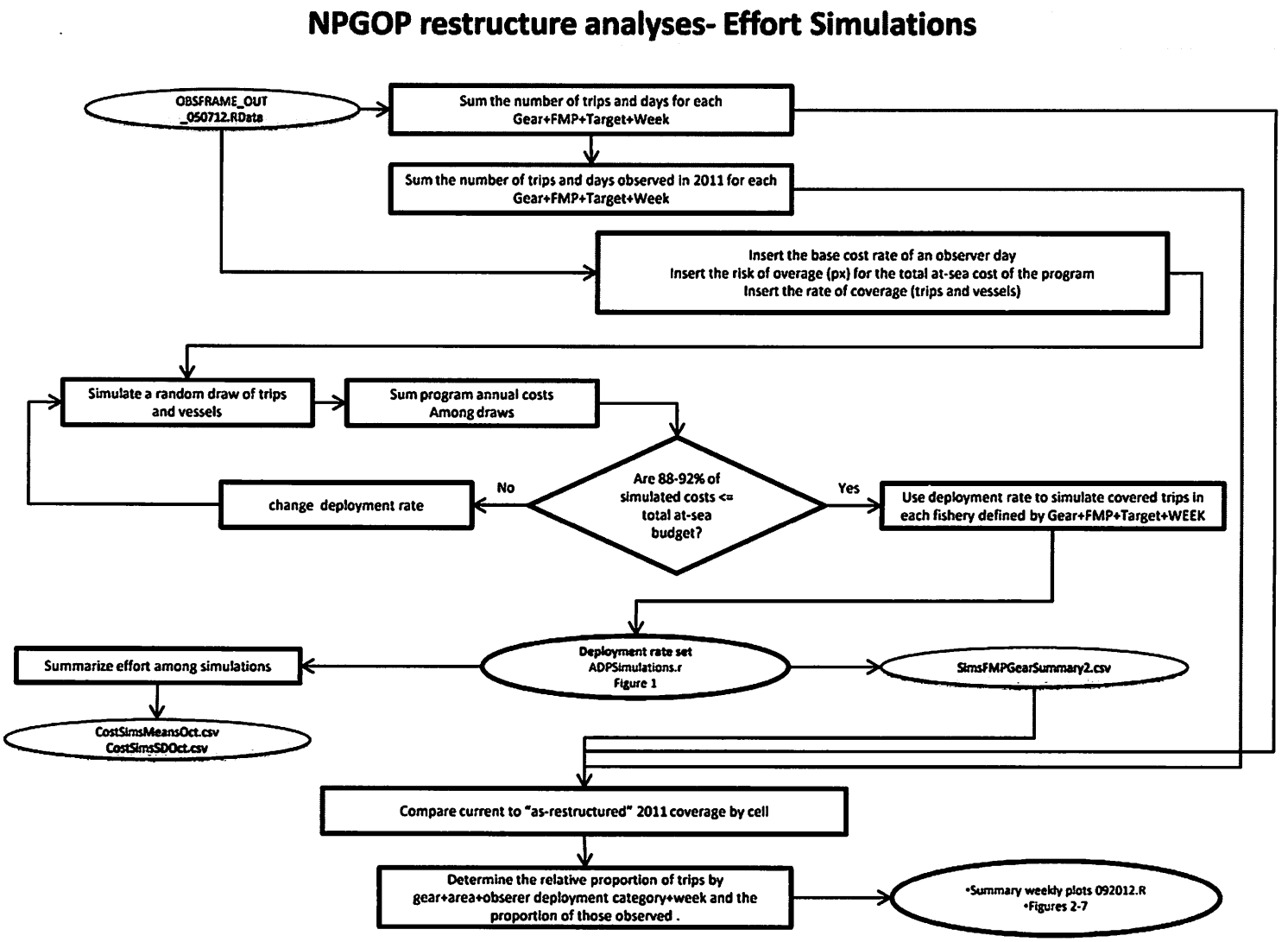


Figure A3-3. Workflow diagram of length and tissue simulations.

