

A fisherman wearing a red jacket and blue gloves is handling a large fish on a blue boat deck. The fish is suspended by a hook. The background shows the blue deck and some equipment.

SCIENTIFIC AND STATISTICAL
COMMITTEE DRAFT REPORT
to the
NORTH PACIFIC FISHERY
MANAGEMENT COUNCIL
February 1st – 3rd, 2016

Plan Team Nominations

- Ken Goldman – Scallop Plan Team
- Miranda Westphal – Crab Plan Team
- Ben Williams – Scallop Plan Team



New SSC Members

Jason Gaspar

Ian Stewart

Edie



3-2 Climate Strategy and Vulnerability



3-2 Climate Strategy

A thoughtful and useful document on a science strategy for evaluating the present and future impacts of a changing climate on the marine ecosystem of the Southeastern Bering Sea.

The NPFMC is well positioned to absorb and incorporate this information into its existing management process

- Bering Sea Fisheries Ecosystem Plan provides a framework to synthesize and organize this regional effort
- Existing scientific infrastructure is extensive and the annual stock assessment environment is well established
- Ecosystem Considerations chapter provides an annual update to the state of the Bering Sea ecosystem.

3-2 Climate Strategy

The document seems optimistic in its descriptions of what can be done now.

Clear that we will be able to make any quantitative predictions about how present-day climate variability will affect any stock in the near future, let alone out to ten years.

The SSC also felt that an ambitious timeframe was advantageous and appropriate for the scale of the challenge ahead, and the SSC looks forward to the new information that will be brought forward.

3-2 Climate Strategy

The document outlines three steps that are deemed important for the NPFMC to take in this region.

- First is that NMFS needs to be able to inform the NPFMC of the “winners and losers” of climate change on a 10 year time frame. within intermediate time spans, inter-annual variability will probably swamp out the underlying, long term climate trends, thereby making predictions difficult.
- Second step is to identify and monitor ecosystem thresholds that signal the need to adjust management,
- Third step, the need to continue ongoing ship-based surveys

3-2 Climate Strategy

SC Recommendations

- Strongly supports the continuance of all existing ship-based fishery independent surveys and fisheries oceanographic research.
- The spring and fall fisheries oceanographic surveys be conducted on a yearly basis while we are trying to identify the effects of climate change and develop the means of making “long-term” predictions of its impacts.
- The regional action plan is deficient in its explanation of how Alaskan communities will be participating in this process, this was not made clear in the document or the actual presentation

3-2 Climate Vulnerability

A thoughtful and useful process for assessing the relative vulnerability of finfish and shellfish stocks to the expected impacts of climate change and ocean acidification.

The process included the use of expert opinion (ranking), first developed by individual responses to a questionnaire, and then through a revisiting of those opinions in group telephone conferences, to assess semi-quantitative sensitivity and exposure scores.

3-2 Climate Vulnerability

The SSC recommends analysts develop a case-based model validation exercise to examine the asserted sensitivity and exposure dynamics.

