



New England Fishery Management Council

50 WATER STREET | NEWBURYPORT, MASSACHUSETTS 01950 | PHONE 978 465 0492 | FAX 978 465 3116
E.F. "Terry" Stockwell, Chairman | Thomas A. Nies, *Executive Director*

MEMORANDUM v2

DATE: April 13, 2016
TO: Groundfish Committee
FROM: Groundfish Plan Development Team (PDT)
SUBJECT: **Groundfish Monitoring Program**

The Groundfish Plan Development Team (PDT) met on March 30, 2016 in Falmouth, MA at the Northeast Fisheries Science Center Fisheries Sampling Branch. The following summarizes the PDT discussion. *The PDT updated version 1 of this memo (April 5, 2016) for the April Council meeting as version 2 - this memo.*

Development of Framework Adjustment 55 (FW 55)

During the development of FW 55 at its September/October 2015 meeting, the Council prioritized a list of groundfish monitoring program measures for inclusion in the action:

1. Remove the ASM requirement for ELM trips
2. Performance criteria for when stocks necessary to meet CV standard
3. Sector-specific coverage requirements*
4. CV standard as a target*
5. Sector-specific monitoring buffers or discard rates*

At the time of prioritizing this list, it was determined that measures 3-5 (marked with a "**") were unlikely to be developed in FW 55, in order for any changes to the groundfish monitoring program to be implemented in time for May 1, 2016. Further, it was indicated that NMFS could develop measure 3 under its existing authority, while measures 4 and 5 would likely require additional time, and potentially an amendment to the FMP (depending on the specifics of the alternatives). The Council agreed that the PDT would focus on measures 1 and 2 within FW 55. Measures 3-5 could be considered in a trailing action.

Overview of Council's Proposal in Framework Adjustment 55

The Council took final action on the monitoring alternatives in FW 55 at its December 2015 meeting. The following information is excerpted from the biological impacts section of FW 55.

The combination of the Council's options results in a reduction in the overall observer coverage rate over the current approach for FY 2016. For FY 2016, the No Action would result in a total observer coverage rate of 41% while the combination of these options would result in a total coverage rate of 14% for the portion of sector vessels not fishing under the ELM exemption (i.e., the redfish rate needed to achieve a CV30 of 37% total observer coverage rate scaled back to the SNE/MA yellowtail flounder rate at 14%). Table 1 describes the overall observer coverage which would result from the cumulative combination of each of the Council's preferred alternatives.

Table 2 summarizes the three-year average approach to setting sector coverage. As a comparison, the CVs of stock-level discards for FY 2014 with and without ASM are provided in Table 3. Generally, increased coverage leads to a reduction in the CV for each stock and therefore improved estimations of discards. Table 4 summarizes the target and realized coverage levels for FY 2010-FY 2014.

Table 1 - Council's Preferred ASM Alternatives and Resulting FY 2016 ASM Coverage Levels

Alternative	No Action and Council's Preferred Alternatives	Total 2016 coverage level (NEFOP + ASM) %	Driving Stock
4.3.1.1 <i>Option 1</i>	No Action	41%	Redfish
4.3.1.3.1- <i>Option 3A</i>	Clarify that coverage levels be set only using realized stock level CVs (Preferred Alternative)	37%	Redfish
4.3.1.4.1- <i>Option 4A</i>	Remove ASM coverage requirement for extra-large mesh gillnet trips (Preferred Alternative)	37%	Redfish
4.3.1.3.2- <i>Option 3B</i>	Multi-year approach to setting sector coverage (Preferred Alternative)	17%	Redfish
4.3.1.5- <i>Option B</i>	Fishery Performance Criteria for Predicting the target ASM coverage level (Preferred Alternative)	14%	SNE/MA yellowtail flounder

Table 2 - Realized stock CVs and percent coverage required to achieve CV30, FY 2012 - FY 2014 removing the existing SNE ELM exemption and proposed ELM gillnet exemption in FW 55. Source: GARFO, January 6, 2016. The final column summarizes the three year average (multi-year) approach by stock.

STOCK	FY2012		FY2013		FY2014		Average- three year approach
	CV	Percent Coverage	CV	Percent Coverage	CV	Percent Coverage	Percent Coverage
GB Cod East	20.44	10.05	48.86	28.08	24.6	14.36	17.5
GB Cod West	12.26	4.07	15.43	6.15	17.11	9.63	6.62
GB Cod	10.55	3.03	14.8	5.49	14.65	7.06	5.19
GOM Cod	9.89	3.05	6.07	1.11	11.16	5.02	3.06
Plaice	5.52	0.82	6.51	1.07	7.35	1.84	1.24
GB Winter Flounder	21.3	8.87	23.02	10.63	20.79	11.19	10.23
GOM Winter Flounder	8.96	2.54	15.1	6.4	29.06	25.99	11.64
Witch Flounder	8.74	2.04	7.41	1.35	8.96	2.55	1.98
CC/GOM Yellowtail Flounder	7.8	1.83	9.31	2.43	14.1	7.33	3.86
GB Yellowtail Flounder	15.98	5.11	24.84	12.42	21.16	11.59	9.71
SNE/MA Yellowtail Flounder	12.91	4.23	31.45	21.75	23.2	16.84	14.27
GB Haddock East	35.04	24.77	30.17	13.01	10.64	3.27	13.68
GB Haddock West	27.08	17.19	13	4.46	9.95	3.51	8.39
GB Haddock	21.77	11.78	11.95	3.66	8.44	2.47	5.97
GOM Haddock	12.27	4.61	12.98	4.84	12.03	5.76	5.07
White Hake	13.1	4.47	11.81	3.38	15.36	7.6	5.15
Pollock	7.72	1.63	7.55	1.4	9.71	3.19	2.07
Redfish	13.85	4.91	21.23	9.94	41.69	37.04	17.3
SNE/MA Winter Flounder	15.44	7.02	21.21	12.82	16.69	10.61	10.15
Southern Windowpane	10.7	2.99	7.98	1.81	8.26	2.54	2.45
Northern Windowpane	11.01	3.22	16.69	6.35	12.76	5.16	4.91
Ocean Pout	11.7	3.57	11.57	2.8	16.5	7.76	4.71
Halibut	6.7	1.22	7.53	1.39	6.67	1.56	1.39
Wolffish	8.35	1.9	9.58	2.2	9.75	3.19	2.43

Table 3- Comparison of realized CVs for each stock with NEFOP and ASM and with NEFOP only for FY 2014. These are considered draft, provided for informational purposes, and subject to change. Source: CVs - NEFOP+ ASM, GARFO, January 6, 2016 and NEFOP, NEFSC, May 28, 2015.

FY 2014	Realized CV NEFOP+ASM	Realized CV NEFOP
Stock		
GB cod	14.38	63.88
GOM cod	11.16	30.98
Plaice	7.35	19.12
GB winter flounder	20.79	23.34
GOM winter flounder	29.06	28.21
Witch flounder	8.96	21.60
CC/GOM yellowtail flounder	14.10	24.79
GB yellowtail flounder	21.16	20.09
SNE/MA yellowtail flounder	23.20	33.36
GB haddock	8.44	21.79
GOM haddock	12.03	30.72
White hake	15.36	26.82
Pollock	9.71	31.06
Redfish	41.69	72.19
SNE/MA winter flounder	16.69	38.12
S windowpane flounder	8.26	16.87
N windowpane flounder	12.75	53.65
Ocean pout	16.50	78.73
Halibut	6.97	19.35
Wolffish	9.75	28.38

Table 4- Target and realized coverage levels, FY 2010-FY 2014. Source: GARFO, November 16, 2015.