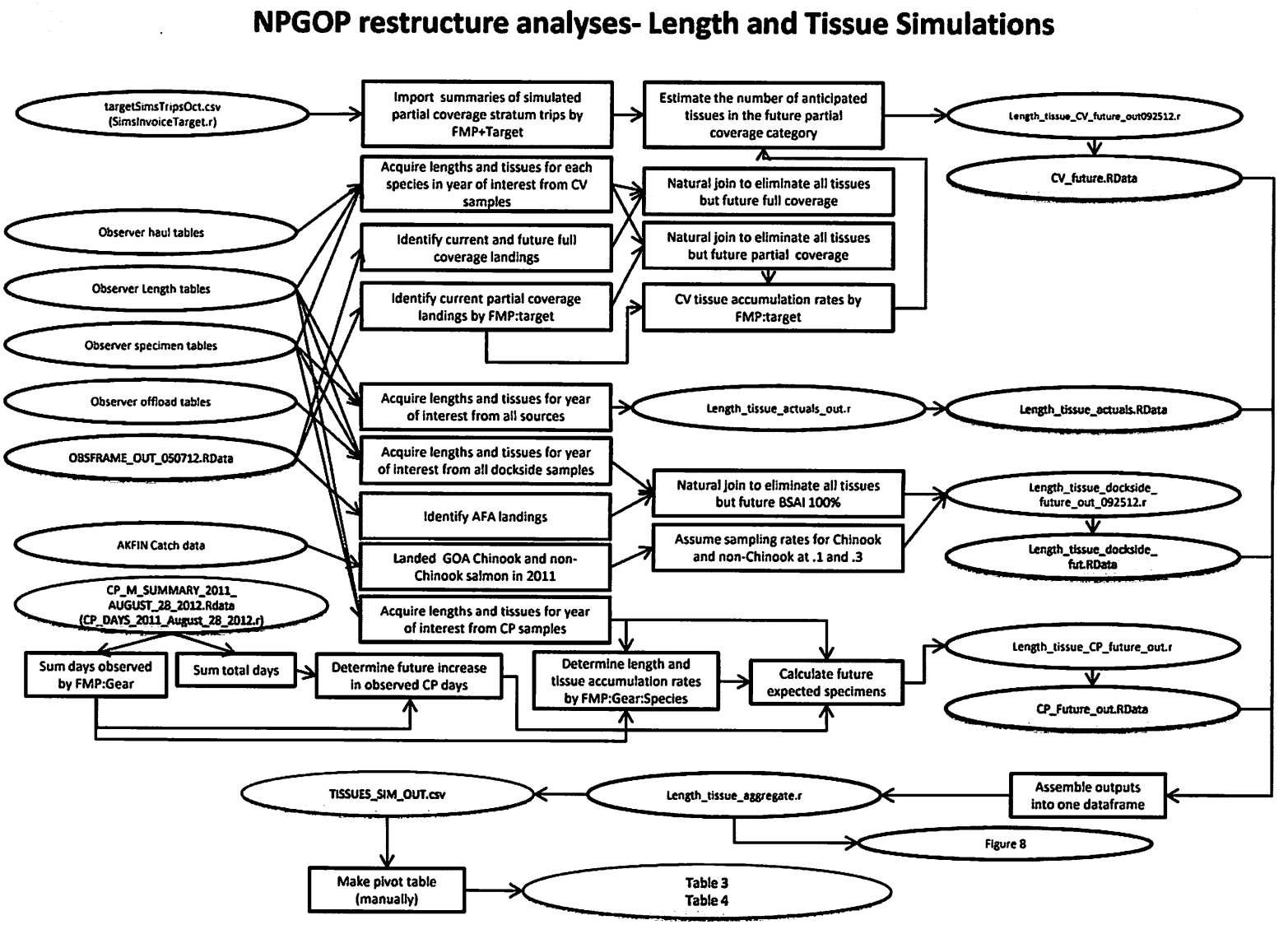


Figure A3-4. Workflow diagram of GOA salmon cost estimate.