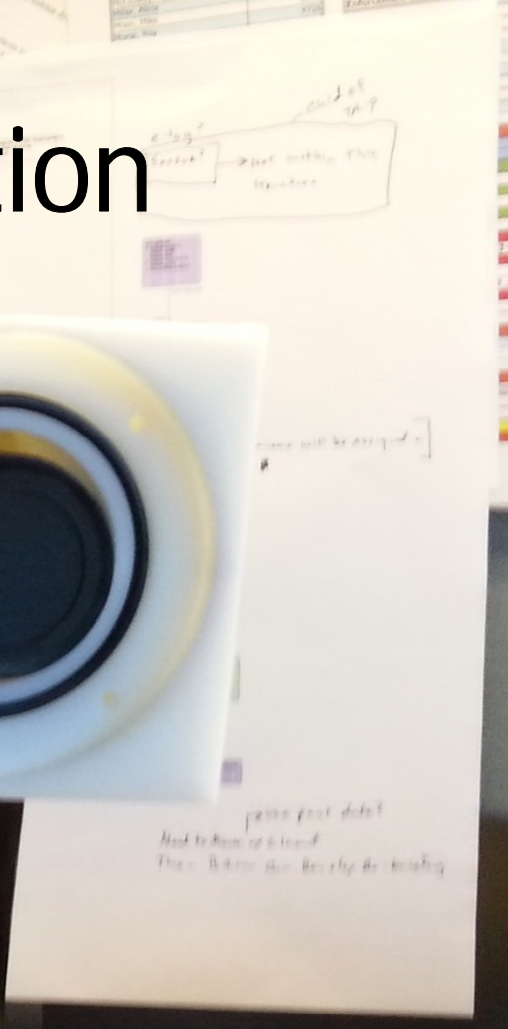
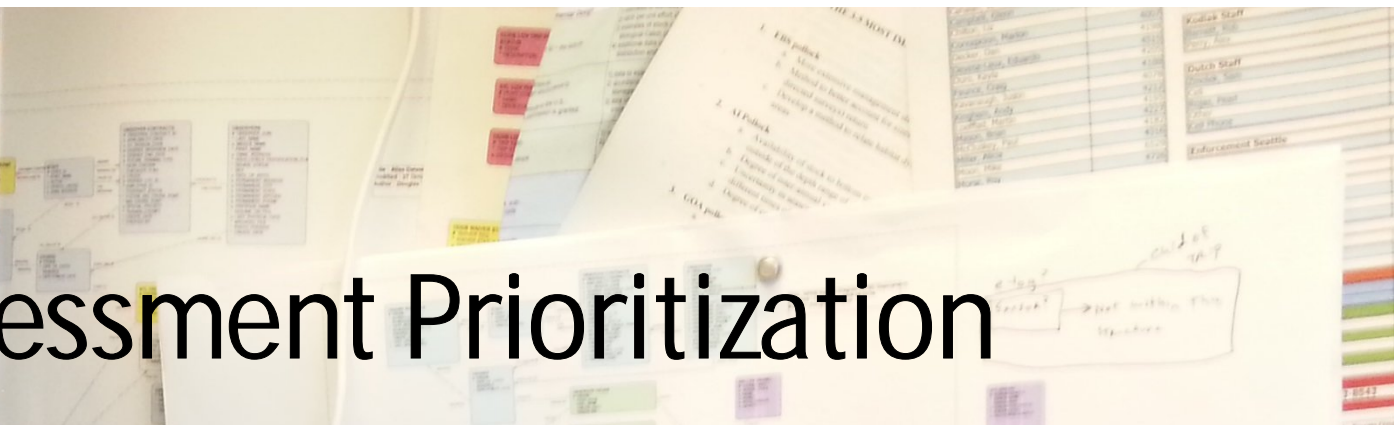
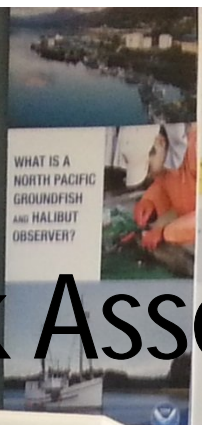
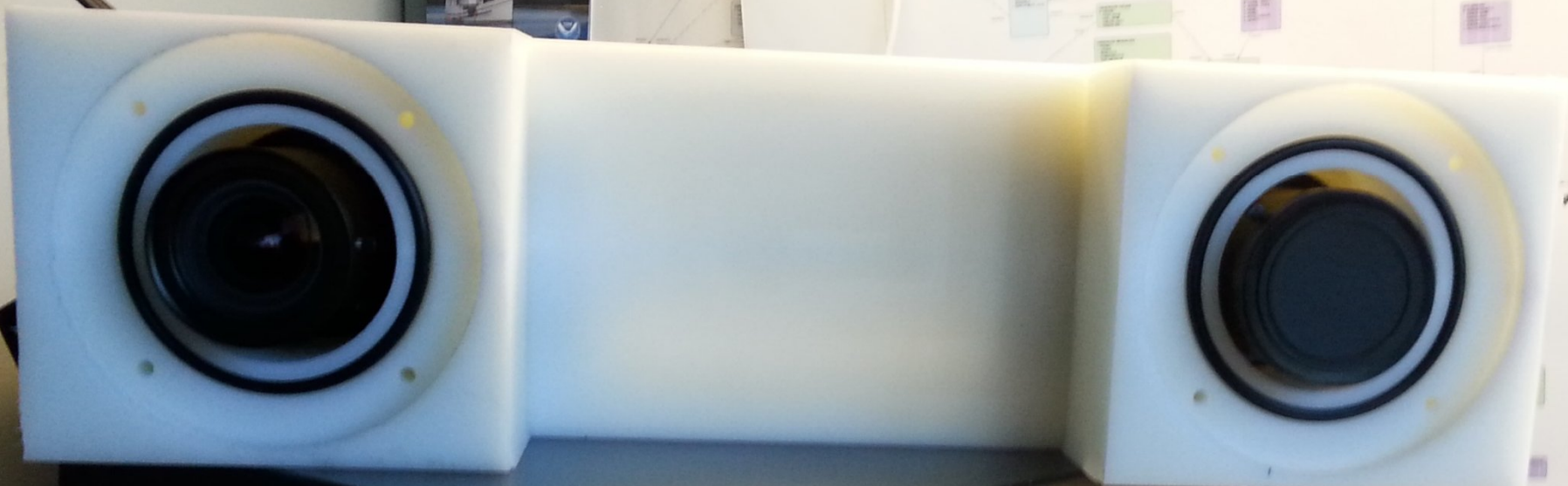
Explore the potential for analysts' scores to collapse to the moderate category, especially where data support is weak, during the second phase of the expert scoring process

Present the current method of rank compilation along with a method that includes triggers, could be a way to illustrate a range of conclusions.

