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## IPHC MANAGEMENT STRATEGY ADVISORY BOARD SUMMARY 2013-2017

The Management Strategy Advisory Board (MSAB) was established in 2013 to oversee and advise the IPHC Secretariat (IPHC staff) on the Management Strategy Evaluation (MSE) process.

### Management Strategy Evaluation (MSE)

- An MSE assists fishery managers and stakeholders in identifying and evaluating management procedures (e.g. harvest control rules, data collection). A simulation framework used in MSE allows us to account for uncertainty in scenarios we cannot control (e.g. environmental variation), and in management procedures we attempt to control (e.g. catch limits).
- The objective of MSE is not to identify a single optimal management strategy, but to inform fishery managers and stakeholders on the trade-offs inherent in alternative management procedures. Further information on MSE is available on the IPHC website (<http://www.iphc.info/Pages/IPHC-MSE-References.aspx>). The ICES ASC 2013 plenary lecture (Dr. Doug Butterworth) is also useful ([https://www.youtube.com/watch?v=S\\_Q6jvffqnc](https://www.youtube.com/watch?v=S_Q6jvffqnc)). An MSE process involves the following:
  1. defining fishery goals and objectives with the involvement of stakeholders and managers;
  2. identifying management procedures to evaluate;
  3. simulating a fish population under different scenarios, and simulating harvesting fish according to the management procedures;
  4. evaluating and presenting the results in a way that examines trade-offs;
  5. implementing a chosen set of management procedures to the actual fishery; and,
  6. repeating this process in the future in case of changes in objectives, assumptions, expectations, or outcomes.
- It is important to recognize the distinction between a stock assessment and MSE; although related, they are separate processes. Stock assessments guide annual decision making while MSE is a process of evaluating the consequences of alternative ways of managing a fishery resource against stakeholders' objectives for the fishery.

### IPHC Management Strategy Advisory Board (MSAB)

- The MSAB provides stakeholder comment and input into the IPHC MSE process. The MSAB is a consultative body whose mandate is limited to this process; any outputs from the MSAB and the IPHC MSE process will be vetted through the normal IPHC consultation structure, which includes the Interim and Annual Meetings, the Processor Advisory Board (formerly the Processor Advisory Group), the Conference Board, and the Scientific Review Board (SRB). Final decision-making authority rests with the IPHC Commissioners.



- The MSAB is comprised of members representing viewpoints from harvesters (commercial, sport, and subsistence), fisheries managers, processors, IPHC Staff, and science advisors. Other experts as required may be represented. The MSAB normally meets twice a year, usually in May and October, and is co-chaired by two members, one from each country. MSAB governed by a Terms of Reference and Rules of Procedure that is available on the IPHC MSAB website (<http://iphc.int/documents/basictext/IPHC-2017-Rules-of-Procedure.pdf>).
- MSAB recognizes Pacific halibut mortalities occur in both the directed fishery and in other fisheries where they are incidentally caught. MSAB agreed to initially focus on developing fishery objectives and management procedures for the directed Pacific halibut fisheries. The performance of these procedures will be evaluated against scenarios that account for the actions of other fisheries where Pacific halibut are incidentally caught.

### **Past Work of MSAB**

- Over the course of several meetings the MSAB defined fishery goals and objectives for the directed Pacific halibut fisheries, recognizing that, consistent with any MSE and as noted above, these goals and objectives will likely need to be refined as the process moves forward. The most recent information on the present version of goals and objectives can be found in Dr. Hicks' presentation at the October 2016 MSAB meeting (<http://www.iphc.info/Pages/MSAB-Meetings-8.aspx>). The presentation lays out the existing goals and objectives, as well as some measurable objectives and important next steps.
- To help increase their understanding of the MSE process, evaluation methods and outputs, MSAB members undertook a group exercise at the October 2015 meeting and evaluated four management procedures using the IPHC MSE Tool (a single-area operating model developed for MSAB members and stakeholders). A variety of lessons were learned in terms of the effectiveness of some management procedures with respect to meeting objectives for the fishery. Further information on the MSE tool and the group exercise is available from the meeting minutes, meeting recordings, and MSE Tool presentation at the following link: <http://www.iphc.info/Pages/MSAB-Meetings-6.aspx>.
- MSAB members contemplated the use of a single-area (i.e., coastwide) operating model or a multiple-area operating model. A coastwide model is informative with respect to some of the questions being examined by MSAB (e.g., evaluation of the current harvest policy), and because it is currently operational it can facilitate understanding the MSE process by reporting results immediately. A multiple-area model, still to be developed, will likely be necessary to address questions that are likely to arise in the course of the MSE.
- At the 2016 Annual Meeting, Commissioners directed MSAB to evaluate the current harvest policy. As a result, MSAB developed a workplan to guide its activities for the next two years (May 2016 to May 2018). A current copy of the workplan is available at: <http://www.iphc.info/Pages/MSAB-Meetings-9.aspx>.



