



NOAA
FISHERIES

Electronic Monitoring Data in AFSC Assessments Workshop Report

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Introduction

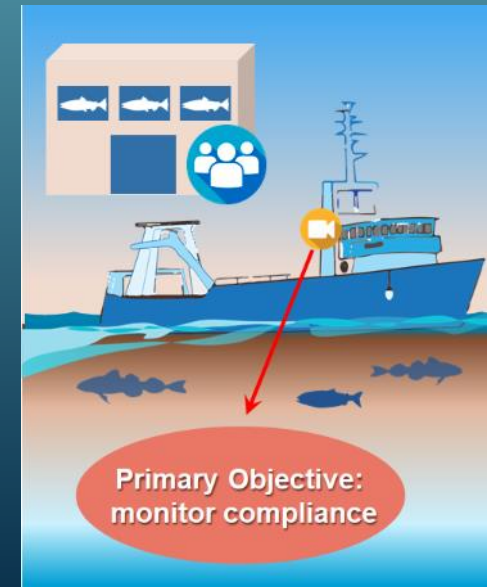
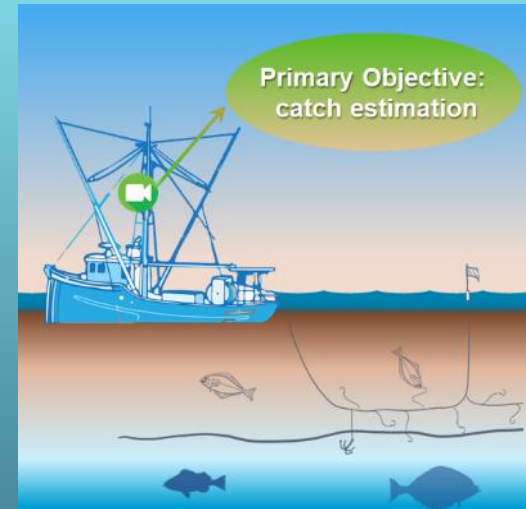
Workshop held on July 8 to inform assessment authors on EM programs and data streams

Identified five areas of concern regarding changes to observer deployments as a response to EM and changes in data streams

- 1) Loss of haul level data
- 2) Biological samples
- 3) Selection bias
- 4) Author feedback processes
- 5) Data access

Highlighted advantages of EM

Provided recommendations



Loss of Haul Level Data

Key areas of data loss – Varies by EM program and gear

- 1) Haul-level effort metrics (trawl and hook-and-line)
- 2) Mammal/bird interactions – presence and/or depredation
- 3) Catch diagnostics (e.g., time of day, location, bycatch)
 - Impacts assessment analytics and EBFM development



Recommendations:

Authors will need access to logbook data to try develop effort metrics – see Data Access section

Inclusion of mammal/bird presence and depredation in logbooks needed – see Author Feedback section

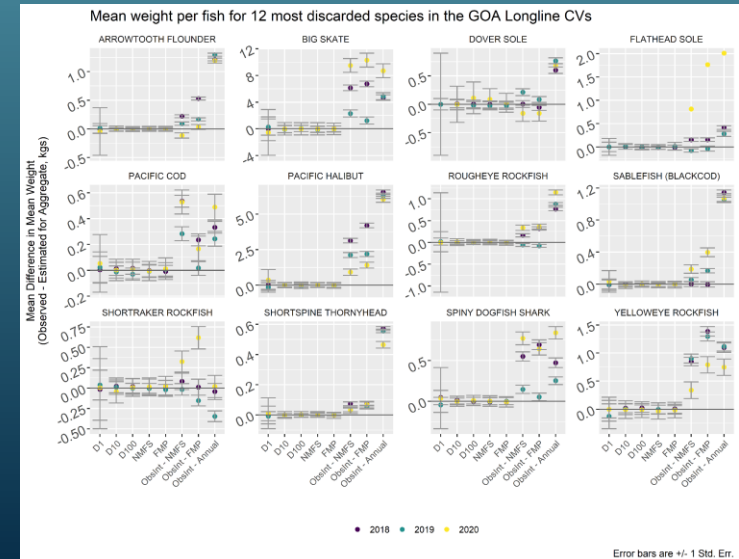
Biological Samples

Trawl EM EFP

- 1) Biological samples collected shoreside
- 2) Lower spatial and temporal resolution
- 3) Similar spatial resolution as assessment
- 4) Research projects restricted (e.g., food habits, maturity, day vs night)
- 5) Workload and priorities for shoreside samplers results in minimal biologicals for non-pollock and non-salmon species

