

NOAA
FISHERIES

Alaska Fisheries
Science Center

2015 *Draft* Annual Deployment Plan

for observers in the Groundfish and Halibut fisheries off Alaska:

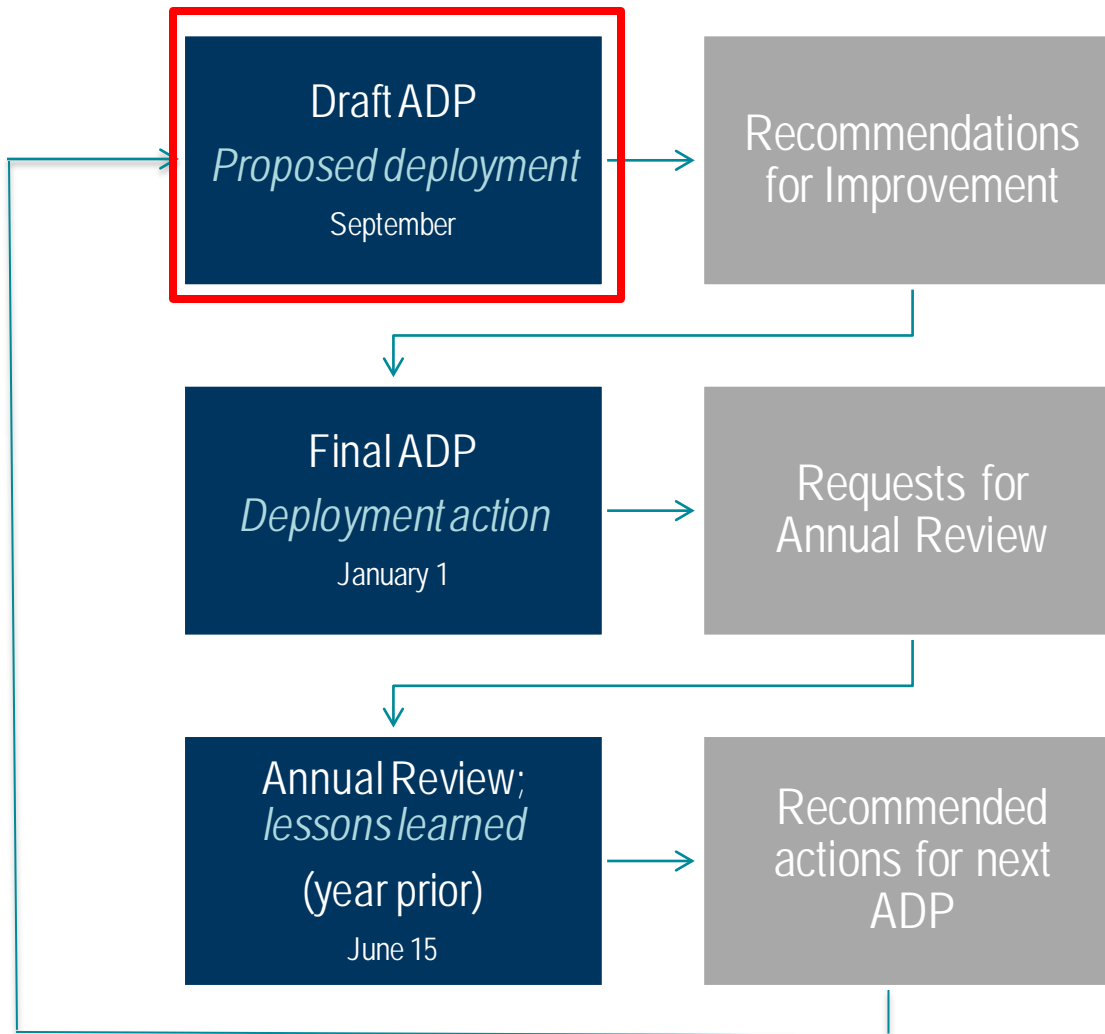
Description of Analyses

Craig H. Faunce

Fisheries Monitoring and Analysis Division, AFSC, Seattle

Council briefing
Anchorage, AK
October, 2014

Annual process: Government & Public (Council)



Element	2012	2013	2014	2015			
AFA pollock CVs and CPs	100%	100% FULL COVERAGE					
A80 BSAI flatfish CPs							
Rockfish Program CV and CPs							
CP Atka BSAI							
CP	0-100% dependent on vessel size	100% with two exceptions					
CV > 125'	100%	PARTIAL COVERAGE					
CV 60-125'	Self-selection: 30% days or gear /quarter + 1 trip/fishery				Randomly selected trips 14.8% (14.5% expected)	Randomly selected trips (16% expected)	Randomly selected trips (23.8% expected)
CV 57.5-60'	(57-60'; 0%)						
CV 40-57.5'	0%	Randomly selected vessels 2 month period 10.6% (11% expected)	Randomly selected vessels 2 month period (12% expected)	Randomly selected trips (12% expected)			
CV < 40'	0%	ZERO COVERAGE					
Halibut fishery	no	yes					
Dockside	Days / month by tons processed to collect delivery information and biological tissues	All pollock deliveries for salmon bycatch genetics 100% BSAI; 73% GOA	Trawl pollock fisheries for salmon bycatch genetics: 100% AFA (A91) and randomly sampled GOA trawl pollock trips				

Selection probabilities

Stratum	Small vessel trip-selection		Large vessel trip-selection	
	ADP year	Rate (%)	unit	Rate (%)
2013	11	vessel	11.15 – 14.78	trip
2014	12	vessel	16	trip
2015 Draft	12	trip	23.76	trip

How did we get here?

C1 2015 Draft ADP - Faunce PPT
OCTOBER 2014

Vessel to Trip Selection

VS Concept: Increased duration & low coverage rate

Selection frame built from past years' activity.....

....No check-in, check-out

....New vessels had no chance of being selected

Half the stratum released from coverage in 2013....

...needed to select many more boats than desired,

...resulting coverage rate was a random variable,

...desired coverage rates in two-month time period only achieved when random selection abandoned (all selected)

