

IPHC Research Advisory Board meeting: October 14, 2005

Attending: David Boyes, Arne Fuglvog, Gary Robinson, John Woodruff, Rob Wurm
Absent: Dean Adams (traveling), Gary Williamson (fishing)

A summary of preliminary 2005 research results was distributed at the meeting.

Introduction

Staff and the Board re-acquainted themselves. Bruce outlined the major items upon which he would like the Board's views and then asked for expressions on topics from the Board. The staff items were:

1. Bering Sea fish – why are we getting so few tags back from the Bering Sea? What behaviours or features of the area may be contributing to this lack of recoveries and how might the problem be addressed?
2. Restitution funds from the *F/V Unimak* court settlement. What is the best way to use these funds?
3. Bill Clark will review the report of the working group looking at research needs in understanding the potential impact of winter fishery.

The Board then contributed the following topics for discussion or consideration.

4. A need for more data and better understanding of halibut stocks in the Bering Sea.
5. Rockfish bycatch in halibut fisheries. Not just an issue in B.C. fisheries, problems in southeast Alaska and in Area 2A. Need tools to identify hot spots for the fleet so as to minimize interactions between halibut fishing and rockfish bycatch. Likely to be a determining factor in how halibut are fished.
6. Dave Boyes to review integrated management proposal in BC.
7. Marine mammal depredation on halibut/sablefish caught on longline gear.
8. Swivel vs. non-swivel gear with regard to retention of rockfish and effects on halibut CPUE.
9. Enhanced IPHC charters to assist in understanding rockfish distribution and abundance.
10. Season extension.
11. Stock identification and genetic structure.
12. Seasonal aspects of CPUE in Area 2B.
13. Stock dynamics – predictability, robustness of harvest policy.
14. Allocation and accounting for halibut between recreational and commercial sectors.
15. Savings gear in new fisheries with halibut as bycatch.
16. Relative valuation of recreational and commercial fisheries.
17. Area 4B halibut
18. Mercury in halibut.
19. Climate effects.
20. Ecosystem approach to management.

Discussion on topics

1. **Season extension research.** Bill reported on the conclusions and recommendations of the season extension research working group. The report examined some alternative methods of

- 2. Estimating the winter distribution of halibut.** The staff recommended an experimental season extension in order to learn about actual winter fishery impacts (from recoveries of summer released PIT tags) rather than just winter distribution. Releasing one or more groups of satellite (PAT) tags would provide direct estimates of winter distribution but not of fishery impacts. In principle winter marking would also provide information about winter distribution, but it would not achieve the same comprehensive distribution of tags as achieved on the summer survey tagging and at best it would repeat previous work at great cost, so the report recommends against it. The report recognizes that some significant administrative changes would be required for season extension, which may require up to two years of advance planning, but that does not change the recommendations on what will be required to estimate winter distribution of halibut.

While the majority of discussion concerned interception of Area 2B fish by Area 2C winter fisheries, it was noted that migration between Areas 3A and 3B are also significant. The magnitude of impacts would be determined by the magnitude of the fisheries. Fishing 10-20% of the quotas in the winter would impact summer biomass distribution. It was noted that, for Area 2C, a substantial proportion of the overall quota share holdings is by vessels with less than 3,000 lbs, hence smaller vessels. These vessels would be unlikely to fish in the winter. The Board felt that vessels would fish in Area 3A because market access in the winter would be better. The Board made several comments on the recommendations of the report: in general, supported experimental winter fishery on summer-applied PIT tags; did not support widespread use of PAT tags for this purpose because would not yield information on fishery impacts; increase scan rates for winter-caught fish to maximize returns; if additional money needed, decrease expenditures on PAT tags; make 100% scanning mandatory; noted that winter participation highly uncertain and that smaller boats and ports unlikely to participate.

