



Report of the 21st Session of the IPHC Research Advisory Board (RAB021)

Seattle, Washington, USA, 26 February 2020

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HALIBUT COMMISSION

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ACRONYMS

CPUE	Catch per Unit Effort
FISS	Fishery-Independent Setline Survey
IPHC	International Pacific Halibut Commission
RAB	Research Advisory Board

DEFINITIONS

A set of working definitions is provided in the IPHC Glossary of Terms and abbreviations: <https://www.iphc.int/the-commission/glossary-of-terms-and-abbreviations>

HOW TO INTERPRET TERMINOLOGY CONTAINED IN THIS REPORT

This report has been written using the following terms and associated definitions so as to remove ambiguity surrounding how particular paragraphs should be interpreted.

- Level 1:** **RECOMMENDED; RECOMMENDATION; ADOPTED** (formal); **REQUESTED; ENDORSED** (informal): A conclusion for an action to be undertaken, by a Contracting Party, a subsidiary (advisory) body of the Commission and/or the IPHC Secretariat.
- Level 2:** **AGREED:** Any point of discussion from a meeting which the Commission considers to be an agreed course of action covered by its mandate, which has not already been dealt with under Level 1 above; a general point of agreement among delegations/participants of a meeting which does not need to be elevated in the Commission's reporting structure.
- Level 3:** **NOTED/NOTING; CONSIDERED; URGED; ACKNOWLEDGED:** General terms to be used for consistency. Any point of discussion from a meeting which the Commission considers to be important enough to record in a meeting report for future reference. Any other term may be used to highlight to the reader of an IPHC report, the importance of the relevant paragraph. Other terms may be used but will be considered for explanatory/informational purposes only and shall have no higher rating within the reporting terminology hierarchy than Level 3.

TABLE OF CONTENTS

REPORT OF THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)	1
TABLE OF CONTENTS	4
EXECUTIVE SUMMARY	5
1. OPENING OF THE SESSION	6
2. ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION	6
3. IPHC PROCESS	6
3.1 <i>Update on the actions arising from the 20th Session of the RAB (RAB020)</i>	6
3.2 <i>Outcomes of the 96th Session of the IPHC Annual Meeting (AM096)</i>	6
4. SEASON OVERVIEW	6
4.1 <i>Differences between the commercial fishery and the IPHC FISS</i>	6
4.2 <i>Effect of closures in the Pacific cod fishery in the Gulf of Alaska</i>	6
4.3 <i>Effect of rockfish restrictions</i>	6
4.4 <i>Potential impact of additional marine protected areas</i>	7
4.5 <i>Effect of hypoxia off the Oregon and Washington coast</i>	7
5. IPHC FISHERY-INDEPENDENT SETLINE SURVEY	7
6. DESCRIPTION OF IPHC RESEARCH ACTIVITIES	7
6.1 <i>Key updates on previous RAB questions</i>	7
6.1.1 <i>Whale depredation</i>	7
6.1.2 <i>Alterations of flesh characteristics: chalky Pacific halibut</i>	8
6.2 <i>Core research streams: IPHC 5-year Biological and Ecosystem Sciences Research Program (2017-21) – updates for key ongoing research activities</i>	8
6.2.1 <i>Migration</i>	8
6.2.1.1 <i>Migratory behavior and distribution of Pacific halibut</i>	8
6.2.2 <i>Reproduction</i>	8
6.2.2.1 <i>Reproductive assessment of the Pacific halibut population</i>	8
6.2.2.2 <i>Sex identification of commercial landings</i>	8
6.2.3 <i>Growth</i>	8
6.2.3.1 <i>Factors affecting somatic growth in Pacific halibut</i>	8
6.2.4 <i>Discard mortality rates</i>	8
6.2.4.1 <i>Discard mortality rates and post-release survival in the Pacific halibut fishery</i>	8
6.2.5 <i>Genetics and Genomics</i>	9
6.2.5.1 <i>Populations genetics and migration</i>	9
7. GUIDANCE ON, AND DISCUSSION OF, OTHER POTENTIAL APPLIED RESEARCH PROJECTS	9
8. OTHER BUSINESS	9
8.1 <i>Date and place of the 22nd and 23rd Sessions of the IPHC Research Advisory Board</i>	9
9. REVIEW OF THE DRAFT AND ADOPTION OF THE REPORT OF THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)	9
APPENDIX I LIST OF PARTICIPANTS	10
APPENDIX II AGENDA FOR THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)	12
APPENDIX III LIST OF DOCUMENTS FOR THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)	13
APPENDIX IV CONSOLIDATED SET OF RECOMMENDATIONS OF THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)	14

EXECUTIVE SUMMARY

The 21st Session of the International Pacific Halibut Commission (IPHC) Research Advisory Board (RAB021) was held in Seattle, Washington, USA on 26 February 2020. A total of nine (9) members attended the Session from the two (2) Contracting Parties, as well as three (3) observers. The meeting was opened by the Vice-Chairperson Dr Josep Planas.