Selection probabilities

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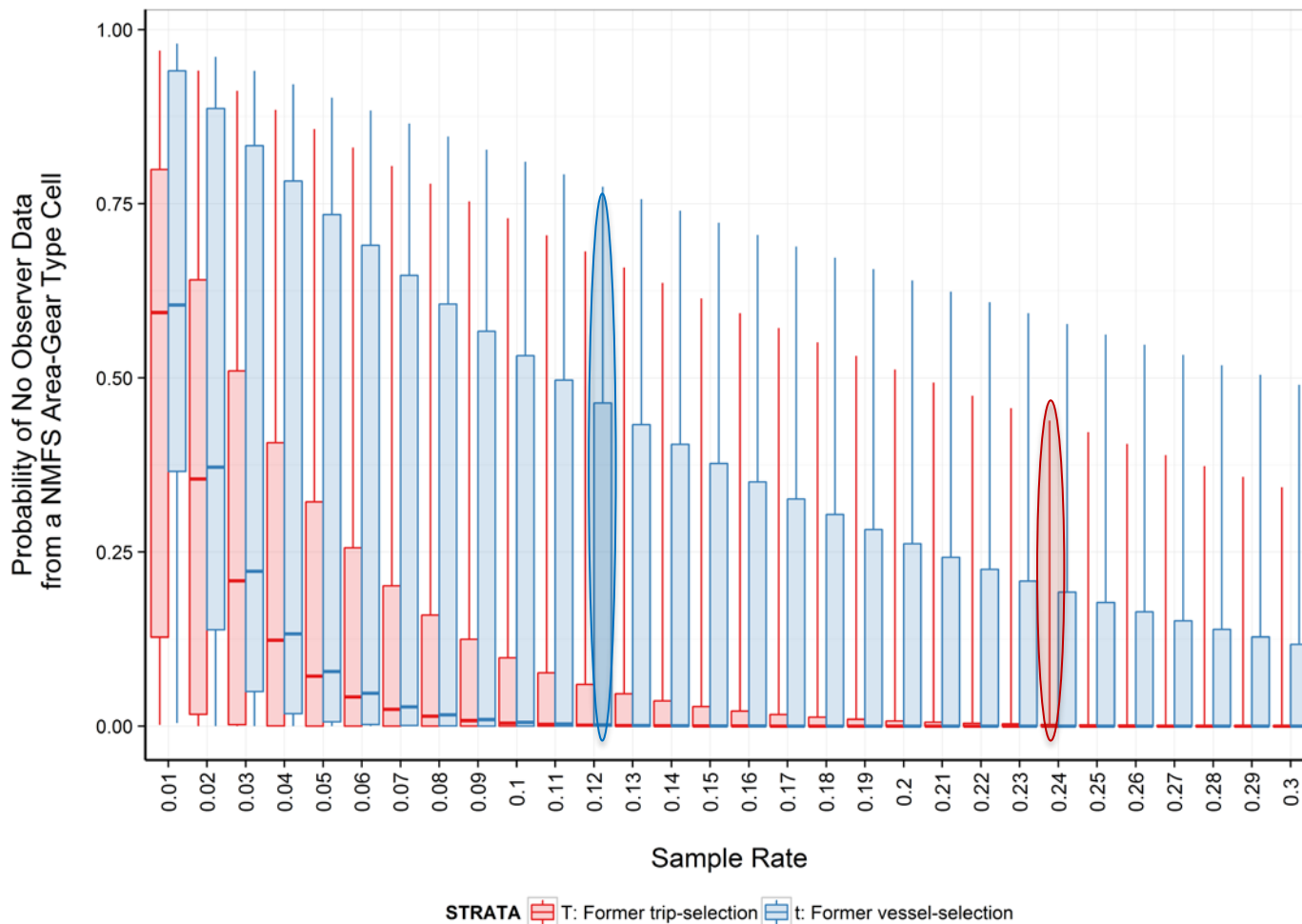
How did we get here?

Selection probabilities

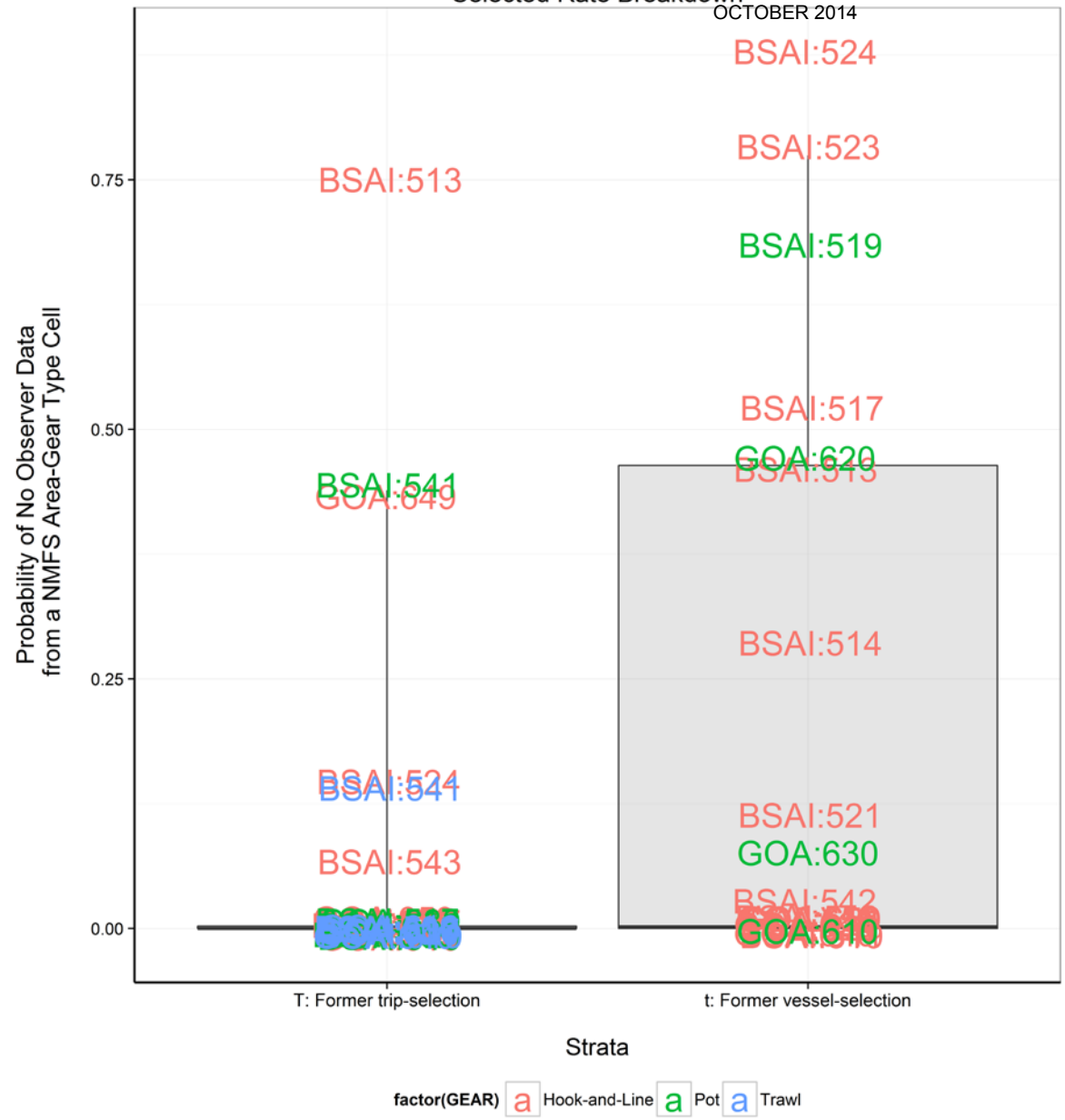
- What are possible strata rate combinations under:
former VS rate \leq former TS rate.
- What is the risk of missing data?
- What are other considerations?
- **Hold former VS rate same as 2014**

What is the risk?