Fishing Year	NEFOP target coverage level	ASM target coverage level	Total target coverage level	Realized coverage level
FY 2010	8 %	30 %	38 %	32 %
FY 2011	8 %	30 %	38 %	27 %
FY 2012	8 %	17 %	25 %	22 %
FY 2013	8 %	14 %	22 %	20 %
FY 2014	8 %	18 %	26 %	25.7 %
FY 2015	4 %	20%	24 %	n/a*

January 2016 Council Motion

On January 27, 2016, the Council unanimously approved a problem statement for an action on the groundfish monitoring program and tasked the PDT with analysis for consideration by the Council at its April meeting.

Problem statement:

When Industry-Funded ASM requirements were established in Amendment 16, the expectation was that increased catch limits – as a result of rebuilding – would enable

the industry to afford the cost of monitoring. Since 2010, ACLs for many stocks have declined sharply, along with groundfish revenues, and the size of the fleet. The affordability of the ASM program for groundfish sectors is in question. The current configuration of the ASM program may lead to significant economic impacts (i.e., economic losses) to the groundfish fishery and negative social impacts (i.e., those that reduce resiliency and increase vulnerabilities of fishing communities).

Therefore, the Council requests analysis of the following by the PDT prior to the April Council meeting to assess whether:

- (1) The CV requirements and methodologies are the most appropriate to verify area fished, catch and discards by species and gear type for the sector system.*
- (2) ASM provides the sector fishery, recognizing heterogeneity within the fleet (e.g., trip length, homeport, etc.), the maximum flexibility to meet ASM goals and objectives.*

Motion carried 17/0/0.

PDT Discussion: Council motion

The PDT discussed items (1) and (2).

(1) The CV requirements and methodologies are the most appropriate to verify area fished, catch and discards by species and gear type for the sector system.

The PDT expanded its discussion beyond CV requirements and methodologies. The PDT discussed the current groundfish monitoring system with respect to the ability to verify area fished, catch and discards by species and gear type for the sector system. The PDT recognizes that while ASM monitoring requirements focus on the precision of discard estimates, overall catch estimation is the monitoring goal.

Verify area fished

- Information on area fished is provided by industry through VTRs.
- Starting in FY 2010, NMFS required VMS catch reports.
- NEFOP, ASM and VMS information could be used to verify area fished.

Verify landings by species and gear type

- Information on landings by species is provided through dealer reports.
- Information on gear type is provided by industry through VTRs (dealers record the VTR number).
- NEFOP, ASM, EM and portside monitoring could be used to verify landings by species and gear type.

Verify discards by species and gear type

- NEFOP and ASM data is used to verify discards by species and gear type.
- EM could be used to verify discards by species and gear type.

(2) ASM provides the sector fishery, recognizing heterogeneity within the fleet (e.g., trip length, homeport, etc.), the maximum flexibility to meet ASM goals and objectives.

The PDT discussed (2) with respect to landings accuracy, discard precision, and discard accuracy. The PDT also brainstormed ideas and analysis to develop to investigate item (2) in more detail.

Landings accuracy

- Landings accuracy is particularly important for the ACE trading market, accounting for highly constraining stocks, and stock assessments.
- Increase ASM coverage and the usage for species composition information.
- Develop a portside sampling program.
 - Some considerations:
 - Do 100% of trips need to be sampled?
 - If not, what rate of portside sampling coverage is needed?
 - Examine issues, concerns, and data from the 2010 dockside monitoring program.

Discard precision

- Optimizing stratification by trip length/home port or adding/removing other strata.
- Examine how to preferentially target stocks for monitoring coverage to improve discard estimation.
- Discard methodology review by GARFO/NEFSC later this year will examine the cumulative approach.

Discard accuracy

- Improved retention of catch (maximized or full retention with portside samplers).
- Using EM as a tool within the overall monitoring program (e.g., catch composition or compliance).
- Revisit analytical work done during the development of FW48.

PDT Discussion: draft objectives for consideration

Following the discussion of the Council's motion, the PDT developed draft objectives for consideration by the Committee and potential tasking for the PDT to address the various objectives.

Draft objectives for Sector Catch Monitoring and Accounting (tasking in italics):

- Verify up to 100% of the landings to confirm accurate data for removals to ensure fairness and equity for all fishery participants
 - *Evaluate the effectiveness of portside sampling, EM, and other strategies*
- Improve the cost effectiveness of discard monitoring
 - *Evaluate establishing monitoring rates based on a pre-determined risk tolerance for discards by stock*

- Account for bias in discard estimation
 - *Evaluate and build on prior work by the PDT and Center on discard accuracy*

Recent publications on groundfish fishery monitoring

The PDT also discussed two recent journal publications on groundfish monitoring. Authors, Gina Shield and Dr. Jenny Sun presented an overview of their papers (see presentations as Attachments 1 and 2). In general, the papers and presentations helped to inform the PDT’s discussion on groundfish monitoring.

Publications discussed:

- 1) Palmer, M. C., P. Hersey, H. Marotta, G.R. Shield, and S. B. Cierpich. 2016. The design and performance of an automated observer deployment system for the Northeastern United States groundfish fishery. *Fisheries Research* 179: 33-46.
- 2) Sun, C.-H. J. and L. Fine. 2016. A cost-effective discards-proportional at-sea monitoring allocation scheme for the groundfish fishery in New England. *Marine Policy* 66: 75-82.

Pre-Trip Notification System (PTNS)

Following a presentation by Ms. Shield on how the PTNS works (Attachment 1), the PDT discussed the PTNS. In general, the PDT was interested in the vessel selection process including how vessels are added on the “do not deploy” list, and how vessels are notified for ASM or NEFOP coverage. Ms. Shield explained that the number of vessels on the “do not deploy” list has decreased in recent years and that the primary reason for being on the list is for safety reasons. Further, Ms. Shield explained that vessels know prior to sailing if the observer is NEFOP or ASM.

Discard-proportional at-sea monitoring allocation scheme

Dr. Sun presented her work on an alternative approach to assigning monitoring, focusing on the vessels with a greater quantity of discards. The work also considers how to focus coverage on stocks considered to be of greater concern – those with greater changes in ACLs. Generally, some aspects of the approach would shift coverage to larger vessels (those with a greater proportion of overall discards) – while other aspects would shift coverage to smaller vessels (coverage targeting stock of concern, for example Gulf of Maine cod and increased sampling in Broad Stock Area 1). In general, the PDT was concerned the “proportional” approach developed was inconsistent with sampling theory as it suggests shifting coverage to certain strata in which precision would not be improved with greater sampling from strata in which precision is poor. The PDT discussed that the proposed approach would likely require a re-stratification of the current program – to consider vessel length, proportion of discards, in addition to shifting coverage to stocks of concern – as described by Dr. Sun. The PDT was also unclear how the CVs under the proposed approach would differ from the current approach. It is unclear from the information provided whether the discard-proportional at-sea monitoring system would result in an improvement in discard accuracy or precision. It is also not certain whether the increase coverage requirement for monitoring of additional strata would be offset by the cost savings of the discard-proportional scheme. A test of the discard-proportional estimator and system with

simulated data where the true discards are known would be needed to make a conclusion on this system's potential for improvements in estimated discards and cost savings.