Concern that in data-poor stocks, experts would be reluctant to assess high scores, leaving these stocks likely to be assessed too low on the vulnerability scoring

Need for the authors to develop strategies for the use of the vulnerability scores. Given the vulnerability scores, how should they be used to prioritize research or to develop alternate management strategies?

B-2 Stock Assessment Prioritization



B-2 Stock Assessment Prioritization

The prioritization framework is a subjective scoring scheme that considers the following attributes:

- Fishery importance
- Ecosystem importance
- Biological vulnerability to overfishing
- Preliminary information on fishery impact level (stock status) and
- Data availability to determine which of the stocks, if any, are both sufficiently at risk to warrant an assessment and have sufficient data to conduct a fuller assessment.

3-2 Stock Assessment Prioritization

The ranking scheme will be used to prioritize the need for an updated assessment in response to emerging new science that alters the perceived stock status. Given the attribute scores noted above the baseline frequency is increased or decreased.

However, the SSC cautions against using the results emerging from the prioritization framework to prioritize funding decisions among the regions.

For example, the commercial value of some minor fisheries in the Bering Sea may exceed the most valuable fisheries in other regions. Thus, the importance of bringing forward the best available information for commercial species managed by the NPFMC may justify a regional upward adjustment due to the need to provide information needed for the net benefit of the nation of the resources

B-2 Stock Assessment Prioritization

In 2016, the SSC recommends that analysts explore the implications of using the stock prioritization framework as well as an evaluation of the trade-offs associated with shifting the assessment frequency and type.

A key element of the evaluation should be consideration of how delays in the frequency of assessments would contribute to uncertainty in the biological reference points and their associated consequences or risk.

In particular, the SSC recognizes that many stocks are managed with fixed buffers between ABC and OFL which do not change in response to an increasing time trend in uncertainty. If possible this analysis should be completed in time for the September crab and groundfish Plan Team meetings.

Groundfish/Crab Economic SAFE



Groundfish/Crab Economic SAFE

The Economic SAFEs provide information on status and trends in social and economic dimensions of the groundfish and crab fisheries, to support evaluation of management and regulatory decision making.

- The SSC finds these updated market profiles highly informative and supports updating them every two to three years, so they remain accurate as product markets evolve.
- The SSC requests that concise summaries of information contained within the presentation, but not included in the Crab Economic SAFE document itself (e.g., data on the proportion of landings in all rationalized fisheries that is leased) be incorporated into the document.

