



NOAA
FISHERIES

Deployment Performance Review of the 2018 North Pacific Observer Program

2018 Observer Science Committee

Presented by

Fishery Monitoring and Analysis Division, Alaska Fisheries Science Center, Seattle
Sustainable Fisheries Division, Alaska Regional Office, Juneau

The Analytical Team

Analyses were performed by the Fisheries Monitoring and Analysis Division in consultation with experts with practical knowledge of observer data. The Division convenes its Observer Science Committee annually. This years members included:

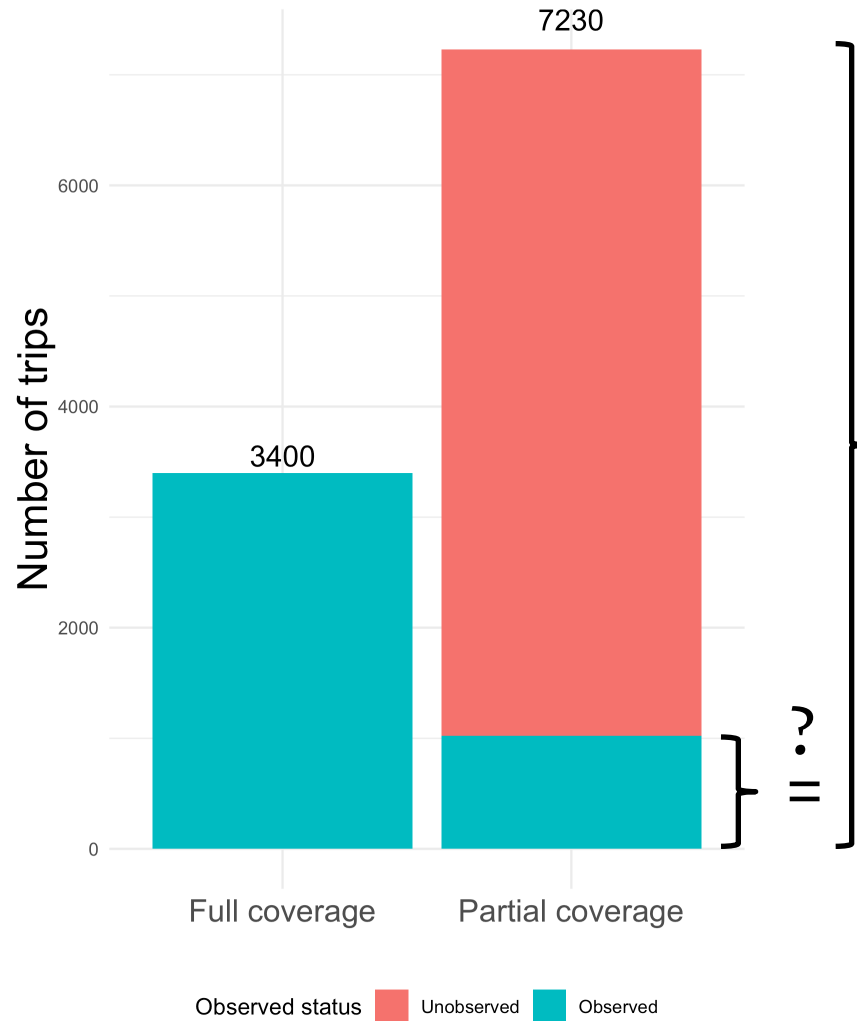
- Phil Ganz (PSMFC/FMA)
- Craig Faunce (AFSC/FMA)
- Steve Barbeaux (AFSC/REFM)
- Jennifer Cahalan (PSMFC/FMA)
- Jason Gasper (AKRO/SF)
- Sandra Lowe (AFSC/REFM)
- Ray Webster (IPHC)

This review is intended to inform the FMAC, the Council, and the public of how well various aspects of the program are working and lead to recommendations for improvement (based on the data). OSC recommendations do not need to equate to official NMFS recommendations or actions for future ADPs.