The following are a subset of the complete recommendations and requests for action from RAB021, which are provided in [Appendix IV](#).

REQUESTS

Effect of hypoxia off the Oregon and Washington coast

RAB021-Req.01 ([para 14](#)) The RAB **REQUESTED** the IPHC Secretariat consider how environmental monitoring could continue in areas where FISS sampling is not taking place in a given year, in particular to help understand environmental trends in IPHC Regulatory Area 2A.

IPHC Fishery-Independent Setline Survey

RAB021-Req.02 ([para 17](#)) Recalling the hook standardization discussion from RAB020, the RAB **REQUESTED** that the IPHC Secretariat consider investigating the possible effects of hook differences on FISS results.

RAB021-Req.03 ([para 18](#)) The RAB **REQUESTED** the IPHC Secretariat consider the effect of different bycatch species on hook competition rates.

RAB021-Req.04 ([para 20](#)) **NOTING** the increasing cost of the FISS, the RAB **REQUESTED** the IPHC Secretariat consider additional ways to incorporate commercial fishery data into stock assessment.

RAB021-Req.05 ([para 21](#)) The RAB **REQUESTED** that the IPHC Secretariat engage with stakeholders who have performed FISS work in the western regulatory areas to improve the design and feasibility of the FISS, including the possibility of multi-year FISS contracts.

Migratory behavior and distribution of Pacific halibut

RAB021-Req.06 ([para 33](#)) **NOTING** that some commercial and recreational fishers may release IPHC-tagged fish without realizing that they do not count against any regulatory limits and should be kept, the RAB **REQUESTED** the IPHC Secretariat conduct outreach with fishers and enforcement agencies on this issue.

Guidance on, and discussion of, other potential applied research projects

RAB021-Req.07 ([para 41](#)) The RAB **REQUESTED** that the IPHC Secretariat consider migration studies specific to IPHC Regulatory Area 2A, given that it represents the southernmost range of Pacific halibut distribution.

RAB021-Req.08 ([para 43](#)) The RAB **REQUESTED** that the IPHC Secretariat review the definition of “washed” fish and the weight deduction that is applied for washed fish.

1. OPENING OF THE SESSION

1. The 21st Session of the International Pacific Halibut Commission (IPHC) Research Advisory Board (RAB021) was held in Seattle, Washington, USA on 26 February 2020. A total of nine (9) members attended the Session from the two (2) Contracting Parties, as well as three (3) observers. Apologies were received from Dave Boyes, Angus Grout, Stephen Rhoads, and Alex Rodriguez. The list of participants is provided at [Appendix I](#). The meeting was opened by the Vice-Chairperson, Dr Josep Planas, who welcomed participants to Seattle.
2. The RAB **NOTED** the revisions to the IPHC Rules of Procedure adopted by the Commission at its 96th Session of the Annual Meeting (AM096): [IPHC Rules of Procedure \(2020\)](#).
3. The RAB **RECALLED** its mandate as stated in the IPHC Rules of Procedure (2020) as follows:
Appendix VII, I.1-2 “The Research Advisory Board (RAB) is composed of members of the Pacific halibut community that shall a) suggest research ideas, b) review IPHC research proposals, and c) provide the IPHC Secretariat staff (who participate in Sessions of the RAB as Observers) with direct input and advice from industry during the development of research plans. The RAB may also make recommendations to the Scientific Review Board concerning research plans and priorities for its consideration.”

2. ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION

4. The RAB **ADOPTED** the Agenda as provided at [Appendix II](#). The documents provided to the RAB are listed in [Appendix III](#).