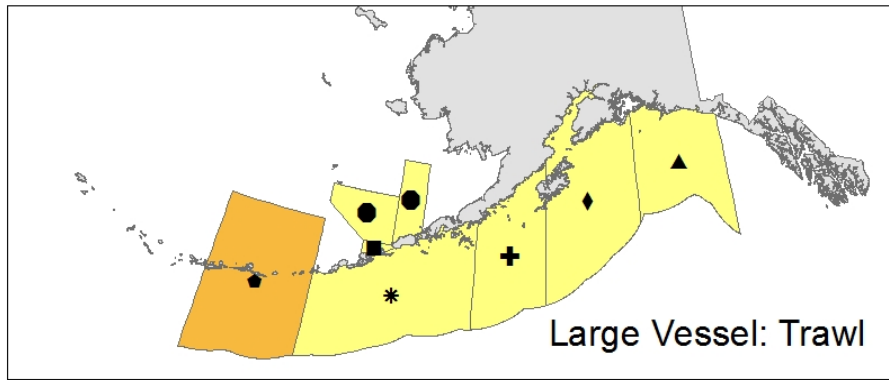
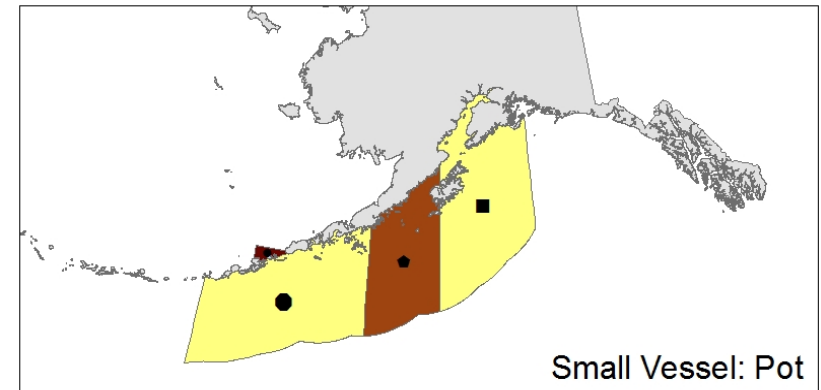
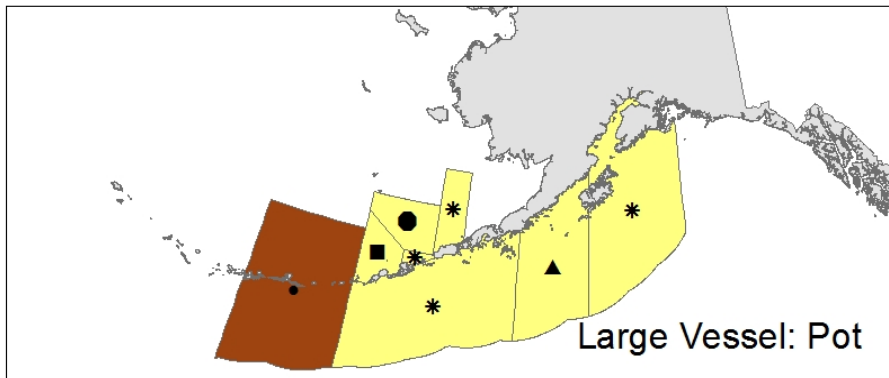
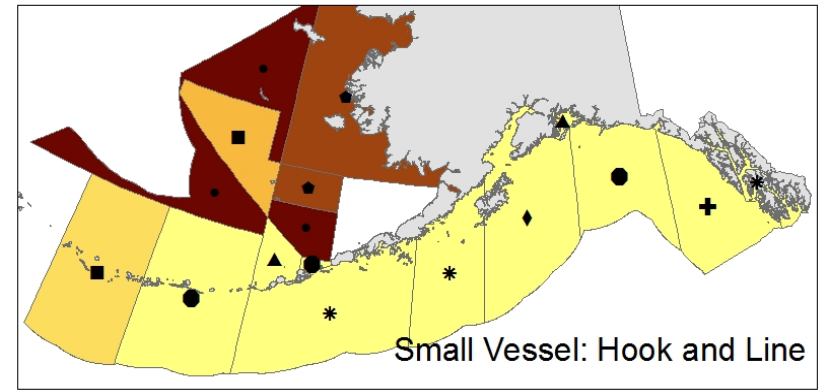
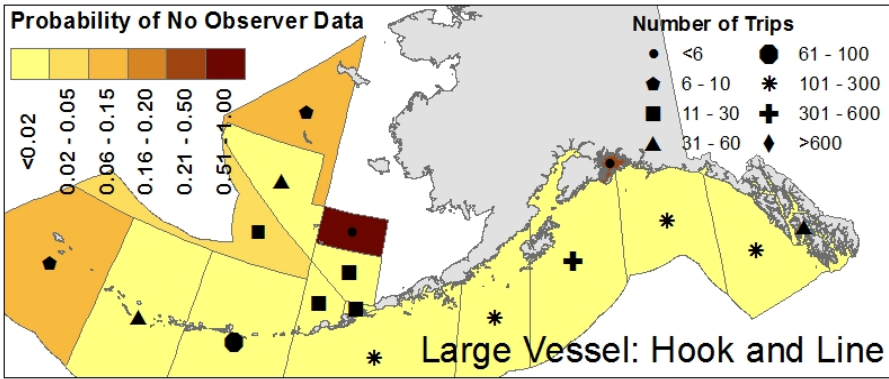
Missing data at end of year: NMFS area and gear combination