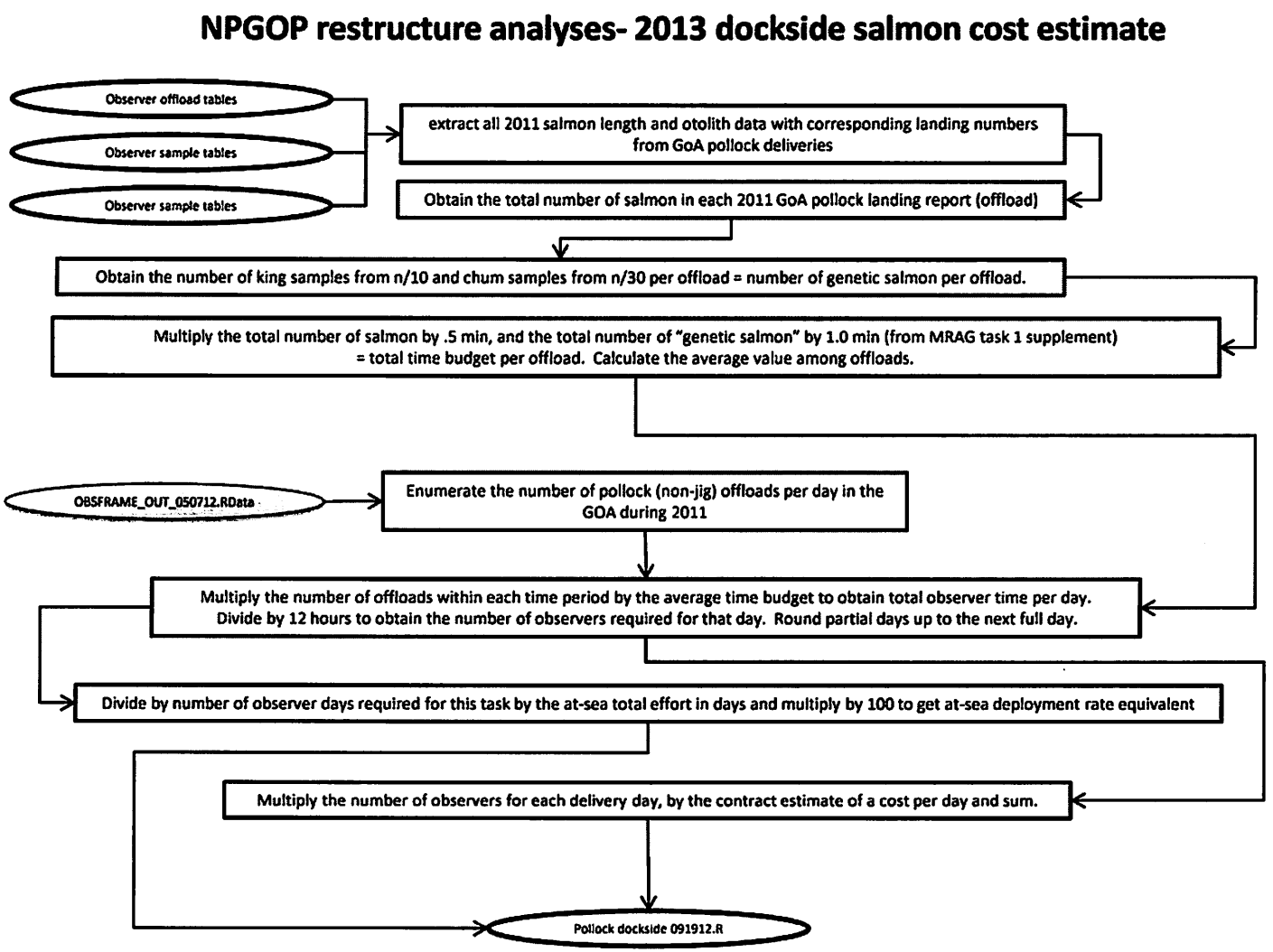
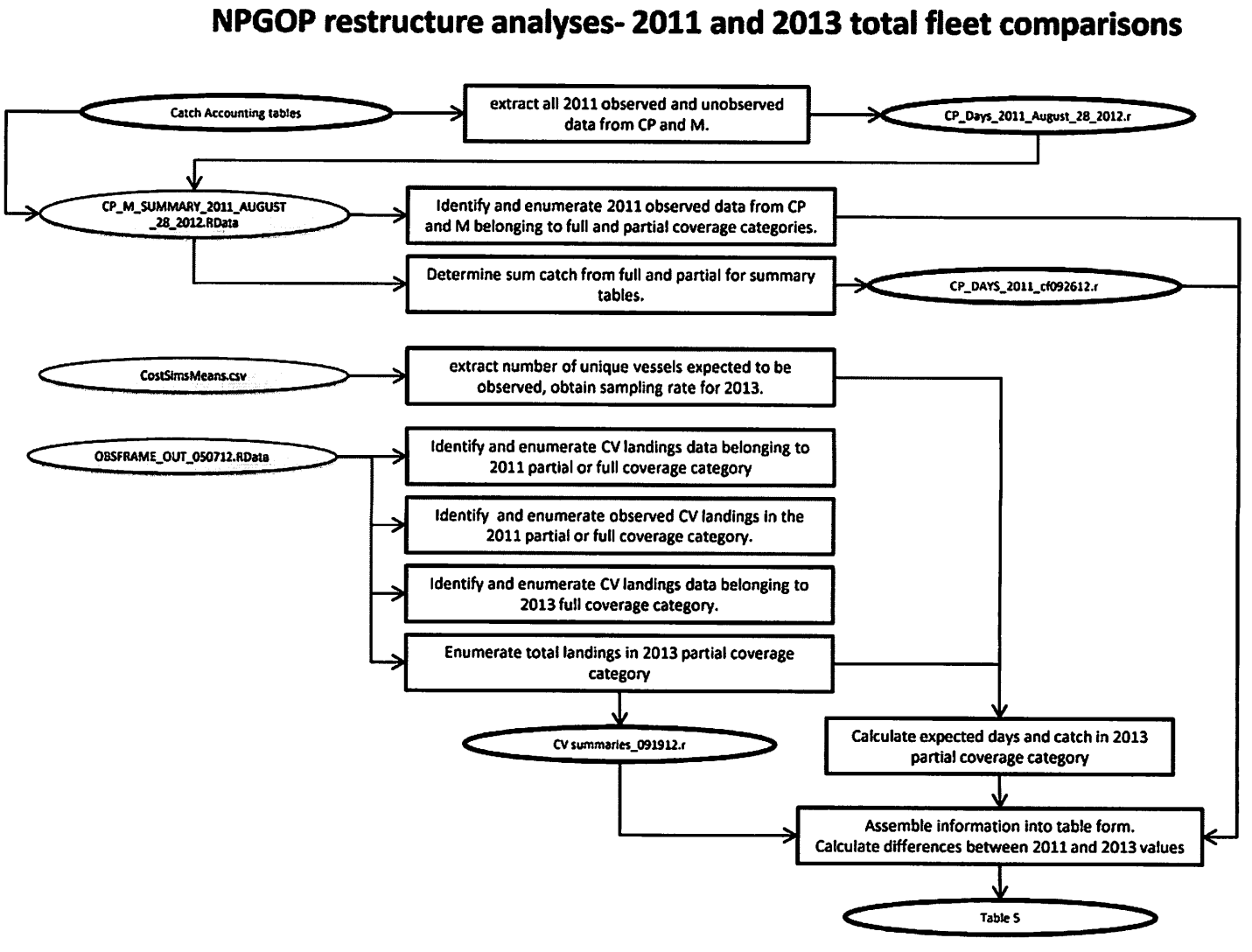


