Draft RAB Meeting Minutes – Monday, November 10, 2008

The 2008 RAB meeting took place on Monday, November 10, 2008 at the Watertown Hotel in Seattle. Members of the RAB present at the meeting were:

Lu Dochterman	David Beggs	Brad Mirau
David Boyes	Jim Hubbard	Rob Wurm

Regrets: Richie Shaw, Tony Blore, John Woodruff

IPHC staff present at the meeting were:

Erica Anderson	Bruce Leaman	Gregg Williams
Claude Dykstra	Tracee Geernaert	Lauri Sadorus
Linda Gibbs	Eric Soderlund	
Heather Gilroy	Aregash Tesfatsion	
Kirsten Gravel	Robert Tobin	
Steve Kaimmer	Huyen Tran	
Thomas Kong	Ray Webster	

Review of Ongoing Research

The Board was aware of most of the projects undertaken by the staff and a summary of research was distributed prior to the meeting. We reviewed two projects in detail: the snap/swivel experiment; and, the removal experiment. Action items identified in discussions are noted in bold type.

Snap/swivel experiment

Steve Kaimmer presented the preliminary results of the experiment conducted in summer 2008 in B.C. The experiment involved 288 skates of gear set in 8-skate sets of paired gear. In short, there was a small and non-significant effect of swivels on CPUE for legal-sized fish (80.8 vs. 76.6 lb/skate), although there was a marginally significant reduction in the number of legal-sized and sublegal sized fish on swivel gear. There was likewise very little effect on bycatch composition between the two gears. There was also no effect of the direction of threading the hook, since the swivel on the hook negates the previously-shown advantage of front-threading the gangion to the hook.

RAB members had noted an advantage in CPUE (lb/skate) when doing previous comparisons of swivel/non-swivel gear. Similarly, a Mustad study had shown an approximately 15% improvement in catch rate with swivels. The RAB discussion of the results of this experiment suggested that the advantage of swivels may not be evident in shallow water because there is relatively little time for hooked fish to spin the gear when hauling from shallow water. **Since the advantage of swivel gear is perceived to be less lost fish due to spinning up the gangions, the relative advantage of the gear might only be seen with deeper sets.**

Removal experiment

Ray Webster reviewed the preliminary results of the removal experiment. The sampling was conducted on five sets of four-station clusters during the 2008 IPHC grid survey in the Yakutat region. Sampling was conducted repeatedly over a five-day period, and all offal and discarded catch was removed from the sampling areas. In summary, the experiment did not show a decline in catch rates that could be used to estimate density, hence catchability. Catch rates declined only marginally during the experiment and increased in some instances. The interpretation of results is that migration rates of fish into the experimental area during the course of the experiment was very high, perhaps on the order of complete replacement of removed individuals (average replacement value was estimated to be 0.96). Neither the percentage of baits returned nor the percentage of hooks catching other species changed during the course of the experiment. The presence of either of those effects could have indicated a reduction in halibut density but neither effect occurred. The preliminary conclusion of the experiment is that removal sampling does not appear to be a feasible method to estimate density or catchability, in the presence of such high localized movement rates.

RAB members queried whether the size of fish caught on the experiment changed. Dr. Webster noted that the size frequency information was still being analyzed but not effect was evident as yet. [Note added in edit stage: the complete analysis showed no effect of removals on size of fish in the catch over the course of the experiment]. There was additional discussion on effects of tidal differences, 'pasture' vs. 'game trail' fishing spots and their relative depletion probabilities, timing of day, etc. **The RAB acknowledged that the underlying process of localized fish movement was exceedingly complex and site specific. As such, an experiment might have to be of a very large scale (both temporally and spatially) to detect any potential differences and even then might be unlikely to provide information of sufficient precision to be useful.**

Size limits in the commercial fishery

The RAB seguéd into a discussion of the value of the current size limit and the potential for greater yield with a smaller, or no, size limit. The staff's previous work on this issue was reviewed and it was noted that no size limit would require re-definition of the EBio and associated harvest rate. Dr. Hare's work presented at the 2008 Annual Meeting indicated that the optimal harvest rate would be about 0.15, compared with the current rate of 0.20 in Areas 2A-4A, and that the associated yield would be identical to current yield. However, average weight of fish in the catch would decrease, assuming there is no highgrading, and there would be greater concerns about highgrading and the consequent negative effects on the EBio. Staff was also concerned about the loss in reproductive value to the stock that would result from a shifted size composition of the harvest. While more males would be caught in most areas, with no size limit, it would also mean greater mortality on immature females because they mature at larger sizes than males. At this point, the impacts on reproductive capacity of the stock is an overriding concern for the staff. Area 2B harvesters noted that highgrading would not be an issue in Area 2B because of Electronic Monitoring on all vessels and required retention of all legal-sized fish.

