

**CANADA – PACIFIC HALIBUT MANAGEMENT ASSOCIATION OF BC and
INTERNATIONAL PACIFIC HALIBUT COMMISSION
COLLABORATIVE AGREEMENT**

THIS AGREEMENT is made in triplicate between

HER MAJESTY the Queen in right of Canada (“Canada”), as represented by the
Minister of Fisheries and Oceans on behalf of Fisheries and Oceans Canada (“DFO”)

and

PACIFIC HALIBUT MANAGEMENT ASSOCIATION OF BC established under
the laws of British Columbia and Canada, and having its registered office located at #200
- 5611 Cooney Road, Richmond, in the province of British Columbia, Canada V6X 3J6
(“PHMA” or “Organization”)

and

INTERNATIONAL PACIFIC HALIBUT COMMISSION established in 1923 by a
Convention between the governments of Canada and the United States of America, and
having its head office located at 2320 West Commodore Way, Suite 300, Seattle WA,
98199-1287 (“IPHC” or “Organization”).

and is effective as of the date of execution by DFO and the Organizations.

RECITALS

WHEREAS the Organizations and DFO (each shall be referred to as “Party” and DFO and the Organizations together shall be referred to as “Parties”) wish to collaborate on a project entitled **“Deploying a Third Technician Onboard the International Pacific Halibut Commission (IPHC) Fisheries- independent Setline Survey (FISS) in B.C including expansion stations”** as described in Appendix A hereto (“Project”); and

WHEREAS the Organizations and DFO have a joint interest in the expected results of this collaboration and have shared and compatible objectives associated with the Project; and

WHEREAS the Organizations and DFO agree to a fair allocation of risk, supported by a Project Management and risk mitigation frameworks associated with the Project; and

WHEREAS the Project is relevant to DFO’s Mandate, Strategic outcomes and priorities; and

WHEREAS pursuant to s. 10 of the *Fisheries Act*, DFO may determine a quantity of fish or of fishing gear and equipment that may be allocated for the purpose of generating revenues to finance scientific and fisheries management activities that are described in a joint project agreement or collaborative agreement entered into with any person or body, or any federal or provincial minister, department or agency; and

WHEREAS the Minister may specify, in a licence issued under the *Fisheries Act*, a quantity of fish or of fishing gear and equipment allocated for the purpose of financing those activities, and

WHEREAS the Minister may for the proper management and control of the fisheries and the conservation and protection of fish, specify in licence conditions requirements that information be kept and reported to the Department, and DFO maintains further authority to require and use information in a manner consistent with federal legislation; and

WHEREAS the Organizations and DFO agree to a fair allocation of risk, demonstrated by the governance structure on decision making, accountability, and risk mitigation associated with the Project; and

WHEREAS this Agreement is neither a procurement agreement pursuant to the Government Contracts Regulations, nor a transfer payment agreement pursuant to the Treasury Board Policy on Transfer Payments.

THEREFORE, the Parties agree as follows:

1 The Project

a) General description, purpose and expected results of the Project

The annual IPHC Fishery Independent Setline Survey (FISS) represents one of the most extensive research programs conducted in the Northeast Pacific Ocean. DFO conducts research and manages groundfish fisheries in British Columbia (BC). In order to better understand these fisheries, DFO, PHMA, and IPHC support the deployment of a technician aboard each chartered IPHC survey vessel in BC to collect both (1) hook by hook species identification data on the total catch and (2) biological data on rockfish species caught during survey operations. The work is designed to provide catch rates for numerous groundfish species and biological samples of various rockfish species off the coastal waters of BC for stock assessment. Biological data collected includes length, weight, sex, gonad maturity, otoliths for age determination, and genetic material for some species.

This project relates to DFO's legal mandate to administer the *Fisheries Act*, which provides authorities and powers to DFO for the conservation and sustainable utilization of Canada's fisheries resources in marine and inland waters. This project supports management of sustainable ecosystems and fosters the strategic outcomes for Economically Prosperous Maritimes Sectors and Fisheries. The activities undertaken will link to the Program Alignment Architecture (PAA) under the Program "Integrated Fisheries Management, and Program sub-activities "Commercial Fisheries" and "Fisheries Science Collaborative Program" by providing improved scientific information in support of fisheries management decisions. It will also link to this PAA by providing enhanced avenues for stakeholder engagement in research and assessment activities.