New Detail



New Detail



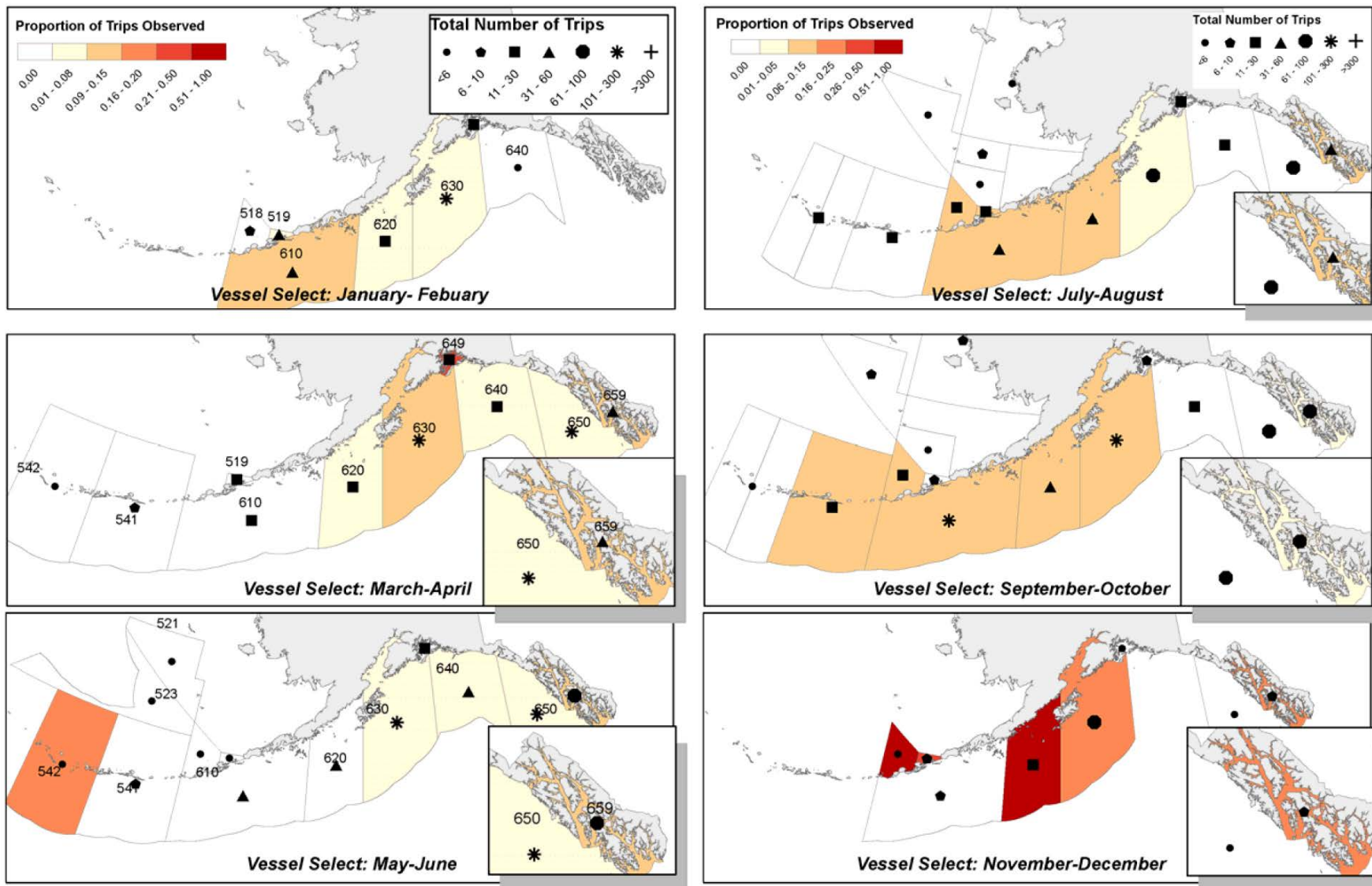


Figure 3-6: Proportion of trips observed in each vessel selection stratum.

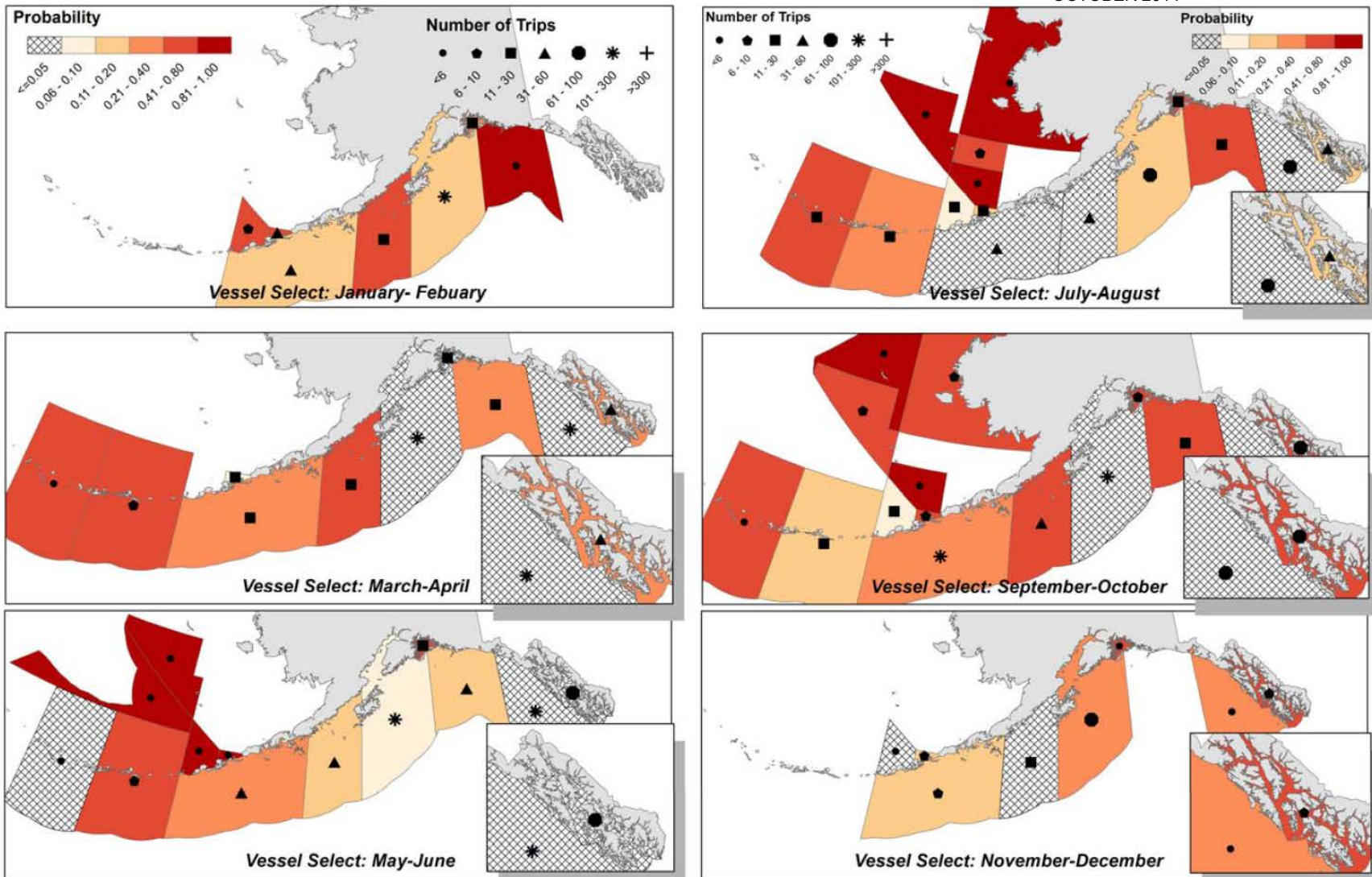


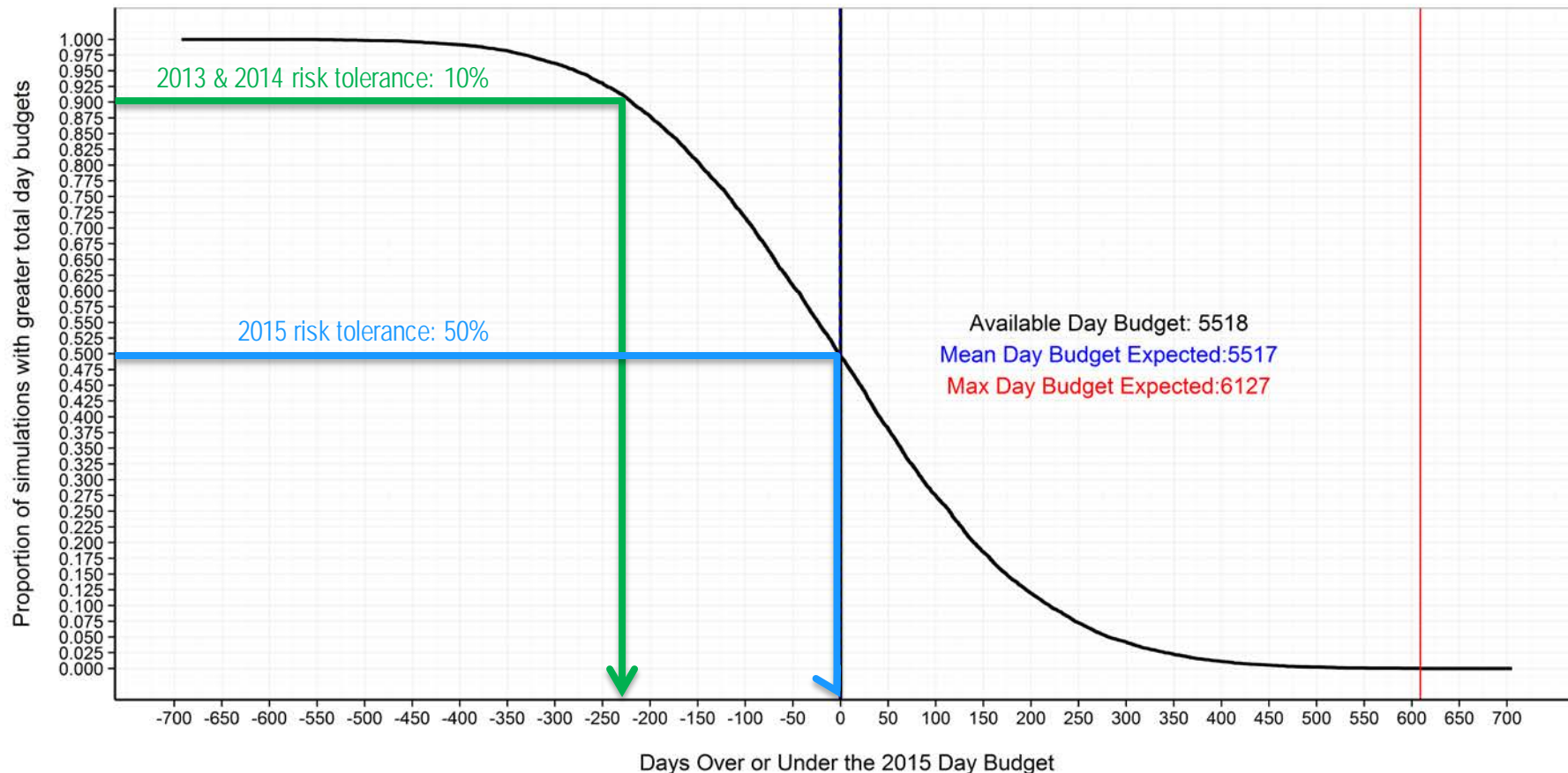
Figure 3-10: The probability of observing a number of trips as far or farther from the expected number than the sample contained (probability of observing a more extreme value).

