

Performance metrics – DRAFT

For discussion at EMWG - 5/10/2016

Startup of the program

Quality of monitoring data

Goal: Design an EM program for discard species that can provide information needed for management and stock assessment purposes

Metrics:

- Many of the metrics provided in the PSMFC report directly address this need. Some of these include the following:
 - Completeness of video coverage by haul/trip
 - Frequency of EM system failures (video/sensors/software)
 - Frequency of EM system failures after initial trip
 - Reliability of video image quality
 - Proportion of catch with known disposition
- Some metrics are specific to paired data – rockfish species ID compared to dockside monitoring in 2015; IPHC EM datasets compared to human observer counts
 - Reliability of species identification for all species
- Some metrics rely on data studies about the precision associated with estimations based on available EM data
 - Uncertainty associated with species proportionality for groups that are difficult to distinguish (SR/RE, shortspine/longspine thornyhead, arrowtooth/Kamchatka)
 - Uncertainty associated with weight of discard estimations from EM piece counts

Fleet uptake

Goal: Provide an EM monitoring option for vessels that have difficulty accommodating a human observer to choose as a viable alternative

Metrics:

- is EM field support capacity (installation/repair service, training/review) available in the locations accessible to those vessels that have difficulty accommodating a human observer?
- does the program attract sufficient additional participants to amortize the costs of infrastructure?

Mature program

EM Deployment Design

Goal: Use best available information to design the EM deployment methods, including the EM selection pool, that meet policy and data collection goals

Metrics:

- The Observer Science Committee annually reviews observer deployment, and will comment on both the EM and human observer deployment plans and develop appropriate metrics.
- Ones that are currently tracked in the 2014 Annual Report include:
 - Deployment rates for each stratum: were target sample rates achieved? Quantification of under- and over-coverage rates, non-response rates.
 - Was sampling representative? Temporally, spatially, and representative of trip characteristics (trip duration, vessel size, number of NMFS reporting areas visited, amount of landed catch, number of species in the landed catch, proportion of total landed catch that was due to the most prevalent species)

- Adequacy of sample size – probability of selecting a sample and having coverage in each stratum and NMFS reporting area

Participation/eligibility

Goal: A pool of EM participants that are capable and committed to making EM work on their boats.

Metrics:

- Many of the metrics for this goal can be duplicated from the ‘Operation’ category – i.e., is there a pool of EM participants that are regularly meeting their obligations for a functioning EM system?
- Other metrics could track participation over time
 - Number of EM participants that stay in the EM program from year to year

Equipment (wiring/sensors, cameras, monitors, hard drives) and Installation

Goal: Appropriate EM equipment gets properly installed on each vessel, at the right port, and in a timely fashion with the least interruption to the fishing plan.

Metrics:

- Frequency of equipment or installation-related video image quality issues (e.g. poor camera angles, condensation)
- Locations of EM service and installation ports or outport service compared to start/landing ports of EM vessels, and denied requests for outport services
- Average length of time for installation and repairs

Operation

Goal: Each vessel operator maintains a functioning EM system throughout the fishing trip and there is a good process for maintaining quality control and addressing equipment failures.

Metrics:

- Frequency of EM system (overall and after initial trip)
- Frequency of operator-related video image quality issues (e.g. water spots, dirty camera lens)
- Completeness of operator requirements – effort logbook, IPHC logbook, fish ticket
- Completeness of duty of care requirements – function tests, continuous power
- Appropriate catch handling – all discards at control points, handling within camera view
- Consistency with seabird goal requirements – mitigation devices used, extended presentation
- Enforcement/compliance metrics could be tracked also; examples from the Annual Report include:
 - Number of compliance reports
 - Non-compliance trends, by category
 - Number of enforcement actions

Data/Equipment Retrieval

Goal: EM equipment with data returned to NMFS timely and in good condition.

Metrics:

- Time lag between last EM trip and equipment retrieval
- Frequency of equipment replacement (by system part – sensors, cameras, CPUs, etc.)

Retrieval of EM data/ Catch Accounting

Goal: Extract data from EM system and integrate data into the catch accounting system in a timely manner so that data can be used in management.

Metrics:

- Time lag for when EM trips occur and when data is available to CAS, by target fishery

EM data retention and storage

Goal: Retain data from EM systems in an appropriate format.

Metrics:

- Need to figure out first what the appropriate format should be, and the length of time for keeping different types of data.

Feedback Mechanisms

Goal: All participants have the opportunity to provide feedback to address problems and improve the EM Program.

Metrics:

- Not sure - variety of mechanisms available to participants to provide feedback? Complaints from people leaving the EM program about inadequate communication?

Fees/Funding/Costs

Goal: Use Observer Program fees or other sources of funding to pay for the EM equipment, installation, and maintenance.

Metrics:

- Should this goal be more broad? But as written, a metric could be how much of the program is paid for through the observer fee or other funding sources