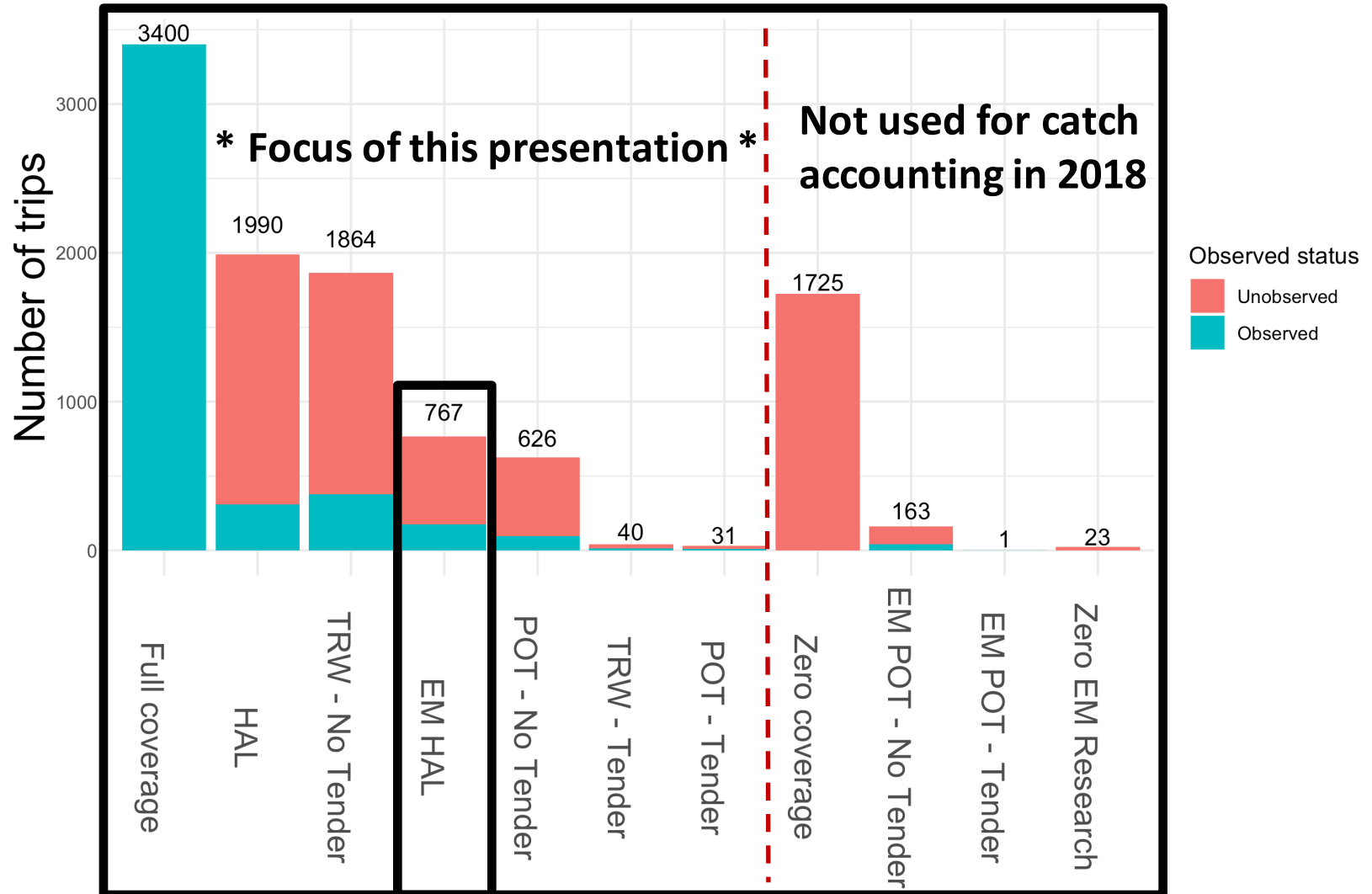
Evaluating Observer Program in 2018

- 1) Did we meet expectations for deployment rates in each stratum?
- 2) Were our samples representative?
 - Dockside monitoring of salmon
 - Temporal and spatial bias
 - Observer effects
- 3) Was our sample size adequate?