Selection probabilities

Stratum	Small vessel trip-selection		Large vessel trip-selection	
ADP year	Rate (%)	unit	Rate (%)	unit
2013	11	vessel	11.15 – 14.78	trip
2014	12	vessel	16	trip
2015 Draft	12	trip	23.76	trip

What is the risk?

Likelihood of program going over budget



How did we get here?

Selection probabilities

- Need to sample at a higher rate to achieve the same outcome in former VS than former TS
 - Former represents more of a rare event
- Increase in coverage rate NOT related to cost
 - Increased tolerance to potential budget overages
 - Changes in fishing effort* in base years
 - 2013 effort (2015 ADP)= 34,827 days
 - 2012 effort (2014 ADP)= 37,097days

* Includes zero coverage stratum

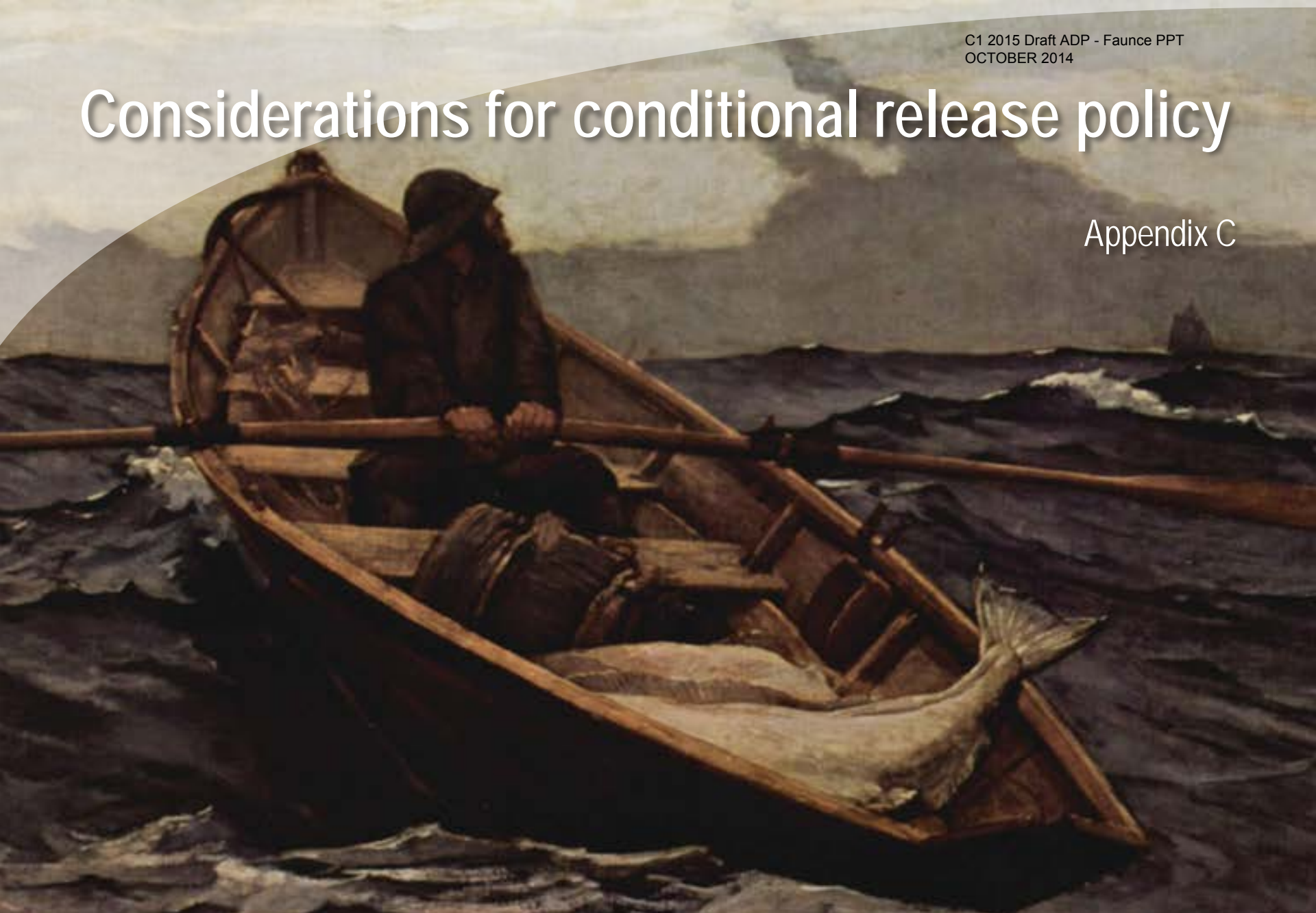
Stratum	Gear	Days		Trips		Vessels	
		Total	Expected Obs.	Total	Expected Obs.	Total	Expected Obs.
FULL (100%)	HAL	7010	7010	1110	1110	36	36
	POT	350	350	54	54	3	3
	Trawl	16807	16807	3674	3674	139	139
	TOTALS	24167	24167	4838	4838	178	178
T (24%)	HAL	9229	2193	1527	363	186	44
	POT	3615	859	887	211	97	23
	Trawl	4556	1083	1566	372	74	18
	TOTALS	17400	4134	3976	945	304	72
t (12%)	HAL	9415	1130	2138	257	378	45
	POT	425	51	106	13	21	3
	TOTALS	9840	1181	2244	269	388	47
ZERO (0%)	HAL	6553	0	2535	0	489	0
	POT	25	0	9	0	2	0
	JIG	898	0	499	0	138	0
	TOTALS	7476	0	3040	0	610	0
TOTAL HAL		32207	10333	7310	1730	1089	125
TOTAL POT		4415	1260	1056	278	123	29
TOTAL TRAWL		21363	17890	5240	4046	213	157
TOTAL JIG		898	0	499	0	138	0
GRAND TOTAL/STRATA		58883	29482	14098	6052	1480	297

OAC Requested New Detail

unique totals will not be equal to the sum of row totals if a day/trip/vessel changes gears; expected values derived by multiplying totals by sampling rate for strata

Considerations for conditional release policy

Appendix C



How did we get here?