3. IPHC PROCESS

3.1 *Update on the actions arising from the 20th Session of the RAB (RAB020)*

5. The RAB **NOTED** paper [IPHC-2020-RAB021-03](#), which provided the RAB with an opportunity to consider the progress made during the inter-sessional period regarding the recommendations and requests of the 20th Session of the IPHC Research Advisory Board (RAB020).
6. The RAB **AGREED** to consider the actions arising from RAB020 and revise as necessary, and for these to be combined with any new actions arising from RAB021.

3.2 *Outcomes of the 96th Session of the IPHC Annual Meeting (AM096)*

7. The RAB **NOTED** paper [IPHC-2020-RAB021-04](#), which provided the outcomes of the 96th Session of the IPHC Annual Meeting (AM096) relevant to the mandate of the RAB.

4. SEASON OVERVIEW

8. The RAB **NOTED** the following key 2019 fishing updates provided by RAB members.

4.1 *Differences between the commercial fishery and the IPHC FISS*

9. The RAB **NOTED** the differences between what is seen by the commercial fishery and by the IPHC Fishery-Independent Setline Survey (FISS) in different IPHC Regulatory Areas, the sources for these differences, and the FISS design and sampling protocols in place.

4.2 *Effect of closures in the Pacific cod fishery in the Gulf of Alaska*

10. The RAB **NOTED** the effect in IPHC Regulatory Areas 3A and 3B produced by the shutdown of the Pacific cod fishery in the Gulf of Alaska during 2019, which affected the distribution of Pacific halibut seen in the commercial fishery.

4.3 *Effect of rockfish restrictions*

11. The RAB **NOTED** the effect of rockfish restrictions on fishing behaviour in IPHC Regulatory Area 2B, which tends to concentrate effort as fishers try to avoid rockfish.

4.4 *Potential impact of additional marine protected areas*

12. The RAB **NOTED** the potential impact on fishing of proposed additional marine protected areas in IPHC Regulatory Area 2B.

4.5 *Effect of hypoxia off the Oregon and Washington coast*

13. The RAB **NOTED** the potential effect of hypoxia off the Oregon and Washington coast on the directed commercial fishery in IPHC Regulatory Area 2A, and the value of environmental information gathered during the IPHC FISS.
14. The RAB **REQUESTED** the IPHC Secretariat consider how environmental monitoring could continue in areas where FISS sampling is not taking place in a given year, in particular to help understand environmental trends in IPHC Regulatory Area 2A.

5. IPHC FISHERY-INDEPENDENT SETLINE SURVEY

15. The RAB **NOTED** paper [IPHC-2020-RAB021-06](#), which provided an overview of the International Pacific Halibut Commission's (IPHC) Fishery-Independent Setline Survey (FISS) design and implementation for 2020.
16. The RAB **NOTED** the changes in the FISS design following the completion of the 2014-19 FISS expansion series, which for 2020 uses an enhanced randomized design to subsample the entire station grid, allowing variation in spatial coverage while maintaining scientific sampling targets.
17. **RECALLING** the hook standardization discussion from RAB020, the RAB **REQUESTED** that the IPHC Secretariat consider investigating the possible effects of hook differences on FISS results.
18. The RAB **REQUESTED** the IPHC Secretariat consider the effect of different bycatch species on hook competition rates.
19. The RAB **NOTED** that readings on the motion-compensated scales used at sea during the FISS vary while taking readings, and that the scale program can be adjusted to help stabilize the reading, and that this information is being used by the IPHC Secretariat to improve the protocols for weighing fish at sea.
20. **NOTING** the increasing cost of the FISS, the RAB **REQUESTED** the IPHC Secretariat consider additional ways to incorporate commercial fishery data into stock assessment.
21. The RAB **REQUESTED** that the IPHC Secretariat engage with stakeholders who have performed FISS work in the western IPHC Regulatory Areas to improve the design and feasibility of the FISS, including the possibility of multi-year FISS contracts.
22. The RAB **NOTED** the strong confidence in the FISS over the years, and that it is critical to maintain this confidence during this time of transition in the FISS design.

6. DESCRIPTION OF IPHC RESEARCH ACTIVITIES

6.1 *Key updates on previous RAB questions*

23. The RAB **NOTED** updates on current investigations relevant to questions raised by the RAB in previous meetings.

6.1.1 *Whale depredation*

24. The RAB **NOTED** changes since 2017 in commercial logbook data collected by the IPHC to better describe the extent and effect of whale depredation, and that future analysis of these data may potentially allow better characterization of the mortality due to whale depredation and its effect on CPUE.
25. The RAB **NOTED** the updated protocols implemented by the FISS in 2018 to account for sets affected by whale depredation over the whole FISS time-series, and how data from those sets are used.
26. The RAB **NOTED** that whale entanglement in vertical lines has become a significant concern in other areas and fisheries in Canada and the United States of America, and that this may become an issue for Pacific halibut fisheries.

