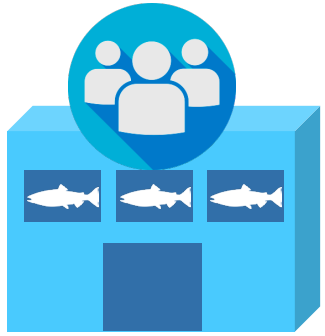
The Development of the Trawl Electronic Monitoring Program in the North Pacific.

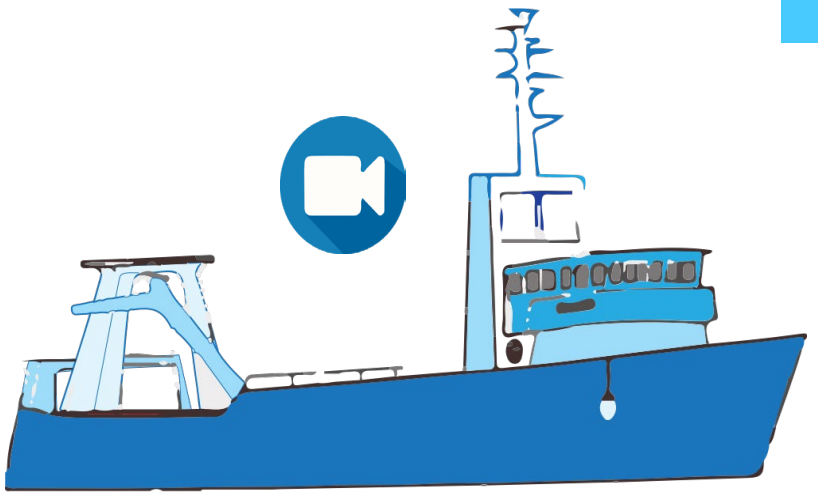
Melanie Rickett
Josh Keaton
Alaska Regional Office, SFD

Western Ground Fish Conference
Juneau 2023

Overview of Trawl Electronic Monitoring in Alaska - EFP



Observers in processing plants randomly sample deliveries to collect catch and biological data



EM Reviewers are ALL former observers

Electronic Monitoring On Vessels

EM compliance monitoring to ensure maximized retention of all species and verify self-reported data of any discard events.

Catch and discard information from landing reports and logbooks.

NOAA FISHERIES

Observer Data Collection Vessel vs Shoreside

Data type	Vessel Observer	Shoreside Observer
Haul specific	Y	*
Trip specific	Y	Y
Species composition	Y	Y
Biologicals	Y	Y
Halibut/Crab	Y	Y
Salmon	Y	Y**

Plant observer may have more opportunities to collect data on a safe and stable platform

.

Biological Sampling

Shoreside Observers

Predominant Species	Sex/Length Data	Biological Data (All specimen fish must have an associated s/l/w specimen)
Bering Sea Pollock	Every Sampled Offload ~100 pollock and ~100 squid (unsexed) and ~25 Rougheye and ~25 Sablefish	Every Sampled Offload 2 pollock otolith pairs with maturity scan for all female otolith fish and ~ 8 pollock sex/length/weight specimens (must not be from an otolith fish) Every Sampled Offload 25 Rougheye otolith pairs
Gulf of Alaska Pollock	Every Sampled Offload ~ 150 Pollock and ~ 30 Pacific Cod	Every Sampled Offload 25 Pollock otolith pairs with maturity scan for all female otolith fish and 5 Pacific Cod otoliths

Vessel Observers

Predominant Species	Sex/Length Data	Biological Data (All specimen fish must have an associated s/l/w specimen)
Gulf of Alaska Pollock	Every Sampled Haul ~ 50 Pollock and ~ 10 Pacific Cod	Every Sampled Haul 8 Pollock otolith pairs with maturity scan for all female otolith fish and 1 Pacific Cod otolith pair with maturity scan for all female otolith fish

Catch Sampling Shoreside Metrics

- Early in the EFP, it was identified that shoreside observers were not able to meet sampling objectives due to many factors. The team met and discussed options to improve.

	First 3mos of EFP	A Season 2020	B season 2020	A/B Season 2021	A Season 2022
Bering Sea (Goal 100%)					
PSC Retention	100%	100%	100%	100%	100%
Pollock Biological Data (Otoliths and Length)	98%	99%	97%	96%	77%
Species Composition	98%	80%	98%	99%	77%
Gulf of Alaska (Goal 30%)					
PSC Retention	32%	31%	33%	33%	33%
Pollock Biological Data (Otoliths and Length)	5%	13%	32%	25%	27%
Species Composition	1%	2%	32%	25%	27%

Salmon Retention Data

Observer duties:

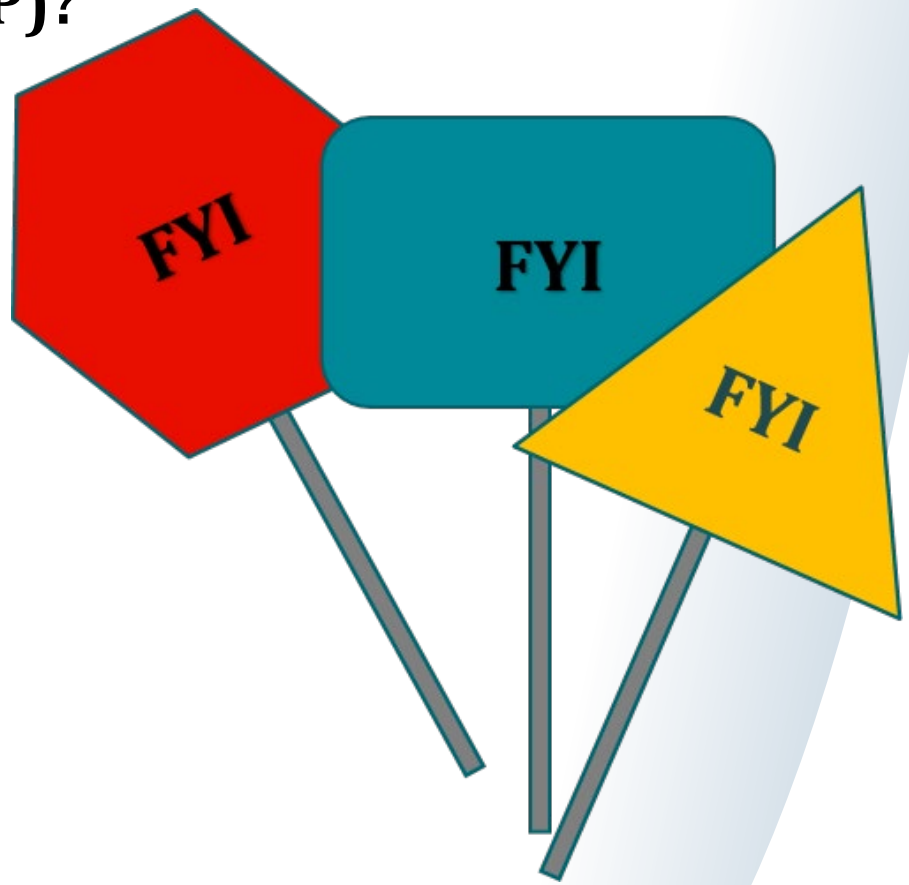
- **Salmon retention** data
- **Identify species, sex, and weigh** all the salmon
- **Salmon genetics**
- **FMA ID scales**
- **Tagged salmon data**

Salmon retention remained the priority for observers at the plant (and the EM reviewers).

CMCP's are critical to salmon retention data!

Flexible Tool: Catch Monitoring Control Plan

What is a Catch Monitoring Control Plan (CMCP)?
The road map, and cliff notes used by the agency, industry, and observers.



Why have a CMCP?
CMCP's are in place for all BSAI processing plants that take AFA pollock deliveries, but these are not currently in place for the GOA.

Proven Benefits of CMCP's?
- Salmon accounting
- Communications
- Diagrams and descriptions

Catch Accounting Improvements

- More precise **PSC** accounting
  - Salmon
  - Crab
  - Halibut
- Fish ticket **bycatch verifications**.
- No at-sea discard rates
- **Safe stable** sampling platforms!

Sampling and Data Collection Challenges

- Communication gaps between vessels/plants. These were addressed in near real time, and CMCPs helped improve communications.
- Work Load: Observers prioritized salmon retention data, which in some cases prevented them from collecting biological data resulting in need for multiple observers.
- Marine mammals and Seabirds.

Seabirds

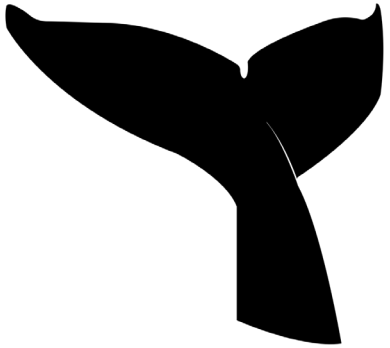
100% recording/reviewed

	Observer	EM Reviewer
Monitoring Seabird Avoidance	Yes	Yes*
Species Identification	Yes	Some
Interaction Type	Yes	Some
Photograph	Yes	Some
Biological Specimens	Yes	No**
Rehabilitation (very rare)	Yes	No

* EM can only review what is in camera frame

**Physical specimens include whole carcass (observer-salvage permits)

USFWS has protocols for vessel operators to collect whole bird carcasses. Without observers onboard vessels these specimens may be able to be recovered.



Mammals

100% recording/reviewed

	Observer	EM Reviewer
Identify to species	Yes	Yes*
Mammal Condition	Yes	Some
Interaction Type	Yes	Some
Photograph	Yes	Some
Biological specimens	Yes	No

- * EM is limited to the camera views, and these **views may or may not capture information on brands, tags, and marking** as it is dependent on animal size, camera resolution, and camera placement.
- **Most common specimen type collected by observers is photographs.** These can be collected by EM reviewers, but they may not capture details (e.g., froth around nose/mouth; free flowing blood).
- **EM cannot collect any physical specimen data**

Past Present Future

Past: Observer monitoring and data collection on vessels and shoreside processing plants.

Present: EFP began 2020. Operating under an EFP with observers at the shoreside plants and cameras on vessels.

Future: Rulemaking phase, and estimated implementation in 2025.

Questions
and
Thank you

NOAA FISHERIES