Half the 2013 vessel-selection stratum released from coverage

Direction from the June 2013 Council meeting:

SSC: *Changes to the conditional release policy are needed to reduce biases in the observer data collection program. The goal should be to restrict conditional releases to legitimate cases only.*

Council: *The Council requests NMFS and AFSC analyze the 2013 vessel selection pool data, as well as likely changes in the burdens associated with carrying an observer on vessels in the trip selection pool, to determine whether a vessel length other than 40' better defines the new trip selection sample frame in the 2015 ADP, in order to remove provisions for conditional release. The Council requests this information in order to make recommendations to NMFS and AFSC as part of the draft 2015 ADP review. The Council is concerned with potential bias introduced in the partial coverage category through conditional releases.*

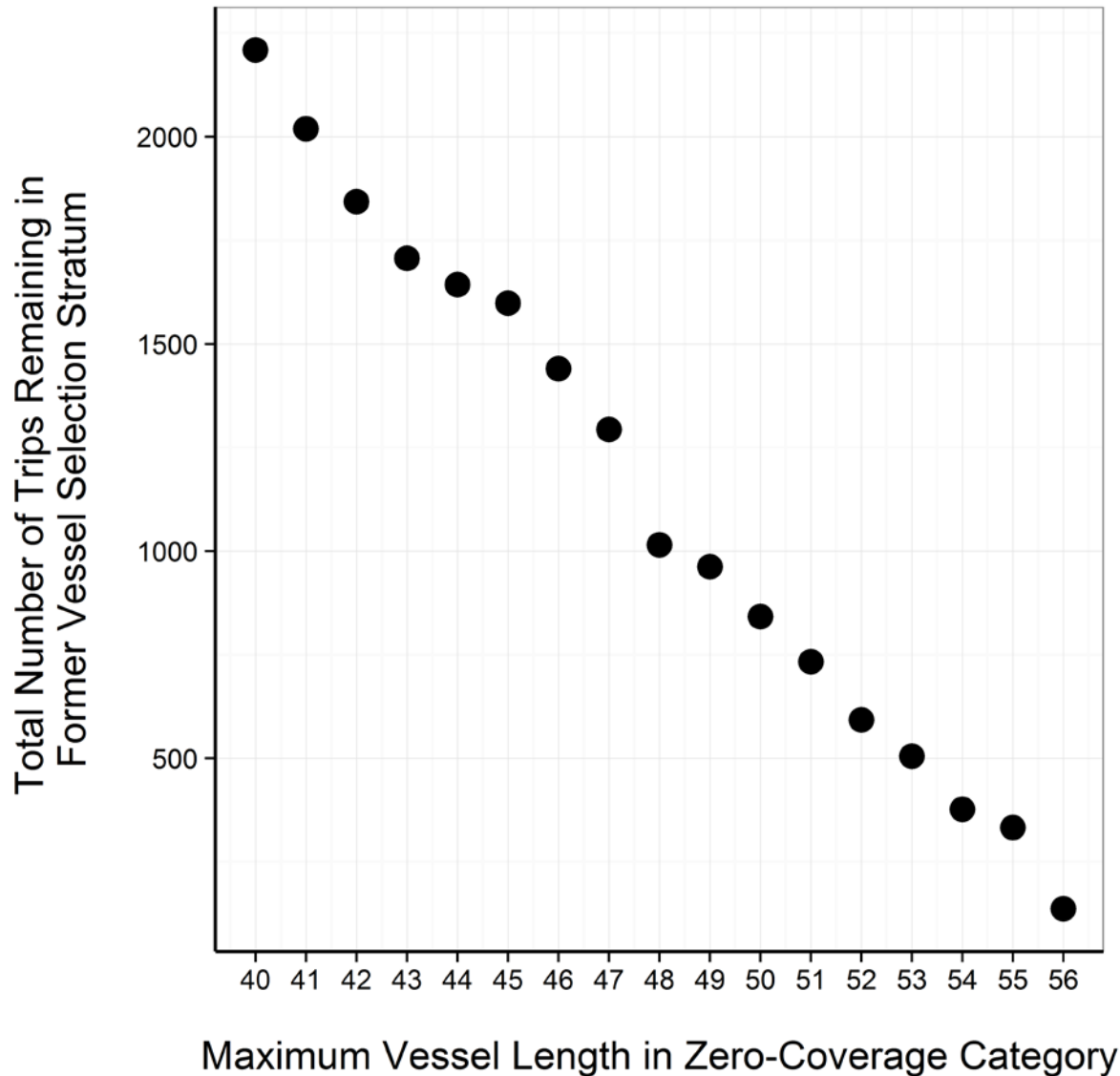
NMFS has granted releases to 10 vessels participating in cooperative EM.

How did we come up with the 40'?