Science, Service, Stewardship



Overview of the observer pre-trip notification system (PTNS): a briefing for the NEFMC Groundfish PDT

Gina Shield

*Northeast Fisheries Science Center
National Marine Fisheries Service
166 Water St., Woods Hole 02543*

March 30, 2016

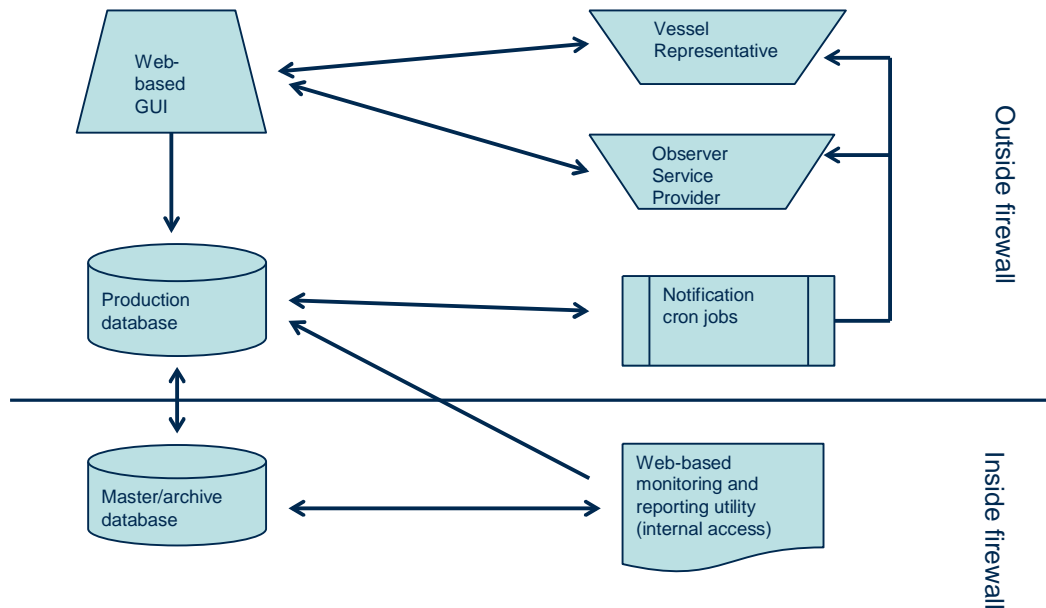
**NOAA
FISHERIES
SERVICE**

PTNS Briefing

- I. System architecture/design
- II. Operational summary & website overview
- III. Maintenance and monitoring
- IV. Performance
- V. Future

Acknowledgements: several slides provided courtesy of M. Palmer

I. PTNS architecture : data flow and major IT components



PTNS team comprised of FSB and DMS staff

I. PTNS architecture

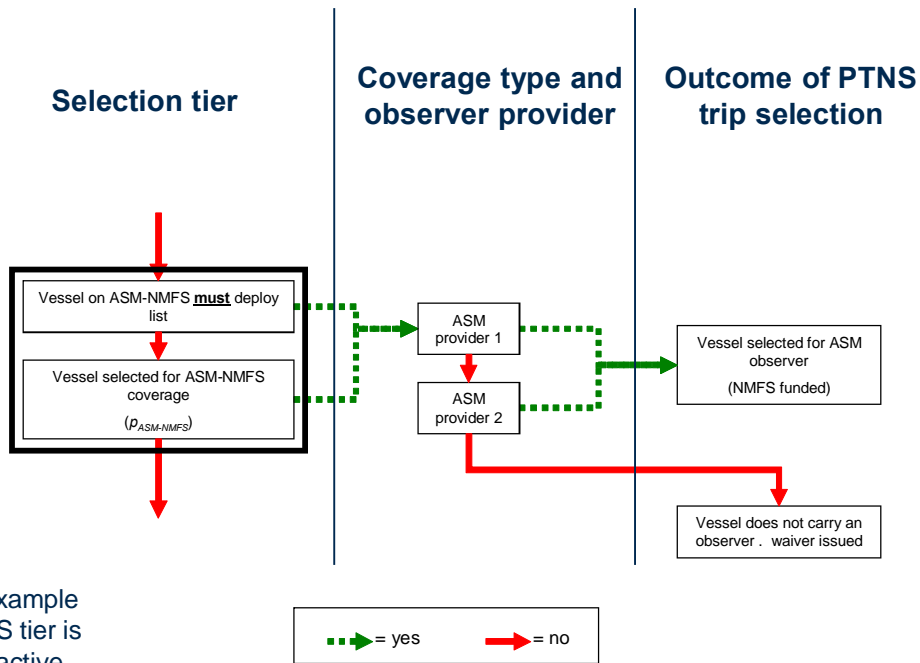
- “ **Selection tiers:** Discrete, often hierarchal, levels within the observer selection process.
 - “ Trips move from one selection tier to the next dependent on the selection probabilities and whether the trip meets certain criteria for inclusion in a selection tier.
 - “ Once a trip is selected at a selection tier it exits the selection process.
 - “ Placement of tiers within the hierarchy is dictated primarily by need and overall importance with regard to resource monitoring.
 - “ Example of selection tiers: SBRM-level coverage, Protected Species limited sampling coverage, Industry Funded ASM coverage.
 - “ Many of the tiers are stratified by sector, gear/mesh, and fishing region.

- “ **Coverage types:** The sampling protocol for a given trip (but also now funding source)
 - “ For example: NEFOP full observer coverage, ASM observer coverage, NEFOP limited coverage (no fish discard estimation).
 - “ Each selection tier only has a single coverage type.

- “ **Observer providers:** A company contracted to provide fisheries observers.
 - “ Each provider may contracted to cover multiple tiers/coverage types.
 - “ When multiple providers exist for a selection tier, a weighted probability selection is used to identify two service providers (provider 1, provider 2).

I. PTNS architecture

“ Example of the decision logic for a single selection tier



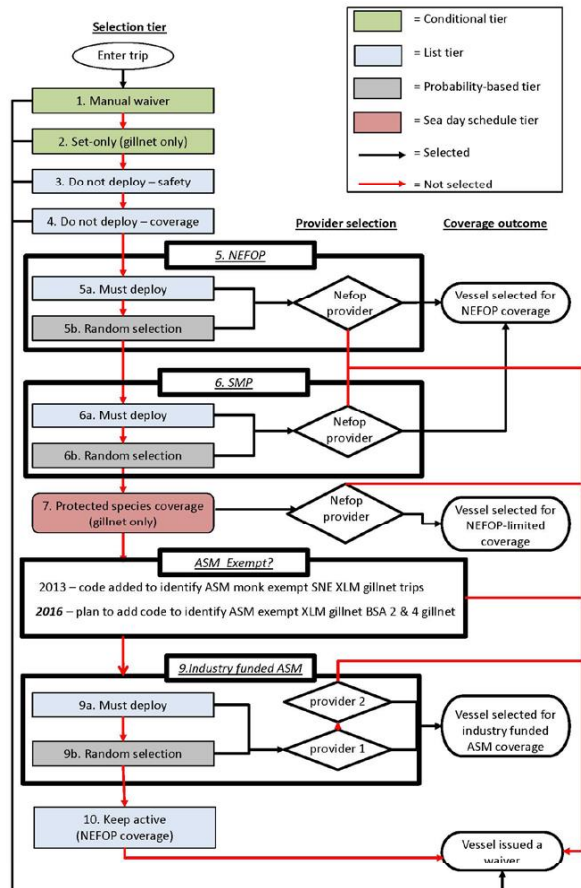
Note: tier example ASM_NMFS tier is currently inactive

I. PTNS architecture

“ Northeast Multispecies

- “ 7+ selection tiers
- “ 3 types of observer coverage
- “ 4 observer providers
- “ 1,350 possible strata
 - “ Sector
 - “ Fishing region
 - “ Gear type
 - “ SMP