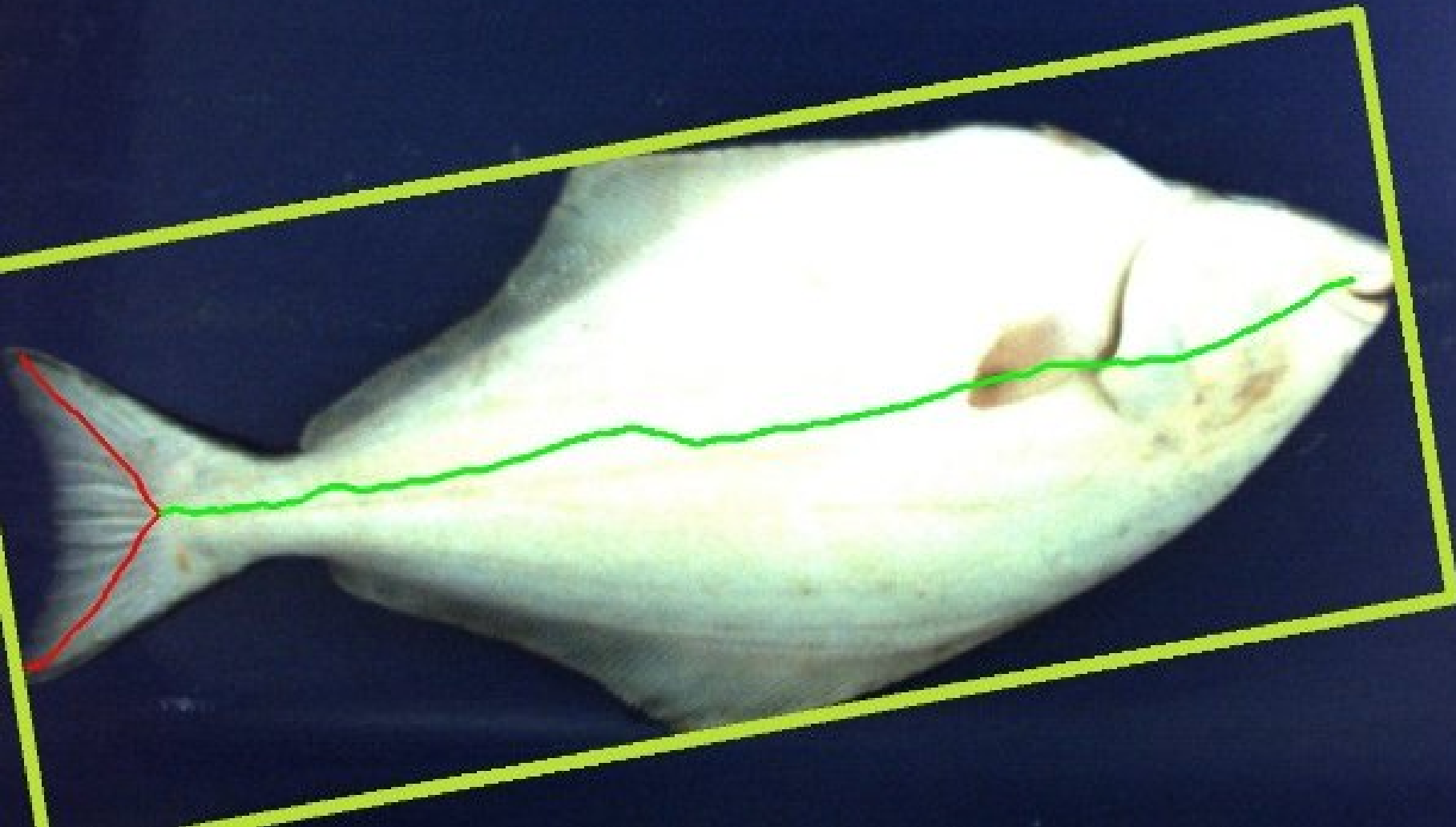
Groundfish/Crab Economic SAFE

The SSC emphasizes that data on human dimensions are absolutely critical to meeting the obligations imposed by MSA.

The SSC's February 2015 recommendation to explore the feasibility of developing a Human Dimensions SAFE, with specific focus on the social, cultural, and community facets of fishery management impacts, did not receive a satisfactory response.

The SSC recommends convening a workgroup to identify the types of human dimensions data and organizing frameworks that could go into a more comprehensive treatment of the human dimensions of fisheries in the EEZ off Alaska.

C-4 Halibut Management Framework



C-4 Halibut Management Framework

The SSC appreciates the Council's efforts to initiate this Framework and notes that the document captures many of the concerns we raised during review of the Halibut PSC RIR

- Proposed path will help address these concerns through improved communication with the IPHC, increased coordination of ongoing Council activities and by acknowledging that work on critical research and data needs is a priority

C-4 Halibut Management Framework

The SSC notes that the research and data needs described in Section 4 of the Framework are all important. The SSC agrees that the six topics selected by the council are all priority areas of research.

C-4 Halibut Management Framework

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The halibut stock assessment (IPHC), the expected spatiotemporal impacts of PSC on the halibut stock, and the Management Strategy Evaluation (MSE) specification; workflow is not currently described in the Framework and is clearly an important near-term goal.

- SSC Recommendations
- The Council request that the IPHC provide a conceptual model of the stock assessment workflow with explanations of how information about migration, natural mortality, size/weight at age, and DMRs are parameterized or influence the assessment.
- The Council request that the IPHC provide the SSC with a presentation about the MSE explaining the approach and workflow. This information will be important for the Abundance-Based Methods (ABM) working group as well.

t 2 C-4 Halibut Management Framework

Short-term progress on halibut PSC can be achieved by coordinating several ongoing Council and AFSC activities that are critical for understanding the impacts of information gaps on the Council's efforts to reduce PSC.

- Multi-Species Technical (MST) interactions model which is suitable for simulating and assessing the sensitivity of halibut population dynamics to migration, natural mortality, size/ weight at age, and DMR assumptions.
- The SSC recommends that the Council task their ABM and DMR working groups to collaborate with the MST modeling team. This will inform both short and long term needs. The SSC looks forward to workgroup reports when available.

Part 3 C-4 Halibut Management Framework

The SSC notes that there is immense opportunity with on-going industry-based research (i.e. deck-sorting EFP) to develop a tagging program (e.g. wire, PIT or CWT) which could produce important information on halibut movement, and the relationship between viability and discard mortality in the near-team. The SSC considers this a critical research priority.