Issues Raised by RAB Members in Correspondence

Whale depredation

RAB harvesters noted the continued problem of depredation by both killer and sperm whales. It was noted that IPHC staff have been collecting some voluntary logbook information on whale sightings in AK but nothing was being done in B.C. It was agreed that collection of information was a first step to understanding the magnitude of the problem. Bruce noted that the mortality resulting from the depredation would be detected by the stock assessment but not attributed correctly to 'fishing' mortality. While the yield would be correctly assessed, the stock would appear less productive than it would appear if depredation were not occurring. He also noted that missing 'harvest' might also contribute to the retrospective behaviour in the stock assessment model fits.

It was suggested that the IPHC could act as a clearing house for whale avoidance/mitigation information and staff agreed to look into doing so. It was also noted that the U. of Alaska has received a permit to experiment with acoustic deterrence of whale depredation and RAB would like to be apprised of results from this project.

'Pus' Pockets

Processors noted a lower incidence of pus pockets this year but did not have an explanation for it. Staff had supplied contact information for the ADF&G diagnostic lab in Palmer, AK, for potential analysis but processors were unable to provide samples in 2008. **Brad Mirau said he would pursue this during 2009 and attempt to have some samples analyzed.**

Chalky halibut

Processors noted an earlier development of chalky fish this year compared with the last several years, and increased claims. However, they also noted a linkage between higher chalk claims at the retail/wholesale level with higher fish prices and softer market demand. Staff was not aware of any additional environmental factors that might result in higher chalk occurrence in 2008. It was also noted that changing or eliminating the size limit in the commercial fishery would likely lead to higher chalk occurrence because of the higher proportion of males (which have higher chalk occurrence) in the catch.

Rockfish Assessments and Consequences of Integration

Area 2B harvesters and processors noted that the conduct of the halibut fishery is highly dependent on rockfish abundance, hence on the quality of rockfish assessments. They noted that DFO's information base for the rockfish assessments was very poor and of limited relevance given the change in the distribution of fishing associated with integration and rockfish avoidance. There has been a major shift in the distribution of fishing because the small quantity of some rockfish species available for harvest results in a major constraint on fishing activity. **Staff agreed to look at the distribution of halibut fishing over time (including pre-IVQ, pre- and post-integration IVQ fishing)**

and depth by IPHC statistical area, in an attempt to document such a change in distribution.
Staff was also asked whether the Commission would be willing to contribute money to the conduct of a PHMA-type survey for rockfishes in B.C. Bruce replied that the Commission is already conducting detailed sampling of rockfishes on the IPHC grid survey in B.C. and that the responsibility for rockfish assessment rests with DFO, so he considered it unlikely.

Naikun Wind Farm in Hecate Strait

David Beggs again raised the issue of a proposed wind farm on Dogfish Bank off the east coast of the Queen Charlotte Islands. This issue has been brought before the Canadian Halibut Advisory Board (HAB) but there is little information on potential impacts available. He is concerned primarily over the potential impacts on halibut migration associated with the electromagnetic field from the transmission cables. While these cables are proposed to be buried, there has been no study of potential impacts on migratory behaviour. **Bruce agreed to raise the issue of impacts of electromagnetic fields with colleagues at the National Marine Fisheries Service lab in Newport, OR, with whom the staff has conducted previous joint research.** They have a very well-equipped lab for investigation of fish behaviour and may be interested in conducting such research.