ASM Industry Funded tier activated 1 March 2016

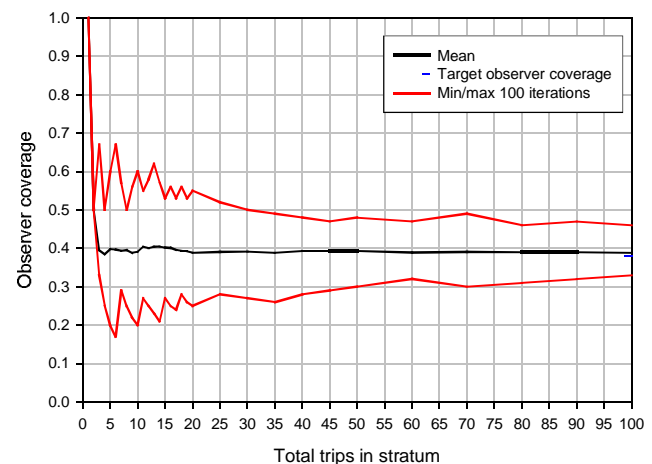
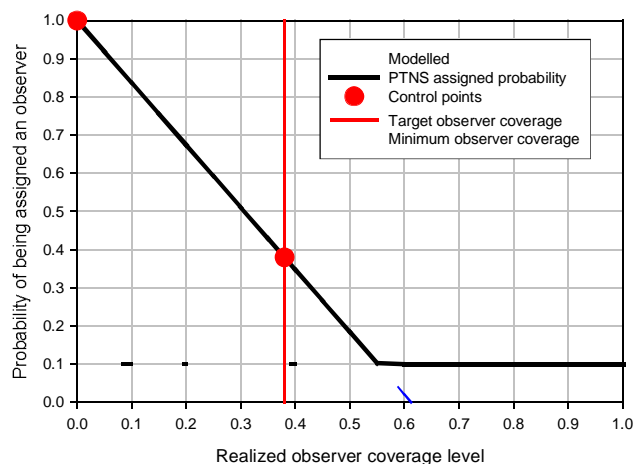


I. PTNS design

- “ With a few exceptions, the selection method for most selection tiers is based on a random probability.
 - “ Exceptions:
 - “ Do not deploy: Temporary vessel avoidance to protect the safety of observers, vessels meeting high coverage criteria, administrative waivers, and/or set-only trips (0% selection probability).
 - “ PSB monitoring: Front-loaded monthly sea day schedule.
 - “ Keep active: Short-term compliance based monitoring w/ 100% selection probability.
 - “ The outcome of a trip's tier selection is a function of some selection probability.
 - “ Each trip is assigned a random number from 0.000 to 1.000 (r_{trip}).
 - “ The trip is selected if $r_{trip} \leq$ tier selection probability (p_{tier}).
 - “ **The selection probability (p_{tier}) is a function of the target coverage rate (t_{tier}).**

I. PTNS design

- “ **Linear:** Front-loaded selection probability where the initial probability is 100% with the selection probability of subsequent trips being a linear function of the target coverage rate and the current realized coverage rates for the stratum.
 - “ Advantages: Contains a mechanism to auto-adjust selection rates if the realized coverage drift from the target coverage. Can be adjusted to reach the target coverage rate quickly.
 - “ Disadvantages: Moderately difficult to implement. For each tier and stratum, it requires the system to maintain within stratum counts of the total number of trips taken in addition to the number of observed trips and then calculate the linear-based probability for each trip.

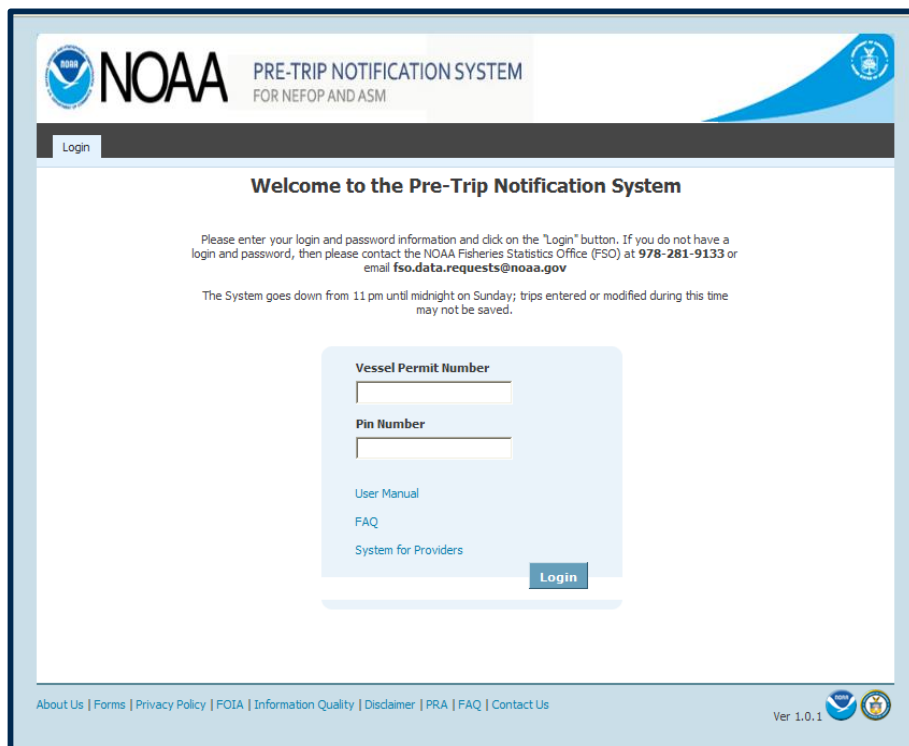


II. Operational Summary

- “ **Vessels must provide 48 hours notice prior to each trip**
 - “ 3 methods: direct website entry, email and phone
- “ **Up to 7 day trips can be entered in advance (allows vessels to call in once/wk)**
- “ **Trip status is notified at the 48 hour prior to sail**
 - “ Primary waivers notified at 48hrs
 - “ Secondary waivers or Observer assignment notified no later than 24 hrs prior to sail.
 - “ Notifications are sent directly through VMS and other email requested (ex. private email address)
- “ **Providers are offered trips at the 48 hr prior to sail mark and have 12 – 24 hours to accept or decline trips**
 - “ If one provider - 24 hrs
 - “ If two providers – 12 hrs ea
 - “ ASM_NMFS funded = 2 providers; ASM_IND_FUNDED = 1
- “ **PTNS Coordinator (FSB) - business hours**
- “ **After hours service provider – Metropolitan Communications**
- “ **FSB Emergency contact rotates monthly between 3 FSB staff**

II. PTNS website

- “ PTNS vessel interface: User Login.



The screenshot displays the NOAA Pre-Trip Notification System (PTNS) User Login interface. The page features the NOAA logo and the text "PRE-TRIP NOTIFICATION SYSTEM FOR NEFOP AND ASM". A "Login" button is visible in the top left corner. The main heading is "Welcome to the Pre-Trip Notification System". Below this, there is a paragraph of instructions: "Please enter your login and password information and click on the 'Login' button. If you do not have a login and password, then please contact the NOAA Fisheries Statistics Office (FSO) at 978-281-9133 or email fso.data.requests@noaa.gov". A note states: "The System goes down from 11 pm until midnight on Sunday; trips entered or modified during this time may not be saved." The login form includes two input fields: "Vessel Permit Number" and "Pin Number". Below the input fields are links for "User Manual", "FAQ", and "System for Providers". A "Login" button is located at the bottom right of the form. The footer contains links for "About Us", "Forms", "Privacy Policy", "FOIA", "Information Quality", "Disclaimer", "PRA", "FAQ", and "Contact Us", along with the version number "Ver 1.0.1" and the NOAA logo.

II. PTNS website

PTNS vessel interface:
New Trip Entry.

On Admin page only →

Admin page only →

Would be used for sending notes to the Provider like need to bring a raft or wants to leave early

New field planned for FW 55 →

Home New Trip Pending Trips Completed Trips Registration Contact Us Logged in as: LIGHTNING BAY | Logout

New Trip Entry Form

Please fill out the information below and hit the submit button. If no errors are displayed on the screen then the data was submitted successfully. The confirmation number and notification status will be sent to the email(s) listed in the Registration tab. You can also Click on the "Pending Trips" Tab to view recently submitted trips.

You will only be allowed to notify for fisheries that you are permitted to participate in. Currently the PTNS system is used for notifications in the Multispecies/Large Mesh Groundfish (MUL) Fishery and the Squid/Mackerel/Butterfish (SMB) Fishery for directed longfin squid trips (i.e., trips on which the vessel operator intends to land greater than or equal to 2500 lb of longfin squid). If you are trying to notify for a fishery that does not appear, please contact the PTNS coordinator.