Under the terms and conditions set out in this Agreement, the Parties propose to undertake the following activities further described in the Work Plan for 2018-2019, set out in Appendix A which lists the activities that constitute the Project and the specific responsibilities of each of the Parties.

This project is a collaborative effort between DFO, PHMA and IPHC to collect information on incidentally captured species, including rockfish, encountered during the IPHC annual FISS.

b) Benefits each party will receive from the Project.

Collaboration and cost sharing will permit enhanced management of the groundfish fishery in a conservative and sustainable manner desired by DFO, the commercial industry, aboriginal interests and the recreational sector. Information from this project, together with other survey data, fishery and catch information, forms the basis of the stock assessments for many groundfish species (some of which are listed under the *Species At Risk Act*) and science advice to groundfish fishery managers.

The activities undertaken will assist in decreasing uncertainty around estimates of stock status and increasing the capacity to monitor constituent components of the groundfish community and marine ecosystems in general. Greater certainty and an increased understanding of the marine ecosystem will support more informed decisions on annual harvest limits and other management measures that are consistent with the Precautionary Approach outlined in DFO's Sustainable Fisheries Framework.

2 Definitions

- a) **"Agreement"** means the recitals, definitions, terms, conditions and obligations stipulated herein including the stipulations in the appendices affixed hereto.
- b) **"Background Information"** means any data, software, products and processes in a Party's possession prior to the start of the Project.
- c) **"Biological Material"** means any living organisms, including animals, and any material produced by and extracted from living organisms.
- d) **"Contribution"** means resources that are provided and used by the Parties for the Project. The term should not be confused with a Government of Canada Contribution, as per the Treasury Board Policy on Transfer Payments.
- e) **"In-kind Expenditures"** means Project Expenditures that the Parties incur internally for the Project, accounting for its contribution to the Project in the form of salaries and salary benefits for its employees participating in the Project and other Project expenditures, but excluding any financial contribution to another Party and costs associated with equipment, instruments and facilities acquired by the Parties prior to the Project.
- f) **"Fiscal Year"** means any twelve month period starting April 1st of the year and ending March 31st of the following year.
- g) **"Fish Allocation Revenue"** means revenue generated by the Organization from a supplemental quantity of fish or of fishing gear and equipment allocated by DFO to an Organization for the purpose of generating revenues in support of the Project.
- h) **"Fish Allocation Contribution"** means any part of Fish Allocation Revenue that an Organization contributes to the Project towards scientific and fisheries management activities that are described in this Agreement.
- i) **"Intellectual Property" or "IP"** means any invention, and any other product of intellectual activity in the industrial, scientific, literary, or artistic fields including all intellectual creation that may be or is legally protected through patents or as copyright, industrial design, integrated circuit topography, under the plant breeders' rights, or subject to protection under the law as trade secrets or as confidential information.
- j) **"Project Authority"** means the person designated by each Party to manage and oversee the execution of this Agreement on its behalf.
- k) **"Project Expenditures"** means expenditures required for the Project, including all applicable taxes, which are itemized in Appendix B, and consisting of In-kind Expenditures, Recoverable Project Expenditures and Fish Allocation Contributions.
- l) **"Results"** means all data, software, products and processes arising from the Project whether or not they may be subject to IP rights.
- m) **"Specified Purpose Account"** means an account created within DFO, in which DFO will deposit funds received from the Organization and which DFO will use to pay for Specified Project Expenditures.

- n) **"Specified Project Expenditures"** means Project expenditures that DFO incurs for the Project, which are payable with funds deposited in a Specified Purpose Account.

3 Term of the Agreement and Amendments

- a) The Agreement shall expire, unless terminated sooner in accordance with the termination provisions herein, on 31 March 2019 ("end of the Agreement").
- b) While the Agreement is in effect, it may be amended by a written agreement signed by authorized representatives of the Parties.