Trips by Coverage Type



Trips by Strata



Changes in Deployment Methods Since 2017:

- *HAL – No Tender* and *HAL – Tender* stratum combined into one *HAL* stratum in 2018
- *EM HAL* stratum used for catch accounting in 2018
- 15% minimum coverage hurdle used in 2018, not in 2017

Coverage Rates

| | Full | No Tender | | | | Tender | | Zero | Zero EM Research | No Tender | Tender | All |
|---------------------|-------|-----------|----------|------|-------|--------|-----------|-------|------------------|-----------|--------|--------|
| | | HAL | EM HAL | POT | TRW | POT | TRW | | | EM POT | EM POT | |
| Total Trips | 3,400 | 1,990 | 767 | 626 | 1,864 | 31 | 40 | 1,725 | 23 | 163 | 1 | 10,630 |
| % Observed | 100.0 | 15.5 | 22.7 | 15.5 | 20.3 | 29.0 | 35.0 | 0.0 | 0.0 | 25.2* | 100.0* | 41.2 |
| % Expected | 100.0 | 17.3 | 30.0 | 16.2 | 20.2 | 17.4 | 16.7 | 0.0 | 0.0 | 30.0 | 30.0 | |
| Meets Expectations? | Yes | No (Low) | No (Low) | Yes | Yes | Yes | No (High) | Yes | Yes | Yes | Yes | |

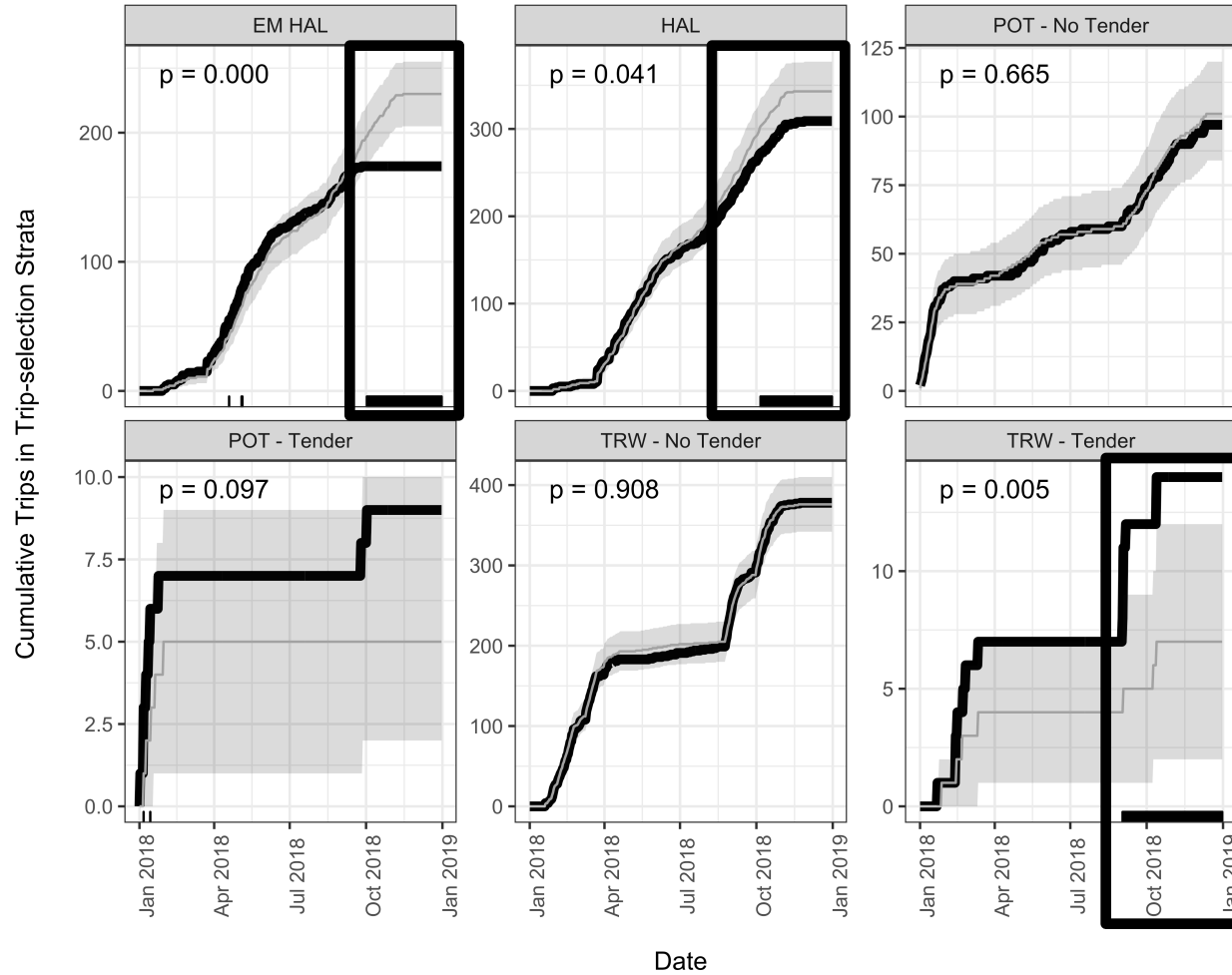
* Represents hard drives *received*, not data *reviewed*.