Send Manual Waiver: Yes

Comment:

Vessel Name: LIGHTNING BAY

Trip notifications for Multispecies and longfin squid fisheries must be entered at least 48 hours in advance of trip sail time and may be entered as far in advance as 9 days from the date of notification.

Planned Sail Date: 03 19 2016 (mm/dd/yyyy)

Planned Sail Time: 01 Hours 10 minutes (Military)

Fishery: Multispecies (MUL)

VMS Activity Declaration: Multispecies (NMS) If you intend to declare a monkfish DAS from the dock, select "Monkfish (MNK)." For all other trip types (e.g. multispecies DAS, non-DAS sector trip, monkfish option) select "Multispecies (NMS)." [Click for More Information](#)

Estimated Trip Duration: 1 in Whole Days e.g., a 16 hour trip is 1 day, a 26 hour trip is 2 days, a 50 hour trip is 3 days

Port of Departure: POINT JUDITH, RI

Gear: Sink Gillnet 8.0" and larger

Area: Georges Bank [Click for Map](#)

Special Management Program:

Set Only Trip: Yes

II. PTNS website

Vessel interface:
Pending trips

Trip Type added 1 March so vessels can see ASM vs NEFOP

NOAA PRE-TRIP NOTIFICATION SYSTEM FOR NEFOP AND ASM

Home New Trip Pending Trips Completed Trips Registration Contact Us Log

Pending Trips

These trips have not yet sailed. If you must delay a trip, please contact the PTNS coordinator. If you must cancel a trip with a waiver, click the "Cancel" button.

Important Notice for Longfin squid trips submitted after this date: trips waived of observer requirements for the longfin squid fishery may still be selected at the dock or by a selection letter by an observer or approved service provider for other small mesh otter trawl coverage needs. If selected you must carry an observer.

Note: The PTNS requires accurate accounting of trip activity. Please ensure that trips which did not sail are canceled. If trips have been inadvertently canceled, please contact the PTNS Coordinator to have these trips corrected.

To view specific trips, simply enter data into rectangular boxes; for example type MUL under Fishery to only see Multispecies notified trips.

[Clear Filters](#)

Confirmation Number	Port Sailed	Date Sailed	Fishing Year	Fishery	Status	Trip Type	Action
184362	GLOUCESTER, MA	03/30/2016 03:00	2015	MUL	Observer	ASM	Cancel Edit Details
184316	GLOUCESTER, MA	03/29/2016 03:00	2015	MUL	Waiver	ASM	Cancel Edit Details
184216	GLOUCESTER, MA	03/28/2016 03:30	2015	MUL	Waiver	ASM	Cancel Edit Details
184127	GLOUCESTER, MA	03/26/2016 03:00	2015	MUL	Observer	ASM	Cancel Edit Details
183992	GLOUCESTER, MA	03/24/2016 03:00	2015	MUL	Observer	ASM	Cancel Edit Details
183993	GLOUCESTER, MA	03/23/2016 03:00	2015	MUL	Observer	ASM	Cancel Edit Details
183938	GLOUCESTER, MA	03/22/2016 03:10	2015	MUL	Observer	ASM	Cancel Edit Details
183815	GLOUCESTER, MA	03/21/2016 03:00	2015	MUL	Observer	NEFOP	Cancel Edit Details
182506	GLOUCESTER, MA	03/01/2016 03:00	2015	MUL	Observer	ASM	Cancel Edit Details

II. PTNS website

“ PTNS provider interface: Pending Trips.

NOAA PRE-TRIP NOTIFICATION SYSTEM FOR NEFOP AND ASM

Home Pending Trips Accepted Trips Completed Trips Contact Us Logged in

Pending Trips

You have been selected to provide coverage for the following trips. Click "Review" to see more details about a trip. Accept or decline each trip by clicking the corresponding button. Once you decline a trip, it will be removed from the list and cannot be accepted later. If you do not accept or decline a trip within 12 hours of notification, the trip will be automatically declined.

To view specific trips, simply enter data into rectangular boxes: for example type MUL under Fishery to only see Multispecies notified trips.

[Clear Filters](#)

Conf Num	Port Sailed	Date Sailed	Coverage Type	Trip Type	Fishery	Gear	Area	Action
		2015						
169449	CHATHAM, MA	07/30/2015 05:00:00	ASM	D	MUL	GNS-ELM	GB	Accept Decline Details
169398	CHATHAM, MA	07/30/2015 05:00:00	NEFOP	D	MUL	GNS-ELM	GB	Accept Decline Details
169600	NEW BEDFORD, MA	07/30/2015 05:00:00	NEFOP	D	MUL	OTF	SNEMA	Accept Decline Details
169570	CHATHAM, MA	07/30/2015 05:00:00	NEFOP	D	MUL	GNS-ELM	GB	Accept Decline Details
169489	CHATHAM, MA	07/30/2015 04:55:00	ASM	D	MUL	GNS-ELM	GB	Accept Decline Details
169462	CHATHAM, MA	07/30/2015 04:30:00	ASM	D	MUL	GNS-LM	GB	Accept Decline Details
169537	POINT JUDITH, RI	07/30/2015 03:00:00	ASM	D	MUL	OTF	SNEMA	Accept Decline Details
169678	CHATHAM, MA	07/30/2015 02:00:00	NEFOP	D	MUL	OTF	GB	Accept Decline Details
169584	POINT JUDITH, RI	07/30/2015 01:00:00	ASM	D	MUL	OTF	GB	Accept Decline Details
169655	MONTAUK, NY	07/30/2015 00:00:00	NEFOP	D	MUL	OTF	SNEMA	Accept Decline Details
169468	POINT JUDITH, RI	07/30/2015 00:00:00	NEFOP	D	MUL	OTF	SNEMA	Accept Decline Details
169313	STONINGTON, CT	07/29/2015 18:00:00	NEFOP	D	SMB	OTF		Accept Decline Details
169745	POINT JUDITH, RI	07/29/2015 10:55:00	NEFOP	M	SMB	OTF		Accept Decline Details

About Us | Forms | Privacy Policy | FOIA | Information Quality | Disclaimer | PRA | FAQ | Contact Us Ver 1.0.1

III. PTNS maintenance and monitoring

“ Critical that PTNS internal trip counts are accurateí how do we do that?

“ To increase flexibility day boats over notify but are not required to cancel out their unused tripsí causes the most inaccuracies

“ FSB semi automated process to deal with cancelled trips (2x per week)

“ Review sail dates on trip boats and match as needed

“ Update broken trips and other variables like fishery and gear as needed

“ Use external data sources to evaluate coverage achievements and validate internal counts

“ Observed trips are easy to identify and Providers maintain data well


“ VMS - Total trips are not as straightforward without unique identifiers across systems.

“ The best comprehensive source of this information is the VMS activity declaration.

“ But it's far from perfectí vessel has to fish as declared, in area declared, no mesh sizes, etc..

III. PTNS monitoring

- PTNS Monitoring and Reports Utility.
 - Web-based reporting tool ó provides daily tracking of PTNS performance.
 - Compliance, coverage, general use, PSB coverage, provider performance, sea day monitoring, etc.


