Joint NPFMC / IPHC Meeting

June 7, 2017, Juneau, AK

Agenda Item 4: Progress reports On Council Research and Management Priorities

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4d. EM Implementation

Integrating EM into the Observer Program for 2018

The Council took final action in December 2016 to integrate electronic monitoring (EM) for fixed gear groundfish and halibut vessels as a part of the North Pacific Observer Program. The Council's recommendation was to develop regulations to allow EM to be used for catch estimation. The implementation of this amendment would bring EM as an option into the established Observer Program process, by which the Council and NMFS make annual policy choices to determine the best monitoring tool for the Alaska fixed gear fisheries, including halibut fishing vessels, in the Observer Annual Deployment Plan. Through that process, the Council and NMFS will consider how to optimize observer and EM deployment for fisheries in the partial coverage category each year, based on an analysis of costs, budget, fishing effort, and monitoring needs.

On May 23, the public comment period on the proposed rule to implement EM closed. The deadline for the Secretary of Commerce to approve or disapprove the amendment is June 23rd. NMFS is currently in the process of responding to comments and preparing a final rule. There is also considerable programming support that must be undertaken in order to integrate the EM selection pool into the Observer Declare and Deploy System for vessel registration, and to use EM data in catch accounting and inseason management in 2018. NMFS intends to use EM data from longline vessels directly in catch estimation in 2018; the catch estimation methods for pot data, however, are still in development, and will likely continue to be treated as "pre-implementation" in 2018, while protocols are finalized.

The Council also recommended an option in the analysis to allow vessels opting into the EM selection pool to use EM for compliance monitoring when fishing IFQ or halibut CDQ in multiple areas. This would allow vessel operators in the EM selection pool to retain IFQ or halibut CDQ exceeding the amount available in the individual area being fished if they are either carrying an observer (the current regulatory requirement) or if they are using an EM system. The IPHC approved a regulatory amendment proposal at the January 2017 meeting to change the IPHC regulations to mirror this NMFS regulatory change. If approved by the Secretary, this change would also become effective in 2018.

Estimation of halibut mortality through EM

EM video reviewers collect data on the release of Pacific halibut, including the method of release and condition of halibut at the time of release. The release methods and conditions collected by video reviewers are the same as those collected by observers, with the addition of three new release methods that were developed in consultation with the observer program and IPHC: "hand release", "Other careful release', and "other non-careful release'. In 2016, the majority (93 percent) of Pacific halibut were released carefully using the "Hook twisting and shaking" method (Table 1). It was much more difficult for video reviewers to assess the condition of the halibut as the fish were released; 42 percent of the time the condition of the fish was noted as "unknown" (Table 2). Halibut were noted with an unknown release condition if the video reviewer was not able to observe both sides of the fish or the injuries could not be clearly observed at the point of release. Of the fish where video reviewers were able to determine a release condition was able to be determined, the majority were assessed with minor damage.

The current methodology to assess halibut discard mortality relies on assessments of halibut viability. Information derived from video is unlikely to be of fine enough resolution to estimate viability, as the current technique includes opercular stimulation, muscle tone observations, and sand flea intrusion (C. Dykstra, personal communication, 9/7/2016) and the number of unknowns ranges from 24 to 49 percent (Table 2). EM does seem to get a reasonable profile of release method (Table 1). However, the IPHC does not currently have any method to compare the release method to a corresponding mortality signature, and resultant mortality rate. The Council's EM Workgroup supports ongoing IPHC development of fieldwork to collect experimental or observer-based data (in conjunction with video-based data from the same trips) which summarize the suite of viabilities in relation to each release method and relative to the size of the fish.

Table 1 **Pacific halibut discards by release method in 2016 EM pre-implementation hauls, from 3 hook-and-line fisheries (halibut, Pacific cod, and sablefish).**

Halibut release method	Halibut		Pacific cod		Sablefish		Total	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Cut the gangion	0	<1%	18	<1%	0	< 1%	18	<1%
Gaff	1	<1%	1	<1%	0	< 1%	2	<1%
Hand release	19	2%	12	<1%	96	17%	127	2%
Hit the roller	7	1%	18	<1%	2	< 1%	27	<1%
Hook straightening	37	3%	0	<1%	0	< 1%	37	1%
Hook twisting and shaking	1,048	93%	4,007	95%	431	78%	5,486	93%
Other careful release	0	<1%	2	<1%	1	< 1%	3	<1%
Unknown	7	1%	126	3%	22	4%	155	3%
Dropped off line without any crew interaction	10	1%	26	1%	3	1%	39	1%
Total	1,129		4,210		555		5,894	

Source: PSMFC preliminary review of the 2016 season, 5/20/2016

Table 2 **Pacific halibut discards by release condition in 2016 EM pre-implementation hauls, from 3 hook-and-line fisheries (halibut, Pacific cod, and sablefish).**

Halibut release condition	Halibut		Pacific cod		Sablefish		Total	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Dead/Sand fleas/Bleeding	29	3%	39	1%	22	4%	90	2%
Minor	774	69%	2,080	49%	398	72%	3,252	55%
Moderate	5	<1%	29	1%	3	1%	37	1%
Severe	3	<1%	4	<1%	0	<1%	7	<1%
Unknown	308	27%	2,031	48%	129	23%	2,468	42%
Dropped off line without any crew interaction	10	1%	27	1%	3	1%	40	<1%
Total	1,129		4,210		555		5,894	

Source: PSMFC preliminary review of the 2016 season, 5/20/2016

Future directions for EM

The Council has initiated a discussion paper to consider how to extend the EM selection pool to include vessels under 40 feet, which are not currently required to take observers. The intention is to evaluate how to design an appropriate sampling plan that would get good data, particularly from the high activity vessels in this size category, and also to continue to evaluate whether data from larger vessels is likely to be representative of the under 40 foot fleet. The paper will consider what the information needs are for this fleet, which may vary by target fishery or area, and what technology options could help with monitoring (including a full EM system, EM lite (sensor data but no camera), or VMS options).