Figure A3-5. Workflow diagram of total program changes.



Good Morning Mr Chair members of the Council

My name is David Polushkin With K-Bay Fisheries Association.

We are a small boat long line fishermen group.

All of our members fish for some or all the species of P-Cod , Halibut, and sablefish.

We are really concerned with the way the observer restructuring program is currently being implemented.

If the boat is chosen for a quarter he has to carry the observer for the full 90 days.

What happened to the low and slow approach that the Agency told us was going to be the start of the program?

We were told that they will start of slow on the previously unobserved vessels and if they will notice a problem in a particular sector or fishery they will increase the coverage we felt like that was a good way to start the program

We were told that the placement of observers would be on boats that the Agency thinks will get the most bang for the dollar.

If the Agency thinks that spending half of the allotted money on previously unobserved vessels is the best bang for the dollar we would have to respectfully disagree.

With the Pcod fishery coming up in January more than likely some of our members will be chosen to carry an observer and the observer will be with that boat for The whole P- Cod season and the beginning of the halibut season.

Which means that the observer will be out there the whole 90 days but the fishing days will be half of that or even less than half depending on the weather, flights, and Holidays.

There would a huge waste of money and the Agency would not get the data that they think they will get.

We support in getting the data to manage the resource better it will benefit the resource and the fishermen that rely on the resource.

It is just how we go about getting that data.

Lets say if my boat will be chosen for the first quarter that means that I will have coverage of around 60 percent of all my trips for the whole year and a trawl vessel will have 13 percent coverage. To me that is not a low and slow start of the program..

The 90 days is just to punitive for the start of the program on previously unobserved vessels.

Start of slow and if they see a problem expand the coverage. That would be totally acceptable..

We just don't think that the current deployment plan is the way to go in the vessel selection pool.

We encourage the agency to start low and slow approach to the program that way they will get more bang for the dollar..

There are a lot of unanswered questions.

What happens to the observer when the boat is weathered in and stays at the dock.

From our understanding we can't leave the observer alone on the boat so where does he go when we leave the boat.

What happens to the observer when we go home for the holidays.

The reason the industry chose the 90 days was when we were told that the Em was going to be an alternative to human body on the small boats.

The EM is not an option in the current deployment plan.

We support the EM as an option on previously unobserved vessels in all the fisheries not only halibut and sablefish.

We think that the study ALFA did on EM is a workable alternative and should be expanded and adopted as an

alternative to carry an observer on previously unobserved vessels.

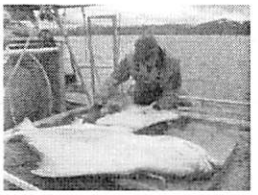
We would like the council to encourage the Agency to reconsider the 3 month continuous coverage for the vessel selection pool...

Thank You..