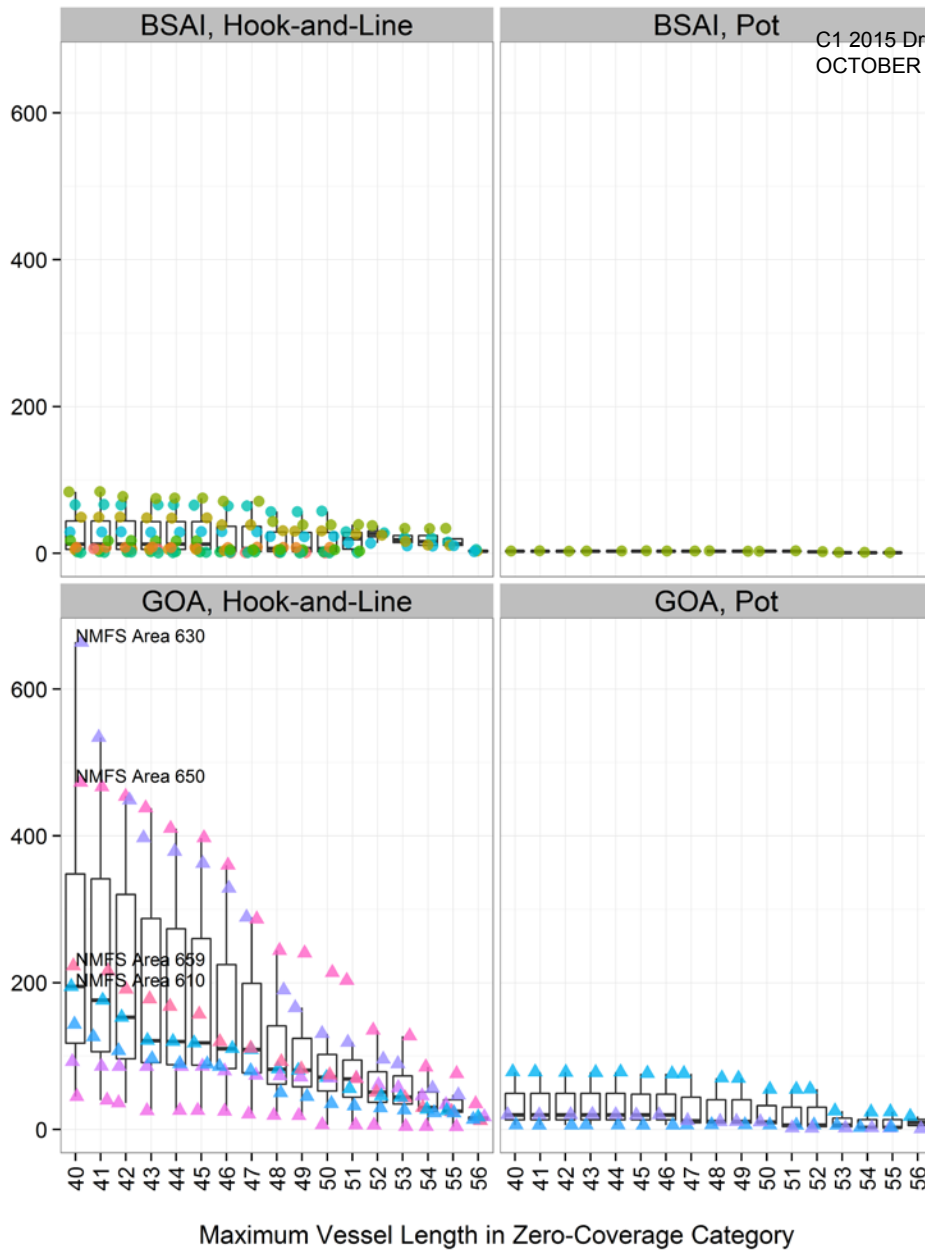
EA/RIR/IRFA Appendices 9 & 10

- Regression tree using retained weight and factors known before a trip begins
 - Cutoff at 57.5', minor one at 40'
- Cumulative plots of weight and trips < 57'
 - Differences between cumulative catch and effort by vessel length was "dome-shaped", i.e. it increased to 40', and decreased thereafter.

What is left when we remove vessels?



Total Number of Trips Remaining in Former Vessel Selection
Within a NMFS Area



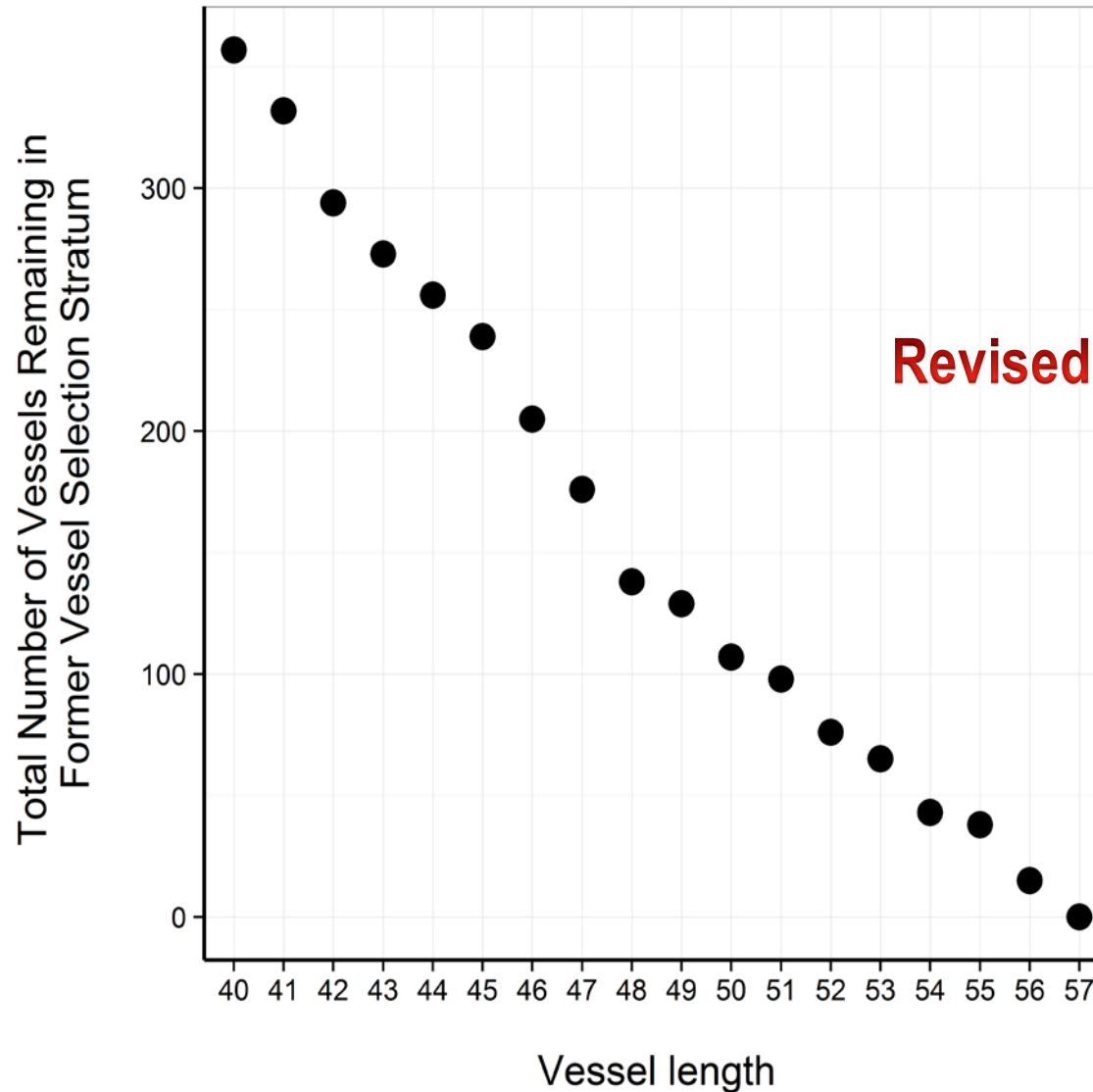
Maximum Vessel Length in Zero-Coverage Category