EM POT strata were under pre-implementation in 2018.

Recommendations

- **We recommend that draft 2020 ADP stratification designs include a re-examination of tendering strata.**
- **We do not recommend stratification by type of trawl gear (i.e., NPT and PTR strata).**

Temporal Bias



Recommendations

- We recommend that draft 2020 ADP stratification designs include a re-examination of tendering strata.
- We do not recommend stratification by type of trawl gear (i.e., NPT and PTR strata).
- **We recommend that the ODDS trip logging and cancellation rules be re-evaluated and communicated to the Council and industry as soon as possible.**

EM HAL

- PSMFC did not review 62 selected EM trips
- PSMFC received data for 53 of those 62 trips
- Considerable lag-time between receipt of video by PSMFC and delivery of data to NMFS
 - 2016 (pre-implementation): Average = 8 days
 - 2018 (implemented): Average = 60 days

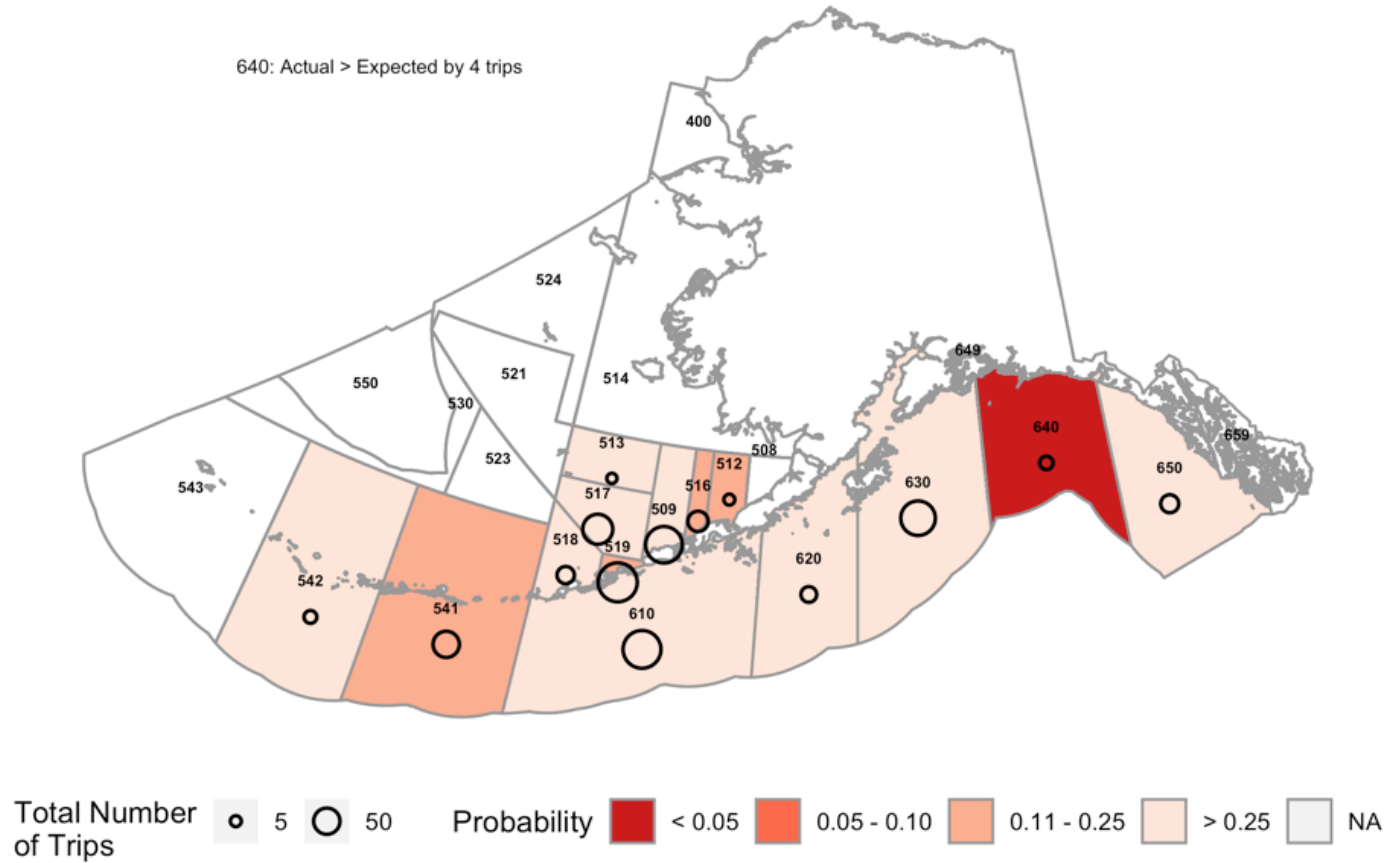
| Gear | Data reviewed? | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | Total |
|--------|----------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| EM HAL | Yes | 3 | 5 | 19 | 42 | 41 | 21 | 10 | 17 | 16 | 0 | 0 | 0 | 174 |
| EM HAL | No | 0 | 0 | 0 | 3 | 2 | 4 | 3 | 5 | 14 | 29 | 2 | 0 | 62 |

Recommendations

- We recommend that draft 2020 ADP stratification designs include a re-examination of tendering strata.
- We do not recommend stratification by type of trawl gear (i.e., NPT and PTR strata).
- We recommend that the ODDS trip logging and cancellation rules be re-evaluated and communicated to the Council and industry as soon as possible.
- **We recommend that EM review rates are set to ensure that the entire year is sampled and review is timely enough so that data from EM can be used for catch accounting and fisheries monitoring as envisioned by the Council.**