C-4 Halibut Management Framework

Framework Additions and Modifications

- The SSC suggests that the research area Impacts of short term, medium term, and long term changes in the environment relative to key aspects of halibut life history be elevated to the list of selected priorities and modified.
- The SSC recommends adding IPHC and University studies to the list of NOAA studies that were in the appendices of the document.
- The SSC highlights the importance of socioeconomic data and notes that a substantial amount of work remains to be done to collect these for fishery dependent communities. In our discussion of the Groundfish Economic SAFE the SSC recommended a human-dimensions data workgroup.

C-4 Halibut Management Framework

Priority-Specific Comments

Natural mortality variability with age/size/density to understand the effects of bycatch, wastage, and discards on the spawning biomass.

- The SSC reiterates how difficult it is to estimate age-specific natural mortality rates. Measuring size-dependent natural mortality rates in the field is very difficult, especially when there are large migration events that may confound the problem. The SSC notes that research on this topic may not be cost-effective or prudent given the limited likelihood of achieving success.

C-4 Halibut Management Framework

Priority-Specific Comments

Migration of halibut between areas and associated implications for management decisions.

- SSC agrees that this is a priority research area but agrees with the Framework authors that tagging of halibut on the NMFS Bering Sea trawl survey (initiated in 2015) will help to establish whether migratory pathways observed in historical studies still indicate transfer from the Bering Sea to all other areas, but the sample sizes, and anticipated returns are unlikely to be large enough to produce quantitative movement rates

C-4 Halibut Management Framework

Priority-Specific Comments

Discard mortality rates in all fisheries, as well as overall bycatch estimation in all fisheries.

- The SSC notes that an interagency staff working group, in coordination with the groundfish Plan Teams, is developing a discussion paper/preliminary analysis for Council review in April 2016 with the potential for revisions to the existing DMRs for 2017.
- The SSC requests that the Council task the working group to determine the origins of the DMRs, the temporal changes, and justification of these changes.
- Efforts be expanded to include to assess evaluation of sample sizes, data collection and the use of advanced technology,