4 DFO's and the Organization's Contributions

- a) DFO's and the Organization's contributions to the Project are outlined in the table below:

Grand Totals of All Contribution Table	Organizations				DFO	Total Value
	PHMA In-Kind Contribution CDN \$	IPHC In-Kind Contribution US \$	Fish Allocation Contribution		In-Kind Contribution CDN \$	
Fiscal year			IPHC Contribution remaining in Organization US \$	PHMA Contribution remaining in Organization US \$		
2018-2019 (CDN)	CDN \$7,000				CDN \$35,000	CDN \$42,000
2018-2019 (USD)		US \$4,243	US \$10,000 ¹	US \$39,860		US \$54,103
2018-2019 TOTAL	CDN \$7,000	US \$4,243	US \$10,000	US \$39,860	CDN \$35,000	CDN \$42,000 US \$54,103

¹ IPHC shall contribute net proceeds from rockfish, Lingcod and Pacific Cod caught as part of this agreement. The total cost of the project, to the PHMA, is approximately US\$39,860 and shall not exceed this amount by more than 10%. The IPHC shall invoice the PHMA in US dollars based on the actual costs of the work.

- b) DFO will not make any financial contribution to the Organizations for this Project.
- c) The Organizations will not make any financial contribution to the DFO for this Project.
- d) At the end of each Fiscal Year, upon expiration or upon termination of the Agreement, each of the Parties shall provide to the others a financial statement in respect of Project Expenditures actually incurred or that will be incurred during the same Fiscal Year. The financial statement shall be itemized, at a minimum, with the same level of details provided in Appendix B.
- e) Throughout the Term of the Agreement and for six (6) years after expiration or termination of the Agreement, the Parties shall maintain accounting records related to, in the case of DFO, Recoverable Project Expenditures and, in the case of the Organisations, Fish Allocation Contributions. Parties will, on demand, permit the other Parties or any person that it may designate, to audit, monitor, take copies and extracts from and examine the accounting records and supporting documentation related to, in the case of DFO, Recoverable Project Expenditures and, in the case of the Organisations, Fish Allocation Contributions, and will provide all necessary access and assistance for the audits. Subject to 18 (f), any materials or files transmitted or examined that are identified to contain confidential, privileged information are intended only

for the Parties. Nothing in the Records and Audit Provisions is to be construed as a waiver of International Pacific Halibut Commission inviolate records per the International Organizations Immunities Act, 22 U.S.C. Sec. 288 et seq.

5 Ownership of Equipment

- a) Any equipment, instruments, and supplies acquired by the Parties under this Agreement shall belong to those Parties.

6 Project Authorities

- a) The Project Authority for DFO is:

Greg Workman
Section Manager, Groundfish Section, Stock Assessment and Research Division
Pacific Biological Station
Nanaimo, BC, V9T 6N7
Telephone/Fax: (250) 756-7145 / (250) 756-7053
E-mail: Greg.Workman@dfo-mpo.gc.ca

- b) and the Project Authority for the PHMA is:

Chris Sporer
Executive Manager
P.O. Box 16046
617 Belmont Street
New Westminster, B.C.
V3M 6W6
Telephone/Fax: (604) 523-1528 / (604) 648-8737
E-mail: PHMA@telus.net

- c) and the Project Authority for the IPHC is:

Dr. David T Wilson
Executive Director
2320 W. Commodore Way
Suite 300
Seattle, WA 98199
Telephone: (206) 634-1838
E-mail: dave@iphc.int

Any Party may, by written notice to the others, designate a new Project Authority.

7 Project Management

Prior to the start of the fiscal year, the Parties shall meet to agree on an Annual Work Plan which specifies the activities to be undertaken and the monetary, use of fish allocation, and in-kind responsibilities of each Party with respect to this Project for approval by DFO, the PHMA, and the IPHC.

MANAGEMENT COMMITTEE

Upon the coming into force of this Agreement, a Management Committee shall be formed by the Parties. The Management Committee shall be composed of two or more representatives from each of the Parties.

The Parties shall ensure that, during the term of the Agreement, the Management Committee meets at least once in the period running from April 1, 2018 through March 31, 2019 ("the fiscal year") and to review financial reports by June 30, 2019.

