



**NOAA  
FISHERIES**

# North Pacific Observer Program DRAFT Annual Deployment Plan 2017

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*Joint Plan Team*  
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## Goals

Financially stable observer program  
stable sample size

January 2017-June 2019

## Assumptions

List of Voluntary EM vessels

Voluntary 100% BSAI vessels

Budgets stable with no Federal Funds

1.25% fee totaling \$ 3.9 M

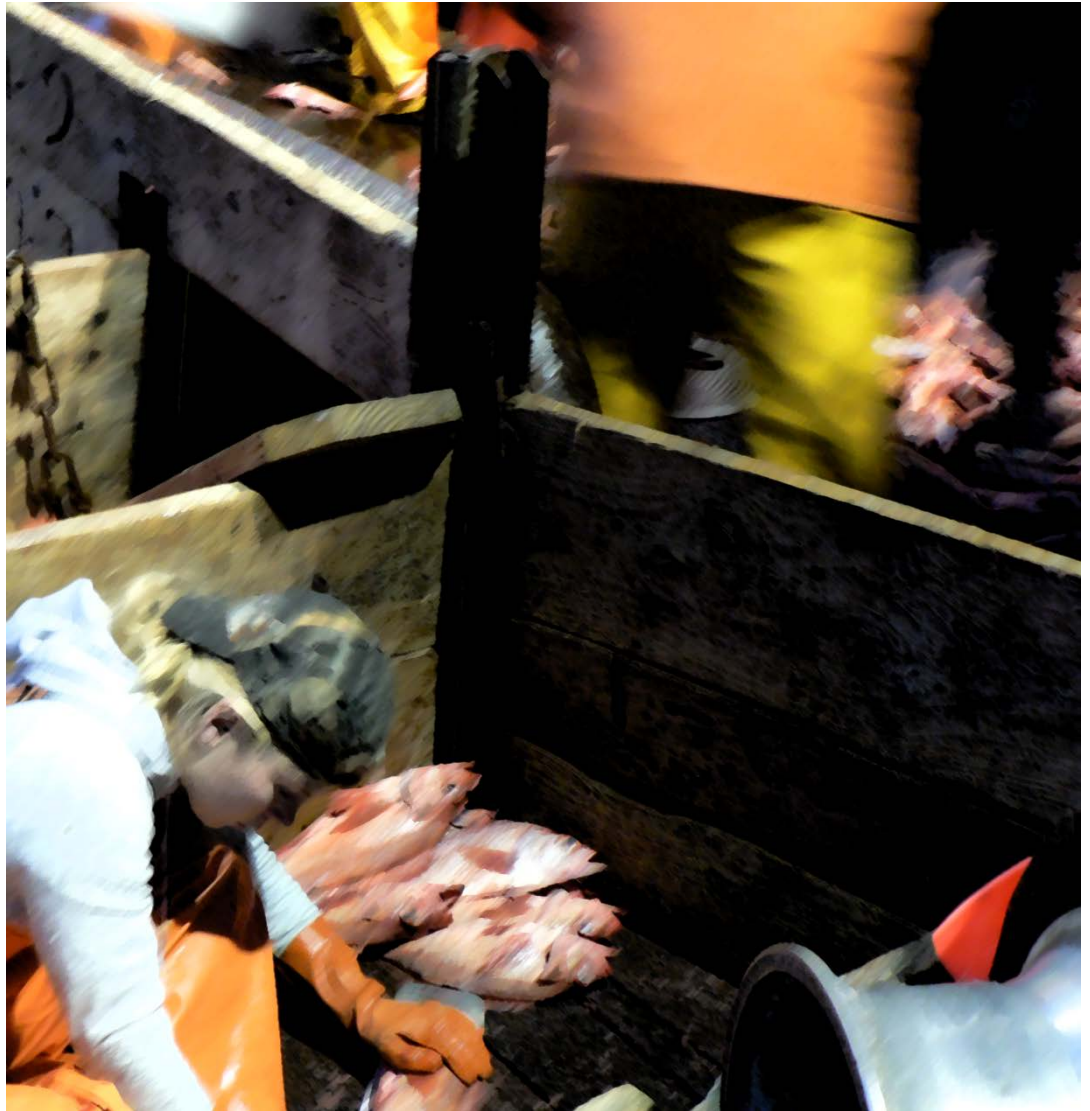


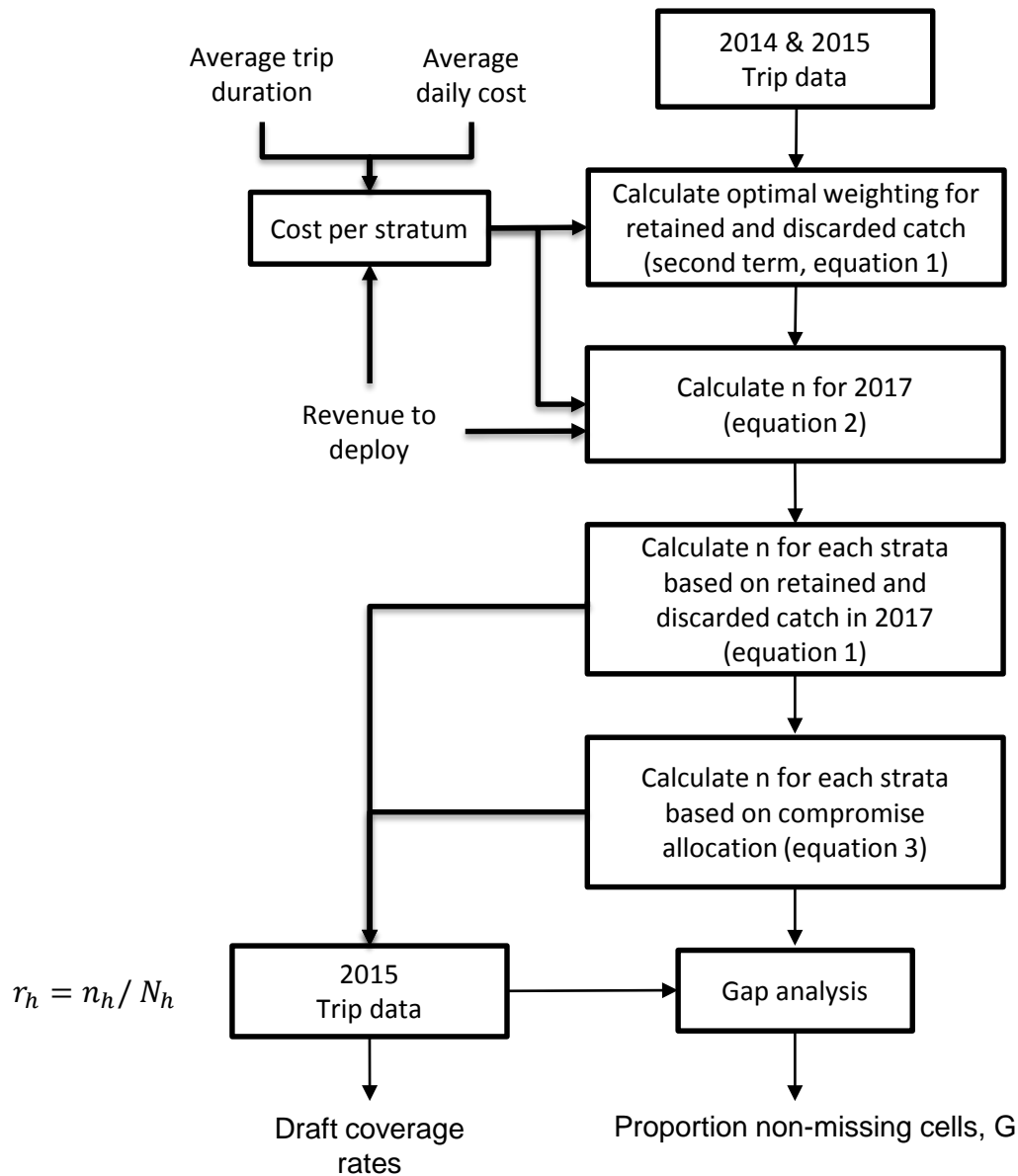
## Changes from Last Year

Cost is now included in optimization  
Precision and bias not evaluated  
Hurdle model approach not used  
Gaps based on NMFS Area + Gear, not  
Target, BS Areas not combined  
G scores more straightforward

Four stratification schemes:

- Gear (status quo)
- Gear + partial CP HAL
- Gear x Tender
- Gear x Tender + partial CP HAL