NMFS Reporting Area

513	517	519	523	541	610	630	649	659
514	518	521	524	542	620	640	650	

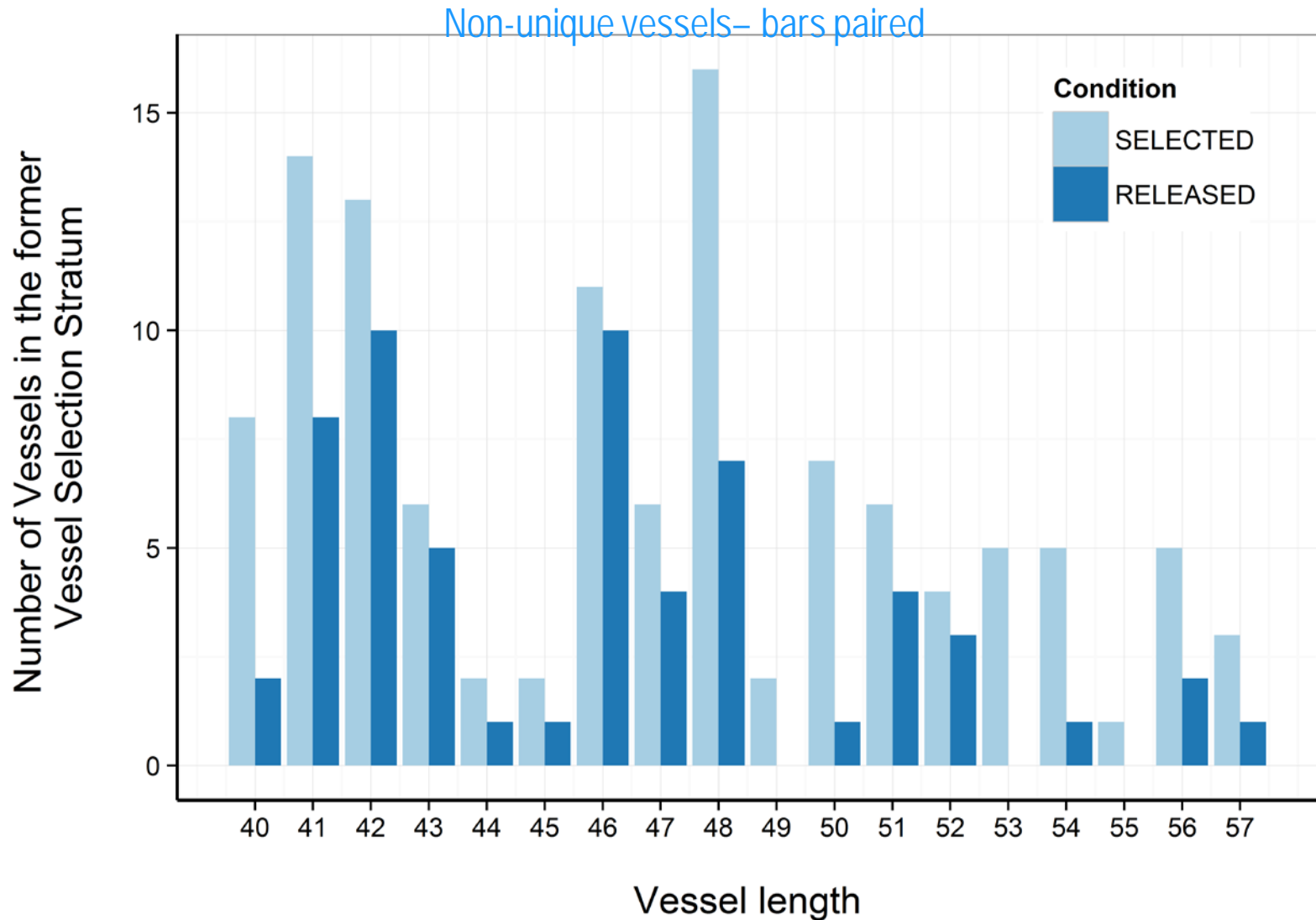
FMP BSAI ▲ GOA

What is left when we remove vessels?

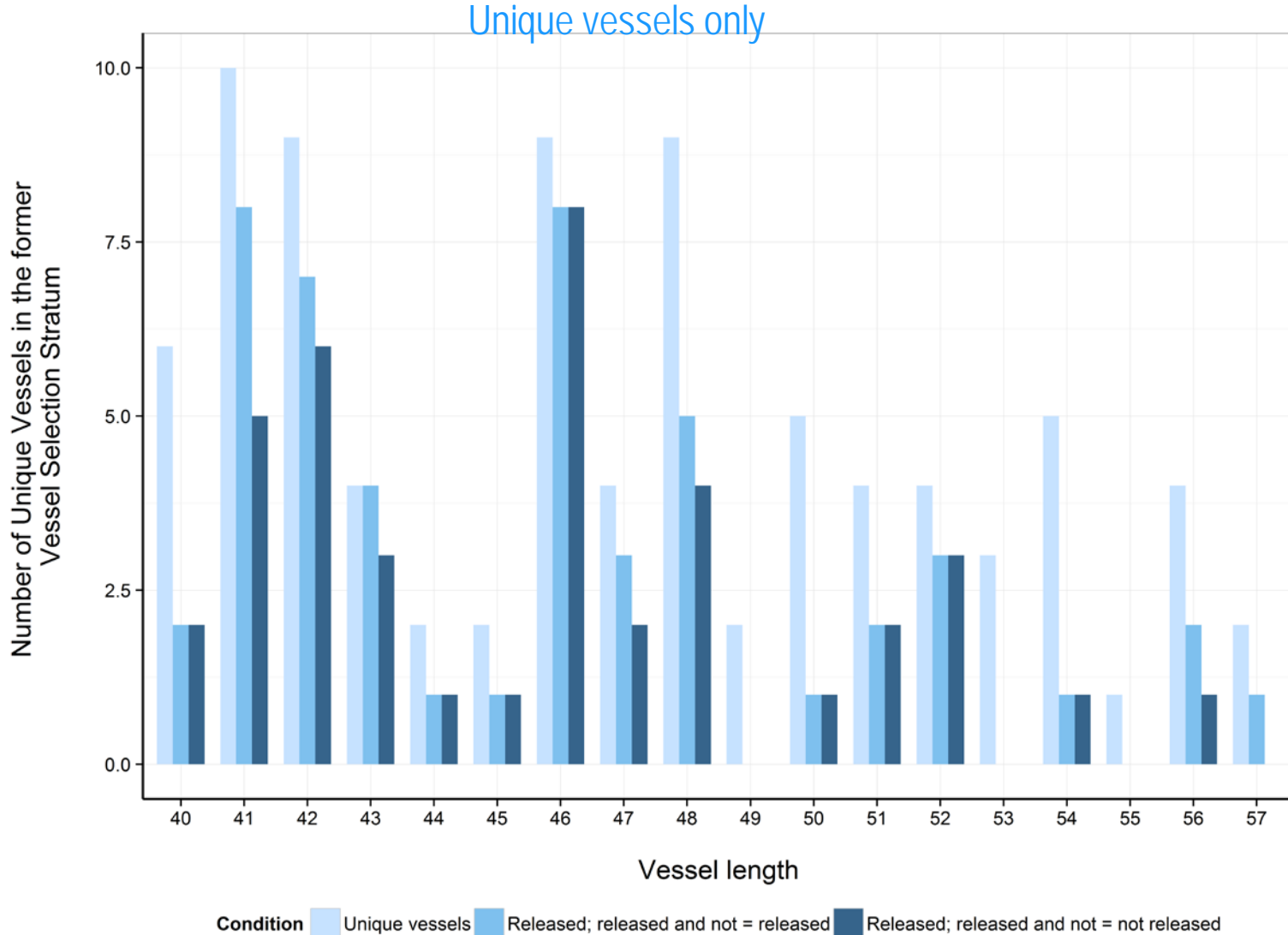


Revised Figure C-3

What is past pattern of releases?



What is past pattern of releases?



In one slide:

- Trip-selection is sole method to assign observers to fishing activities.
- Selection rate for former vessel-selection (small-vessel trip-selection) stratum unchanged.
- Selection rate for former trip-selection (large-vessel trip-selection) stratum increased 50% from 2014.
- Zero-selection stratum increased by 10 EM vessels.
- Observers monitor trawl pollock deliveries for salmon bycatch:
 - 100% in A91 (BSAI);
 - at-sea deployment rates in A93 (Gulf)
- Conditional releases considered at start of year for vessels with four-person life raft and predominant history of four person crew



For more information:

<http://alaskafisheries.noaa.gov/sustainablefisheries/observers/default.htm>