DUTIES OF THE MANAGEMENT COMMITTEE

- i) Monitor the progress and performance of the Parties under the Work Plan;
- ii) Verify the costs and expenditures of each Party in connection with the Project at least once a year or more frequently where agreed to by the Parties;
- iii) Meet and resolve discrepancies to the Work Plan resulting from unanticipated changes to Project requirements.
- iv) Review financial reports prepared by DFO, the PHMA, and the IPHC outlining how the monetary and in-kind contribution of both Parties were used at least once a year or more frequently where agreed to by the Parties, including reporting against the revenues and costs forecasted in this agreement;
- v) Review and finalize financial reports pertaining to this project prepared by DFO, PHMA, and IPHC from April 1 - March 31 of each year by June 30 of the following year.
- vi) DFO or PHMA will provide reports to the Halibut Advisory Board (HAB) and Hook and Line Sub-Committee (HLC) on the nature of this agreement and the results of the collaborative work undertaken under the terms of this agreement. HAB is the Department's primary consultative body for the halibut fishery. The HAB includes representatives from DFO Fisheries Management, DFO Science, PHMA, commercial halibut licence holders, the Sport Fishing Advisory Board, and First Nations, amongst others. The HLC is the Department's primary consultative body for lingcod, dogfish, and rockfish fisheries. Each of these consultative bodies has terms of reference detailing their purpose, structure, and advisory process. DFO or PHMA will report out to these two bodies on the nature of this agreement and the results of the collaborative work undertaken under the terms of this agreement.

8 Risk Management

- a) The Project Authorities have discussed and completed a Project Risk Analysis, which is outlined in Appendix C.
- b) If a risk event identified in the Project Risk Analysis or any other unanticipated risk event occurred, the Parties will make reasonable efforts to implement appropriate mitigation measures, including those set out in the Project Risk Analysis, however the Parties do acknowledge that the occurrence of any risk event may require an extension to the Term of the Agreement or termination of the Agreement in accordance with the section entitled "Termination".

9 Communications, Reports and Notices

- a) Communications relating to the technical and scientific aspect of the Project shall be in writing and shall be addressed to the Project Authorities.
- b) Notices, reports and other communications relating to the Agreement shall be in writing and shall be addressed to the Project Authorities.

- c) Each Party shall report to the others on the progress of Project-related work it is performing, and on any Results arising from work it has completed. Reporting in respect of work performed in any Fiscal Year shall take place at least once a year, no later than ninety (90) days following the end of the Fiscal Year. However, to ensure that Parties remain well informed and up-to-date on the Project, additional reports throughout the Fiscal Year may be provided as agreed by the Project Authorities.
- d) Within ninety (90) days following expiration or termination of this Agreement each Party shall, upon request, provide to the other a final report on Project-related work it has performed, such report to be in a mutually agreeable format, and to include Results arising from the work.
- e) If requested, the Organizations will assist DFO in completing an overall evaluation of the Project in accordance with the "Project Evaluation" section of Appendix A.
- f) The Organizations shall promptly notify DFO, and provide full particulars, upon:
 - (i) changing its corporate name;
 - (ii) changing its controlling interests;
 - (iii) filing for bankruptcy or involving itself in any insolvency proceedings;
 - (iv) taking advantage of any statutes relating to the orderly payment of debts; or
 - (v) being subject to criminal prosecution or convicted of a criminal offence.

10 Access to DFO Grounds and Buildings

- a) The Organizations, its employees and its agents participating in the Project shall abide by all legislations, regulations, orders and policies with respect to access to DFO sites, vessels and buildings and utilization of facilities therein, including orders and policies related to security, health and safety, and shall not bring any people, equipment or any materials into DFO sites, vessels and buildings without the prior written consent of the DFO Project Authority.

11 Background Information, Results and Intellectual Property Rights

- a) Background Information, Results and IP rights shall be subject to the provisions of Appendix D.

12 Biological Material

- a) Biological Material produced from Project-related activities, Biological Material provided by the Organizations to DFO under this Agreement and Biological Material issued therefrom shall be subject to the provisions of Appendix E.

13 Dispute Resolution

- a) If any dispute, other than a matter of public law arises between the Parties in connection with or arising out of the Agreement, the Parties shall use their best efforts to settle any such dispute by negotiations or mediation. If the Parties fail to resolve the dispute within a period of thirty (30) days or such greater period as may be mutually agreed, then a Party may refer the dispute to arbitration in accordance with the *Commercial Arbitration Act*. The Parties agree to have arbitration hearings conducted at Vancouver, B.C. The costs of any mediation shall be divided equally between the Parties. The decision rendered by the arbitrator shall be final, executable, not subject to appeal and binding on the Parties.