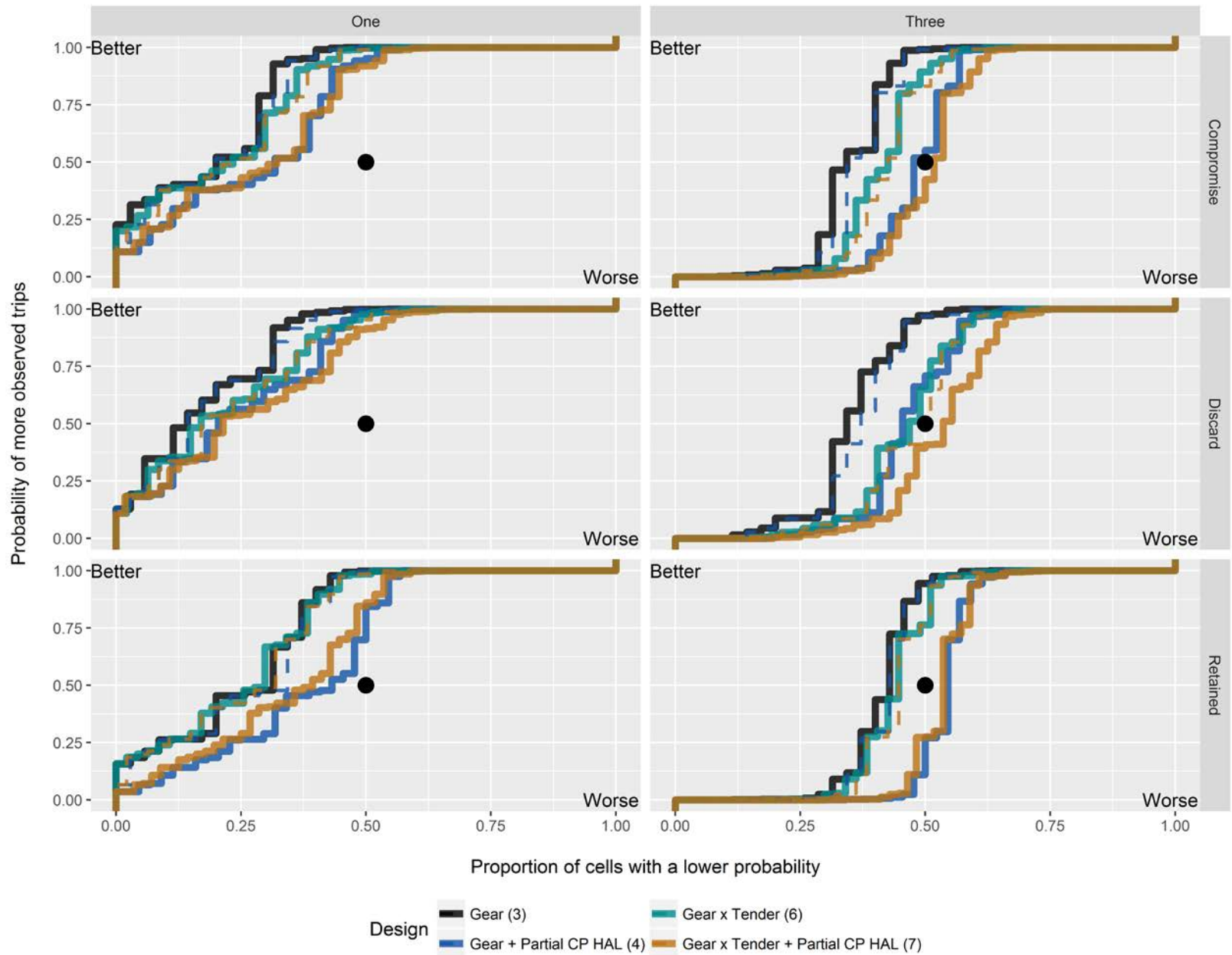
$$\text{where } W_{hopt} = \frac{N_h S_h / \sqrt{c_h}}{\sum_{h=1}^H (N_h S_h / \sqrt{c_h})}$$

$$n = \frac{(C - C_T) \sum_{h=1}^H (N_h S_h / \sqrt{c_h})}{\sum_{h=1}^H (N_h S_h \sqrt{c_h})}$$