Halibut/Sablefish EM Pilot Project

A Collaboration Involving:

- Alaska Longline Fishermen's Assn
- Southeast Alaska Fishermen's Alliance
- Petersburg Vessel Owners Assn
- K-Bay Fishermens Assn
- Archipelago Marine Research
- NMFS AFSC



Funding provided by National Fish and Wildlife Foundation

Project Goals

- **Engage stakeholders in developing a workable at-sea monitoring program**
- **Field test EM hardware on a range of vessels and in varied fishing conditions to ensure system reliability**
- **Develop a cost effective means of deploying EM hardware among vessels and retrieving data**
- **Summarize study findings to inform development and implementation of the restructured N. P. Observer Program.**

Objective 1: Engage Stakeholders in Developing At-sea Monitoring Program

- **Engaged fishermen in Sitka, Juneau, Petersburg and Homer**
  - Received input from more than 250 stakeholders on the restructured observer program
- **Clear preference for EM over human observers:**
  - EM is perceived as less intrusive and will allow normal fishing behavior
- **Operator engagement is critical for successful program**
  - Participants in Sitka and Homer "went the extra mile" to ensure EM success.

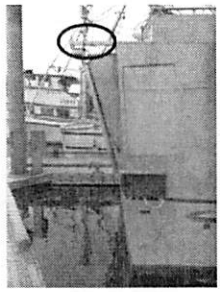
Objective 2: Field Test EM Hardware on a Range of Vessels to Ensure Reliability

- **Project total to date:**
  - **Phase 1**
    - **2 vessels**
    - **4 trips/16 sea days**
    - **20 hauls**
  - **Phase 2**
    - **10 vessels**
    - **26 trips/90 sea days**
    - **91 hauls**

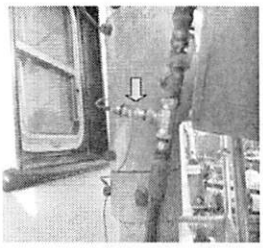




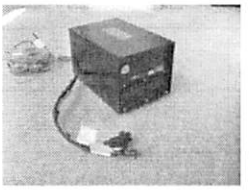
Installation Challenges: Cameras

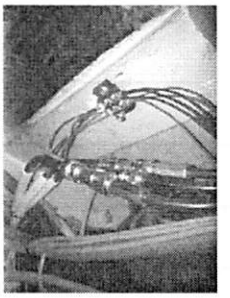



Installation Challenges: Sensors

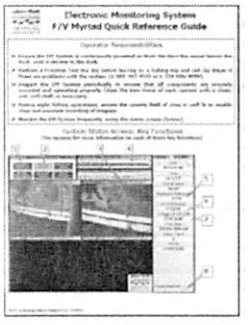


Installation Challenges: Plug and Play





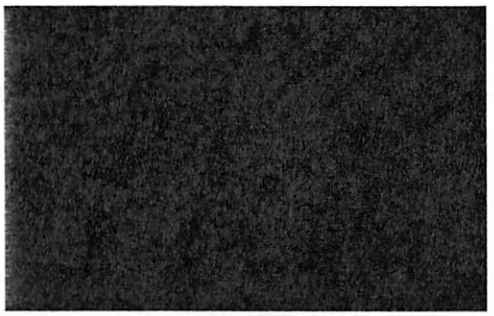
Vessel Monitoring Plans



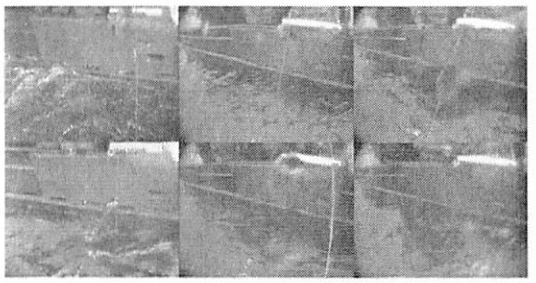
System Reliability Phase 1 & 2

Sensor	# of sets	% reliability
Hydraulic Pressure	111	100%
Drum Rotation on Snap vessels	25	100%
Sheave Rotation on Conventional vessels	86	100%
GPS Sensor* (*does not include night time gaps)	111	96%
Video capture of Hauls	111	96%

Video Quality



Video Quality

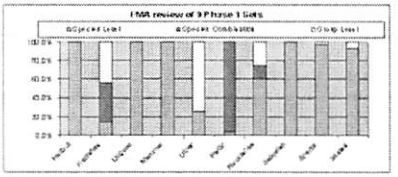


High Quality Med Quality Low Quality

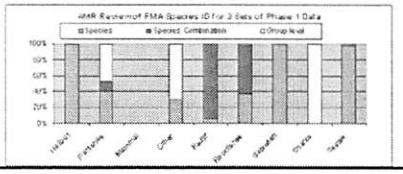
Video Quality: Phase 2

Video Quality	# of sets	%
High Quality	42	55%
Medium Quality	29	38%
Low Quality/unusable	5	7%