27. The RAB **NOTED** current areas of investigation of whale depredation, including an IPHC project in cooperation with the Alaska Longline Fishermen’s Association using towed hydroacoustic arrays to track whales in real time.

6.1.2 Alterations of flesh characteristics: chalky Pacific halibut

28. The RAB **NOTED** that in following up on a recommendation from RAB019 (paragraph 13, [IPHC-2018-RAB019-R](#)), the IPHC Secretariat conducted a survey of processors about their experience with chalky Pacific halibut during 2019, which produced limited data from a small number of responses, and that the survey would be conducted again during 2020 to gather more data, with better spatial representation. The RAB further **NOTED** interest from Alaska Seafood Marketing Institute (ASMI) in this project.

29. The RAB **NOTED** that, anecdotally, chalky Pacific halibut has not been a big issue in the industry in recent years.

6.2 Core research streams: IPHC 5-year Biological and Ecosystem Sciences Research Program (2017-21) – updates for key ongoing research activities

30. The RAB **NOTED** paper [IPHC-2020-RAB021-05](#), which outlined the research projects proposed by the IPHC Secretariat and provided an overview of the 5-year research program (2017-21).

31. The RAB **ENDORSED** the general approach to research detailed in paper [IPHC-2020-RAB021-05](#).

6.2.1 Migration

6.2.1.1 Migratory behavior and distribution of Pacific halibut

32. The RAB **NOTED** paper [IPHC-2020-RAB021-11](#), which described studies designed to improve our knowledge distribution and migration of Pacific halibut in the northeast Pacific Ocean and eastern Bering Sea.

33. **NOTING** that some commercial and recreational fishers may release IPHC-tagged fish without realizing that they do not count against any regulatory limits and should be kept, the RAB **REQUESTED** the IPHC Secretariat conduct outreach with fishers and enforcement agencies on this issue.

6.2.2 Reproduction

6.2.2.1 Reproductive assessment of the Pacific halibut population

34. The RAB **NOTED** paper [IPHC-2020-RAB021-07](#), which outlined the research project describing studies designed to improve our knowledge on reproductive development in female and male Pacific halibut.

6.2.2.2 Sex identification of commercial landings

35. The RAB **NOTED** paper [IPHC-2020-RAB021-08](#), which provided an update regarding the status of studies designed to provide information regarding sex ratios in commercial landings of Pacific halibut.

36. The RAB **NOTED** the effect of the new sex-ratio information on our understanding of the stock and the stock assessment.

6.2.3 Growth

6.2.3.1 Factors affecting somatic growth in Pacific halibut

37. The RAB **NOTED** paper [IPHC-2020-RAB021-09](#), which provided a description of the studies conducted by IPHC Secretariat on factors affecting somatic growth in juvenile Pacific halibut.

6.2.4 Discard mortality rates

6.2.4.1 Discard mortality rates and post-release survival in the Pacific halibut fishery

38. The RAB **NOTED** paper [IPHC-2020-RAB021-10](#), which described the studies designed to improve our knowledge on discard mortality rates in the directed longline Pacific halibut fishery and the application of electronic monitoring.

6.2.5 Genetics and Genomics

6.2.5.1 Populations genetics and migration

39. The RAB **NOTED** paper [IPHC-2020-RAB021-12](#), which outlined the studies on population genetics and migration by the IPHC Secretariat.
40. The RAB **NOTED** that genetic studies could also lead to insights regarding growth and other biological characteristics of different portions of the Pacific halibut stock.

7. GUIDANCE ON, AND DISCUSSION OF, OTHER POTENTIAL APPLIED RESEARCH PROJECTS

41. The RAB **REQUESTED** that the IPHC Secretariat consider migration studies specific to IPHC Regulatory Area 2A, given that it represents the southernmost range of Pacific halibut distribution.
42. The RAB **NOTED** that the length-weight table has not changed in many years and that the IPHC Secretariat is collecting a time-series of length-weight data in order to support re-analysis of the table.
43. The RAB **REQUESTED** that the IPHC Secretariat review the definition of “washed” fish and the weight deduction that is applied for washed fish.
44. The RAB **ENCOURAGED** IPHC Secretariat staff to continue to go to sea on commercial fishing trips to better learn about the stock and the directed fishery.
45. **NOTING** discussion at the recent 96th Session of the IPHC Annual Meeting (AM096) regarding the possibility of a year-round commercial fishery, the RAB **ENCOURAGED** further consideration of this topic.