Fixed-gear EM

- 1) There are none
- 2) Mean species weight to estimate haul catch based on previous year



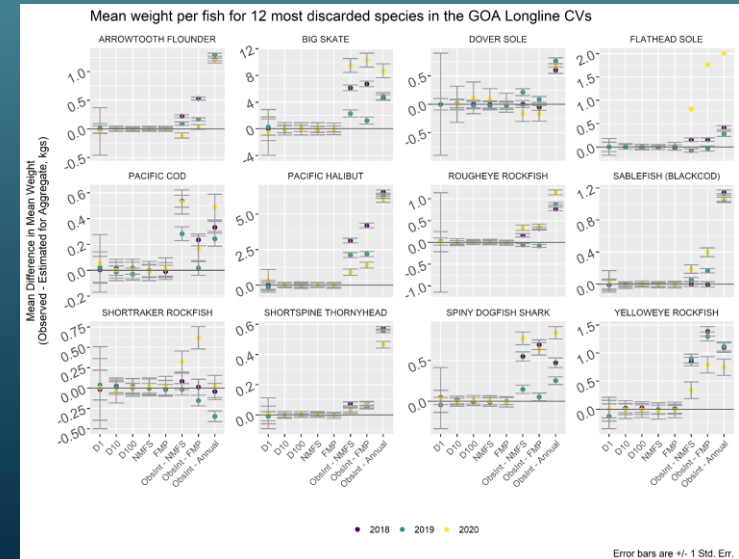
Biological Samples

Recommendations:

Authors should work with FMA to develop sampling plans for shoreside observers – see Author Feedback section

At-sea observer deployment needs to be representative of effort

Continue efforts to develop mean weight estimation procedure in the absence of biological data



Selection Bias



Identified two concerns:

- 1) Vessels self-select into EM programs
- 2) Vessels in the trawl EM EFP can opt out of EM for some trips

Recommendations:

At-sea observers should be deployed in a method that accounts for spatial and temporal distribution of EM trips and maintain regional sampling objectives

Author Feedback Process

No unified process for authors to provide feedback regarding EM considerations

Recommendation:

Utilize the PT process for authors to provide feedback to the NPFMC bodies that advise the EM program design and deployments to ensure the EM development is such that stock assessment data needs are addressed and responded to

Develop metrics to inform EM program decisions and potential impacts

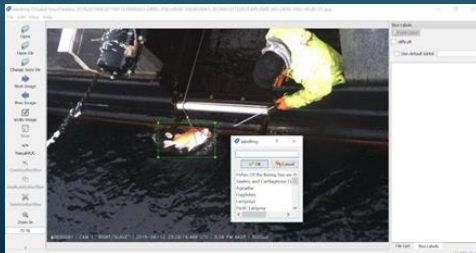
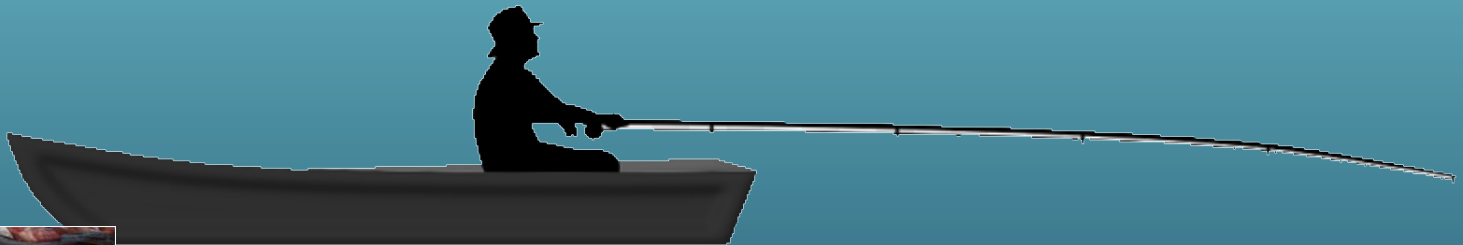