PRE-TRIP NOTIFICATION SYSTEM
FOR NEFOP AND ASM

NEFOP Pre-trip Notification System (PTNS) Monitoring and Reports Utility

Report Type	Report	Report description
Compliance	Vessels frequently cancelling observer coverage	The top20 vessels (based on number of trips) that are cancelling trips selected for observer coverage. Can be used to track vessels that may be attempting to avoid observer coverage.
	Vessels exploiting the set-only loophole in the PTNS	A list of those vessels that originally declare a set-only trip to avoid observer coverage and then later modify the record to reflect the true trip type.
	Vessels failing to notify groundfish trips through PTNS	A list of those vessels that are taking groundfish trips (as determined through the VMS activity database), but failing to declare those trips through the PTNS.
Coverage	PTNS coverage by sector	An overview of sector-level trip coverage rates calculated using the trip counts internal to the PTNS system. Coverage levels for individual strata (sector, gear, region) are available by clicking on individual sector names.
	PTNS SMP coverage	An overview of Special Management Plan trip coverage rates calculated using the trip counts internal to the PTNS system.
	VMS/OBS coverage by sector	An overview of sector-level trip coverage rates calculated using the trip counts contained in the OBSBS and VMS systems. Coverage levels for individual strata (sector, gear, region) are available by clicking on individual sector names. This provides a cross-check of the internal PTNS counts.
	VMS/OBS coverage by SMP	An overview of Special Management Plan trip coverage rates calculated using the trip counts internal to the OBSBS and VMS systems. This provides a cross-check of the internal PTNS counts.
	Alternate coverage metrics	A sector-level breakdown of coverage rates calculated using alternate coverage metrics. Sector-level coverage rates are available based on the number of trips, sea days and total groundfish landings.
	Overall NEFOP/ASM coverage breakdown	A breakdown of the trip coverage rates by coverage type (NEFOP/ASM) and sampling program.
General use	Individual vessel coverage rates	A breakdown of the individual vessel observer coverage. Individual coverages are aggregated by sector and trip type (day boats vs. trip boats). Coverage are based on trip-level coverage.
	PTNS use over time	A graphical display of PTNS use over time. Provides a quick overview of the total number of trips that have been entered into the system, the number of trips entered by industry directly through the web-system and the progression of fleet-wide trip coverage rates over time.
PSB coverage	PTNS waiver issuance summary	A summary of the issuance of administrative, provider and safety (don not deploy) waivers. A large percentage of waivers issuances may be indicative of a compliance problem or provider performance issues.
	PSB sea day schedule tracking	A tool to track the initial Protected Species Branch sea day schedule fulfillment by month, port and gear.
Provider	Provider coverage summary	A summary of trip counts by coverage type (NEFOP/ASM) and provider.
	ASM multi-day trip assignments	A tool to track the assignment of multi-day ASM trips to individual providers. There have been complaints that some providers have been receiving a disproportionate number of multi-day trips.
	Vessel cancellation rates by provider	Vessel cancellation rates of accepted trips broken down by provider. Also includes week-level detail summaries for each provider.
Sea day monitoring	Sea day usage over time	A tracking tool to show the sea day burn rate for both NEFOP and ASM coverage. The report also provides a comparison of the progress of the fishery (in number of trips) relative to fishing year 2005.

*Click on an individual report to launch report

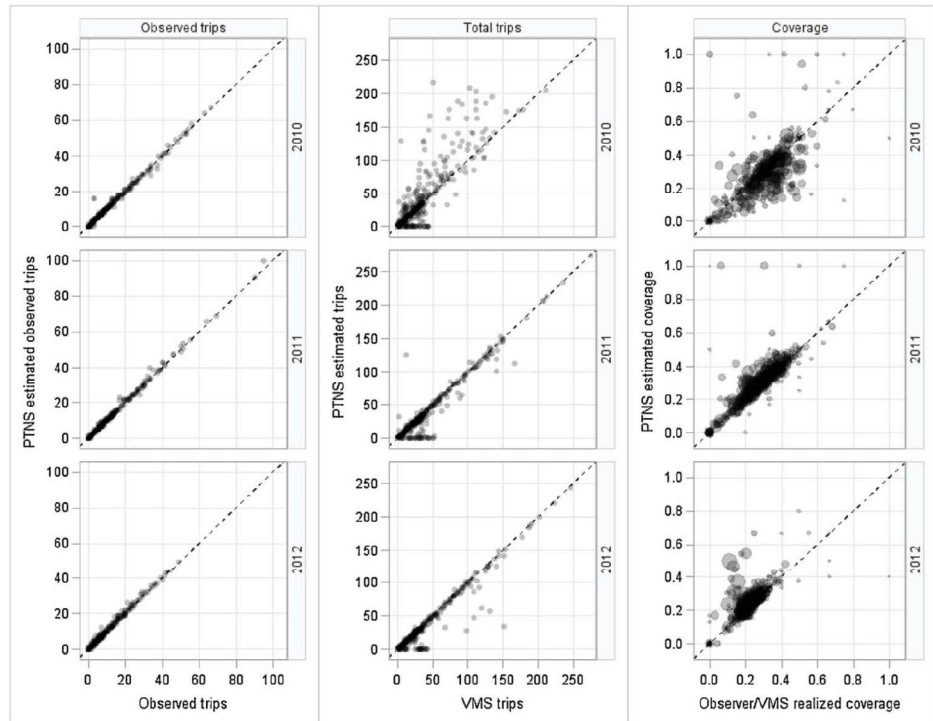
Last updated on 08DEC10

IV. PTNS performance

- How is PTNS doing estimating coverage?

M.C. Palmer et al. 2016

Estimates of trips and coverage improved over time and decreased in variability



IV. PTNS performance

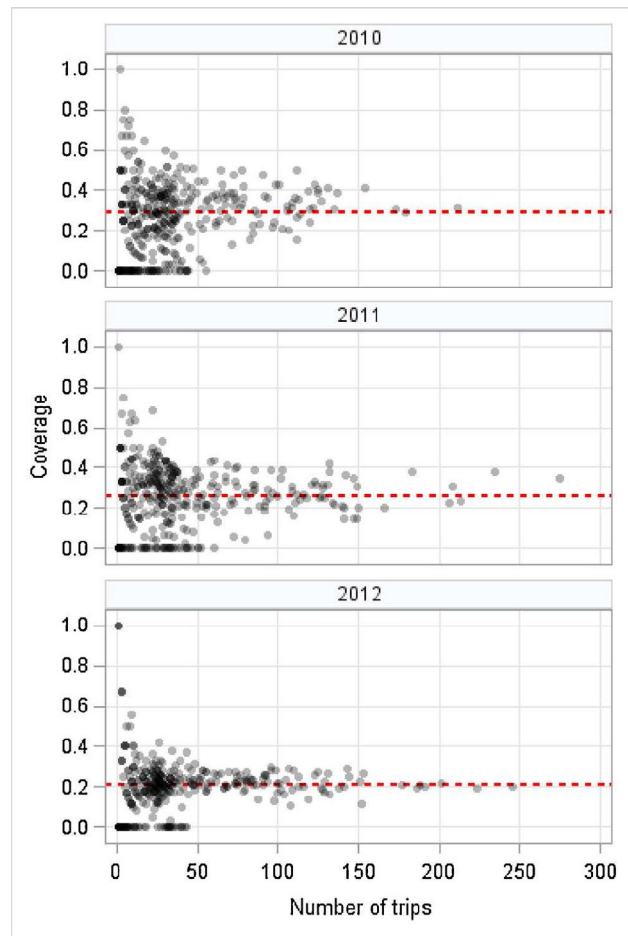
Target vs. Realized Coverage

FY	nefop target	asm target	total target	total realized
2010	8	30	38	32
2011	8	30	38	27
2012	8	17	25	22
2013	8	14	22	20

Source: Summary of Analyses Conducted to Determine At-Sea Monitoring requirements for FY 2015

Comparison of vessel coverage rates/ total trips

- “ Decreasing variability over time
- “ Increasing activity coverage converges on the mean



M.C. Palmer et al. 2016

IV. PTNS performance

“ PTNS performance summary.

- “ PTNS has performed consistent with the system design.
- “ Successful in meeting diverse objectives of a complex observer deployment system.
- “ Overall, the observer coverage rates are about where they should be given the fishing trends.
 - “ There is variability in the strata-level coverage rates, but variability decreases with stratum size (*expected*).
- “ Even though the PTNS is a trip-based deployment system it has generally covered sea day usage and total groundfish landings in equivalent proportions.
- “ In general, PTNS compliance has been good for most sectors
 - “ There are little to no repercussions so missing notifications remain
 - “ Compliance can be improved through additional outreach and education.
 - “ FSB has done extensive outreach on the PTNS and has been working with OLE on compliance issues.