$$n_h = n * W_{hopt}$$

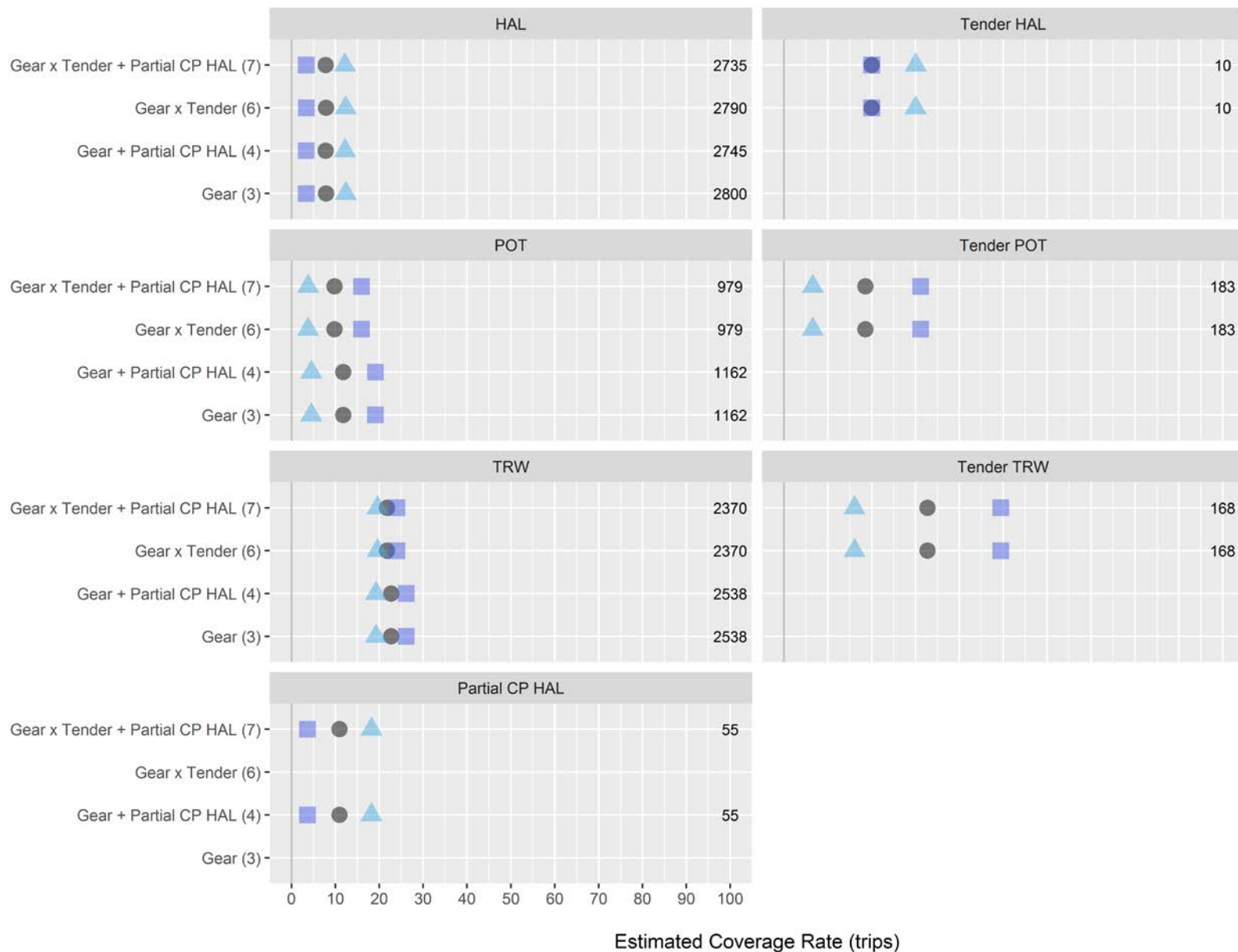
$$m_h = n * \bar{n}_{hopt}, \text{ where } \bar{n}_h = \frac{\sum_{l=1}^L n_{lh}}{L}$$







Design



Metric Compromise Discard Retained

## NMFS Recommends

**Gear x Tender (6) stratification scheme  
with discard optimal allocation**

**Preliminary Coverage Rates\* % ( $N_h$ ):**

- Hook & Line **11.1** (2790) [2016: 15%]
- Pot **3.4** (979) [2016: 15%]
- Trawl **17.6** (2370) [2016: 28%]
- Hook and Line Tender **27** (30)
- Pot Tender **5.9** (183)
- Trawl Tender **14.5** (168)



\* Rates have been multiplied by 0.9 to account for potential uncertainty in final ADP

## Conclusions

Observer Program is employing optimized allocation while balancing its ability to fill gaps for in-season management of quotas and focusing on core role of at-sea deployment (discards).

No Federal Funding + 1.25% fee  
= 3,505 days expected in 2017

2013: 3,533

2014: 4,573

2015: 5,318

2016; 4,900 (estimated 2016 ADP)

2017 ADP days 30.7 % below the 2013-  
2016 average (4,581)

3,505 -> 4,581 would require  
fee change 1.25 -> 1.63 %, or  
\$1.165M (1076 d x \$1,083 d)\*

Observer deployment in 2017 and beyond  
is likely to be spatially and temporally  
biased and miss some strata entirely  
(Pot Tender, Hook and Line Tender).





## Next Steps (Final ADP)

With Final EM and Voluntary 100% BSAI vessel lists:

Adjust anticipated fishing effort if warranted given trends seen in fishery Jan-Oct of each year (*incl. 2016*)

Simulate sampling of '2017' fishery given optimal weightings for each stratum from this draft ADP,

iterate with increasing sample size,

stop when proportion of outcomes over:under budget reaches 0.50.

Present results as 2017 Final ADP and program resulting selection rates into ODDS.



## A Proposal

Move ADP from an every year process to a “on year- off year” schedule.

Every other year NMFS will evaluate potential deployment designs including stratification schemes, allocation strategies, and resulting deployment rates that will be reviewed by the Council’s Plan Teams, Observer Advisory Committee, Advisory Panel, and Council (the “on-year” process).

The following year, only adjustments to the rates will be evaluated by NMFS and reported to the Council (the “off-year” process).