14 Liabilities

a) Indemnification

- (i) Each Party (referred to as "Indemnifying Party" for the purpose of this section) hereby agrees to defend, indemnify and hold the other harmless from and against all claims, legal actions or causes thereof, liabilities and costs arising from the negligence or willful misconduct of the Indemnifying Party's employees or agents in connection with the execution of this Agreement provided that the Party to be indemnified gives prompt notice of the claim to the Indemnifying Party, and provides all relevant information and reasonable assistance, as requested.
- (ii) The obligations herein will subsist after expiration or termination of this Agreement in respect of any cause or event connected with any activity undertaken by the Indemnifying Party, or by its employees or agents prior to the expiration or termination of this Agreement.

b) Insurance and Risks

- (i) The Government of Canada underwrites its own risks, including the risk of liability for the acts or omissions of its officers and employees while they are acting within the scope of their employment with DFO.
- (ii) Each Organization warrants and represents that it has adequate liability insurance to cover its officers, employees and agents participating in the Project.
- (iii) Each Party hereby assumes any and all risks of personal injury and property damage attributable to the negligent acts and negligent omissions of that Party and its officers, employees and agents participating in the Project.

15 Termination

- a) A Party may terminate the Agreement by notice to the others without liability, and the other Parties hereby waive their rights to initiate any proceedings against the terminating Party if:
 - (i) another of the Parties breaches any terms or conditions of the Agreement and does not rectify the breach within thirty (30) days after being notified in writing of the breach; or
 - (ii) another of the Parties fails to perform the Project in accordance with Appendix A and does not rectify the matter within thirty (30) days after being notified in writing of the specific rectifications required; or
 - (iii) another of the Parties has submitted or submits false or misleading information in respect of the Project or in respect of the its obligations pursuant to the Agreement, such termination to take effect immediately after the notice date; or
 - (iv) resources that the terminating Party is expected to contribute to the Project (in DFO's case "resources" include resources that are subject to appropriations approved by Parliament) are reduced or not available, unless the other Parties agree to amend the Agreement to address the reduction in resources, such termination to take effect thirty (30) days after the notice date; or
 - (v) a risk event identified in the Project Risk Analysis in Appendix C or any other unanticipated risk event jeopardized the scientific integrity of the Project or prevented the Project from being completed within a reasonable period of time despite mitigation measures that may have been implemented.

- b) DFO may terminate the Agreement by notice to the Organizations without liability, and the Organizations hereby waives their rights to initiate any proceedings against DFO or Canada if:
 - (i) the Organizations are insolvent, in receivership, bankrupt, file for bankruptcy, or are involved in any act of bankruptcy or any bankruptcy proceeding, such termination to take effect immediately after the notice date; or
 - (ii) the Organizations are subject to criminal prosecution or are convicted of any criminal or regulatory offence under any law, order or regulation of Canada or the provinces or of a duly constituted authority thereof, or convicted as an accessory to any such offence, such termination to take effect immediately after the notice date.
- c) Expiration or termination of the Agreement shall not relieve a Party from its obligations pursuant to the section entitled "Communications, Reports and Notices" and the sub-section entitled "Indemnification" or from its obligations, as set out in Appendix D, in respect of Background Information, Results and Intellectual Property Rights.
- d) Failure by a Party to notify the others of a breach of the Agreement or of any other circumstances possibly warranting termination of the Agreement, or to terminate the Agreement because of such breach or such other circumstances shall not constitute an acceptance of the breach by that Party or a waiver of its right to terminate this Agreement in accordance with its provisions, and, if applicable, to recover from the other Parties any sums due under the Agreement.

16 Canadian Environmental Assessment Act (CEAA)

- a) The Parties agree that, if applicable, the Project will be assessed and approved in accordance with the *Canadian Environmental Assessment Act* prior to commencing the Project.

17 Canadian Council on Animal Care (CCAC)

- a) The Parties agree that, if applicable, the Project will be assessed and approved in accordance with the standards of the Canadian Council on Animal Care. DFO will engage the Animal Care Committee within DFO to ensure compliance with this provision prior to commencing the Project.