- 3. Bering Sea fish.** The Board spent a great deal of time on this issue. The heart of the issue is the opposed signals from the PIT tag recoveries (extremely high biomass) and the survey/commercial catch rates (finite and declining biomass). Potential reasons for low recovery rates were examined: poor scanning, low scanning rates, emigration of fish, unknown source of mortality, incomplete mixing of fish. Noted that scanning in Adak should be a priority to improve scanning percentage and scanning of fish from areas that might only deliver to Adak. PAT tags that have been applied in Area 4B do not support emigration but might suggest limited mixing, however, overlap of fishery with tag application sites is reasonable (although not perfect) so we should greater numbers of recoveries. We explored the issue of incomplete mixing and a more focused application of tags to coincide with the distribution of the fishery but it was acknowledged that this would not yield meaningful information on exploitation rates. It was also noted that, in trawlable areas, the NMFS trawl surveys are showing the same depletions as the longline catch rates. No solutions were identified and Board members will discuss this conundrum with colleagues and report any new suggestions.
- 4. Restitution funds from *F/V Unimak*.** Bruce reported on these funds and current dispositions. While approximately \$50k has been committed to a multi-camera study on fish movement on a head and gut trawl vessel, the bulk of these funds have not yet been

committed. Board members felt that this money should be directed to the Bering Sea because the infractions involved Bering Sea bycatch. Most suggestions were to spend this money on additional PIT tagging studies, with PAT tags as a supplemental expenditure, particularly to understand Areas 4A and 4B. It was also acknowledged that funding could be used to complete the analysis of genetic samples, as a means of understanding stock structure in the Bering Sea.

5. **Better understanding of Bering Sea fish** – covered under item 2.
6. **Rockfish bycatch.** The Board felt that this was an extremely high priority issue because of the likely impact of rockfish restrictions on halibut fisheries. The Board noted that rationalization of Gulf of Alaska fisheries and integrated management of groundfish fisheries in BC were both steps in the direction of full accountability and management. It was noted that the IPHC could play a major role in detecting and reporting rockfish hot spots via survey fishing. Several Board members suggested that the Commission could act as a clearing house for logbook reporting of rockfish occurrence. However, staff pointed out that voluntary reporting of bycatch has not proved successful in the past because there are multiple reasons why harvesters would not participate in such reporting (e.g., desire to protect knowledge of low occurrence areas for personal benefit, unwillingness to acknowledge occurrence). If mandatory monitoring occurs, it could provide a vehicle to examine the potential of harvester-based reporting. Noting that IPHC and WDFW are cooperating on a grant to expand the IPHC survey in Area 2A to cover more rockfish areas for stock assessment purposes, the Board suggested that the Pacific Halibut Management Association and DFO explore the potential to expand the Area 2B IPHC survey in similar fashion. The increased data could augment the limited data available currently, thereby improving rockfish assessments. Harvesters believe some of the rockfish assessments are more conservative because of lack of data.
7. **Integrated management of groundfish in BC.** Dave Boyes reported on the integrated management initiative in BC. Basically it involves 100% on-board monitoring (mainly cameras), logbook reporting of all catch (to be used to determine the degree of review of the monitoring data), full accountability for all catch, sector autonomy for those species traditionally caught by each sector; tradeable quotas for all species; no new directed fisheries. It is an innovative program with an ambitious timetable (April 1st, 2006 for implementation). Bruce noted that such a program was a necessary precursor for any ecosystem approach to management. The Board was extremely interested in this initiative and requested information and progress reports in future. Information on the project can be obtained at: <http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/consultations/groundfishin/V2%20June%2023%20Pilot%20Integration%20Proposal.pdf>
8. **Marine mammal depredation on halibut/sablefish.** The Board again noted this as a serious issue in the Bering Sea and increasing in the Gulf of Alaska and off British Columbia. The Board also commented that the right whale savings area could have an impact on halibut fisheries. The very high strike rate for these whales was noted by Alaskan harvesters. Bruce and Steve Kaimmer reported that there is a proposal to look at alternate

gear types, particularly pots, for both marine mammal and rockfish issues. Unfortunately, the NMFS Newport lab has fully committed its lab space for the next research cycle. The use of Didson sonar to examine behaviour of halibut and rockfish around traps was also discussed. Concerning the effect of whale predation on IPHC surveys, Bruce noted that this has not been a serious issue and charter skippers have employed several tactics, generally involving the timing of fishing, to get stations fished with minimal interference. Bruce said we would report on how it had impacted IPHC surveys, if at all.