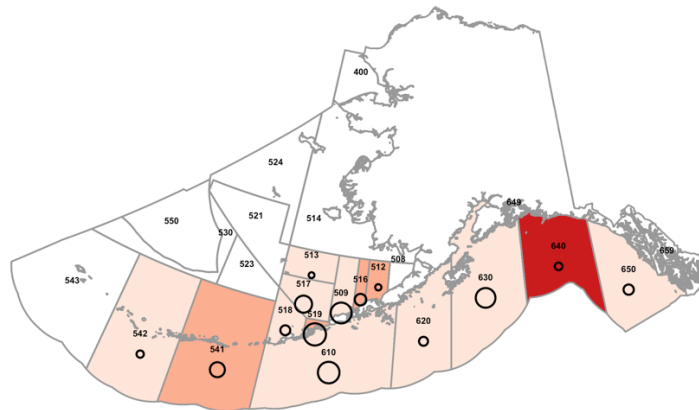
Spatial Bias

POT - No Tender 2018



Spatial Bias

| | No Tender | | | | Tender | |
|---|-----------|------------|------------|-----------|-----------|-----------|
| | HAL | EM HAL | POT | TRW | POT | TRW |
| Number of NMFS Areas Fished | 19 | 14 | 14 | 9 | 6 | 4 |
| % of NMFS Areas Where Coverage Rates as Expected | 84% | 93% | 93% | 78% | 83% | 50% |
| Meets Expectations? | No | Yes | Yes | No | No | No |



Dockside Monitoring

- Non- tender deliveries were monitored for salmon by the at-sea observer at a rate near the deployment rate into *TRW – No Tender*.

| Port | Total non-tender deliveries (N) | Observed deliveries (n) | % Observed |
|------------|---------------------------------|-------------------------|-------------------|
| Akutan | 78 | 18 | 23.1 |
| King Cove | 1 | 0 | 0.0 |
| Kodiak | 1,087 | 216 | 19.9 |
| Sand Point | 273 | 46 | 16.8 |
| | 1,439 | 280 | 19.5 ¹ |

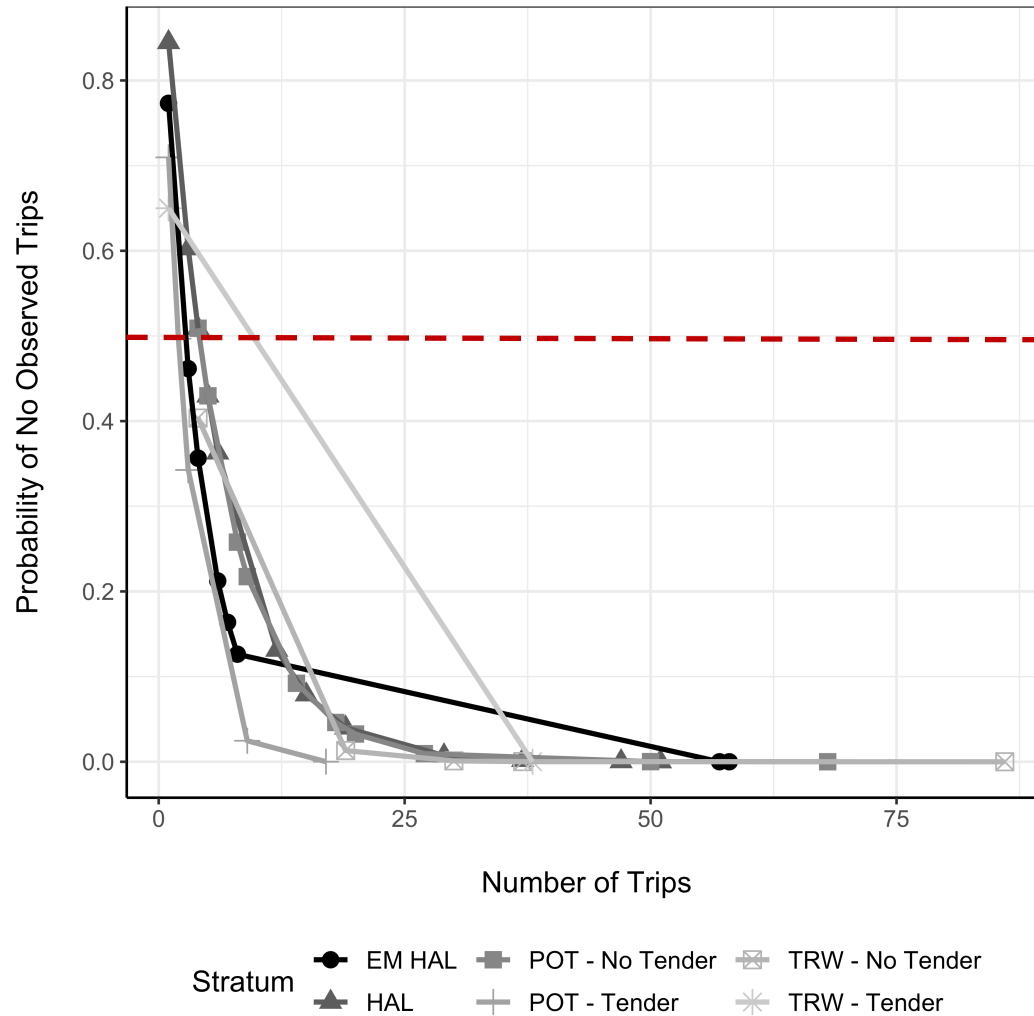
¹ For reference, the programmed rate of deployment for the *TRW – No Tender* stratum was 20.18%.