Species Identification

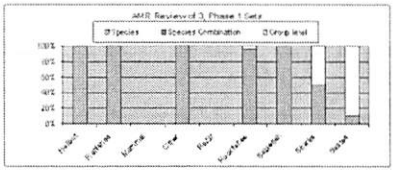


- 90.4% id to species



- 93.2% id to species

Species Identification



- 96.6% id to species

Objective 3: Develop a Cost Effective Deployment Program

Initial Cost Effectiveness Straw man

Hardware Costs

- Control Box, Monitor, 2 Cameras, Power supply.....$8,100
- Extra cameras..... $ 800
  Total..... $9,600
- 5 Year Deprecation = $1,920/yr.
- Pilot Program Goal—Rotate EM unit to 3 vessels for minimum of 8 sea days/vessel (24 total/unit)
- **$80/sea day hardware cost**

Vessel Costs

- Sensor Package..... $ 700
- Technician Time (6 hrs)..... $ 450
  - Installation package total..... $ 1,150
- Hardware cost for 8 sea days..... $640
  Total..... $1,790
- **$224/sea day**

Analysis Costs

- 10 sets @ 2 hrs each = 20 hrs video
- Review Speed = 2X
- Technician Time (10 hrs @ $25/hr).....$250
- **$32/sea day**

Pilot Program Results

Sitka System 1– 35 Sea Days
•$55/day hardware cost

Vessel S1 Costs*

- Vessel Installation (Sensors + Labor).... $1,150
- Rotation Costs (1.5 hr)..... $ 38
- Hardware cost for 12 sea days..... $660
  Total..... $1,848
- **$154/sea day**

Vessel S4 Costs

- Vessel Installation (Sensors + Labor).... $1,300
- Rotation Costs (2 hr)..... $ 50
- Hardware cost for 11 sea days..... $ 605
  Total..... $1,955
- **$178/sea day**

Vessel S5 Costs*

- Vessel Installation (Sensors + Labor).... $1,300
- Rotation Costs (4 hr)..... $ 100
- Hardware cost for 16 sea days..... $ 880
  Total..... $ 2,280
- **$143/sea day**

Sitka System 2– 39 Sea Days
•$49/day hardware cost

Vessel S2 Costs*

- Vessel Installation (Sensors + Labor).... $1,150
- Rotation Costs (1 hr)..... $ 25
- Hardware cost for 8 sea days..... $ 392
  Total..... $1,567
- **$196/sea day**

Vessel S3 Costs

- Vessel Installation (Sensors + Labor).... $1,150
- Rotation Costs (1 hr)..... $ 25
- Hardware cost for 18 sea days..... $ 882
  Total..... $2,057
- **$114/sea day**

Vessel S6 Costs*

- Vessel Installation (Sensors + Labor).... $1,225
- Rotation Costs (2 hr)..... $ 50
- Hardware cost for 9 sea days..... $ 441
  Total..... $1,716
- **$191/sea day**

* Indicates split season vessels

Objective 4: Summarize Findings and Outreach
Lessons Learned: System Reliability

- **Existing technology proved to be reliable and adaptive with a wide variety of fishing conditions and vessels configurations**
- **Existing video quality allowed identification to species level of 90+% of species encountered in hook and line fisheries**
- **Initial recommendations:**
  - Recommend using 2nd hydraulic sensor for redundancy in vessels using only a sheave (conventional gear)
  - Recommend developing "sleep mode" capabilities based on oil pressure or alternator activity
  - Recommend developing low cost GPS data loggers for position redundancy.
  - Recommend using education to further improve operational compliance and video quality (Canadian Approach)
  - Recommend systematic evaluation of improvements with species identification associated with increased camera resolution and frame rate capture

Objective 4: Summarize Findings and Outreach
Lessons Learned: Cost Effectiveness

- **Buy equipment, don't lease!**
  - Multi year contract for equipment provider allows amortization of equipment costs
- **Center EM programs around specific ports for programmatic and technical support**
  - Train local technicians for installation and technical support
  - Use local program personnel for equipment rotation, hard drive collection and stakeholder outreach (lower cost, different focus)
- **Define explicit data and cost goals, then tailor deployment plan to achieve sea days necessary to meet these goals.**
  - Pre-wiring vessels allows control boxes to rotate among vessels to maximize deployment days
  - Need flexible deployment periods to allow port coordinator to maximize use
- **Use existing data to evaluate cost effective video review methods**

Next Steps

- Review and incorporate Homer data
- Summarize and distribute pilot program results to QS holders
- Work with Stakeholder to inform NP observer program restructuring
- Work with NMFS to further develop and integrate EM as an independent alternative for at-sea monitoring