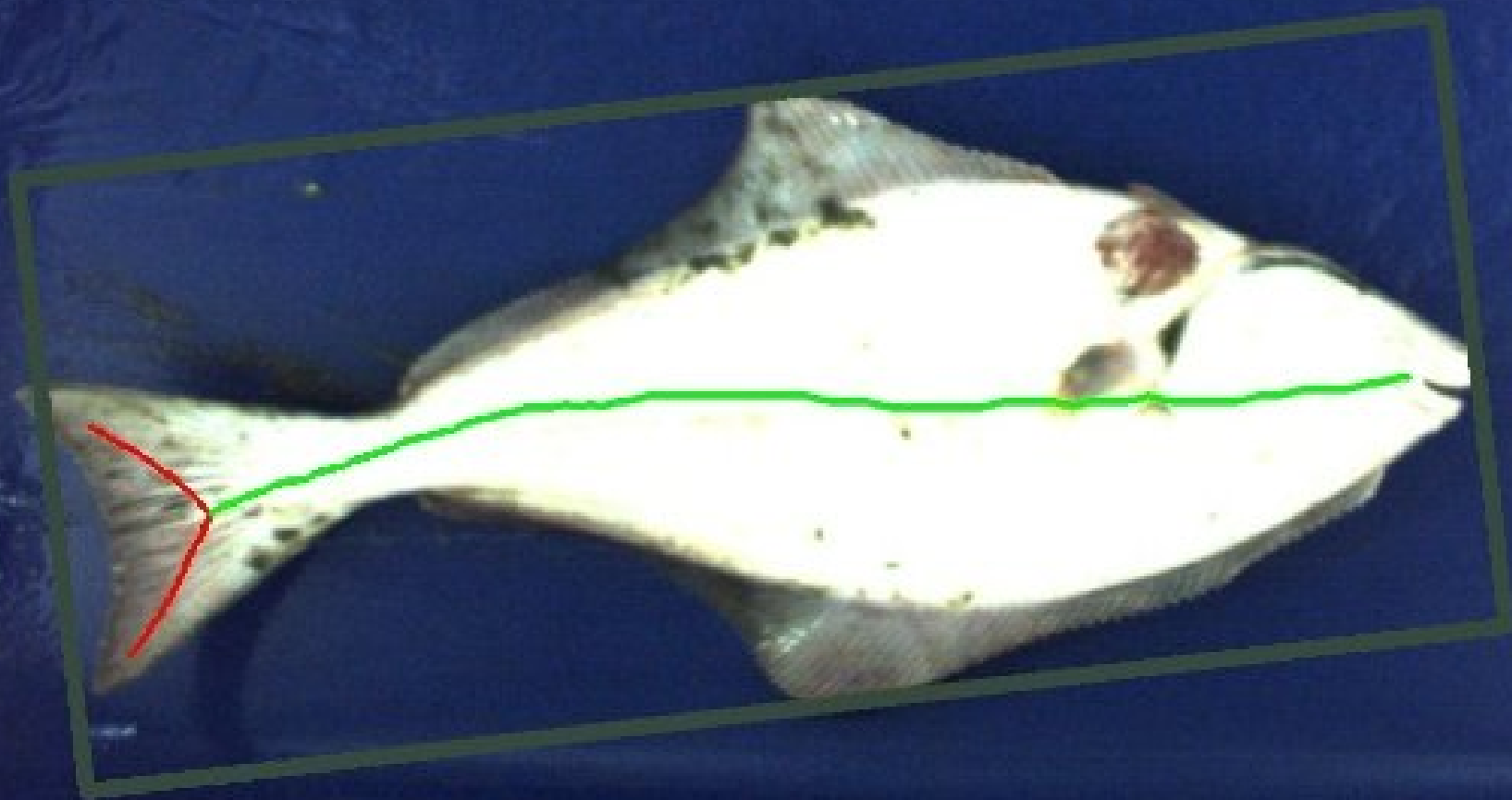
C-4 Halibut Management Framework

Priority-Specific Comments

Discard mortality rates in all fisheries, as well as overall bycatch estimation in all fisheries.

- Work to evaluate methods to reduce discard mortality (e.g. excluders, deck-sorting),
- Efforts to improve information about what is actually being discarded in all fisheries (size, sex, age, maturity, release mortality rates (e.g. sport fishery), etc).

C-5 Deck Sorting EFP



C-5 Deck Sorting EFP

The SSC notes that this effort to reduce halibut PSC mortality is consistent with a number of the objectives articulated in the North Pacific Fishery Management Council's draft Halibut Management Framework and other general Council objectives to reduce PSC.

The objective of the 2016 EFP is to field test modifications to the procedures and approaches used in the 2015 deck sorting EFP that:

- Move substantially toward implementation of deck sorting as an allowable fish handling mode for the non-pollock catcher-processor trawl fisheries (Amendment 80, CDQ, and Trawl Limited Access) in the Bering Sea;
- Simplify and improve on elements that worked from the 2015 project; and
- Address challenges and issues that arose in the 2015 EFP

C-5 Deck Sorting EFP

What's New?

The applicants propose using a single set of catch handling and accounting procedures during EFP operations, regardless of whether a particular tow is processed with deck sorting.

Three observers will be employed in lieu of sea samplers to accomplish deck sorting and below deck sampling of halibut that arrive in the processing factory.

C-5 Deck Sorting EFP

Critical information needs:

- The relationship between viability measures and discard mortality is fundamental to understand the efficacy of deck sorting to achieve halibut PSC mortality goals.
- Better understanding how broadly feasible deck sorting is among vessels in the fleet.
- Better understanding of what factors explain variability in observed viability of deck sorted halibut. To investigate these relationships, the SSC recommends that EFP vessels collect haul-level covariates
- Importance of vessel incentives in both participating in the EFP and in the long-term if ultimately operationalized. The SSC believes that if deck sorting is to be operationalized, it will likely involve a reduction of viability sampling. In that event, it will be necessary to understand how to maintain vessel incentives while ensuring accountability to maintain the desired viability of deck sorted halibut