Observer Effect

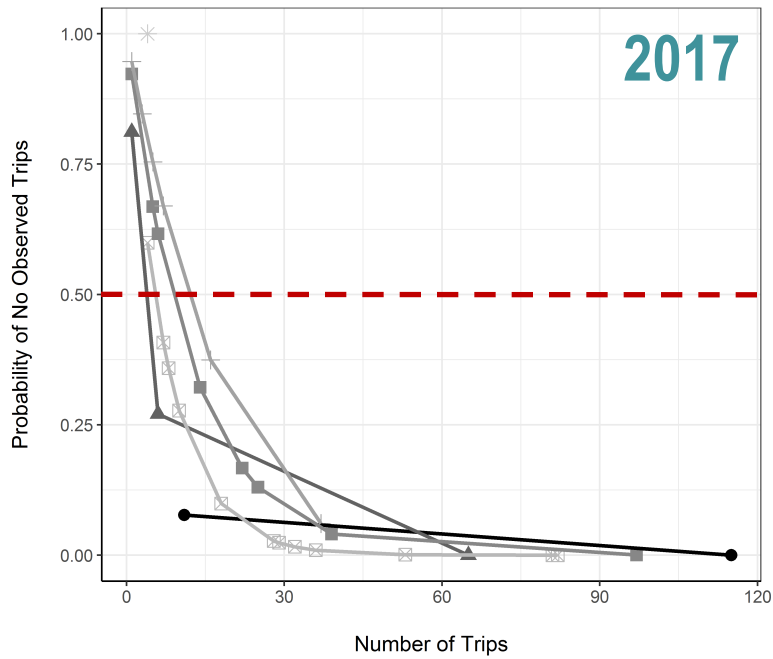
Observed difference (%), significant areas highlighted:

| Strata | NMFS areas | Days fished | Vessel length (ft) | Species landed | pMax species | Landed catch (t) |
|-----------------|------------|-------------|--------------------|----------------|--------------|------------------|
| EM HAL | 0.267 | -2.179 | 0.684 | 9.700 | -0.824 | 2.108 |
| HAL | 2.158 | -14.345 | -1.037 | 1.372 | 0.946 | -15.593 |
| POT - No Tender | -1.821 | -2.337 | 2.732 | 14.296 | 0.743 | 5.632 |
| POT - Tender | 11.631 | -5.792 | 14.580 | 2.646 | -0.424 | 29.994 |
| TRW - No Tender | -3.040 | -9.403 | -1.750 | -1.657 | 1.590 | -4.549 |
| TRW - Tender | 6.969 | 27.262 | 5.800 | 5.806 | -0.407 | 51.755 |