8. OTHER BUSINESS

8.1 Date and place of the 22nd and 23rd Sessions of the IPHC Research Advisory Board

46. The RAB **NOTED** that the IPHC [3-year meeting calendar \(2020-22\)](#) adopted by the Commission at its 96th Session includes dates for the next two Sessions of the RAB, which are scheduled to take place two weeks earlier in the year than recent RAB Sessions.

9. REVIEW OF THE DRAFT AND ADOPTION OF THE REPORT OF THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)

47. The Report of the 21st Session of the Research Advisory Board (IPHC-2020-RAB021-R) was **ADOPTED** on 26 February 2020, including the consolidated set of recommendations and requests arising from RAB021 provided at [Appendix IV](#).

**APPENDIX I
LIST OF PARTICIPANTS**

RAB Officers

Chairperson	Vice-Chairperson
Dr David T. Wilson Executive Director, International Pacific Halibut Commission Email: david.wilson@iphc.int	Dr Josep Planas Branch Head: Biological and Ecosystem Sciences Branch, International Pacific Halibut Commission Email: josep.planas@iphc.int

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Mr Brad Mirau Email: brad@aerotrading.ca	
Mr Richie Shaw Email: SOIpow@recn.ca	

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IPHC Secretariat

Participant	Title	Email
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Mr Andy Jasonowicz		
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APPENDIX II**AGENDA FOR THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)****Date:** 26 February 2020**Location:** Seattle, Washington, USA**Venue:** IPHC Training Room, Salmon Bay**Time:** 09:00-17:15**Chairperson:** Dr Josep V. Planas (IPHC Biological & Ecosystem Sciences Branch Manager)

- 1. OPENING OF THE SESSION** (Chairperson)
- 2. ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE SESSION** (Chairperson)
- 3. IPHC PROCESS**
 - 3.1 Update on the actions arising from the 20th Session of the RAB (RAB020)
 - 3.2 Outcomes of the 96th Session of the IPHC Annual Meeting (AM096)
- 4. SEASON OVERVIEW - 2019: RAB MEMBERS**
- 5. IPHC FISHERY-INDEPENDENT SETLINE SURVEY (FISS)**
 - 5.1 2020 FISS season: Design and implementation (L. Erikson & R. Webster)
- 6. DESCRIPTION OF IPHC RESEARCH ACTIVITIES** (J. Planas & Project leaders)
 - 6.1 Key updates: IPHC 5-year Biological and Ecosystem Sciences Research Plan (2017-21) (J. Planas)
 - 6.1.1 Whale depredation (C. Dykstra)
 - 6.1.2 Alterations of flesh characteristics: chalky Pacific halibut (L. Sadorus)
 - 6.2 Core research streams: Updates for key ongoing research activities (Project leaders)
 - 6.2.1 Migration
 - 6.2.1.1 Migratory behaviour and distribution of Pacific halibut (T. Loher, L. Sadorus, J. Forsberg)
 - 6.2.2 Reproduction
 - 6.2.2.1 Reproductive assessment of the Pacific halibut population (J. Planas)
 - 6.2.2.2 Sex identification of commercial landings (A. Simeon)
 - 6.2.3 Growth
 - 6.2.3.1 Factors affecting somatic growth in Pacific halibut (J. Planas)
 - 6.2.4 Discard mortality rates
 - 6.2.4.1 Discard mortality rates and post-release survival in the Pacific halibut fisheries (C. Dykstra)
 - 6.2.5 Genetic and Genomics
 - 6.2.5.1 Application of genetics and genomics to improve our knowledge on population structure and distribution (J. Planas, A. Jasonowicz)
- 7. GUIDANCE ON, AND DISCUSSION OF, OTHER POTENTIAL APPLIED RESEARCH PROJECTS** (Chairperson)
- 8. OTHER BUSINESS**
 - 8.1 Date and place of the 22nd and 23rd Sessions of the IPHC Research Advisory Board (Chairperson)
- 9. REVIEW OF THE DRAFT AND ADOPTION OF THE REPORT OF THE 21st SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)** (Chairperson)