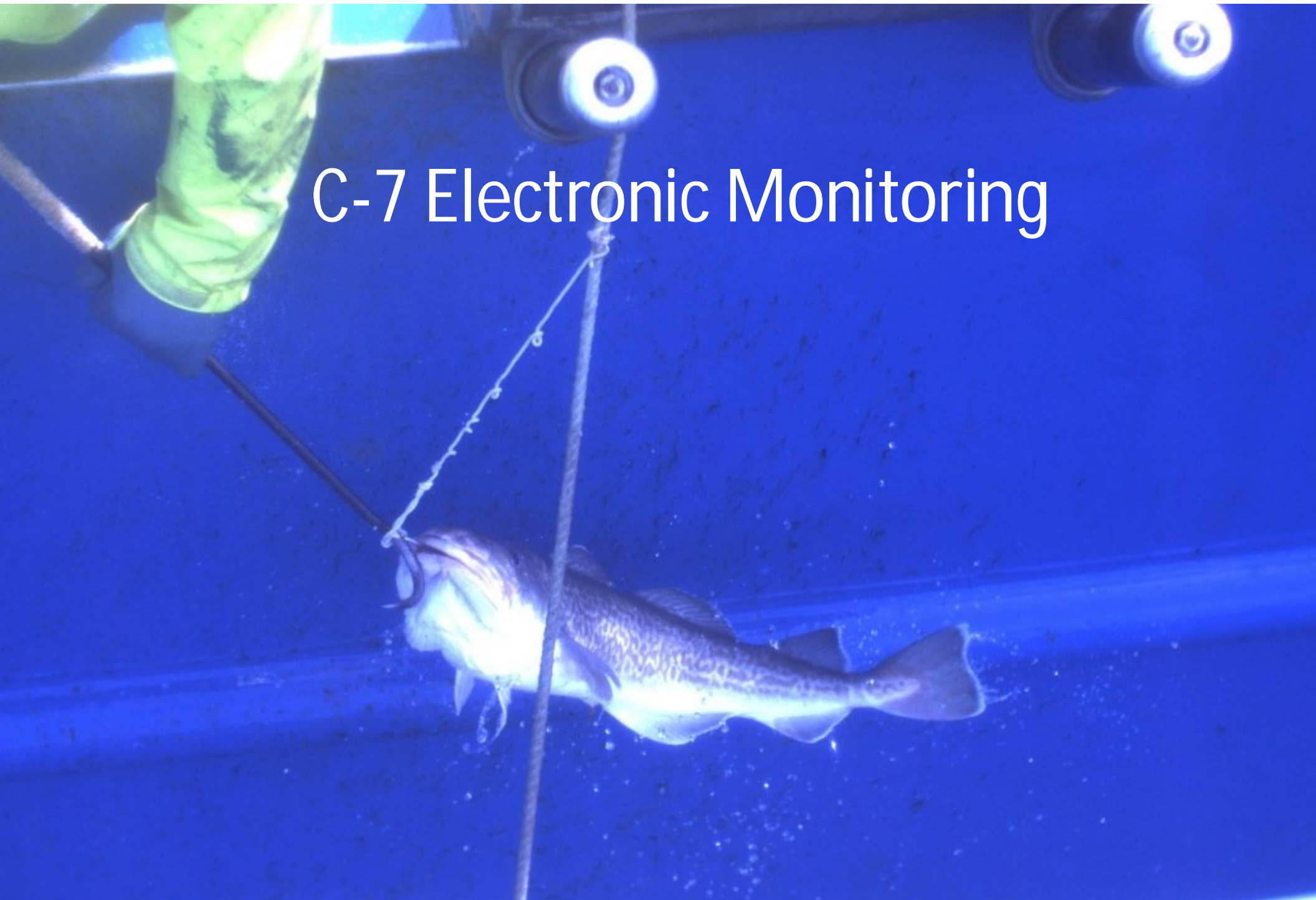
C-5 Deck Sorting EFP

The SSC agrees with the AFSC recommendation to approve this EFP application and commends the applicants for continuing to work towards reducing halibut mortality.

EFP research projects (3) support priority information needs to improve scientific understanding and management of halibut stocks

- development of improved electronic monitoring procedures to account for bycatch
- estimate survival of deck sorted halibut and to relate viability assessments with survival rate to support improved discard mortality rates.
- a proof-of-concept project is in development plans to use EFP vessels to support tag and release of deck sorted halibut to improve understanding of migration

C-7 Electronic Monitoring



7 Electronic Monitoring

The discussion paper provides a draft purpose and need statement, alternatives, and components of an EM program to be considered in the EM implementation analyses that were developed through extensive discussions by the EMWG