- In 2016 MSAB members reviewed two management strategies in this context – the current harvest policy as detailed in IPHC documents, and the realized decision-making practiced by the Commission. MSAB found that the current harvest policy is unresponsive to under 26” (U26) mortality, and selectivity curves used to define “exploitable biomass” (EBio) are outdated. The review is described in greater detail in the 2016 RARA.
- MSAB recommended to the Commissioners at the 2017 Annual Meeting (AM093) that alternative harvest policy approaches that address these shortcomings and take into account all sizes of fish be evaluated, and that one approach that should be evaluated is a Spawning Potential Ratio (SPR)-based harvest policy.

*Summary prepared by Chris Sporer, with Peggy Parker*



## The Road Ahead for MSAB

- Below are some of the following outcomes from the 2017 Annual Meeting relevant to the MSE and will guide MSAB for the coming years. MSAB members are encouraged to review the Outcomes of the 93rd Session of the IPHC Annual Meeting (AM093) document available at: <http://www.iphc.info/Pages/MSAB-Meetings-9.aspx>.
1. NOTING that the previous IPHC harvest policy was unresponsive to under-26" (U26) mortality, and that selectivity curves used to define exploitable biomass (EBio) are outdated, the Commission [the Commissioners] AGREED that alternative approaches that address these shortcomings and take into account mortality for all sizes and all sources be evaluated by the IPHC Secretariat [the IPHC staff] and subsequently the MSAB. One approach that has the potential to account for mortality for all sizes and all sources which should be evaluated is a Spawning Potential Ratio (SPR)-based harvest policy.
  2. The Commission AGREED that clear goals and objectives need to be approved by the Commission regarding target stock abundance levels to provide guidance for the IPHC Secretariat and MSAB to assess the long-term health of the stock. As a first step, the IPHC Secretariat, in consultation with the [Scientific Research Board] SRB and MSAB, should provide a range of suitable options. The intention would be for a range of objectives (e.g. through coast-wide or area-specific adjustments, setting harvest targets, examining the effects of bycatch levels) to be examined.
  3. The Commission noted that the IPHC Secretariat (the IPHC staff) will use MSE to evaluate options for a modified harvest policy that separates the decisions regarding scale of the coastwide fishing intensity, and distribution of the removals consistent with that level of fishing among Regulatory Areas, and accounts for all sources of Pacific halibut mortality.
  4. The Commission NOTED that a harvest policy and associated implementation guidelines should aim to ensure that Pacific halibut is managed for long-term biological and fishery sustainability (Commission objectives), and should be a point of reference for Commissioners when making short-term decisions. The harvest policy should also seek to provide the fishing industry with a more certain operating environment.
  5. The Commission NOTED the presentation of an SPR-based harvest policy to update the current harvest policy, and that MSE will be used to evaluate alternative SPR values that are robust to possible bycatch scenarios.
  6. NOTING that the term "apportionment" has connotations broader than stock distribution that are not reflective of its meaning in the IPHC context, the Commission RECOMMENDED that it be replaced with the terms "stock distribution" or "stock distribution model(ing)".
  7. The Commission REQUESTED that the IPHC Secretariat initiate a process to develop alternative, biologically based stock distribution strategies for consideration by the Commission and its subsidiary bodies. This should also be incorporated into the MSE Program of Work [MSAB workplan].



8. The Commission **RECOMMENDED** that the IPHC Management Strategy Evaluation (MSE) process be accelerated so that more of the elements contained within the current Program of Work are delivered at the 94th Annual Meeting of the Commission in 2018.