PUBLIC TESTIMONY SIGN-UP SHEET

Agenda Item: C-3 Observers

	NAME *(PLEASE PRINT)*	TESTIFYING ON BEHALF OF:
1	Bob Alverson	FVOA - Seattle
2	NIKOLAI SIVERTSTOL	FV PACIFIC SOUNDER
3	Kenny Down	Freezer Longline Coalition
4	Carter Hughes	40 ft troller, Sitka
5	Rhonda Hubbard	
6	Darius Kasprzak	F/V Marona
7	BRENT PAINE	UCB
8	Tracey Mayhew	UIW
9	David Polushkin	K-Bay fisheries Assoc.
10	JULIANNE CURRY Bryan Lynch	PUGA
11	DAN FALVEY	
12	JOEL HANSON	THE BOAT COMPANY
13	Beth Stewart	Peninsula Fisherman's Coalition
14	Todd Hope	NPFA
15	Theresa Peterson	AK Marine Conservation Council
16	TORI CONNOR	F/V Cape Reliant
17	JEFF FARVOUR	40 ft troller / Crewmember
18	ALEXIS KWACHKA	SELF
19	Debra Cinacher	Self - ESSN Saturday only
20	Linda Behnken	AFA
21	Jody Cook	F/V Cape Reliant
22	Michael LACE	Alaska Observers, Inc.
23	Jeff Stephan	UFMA
24	Becca Robbins Gisclair	YRIDFA
25	Matt Hegge	F/V OCEAN BAY

NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person " to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

PUBLIC TESTIMONY SIGN-UP SHEET

Agenda Item: C-3 OBSERVERS

	NAME *(PLEASE PRINT)*	TESTIFYING ON BEHALF OF:
1	Mary Beth Tooley	individual
2	Todd Loomis	Self
3	Bob Krueger	Alaska Whitefish Trawlers
4	Pat Hadina	Trident Seafoods
5	Julie Bonney	AGDB
6	Paul MacGregor	AT-Sea Processors Assn
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USE OF AN ELECTRONIC MONITORING SYSTEM TO ESTIMATE CATCH ON GROUNDFISH FIXED GEAR VESSELS IN MORRO BAY CALIFORNIA- PHASE II

By

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April 7th, 2011

ARCHIPELAGO
MARINE RESEARCH LTD.

Submitted by
Dan Falvey
10/6/12

investigation or feedback and may cause a delay in reporting along with additional expenses for the fisherman in question.

The best insight into cost structure for an EM program comes from analyzing data from existing mature EM programs for which all inputs and outputs have been defined; such as the BC hook-and-line catch monitoring program (Table 12). The BC hook-and-line monitoring program is an audit-based EM program that delivers a finished data product for a yearly average cost per vessel of 194 $CDN (~200 $USD) per seaday or 3.2% of the landed catch value on average (median 4.7%) (Stanley *et al.*, in press). Beyond EM monitoring, this cost also includes hail, fishing log and dockside programs as well as data editing and consolidation for all these separate programs. The monitoring program includes all data collection, interpretation and reporting to generate a finished data product, i.e. audit report and appropriate quota deductions. Some of the external and internal factors for this fishery are:

External

- 202 active vessels, 1,323 trips, 11,545 seadays and 23,192 fishing events per year
- Total landed weight of 11,789 tons with a value of 75 million Canadian dollars
- Operates out of six main ports but service is provided for a total of close to 30 ports across the BC coast.

Internal

- EM data must be retrieved after every fishing trip.
- Finished data product must be available to industry and fisheries managers within five days of landing, unless audit fails to meet standards.

Table 12. Summary of BC hook-and-line catch monitoring program costs for the 2009/2010 programme year, including funding from both industry and the Department of Fisheries and Oceans Canada and covering on average 3.2% of the landed catch value (median 4.7%) for each vessel. (Stanley *et al.*, in press)

Monitoring programme	Average cost vessel^{-1} year^{-1} ($CDN)
Hail programme	$236
Logbooks	$312
Dockside monitoring	$2 890
EM equipment	$1 760
EM field services	$3 889
EM data services	$2 891
EM subtotal	$8 540
Total programme costs	$12 053
Cost per trip	$1 840
Cost per sea-day	$194
Cost per kg landed	$0.21

When all cost factors are equal, independent at-sea monitoring program options in order of lowest to highest cost are audit-based EM programs, EM census programs, and observer programs. The EM portion of the BC hook-and-line program accounts for ~70% or roughly a yearly average cost per vessel of 136 $CDN (~140 $USD) per seaday. Stanley *et al.* (2009) estimate that, using the same external and internal factors already defined in the BC hook-and-line catch monitoring program, if the audit-based program was substituted with an EM census

program (i.e. 100% review of all video) the EM costs would increase to 274 $CDN (~280 $USD) per sea day, and logistical challenges and potential additional costs would be introduced in order to meet the five day turnaround timeline. The closest estimate we have as to what an observer program would cost for this fishery comes from the offshore trawl fishery in BC which is 580 $CDN (~597 $USD) per seaday (although the BC offshore trawl fishery operates with 50 vessels and 4,500 seadays per year). Although these numbers are estimates, they offer valuable insight on the differences that could be expected from considering these different methods.