Image provided by UCB

Data Access

Three categories of data:

- 1) Catch: Landings and EM video review
- 2) Logbook data
- 3) Biological sampling data



Fixed Gear only

Data Access

Three categories of data:

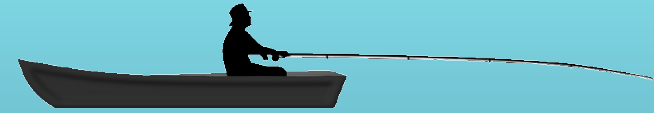
- 1) Catch: Landings and EM video review
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Available:

- All catch accounted for in CAS total catch estimates
- Haul level catch available for fixed-gear EM

In process:

- Catch data for trips linked to observer strata
- Biological samples linked to observer strata
- Logbooks
 - Trawl EM EFP
 - Fixed-gear



Advantages

Ability to record new data on pot type and strings vs single (also in development for observers)

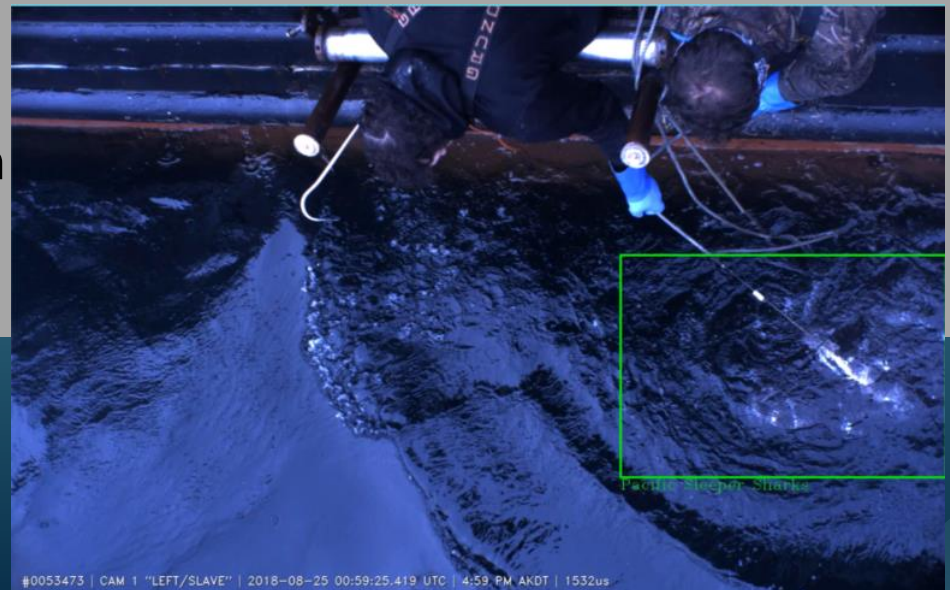
Revisit haul videos to investigate sources of confusion

Improved data recordings/efficiencies as tech improves

EM systems can't catch Covid

Potential for

- Improved species identification
- Size estimates



Recommendations

1. *At-sea observers deployed in a way that is representative of fishing effort. The levels of this deployment should be sufficient enough to account for any potential temporal and spatial biases in the lack of biological information due to EM coverage.*
2. *The Plan Team process (or some other) should be developed so assessment authors can provide coordinated feedback to NPFMC advisory bodies regarding stock assessment data needs.*
3. *Metrics should be developed and shown in stock assessments to help inform on EM program performance and potential impacts. For example, how does trip level information compare with haul level sampling efforts? Also, can such changes be shown to affect uncertainty in management advice?*
4. *Continue to develop methods to accurately estimate catch weight of at-sea discards in the EM strata based on only catch numbers and observer-data derived estimates of weight per fish.*

Questions

Shout outs:

AKRO, FMA, PSMFC, AKFIN staff for all efforts to improve communications, respond to requests, and participating in this workshop

FMA, observers and EM providers for keeping it all going through the pandemic



Images provided by FMA