9. **Swivel vs. non-swivel gear.** The Board wants staff to examine the effects of swivels on catch rates of halibut and bycatch species with a designed experiment. There is concern that agencies are using different gear for surveys of rockfish and obtaining biased data, which are being used to impact halibut fisheries. A secondary concern is the comparability of survey and commercial catch rates, although staff explained the independence of these indices in the assessment. The Board also wants staff to continue reporting on swivel gear presence and to incorporate examination of Perlon gangions as a component of the experiment.
10. **Enhanced IPHC charters re rockfish issues and 10. Season extension.** Covered previously.
11. **Stock structure and genetics data.** Tim and Bruce noted the otolith elemental and genetics projects underway. Noting the need to complete the genetics sample processing and analysis, Board members iterated that the *Unimak* restitution monies be used to support this work. In general, the Board felt the staff was undertaking appropriate studies regarding this item.
12. **Seasonal aspects of catch rates in BC.** Board members noted the strong seasonal effect on catch rates this year. In particular, they noted the poor catch rates later in the season and believed the catch limit in BC should be reduced. Bruce said that we would have to see if the assessment suggests that catch rates reflect lowered stock abundance and that catch rates do typically vary throughout the year in a fairly regular pattern, but that lower catch rates late in the year were somewhat unusual.
13. **Stock dynamics, predictability, robustness.** Bruce commented that the development of robust harvest policy, incorporating an understanding of stock dynamics, is an ongoing task for staff. He reviewed the work that Steven Hare is doing on evaluation of management strategies and the inclusion of medium-term predictions in our presentation of assessment results.
14. **Savings gear in new fisheries.** The Board is concerned about new fisheries for arrowtooth flounder in BC and Alaska and the potential for increased bycatch of halibut. The NMFS work on trawl excluders was noted as being effective research on this issue. While it was acknowledged that there are bycatch caps in the Alaskan and BC fisheries, the Board is extremely concerned about increased pressure to allow greater halibut bycatch and wants the staff to stay on top of the bycatch issue with NMFS and DFO.
15. **Relative valuation of recreational and commercial fisheries.** The Board wishes to see some objective reporting of the relative valuation of the two sectors for halibut. Bruce

pointed out the problem of getting an acceptable valuation framework, since economists disagree on how to conduct a common valuation. One of the key concerns is accurate catch accounting by the sport sector. While commercial landings are fully monitored, recreational landings are subject only to estimation and not complete census. It was noted that a common reporting framework was highly desirable and while the Board may not like the answers, they would like to see the analysis. Bruce said that the Commission does not have a defined mandate for economic studies but that this would be raised with the Commissioners.

16. **Area 4B halibut.** Covered previously.

17. **Mercury in halibut.** The Board acknowledged the positive work of staff to influence the sample collection for halibut used in mercury analysis, so as to achieve representative sampling. However, the Board thinks the staff should do more to publicize the results showing safe levels in halibut and counter the false claims seen in the popular press.

18. **Climate effects.** Board members want the staff to be working to assess and predict the impacts of climate change on the halibut resource. Bruce explained some of the work that Steven Hare has done and how it is incorporated into development of our harvest policy. In addition, Steven works closely with fisheries oceanographers in other agencies concerning climate and ecosystem effects on fish dynamics.

19. **Ecosystem management.** Similar to 18., the staff is working with other agencies to integrate our knowledge with other ecosystem studies. The Board noted that we have not undertaken any food web studies for halibut but Bruce noted that we do cooperate with existing NMFS programs looking at biomass dynamics of co-occurring species including halibut. In general, bottom-up modeling of food webs (e.g. ICES studies in the Atlantic) have provided very limited insight into factors affecting species dynamics. Species dynamics tend to be driven by physical forcing factors and ecological dynamics are secondary effects of these environmental forcing factors. The Board wants the staff to continue close involvement with existing studies to bring as much information to bear on understanding halibut as is possible.

Staff will present this report to the Commission at the Annual Meeting in Seattle.