V. PTNS Future

" Short term

- " FW55 and EM updates are underway ó 1 May implementation
- " Sector Manager wish list ó possibly late summer 2016?
 - " Sector manager page, reevaluate timing of notifications and number of trips that can be entered

" Long term

- " Industry frustration regarding weekly notifications remain ó not an easy fix
- " Many of our updates have been patches due to short turn around time
- " Time for an overhaul/redesign?
- " FDDV ó VAC (vessel activity census) ó several years away?

Presented at the NEFMC Groundfish Plan Development Team Meeting, East Falmouth, MA
March 30, 2016

A cost-effective discards-proportional at-sea monitoring allocation scheme

Jenny Sun, Ph.D.

Gulf of Maine Research Institute

350 Commercial Street, Portland, ME 04101

jsun@gmri.org



Marine Policy, Volume 66, April 2016, Pages 75–82. (Open Access available)



Marine Policy 66 (2016) 75–82

Contents lists available at ScienceDirect



Marine Policy

journal homepage: www.elsevier.com/locate/marpol



A cost-effective discards-proportional at-sea monitoring allocation scheme for the groundfish fishery in New England



Chin-Hwa Jenny Sun^{a,*}, Leah Fine^b

^aGulf of Maine Research Institute, 350 Commercial Street, Portland, ME 04101, USA

^bBren School of Environmental Science & Management, University of California, Santa Barbara, CA 93106, USA

ARTICLE INFO

Article history:
Received 17 November 2015
Received in revised form
29 December 2015
Accepted 31 December 2015

Keywords:
Fisheries
At-sea monitoring
Groundfish
Discards
Cost-effective management

ABSTRACT

Discards can account for a large proportion of a fishery's total catch and have a significant impact on the condition of stocks, so many fisheries implement management measures to estimate discards, including at-sea monitors. Currently, at-sea monitors for the United States Northeast multispecies (groundfish) fishery, located in the northwest Atlantic Ocean, are allocated to meet a 30% coefficient of variation (CV30) standard to estimate the discards of 22 groundfish stocks by sector, gear type, and broad stock area on a trip basis. CV30 is a relative standard deviation precision measurement that deploys observers at an equal coverage rate across strata, regardless of their volume of landings or discards. As a result, at-sea monitors have not been cost-effectively allocated to observe the majority of the catches and discards or the catches and discards of highly utilized stocks to ensure accurate accounting of annual catch entitlement (ACE) utilization. Although some sectors and gear types are responsible for a relatively large percentage of landings and discards, they are allocated observers at the same coverage level as those that discard less. This has resulted in a disparity between monitoring effort and groundfish landings and discards, and the incentive to reduce discards is now misaligned with the utilization of ACE. Given that at-sea monitoring funding is limited and that the industry will soon have to bear this cost, this analysis proposes a discards-proportional observer allocation scheme that weights stocks with high ACE utilization rates more heavily. Results show that, in FY 2013, this allocation method could have reduced observer sea days by 1892 days, resulting in a \$1.3 million total cost savings for the industry, while still observing the same amount of weighted discards as under current monitoring standards. This proposed approach could also provide an incentive to reduce discards for sectors faced with disproportionate and daunting at-sea monitoring costs.

© 2016 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Heterogeneity within the fleet (from FY2010 to FY2015)

Number of 50'+ Vessels:

drops from 177 to 134

Number of 30'-50' Vessels:

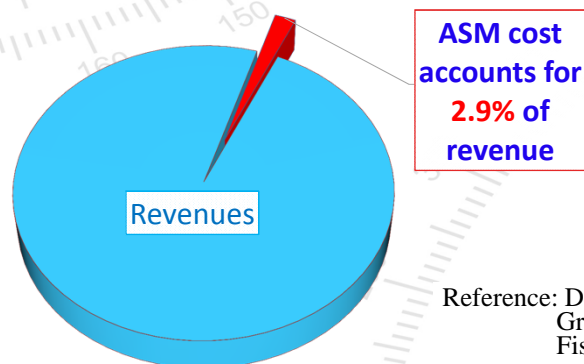
drops from 235 to 85

Average Revenue of 50'+ Vessels:

drops from \$42,662 to \$32,290

Average Revenue for 30-50' Vessels:

drops from \$28,987 to \$7,301

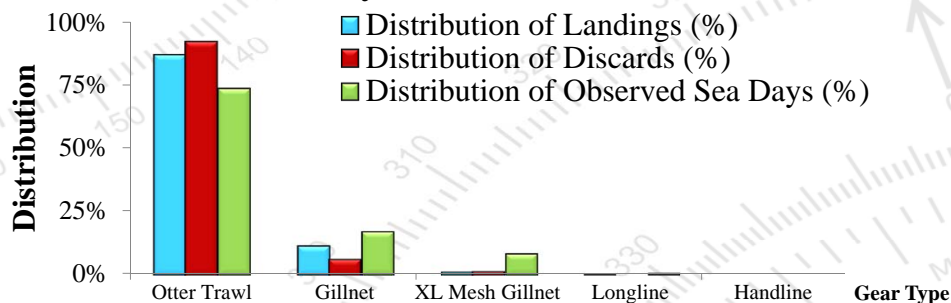


Reference: Demarest, Chad, 2016, Preliminary Evaluation of the Impact of Groundfish Sector-Funded At Sea Monitoring on Groundfish Fishery Profits, June 2015 NEFMC Council meeting.

Why ASM Observers allocation under CV30 is not cost effective?

Disparity between the volume of discards and observer coverage...

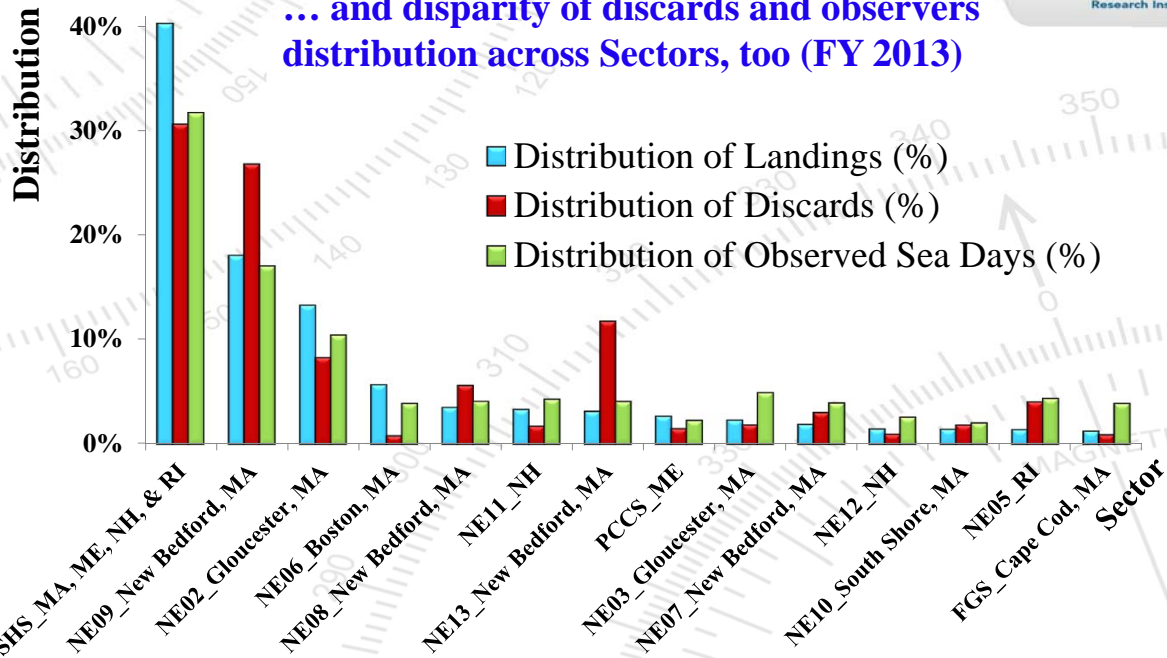
- 92% of discards were discarded by otter trawl vessels, but only 74% of observed sea days is allocated (FY 2013)



More money is spent to observe small amounts of discards.