Adequacy of Sample Size

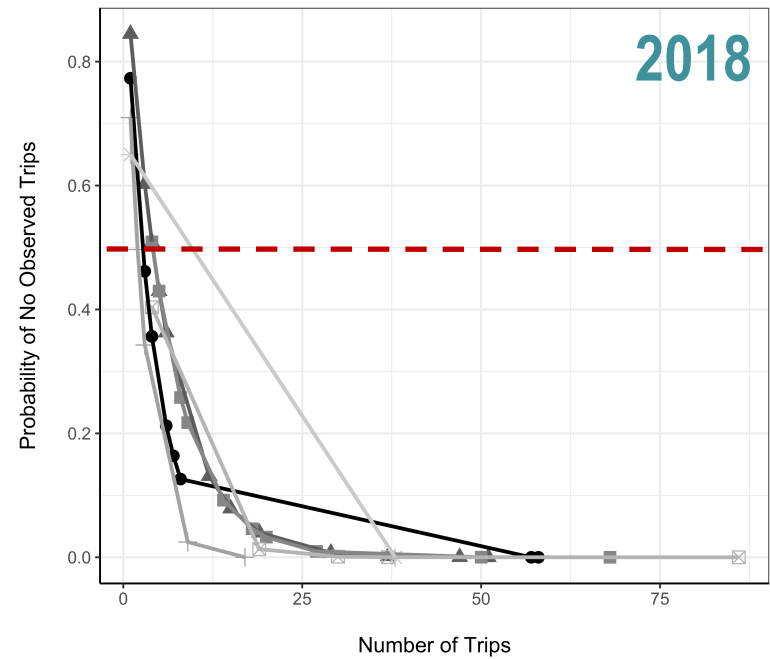


Adequacy of Sample Size



Stratum

- TRW - No Tender
- POT - No Tender
- HAL - No Tender
- ▲ TRW - Tender
- ⊕ POT - Tender
- * HAL - Tender



Stratum

- EM HAL
- POT - No Tender
- TRW - No Tender
- ▲ HAL
- ⊕ POT - Tender
- * TRW - Tender

Recommendations

- We recommend that draft 2020 ADP stratification designs include a re-examination of tendering strata.
- We do not recommend stratification by type of trawl gear (i.e., NPT and PTR strata).
- We recommend that the ODDS trip logging and cancellation rules be re-evaluated and communicated to the Council and industry as soon as possible.
- We recommend that EM review rates are set to ensure that the entire year is sampled and review is timely enough so that data from EM can be used for catch accounting and fisheries monitoring as envisioned by the Council.
- **We recommend continuation of the baseline + optimization approach for determining coverage levels among strata.**

Summary



Evaluating Observer Program in 2018

- 1) Did we meet expectations for deployment rates in each stratum?
 - **Yes** (3 partial coverage strata)
 - **No** (3 partial coverage strata: 2 low, 1 high)

Evaluating Observer Program in 2018

- 2) Were our samples representative?
- Dockside monitoring of salmon?
 - Yes
 - Temporally representative?
 - Yes (3 partial coverage strata)
 - No (3 partial coverage strata)
 - Spatially representative?
 - Yes (2 partial coverage strata)
 - No (4 partial coverage strata)
 - Absent of observer effect?
 - Yes (for 2 tender strata)
 - No (for 4 non-tender strata)

Evaluating Observer Program in 2018

3) Was our sample size adequate?

- **Yes** (37 area/stratum combinations had less than 50% chance of no observations)
- **No** (10 area/stratum combinations had greater than 50% chance of no observations)

Recommendations

- **We recommend that draft 2020 ADP stratification designs include a re-examination of tendering strata.**
- **We do not recommend stratification by type of trawl gear (i.e., NPT and PTR strata).**
- **We recommend that the ODDS trip logging and cancellation rules be re-evaluated and communicated to the Council and industry as soon as possible.**
- **We recommend that EM review rates are set to ensure that the entire year is sampled and review is timely enough so that data from EM can be used for catch accounting and fisheries monitoring as envisioned by the Council.**
- **We recommend continuation of the baseline + optimization approach for determining coverage levels among strata.**

A scenic view of a coastal town, likely in a northern region, with snow-capped mountains in the background. The word "Questions?" is overlaid in the center of the image. The scene is captured during the "golden hour" of sunset or sunrise, with warm light reflecting off the water and the snow. The town features several buildings, including a prominent white multi-story building on the right, and several boats docked at a pier. The water in the foreground is calm, creating clear reflections of the sky, mountains, and buildings. The overall atmosphere is peaceful and serene.

Questions?