



## **Sablefish Depredation by Whales Discussion Session**

### **REPORT**

April 1, 2019 5-7PM, Hilton Hotel, Anchorage, AK

The North Pacific Fishery Management Council hosted a discussion session to provide opportunity for fishers, scientists, and other stakeholders to consider the ways that sablefish depredation by whales is considered in the stock assessment, what information may be missing to assess sablefish depredation, and whether there is opportunity for collaborative research to provide additional data to assess the impacts of sablefish depredation. The meeting was well attended and resulted in robust discussion.

Dr. Dana Hanselman provided an overview of the ways that sablefish depredation are currently considered in the stock assessment process and previous efforts to assess the impact of whale predation on longline gear. Past cooperative research includes:

- Sablefish voluntary logbook program: 1997 – current. A voluntary program to collect information from sablefish fisheries along with the required IPHC halibut information to supplement observer data. Since 2017 data includes depredation information.
- Sperm whale depredation on longline gear: 2009-2011. Cooperative work with Southeast Alaska Sperm Whale Avoidance Project (SEASWAP) to deploy acoustic recorders during longline operations to quantify “creak” sounds produced by sperm whales when echolocating prey.
- Sperm whale photo identification: 2008- present. Cooperative work to collect photo identification of sperm whales during longline survey operations.
- Sperm whale tagging: 2008-2011. Cooperative work to attach satellite tags to sperm whales during longline operations.
- Sperm whale genetic analyses: 2009-2011. Cooperative work to collect tissue samples for genetic analysis.
- Towed array to detect sperm whales: 2019. Development of a towed hydroacoustic array to detect sperm whale presence during fishing operations and transit.

Dr. Hanselman presented a number of questions that he has heard from fishermen regarding sablefish depredation including:

- Are estimates of depredation accurate?
- Is depredation different when catch rates are low?
- Do deterrents work to reduce whale predation?
- Can we switch to pots for the survey?
- How are estimates of depredation used in the stock assessment?
- Do whales target bigger fish?

After the presentation the audience members were invited to share their experiences and concerns regarding depredation by whales. Some expressed concerns that the estimate of the number of sets that are impacted by whales is higher than is assumed in the assessment. It was noted that higher observer coverage allows for better data collection, and may result in different estimate of the rate of depredation. It was also noted that the voluntary logbook program has had good participation and for the two years it

has been in place and should lead to estimates of depredation based on more data than currently. Others suggested that cameras used for electronic monitoring (EM) may provide another opportunity to quantify depredation events. At present, EM can detect fish that appear to have been depredated, but are not yet able to identify whales or whether they are predated the lines.

Attendees also stated that the issue of whale predation is a growing problem, with recent rates and effects higher than in the past. One fisherman stated that there are few objective data to assess the level of impact, but lots of subjective data to suggest that the problem is greater than assumed. A fisherman reported that sets that resulted in 3-4 thousand pounds of fish resulted in 200 pounds once whales were present. He estimated that for every 1,000 pounds of fish coming aboard the whales were consuming 2,000-3,000 pounds. He stated that although the rates of fish depredation did not appear to change with CPUE, the problem becomes significantly worse when CPUE is low.

Another fisherman noted that compared to the first four years that he was fishing when the rates of depredation were not “breaking the bank”, last year saw only four sets that were not depredated. He stated that orca were primarily responsible for the predation on his sets, but he has started to see sperm whales farther west than previously.

Other attendees stated that they have not seen drastic increases in the levels of depredation in recent years, that the rates have remained fairly consistent and similar to the rates assumed in the surveys. Some stated that whales and fishermen both know where the fish are, and they will meet at those areas.

Discussion then turned to possibilities of collaborative research to collect data that may assist the stock assessment authors. Dr. Hanselman noted that with the voluntary logbook program, they are now getting data from many more commercial sets, including some that are depredated and some that are not. He expressed caution about designing experiments to assess the levels of depredation because experiments would need to be large in scope and cover multiple years and large areas of the GOA and AI. He also expressed concern with switching the survey to pots from longlines because of the historical data and the cost and time associated with calibrating surveys against each other.

Whale deterrents were briefly discussed. Although deterrents have so far proved ineffective against whales, the NMFS Office of Protected Resources has been working for the last several years on developing a deterrence policy for ESA listed and non-ESA species. There may at some point be effective deterrents.

Fishing industry representatives who have been involved in cooperative research provided advice that the first step in designing that research should be to ensure that the question being asked is the right one. Stock assessment authors, and other scientists should be involved early in the process to identify the appropriate questions, which will then lead to the appropriate study design to collect data to address the question. The discussion session was seen as a great first step by getting the right people into a room and finding the right questions.