APPENDIX III**LIST OF DOCUMENTS FOR THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)**

Document	Title	Availability
IPHC-2020-RAB021-01	Agenda & Schedule for the 21 st Session of the IPHC Research Advisory Board (RAB021)	✓ 24 Jan 2020
IPHC-2020-RAB021-02	List of Documents for the 20 th Session of the IPHC Research Advisory Board (RAB021)	✓ 24 Jan 2020 ✓ 27 Jan 2020
IPHC-2020-RAB021-03	Update on the actions arising from the 20 th Session of the RAB (RAB020) (D. Wilson & J. Planas)	✓ 27 Jan 2020
IPHC-2020-RAB021-04	Outcomes of the 96 th Session of the IPHC Annual Meeting (AM096) (IPHC Secretariat)	✓ 14 Feb 2020
IPHC-2020-RAB021-05	Overview: IPHC 5-year biological and ecosystem sciences research program (2017-21) (J. Planas)	✓ 24 Jan 2020
IPHC-2020-RAB021-06	IPHC fishery-independent setline survey (FISS) design and implementation in 2020 (R. Webster & I. Stewart)	✓ 24 Jan 2020
IPHC-2020-RAB021-07	Reproductive assessment of the Pacific halibut population (J. Planas)	✓ 24 Jan 2020
IPHC-2020-RAB021-08	Sex identification of commercial landings (J. Planas)	✓ 24 Jan 2020
IPHC-2020-RAB021-09	Factors affecting somatic growth in juvenile Pacific halibut (J. Planas)	✓ 24 Jan 2020
IPHC-2020-RAB021-10	Discard mortality rates and post-release survival in the directed Pacific halibut fishery (C. Dykstra)	✓ 24 Jan 2020
IPHC-2020-RAB021-11	Migratory behavior and distribution of Pacific halibut (T. Loher, J. Forsberg & L. Sadorus)	✓ 24 Jan 2020
IPHC-2020-RAB021-12	Population genetics and migration (J. Planas, A. Jasonowicz, T. Loher)	✓ 24 Jan 2020

APPENDIX IV**CONSOLIDATED SET OF RECOMMENDATIONS OF THE 21ST SESSION OF THE IPHC RESEARCH ADVISORY BOARD (RAB021)*****RECOMMENDATIONS***

Nil

REQUESTS***Effect of hypoxia off the Oregon and Washington coast***

RAB021-Req.01 ([para 14](#)) The RAB **REQUESTED** the IPHC Secretariat consider how environmental monitoring could continue in areas where FISS sampling is not taking place in a given year, in particular to help understand environmental trends in IPHC Regulatory Area 2A.

IPHC Fishery-Independent Setline Survey

RAB021-Req.02 ([para 17](#)) Recalling the hook standardization discussion from RAB020, the RAB **REQUESTED** that the IPHC Secretariat consider investigating the possible effects of hook differences on FISS results.

RAB021-Req.03 ([para 18](#)) The RAB **REQUESTED** the IPHC Secretariat consider the effect of different bycatch species on hook competition rates.

RAB021-Req.04 ([para 20](#)) **NOTING** the increasing cost of the FISS, the RAB **REQUESTED** the IPHC Secretariat consider additional ways to incorporate commercial fishery data into stock assessment.

RAB021-Req.05 ([para 21](#)) The RAB **REQUESTED** that the IPHC Secretariat engage with stakeholders who have performed FISS work in the western regulatory areas to improve the design and feasibility of the FISS, including the possibility of multi-year FISS contracts.

Migratory behavior and distribution of Pacific halibut

RAB021-Req.06 ([para 33](#)) **NOTING** that some commercial and recreational fishers may release IPHC-tagged fish without realizing that they do not count against any regulatory limits and should be kept, the RAB **REQUESTED** the IPHC Secretariat conduct outreach with fishers and enforcement agencies on this issue.

Guidance on, and discussion of, other potential applied research projects

RAB021-Req.07 ([para 41](#)) The RAB **REQUESTED** that the IPHC Secretariat consider migration studies specific to IPHC Regulatory Area 2A, given that it represents the southernmost range of Pacific halibut distribution.

RAB021-Req.08 ([para 43](#)) The RAB **REQUESTED** that the IPHC Secretariat review the definition of “washed” fish and the weight deduction that is applied for washed fish.