6. DISCUSSION

The findings involving fishing activity time and location interpretation, catch comparisons, image quality, and catch handling, are consistent with previous work done for the 2008 EFP. Our recommendations are geared towards implementing an audit-based monitoring program using EM in the Morro Bay fixed gear fishery in particular and the West Coast groundfish fishery in general.

6.1 TECHNICAL ASSESSMENT OF EM SYSTEM

The 2010 study successfully expanded the data collected in the 2008 study by deploying equipment on six vessels for a collective total of 97 fishing trips, over 124 days at sea of EM data, and a total of 332 fishing events detected by EM. Data collected in the 2010 study represents double of that collected in 2008 by number of vessels and fishing events. Overall sensor data capture success was about 91%, however, if the equipment had not been manually turned off at the beginning and end of some trips, the capture success could have been increased and that data lost is of low risk. Six hauls were not captured by EM due to power interruption to the system and five of those corresponded to the same trip in which the EM system was only powered for 1.4 hours at the fishing grounds.

System performance and data collection success from the 2008 and 2010 studies show that it is possible to achieve virtually complete data from fishing activity using EM (97% of hauls were complete and usable for comparisons in both studies and in 2010 EM was compared to 97% of hauls detected by observers or fishing logs). More rigorous checking of the system performance before a trip starts and during the trip can further decrease the likelihood of data loss. These checks can be achieved through adequate rules within an operational monitoring program.

A further expansion in the data collection for the 2010 study was the addition of two pot/trap gear vessels in addition of longline gear vessels. Although detecting hauls from EM data was straightforward for longline gear, pot/trap vessels proved to be more challenging for detecting gear setting and matching it to hauls. One of the vessels also proved to be much more challenging for catch assessment than the other pot/trap vessel and all of the longline ones. This was caused mostly by the way catch was handled (more than one person sorting catch out of the hopper simultaneously) and periods of time when the camera view of the hopper being partially blocked by a rope. This particular challenge illustrates that not only gear differences need to be taken into account when setting up EM equipment on a vessel, but that vessel specific deck layouts and the associated catch handling are key considerations.

C-3 Observer Program
October 6, 2012

MOTION:
The Council recommends that the 2013 ADP be revised to reflect a priority for monitoring vessels managed under PSC limits in the trip selection pool. The Council recognizes that this would necessarily modify the equal probability sampling design such that higher observer coverage rates are provided in the trip selection pool, and lower rates in the vessel selection pool, compared to what is currently in the draft ADP.

The Council also asks NMFS to reconsider the continuous 3-month deployment for selected vessels in the vessel selection pool. NMFS should implement a 2-month deployment for selected vessels.

The Council requests that NMFS provide a strategic planning document ~~for EM~~ that identifies the Council's ~~EM management~~ objective of collecting at-sea discard estimates from the 40' – 57.5' IFQ fleet, and the timeline and vision for ~~how the EM pilot project in 2013~~ and future years' projects will serve to meet this objective, including funding.

The Council forwards the following AP recommendations:

The Council requests that NMFS and the BSAI Pacific cod catcher vessel trawl fleet work together to develop a mechanism to allow 100% observer coverage for the 2013 season, with the additional costs to be borne by the vessel owners.

1. <*Outreach*>Recommend that NMFS clarify how a release from observer coverage is granted, if the observer provider is unable to provide an observer.
2. <*Outreach*>Recommend that NMFS reconsider the timing requirements for requesting a release from observer coverage, and inspecting a vessel that has made that request.
3. <*First year review*>Recommend that NMFS consider that vessels in the vessel selection pool should either have the option to go into the trip selection pool OR all vessels should be in the trip selection pool.
4. The Council reaffirms its intent that crew members should not be displaced by the requirement to have an observer onboard.
5. <*First year review*>Recommend that the difference between coverage in the vessel and trip selection pools be evaluated.
7. <*First year review*> Request that NMFS provide information on catcher vessels that operate as catcher processors for a portion of the year.
9. <*First year review*>Recommend that NMFS insert cost effectiveness measures into the deployment plan, to prevent expensive deployments to remote areas for insignificant amounts of catch.
10. <*First year review*>Request that NMFS report to the Council on whether there are issues related to observer availability as a result of this program.

4:35 clarify procedure for releasing