Gwaii Haanas Closed Areas

There is a proposal for a major marine reserve associated with the Gwaii Haanas National Park off the lower portion of Moresby Island, in the Queen Charlotte Islands. The Canadian HAB wanted to know if the staff could estimate the impact of various percentages of closed areas. **Staff replied that we had been contacted by Parks Canada and have agreed to make information on removals by the commercial fishery available on a scale that would not compromise confidentiality.** Bruce expressed some concern about the lack of detail and input on the MARXAN analysis being conducted by Parks Canada. This analysis is one example of a class of analyses called Multi-Attribute Utility Analysis (MAUA) and their output of impact depends very strongly on the assumptions about utility and value used as inputs. These are the driving features of MAUA and must reflect the values of participants. **He urged the industry to become strongly involved with the definition of these features, so that the analysis is not a 'black box' wherein participants deal only with outputs, rather than inputs. Staff agreed to provide the data to the PHMA, as well as Parks Canada.**

IPHC Research Proposed for 2009

Coastwide Catchability Experiment

Staff and the RAB undertook an extensive discussion of the issue of catchability and potential methods to assess whether catchability of fish to the IPHC survey gear was similar or the same across areas. This issue is important because the survey-based apportionment of coastwide EBio rests on an assumption that catchability is sufficiently similar across IPHC Regulatory Areas that the survey CPUE can be used as an index of

relative abundance across these areas. Catchability is defined as the proportion of the stock caught by a unit of fishing effort. In real terms, the issue of catchability is whether, for a given density of halibut on the grounds, the survey fishing results in the same CPUE for that density no matter where that density occurs. If the catchability of the survey gear across all areas is equal or nearly so, then the survey CPUE will be an accurate indicator of halibut density and it can be used (in conjunction with a measure of bottom area) to apportion the coastwide EBio into Regulatory Area EBio, hence catch limits.

The information currently available with which to estimate catchability is highly variable but, in the staff's view, does not indicate any systematic difference in catchability across the coast. However, the staff acknowledges that the data are variable and subject to dispute. Therefore, the staff believes that it is worthwhile to explore the possibility of conducting a coastwide experiment to determine whether catchability is indeed similar in all areas. However, we also recognize that any such experiment must be carefully designed to maximize the potential for results, or else we will simply end up with the same sort of variable results which are currently unconvincing to some.

Bruce outlined the limitations of previous methods of examining this issue. In particular, trawl – setline comparisons result in highly variable data and are not applicable across all areas of the coast. For example, many areas have a large component of untrawlable bottom so the comparisons could not occur in those areas, even though longline fishing occurs in the areas. Any comparisons that exclude these areas would therefore be biased. It is therefore likely that the approach to conducting such an experiment will need to rely on different methods and/or technologies than have been employed in the past.

The RAB and staff considered several potential approaches:

1. Tide-specific sequential fishing.
2. Visual or acoustic censusing of density using remotely operated vehicles.
3. Variable spacing of gear to estimate density.
4. Acoustic tags in conjunction with fishing and acoustic surveys.
5. A Joly-Seber capture-recapture experiment.
6. A removal – re-seeding – fishing experiment.

There was a great deal of discussion on these items and all agreed that any experiment involving fishing as a primary data source for analysis would require a number of sets to overcome the natural variability in the fishing process. In addition, since we wish to estimate catchability coastwide, the experiment would need to be conducted in all areas – a daunting prospect. Technological approaches may have considerable merit but the underlying capabilities of the technology must be amenable to wide-area coverage within reasonable time frames. While no uniquely strong candidate emerged from the discussions, experiments involving only fishing were judged to be less likely to succeed than experiments using combinations of technologies.

Electronic logbooks

The staff is working with other agencies in looking at the use of electronic logbooks as a standard form of recording for logbook information and wished to hear RAB views on

the acceptability of such an approach. Most harvesters were in favour of such an approach and some commented that it could result in considerable cost-savings in terms of agency review of information for compliance monitoring. These discussions encouraged the staff to continue involvement in this project.

Review of Apportionment Workshop

Bruce provided a brief review of the workshop held in September and referred the RAB to the summary of the workshop, as well as the staff's responses to the significant questions and comments that arose from it. That information, as well as all presentation material, is available on the IPHC website at:
http://www.iphc.washington.edu/halcom/meetings/workshop2008/baw2008.htm