This CV30 criteria does not serve the goals and objectives of the ASM program for tracking Sector's ACE utilization.

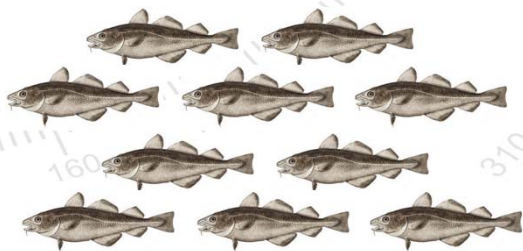
... and disparity of discards and observers distribution across Sectors, too (FY 2013)



ASM Observers: CV30 measure precision of discard rate

1. All vessels are observed at the same rate across area, sector, and gear
2. The distribution of is not proportional to the scale of the operation.

Strata that discards a lot.....are observed at the same rate as strata that discard much less because it is based on CV30 on discard rate instead of discard volume



Multiday trip with 1,000 lbs landings, variation of discards of 30 lbs is acceptable under CV30 for discard rate 3%.

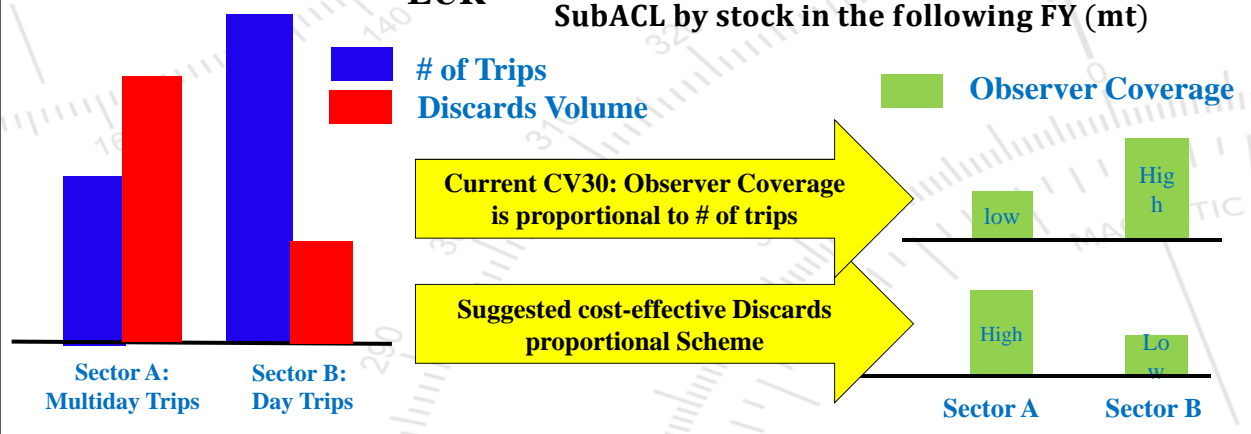


Day trip with 100 lbs landings, variation of discards of 30 lbs is not acceptable under CV30 because discard rate is higher than the multiday trip and more observers are allocated to meet the goal to lower variation.

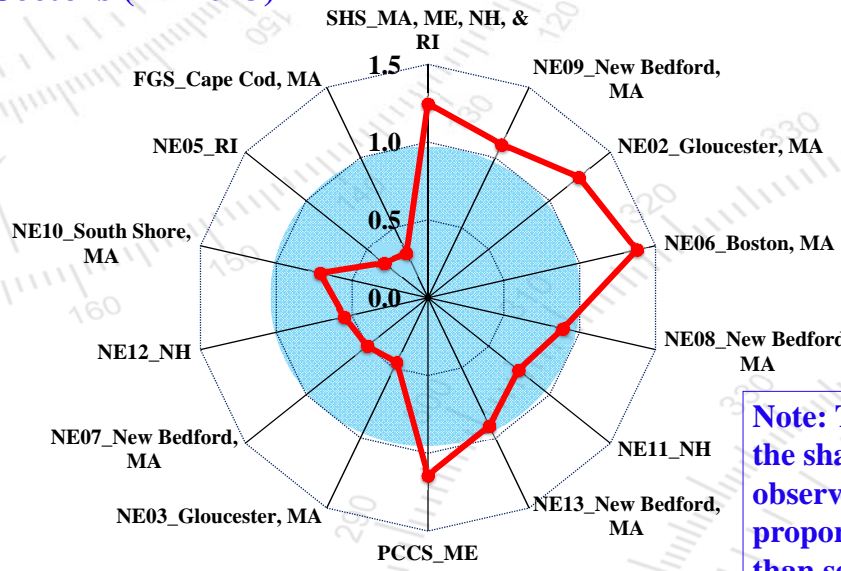
Discards-Proportional Allocation Scheme

Distribute at-sea observers coverage to each sector proportional to discards weighted by the **expected utilization rate (EUR)** of each stock.

$$EUR = \frac{\text{Cumulative Catch by stock from last FY (mt)}}{\text{SubACL by stock in the following FY (mt)}}$$



Ratio of Distribution of Catch vs Observed Seadays by Sectors (FY2013)



Relative ratio of catch distribution to observed sea days distribution indicated by distance from center

Note: The sectors that fall inside the shaded blue unit circle are observed at higher rate in proportion to the utilization of ACE than sectors fall outside the circle.

Discards Proportional Allocation Scheme (DPAS)

Example 1 (Scenario #3 in paper):



Same amount of observed days and ASM costs...



Weighted observed discards
increase by 99%
(Comparing to FY 2013)

Example 2: (Scenario #4 in paper)



Same amount of total weighted discards ...



Observed sea days
decrease by 1,892

ASM costs decrease
by \$1.34 million

(Comparing to FY 2013 ASM cost reduced for all sectors)

Summary

How Discards-proportional allocation scheme (DPAS) achieves ASM objectives:

1) Provide coverage that is fair and equitable.

DPAS defines coverage according to the Amendment 16 standard, which is based on the amount of discards instead of discard rate.

2) Observers is allocated to improve accuracy of discards estimates in each stock area as needed in stock assessment.

Observers are distributed in a statistically random manner weighted by utilization rate to monitor discards of concerned stock.

3) Coverage must be representative of fishing activities to cover majority of discards given limited money to pay for ASM.

Monitoring majority of discards is the primary purpose of ASM and it is different than the purpose of NEFOP that have of all trips equally monitoring no matter the scale of the fishing activities.

Recommendation

Propose to conduct an analysis to evaluate the tradeoffs of using CV30 verses DPAS and its impact to the estimates of discards by stock.

- Analysis will be needed to show how much variation of the discards by stock is explained by the characteristics of the trip. A simultaneous system of equations of discards by stock could identify how strong is the correlation between vessel size, gear, stock area, length of trip, landings per trip with respect to the discards per trip.
- If CV30 is applied to the distribution of discards volume instead of discard rate, more observers will be allocated for trips with higher discards to fulfill the requirement of less variation for higher discards volume.
- The incentive to lower discards will be high for fishermen, since lower discards would lower their ASM coverage and lower the ASM cost to the industry.

Acknowledgments

Thank You

This study is part of a project “Evolution of Groundfish Sectors Business Viability Model” awarded by the CINAR with funding from SSB at NEFSC and also partly funded by GARFO grants through GMRI and the data used were acquired through a confidential data access agreement with NOAA Fishery.

<http://www.gmri.org/our-work/fishing-industry-innovation/sector-support>
<http://www.gmri.org/our-work/fishing-industry-innovation/sea-monitoring/data-analysis>