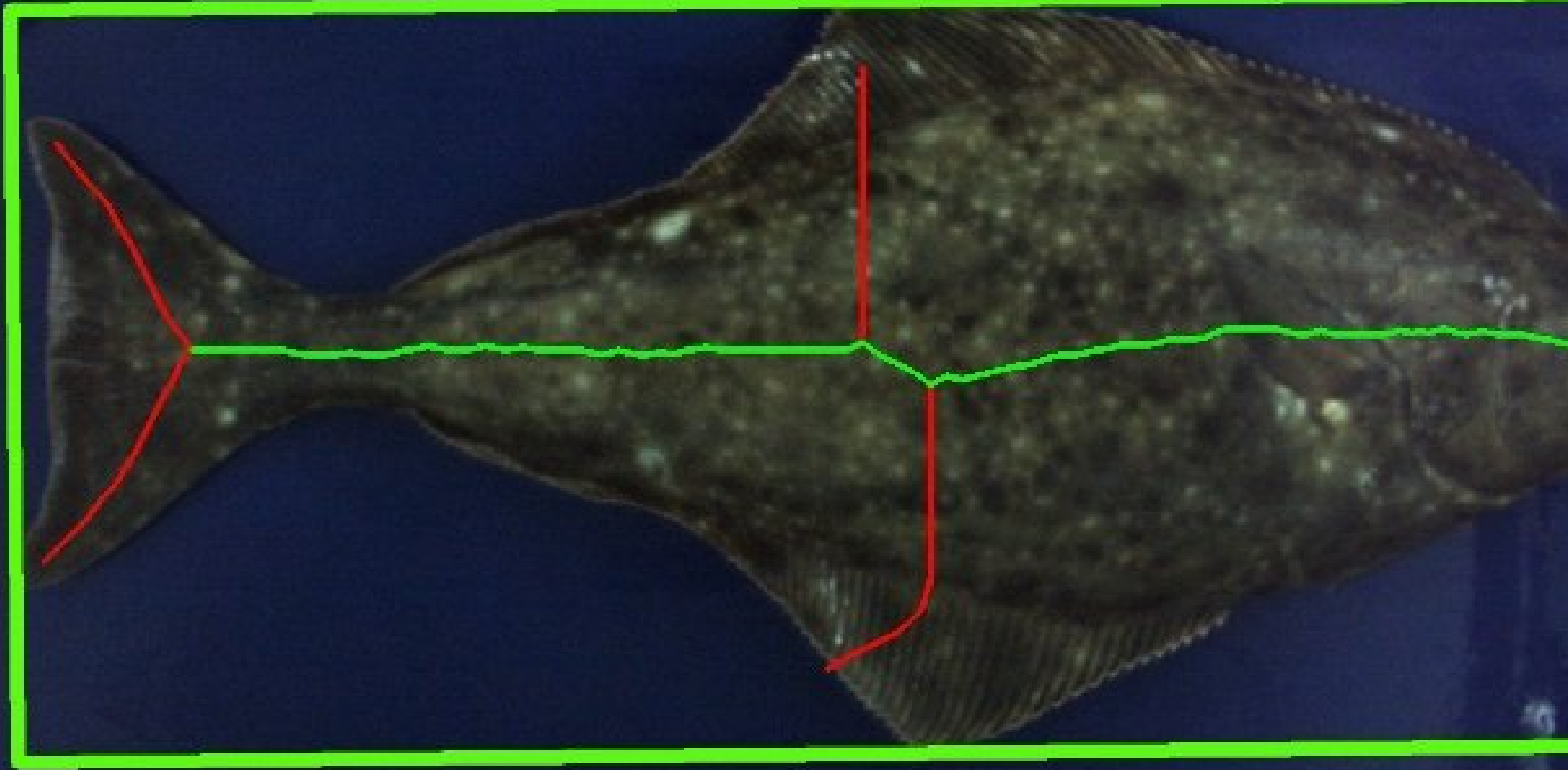
7 Electronic Monitoring

The SSC reiterates its October 2015 comments on these two important implementation issues:

It will be important to develop metrics to evaluate success or failure of EM gear deployment, EM gear operation and reliability, video data quantity and quality, and veracity of counts derived from analysis of video data. Performance metrics can then be reported on in the Annual Report of the Observer Program.

The SSC notes the importance of the EMWG continuing to consider how the loss of necessary biological information, accrued from human observers, will be replaced from sources such as EM collected data (e.g., stereo cameras to collect fish length) or information collected in other portions of the overall observer program.

-3 Sablefish/Halibut IFQ Review



-3 Sablefish/Halibut IFQ Review

The intent of the review is to evaluate the IFQ program with respect to the ten original policy objectives that the Council had intended to address through the program. This will be the first comprehensive review of the halibut/sablefish IFQ program since it was implemented 20 years ago.

A comprehensive workplan. is rather ambitious, and the analysts will need to make decisions about where to invest their analytical efforts.

The SSC suggests that issues related to entry opportunities and community impacts are of particular importance for this program review, given the nature of the Council's social objectives for the program

-3 Sablefish/Halibut IFQ Review

The SSC discussed three challenges for the program review

- First, many changes unrelated to the IFQ program have occurred since program implementation, and thus, the ability to rightfully ascribe any observed trends to the program itself is challenging
- Second, many of the ten original Council objectives are broad and not measurable.....SSC suggests that, whenever possible, the analysts state an expectation for a change in any metric that is consistent with a program objective, and then evaluate whether the metric changed in that particular direction
- Third, the analysts noted several challenges for evaluating the IFQ program due to data limitations... these data deficiencies highlight the importance of designing data collection strategies that facilitate retrospective program evaluations, which are a necessary component of evidence-based policy making

-3 Sablefish/Halibut IFQ Review

The SSC Recommends

the analysts include a section in the program review that highlights particular issues related to the program that would benefit from additional research in the future.

the analysts include a section in the program review that highlights particular data deficiencies and gaps in data collection that are important for evaluating the impacts of the IFQ program

the program review also include a discussion of any spillover effects into non-IFQ fisheries as a result of the program.

Questions