18 General

a) Entire Agreement

This Agreement, including the appendices appended hereto which form part of this Agreement, sets forth the entire agreement between the Parties hereto concerning the Project and supersedes and revokes all negotiations, arrangements or communications, of any nature whatsoever whether they be verbal or in writing, between the Parties or their authorized representatives or any other person purporting to represent DFO or the Organization.

b) No Agency

Nothing contained in the Agreement shall be considered or construed as creating a relationship of partners, principal and agent, lessor and lessee, licensor and licensee (except with respect to Intellectual Property, in accordance with Appendix D) or of employer and employee between the Parties. In particular, each Party shall be solely responsible for any and all payments and/or deductions required to be made including those required for Canada Pension Plan, Employment Insurance, Workers' Compensation, or Income Tax for all its employees participating in the Project, and for any and all fees payable to its agents participating in the Project. In addition, each Party shall be solely responsible for the supervision, scheduling of work and tasking for its employees and agents participating in the Project.

c) Member of Parliament

The Organizations shall ensure that no member of Parliament is admitted to any share or part of the Agreement or to any benefit that may arise from it.

d) Former Public Servants

The Organizations shall ensure that any former public office holder who is currently employed by or an agent of the Organizations is in compliance with the post-employment provisions of the Fisheries and Oceans Canada Values and Ethics Code, which is posted at <http://www.dfo-mpo.gc.ca/reports-rapports/vicr-virc/vicr-virc2012-eng.htm> or comparable Treasury Board or other federal government department code.

e) Laws in Force

This Agreement shall be interpreted in accordance with federal laws of Canada and the laws in force in the Province of British Columbia.

f) Protecting and Preserving International Organizations Immunities Act Rights

All Parties will identify and agree to any attached or subsequently transmitted materials that contain confidential or privileged information that is intended only for the Parties identified in the Agreement. Nothing in this agreement, or the act of issuing it, is to be construed as a waiver of any rights or immunities granted the parties or the International Pacific Halibut Commission pursuant to the International Organizations Immunities Act, 22 U.S.C. Sec. 288 et seq. other than items agreed upon under Appendix D Background Information, Results, and Intellectual Property Rights.

g) Location

The Project shall be performed at waters off the Pacific coast of British Columbia, in the Province of British Columbia.

h) Force Majeure

No breach of an obligation under this Agreement by the Parties shall be deemed a breach of this Agreement or create any liability if such breach arises from any cause or causes beyond the control of the Parties including, without limitation, fire, natural disaster, inclement weather, power failures, accident, war, rebellion, insurrection, riot and invasion provided that the Parties remedy such breach resulting from one of the above causes as soon as it is practicable after the occurrence of one or more of the above causes, as appropriate.

i) Severability

Should a court of competent jurisdiction hold that any provision of the Agreement is invalid, illegal, or unenforceable, such provision shall be considered severed from the Agreement and all other provisions of the Agreement, and all rights and obligations therein shall continue to be in force and effect.

j) No Assignment

No Party may assign the Agreement, in whole or in part, without the prior written consent of the other Parties.

k) Communication

- (i) The Parties agree to acknowledge each other's contribution in any public communications related to and/or resulting from work carried out under this Agreement. No Party may use any symbol or mark of another Party without the express written permission of the other Party.

- (ii) The Organizations will provide to DFO a copy of any materials developed by the Organizations for communication at least one month prior to public disclosure, including materials to be presented at scientific conferences, manuscripts accepted for publication in scientific journals, and direct communications to media.
- (iii) The Organizations agree that if DFO's involvement in the Project is mentioned in any communication or announcement to the public, the communication or announcement will be made in both official languages.

l) Official Languages

The Agreement was prepared in English at the request of the Organizations / Cette entente fut rédigée en anglais à la demande de l'Organisation.

m) Lobbying Act

The Organizations must ensure that any person lobbying DFO, any other federal department or any federal agency on behalf of the Organizations is registered pursuant to and in compliance with the *Lobbying Act*.

n) Time of Essence

Time is of the essence with respect to all deliverables under the Agreement.

o) Representation and Warranty

Each Organization represents and warrants that it is not under a disability to contract with Her Majesty as set out in section 750 of the Criminal Code of Canada.

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p) Order of Precedence

If there is any conflict or ambiguity between these sections of the Agreement and any appendices or schedules thereto, these sections of the Agreement shall prevail.

IN WITNESS WHEREOF this Agreement has been executed by DFO and the Organizations through their duly authorized representatives.

Pacific Halibut Management Association of BC

**Her Majesty the Queen in Right of Canada,
as represented by the Minister of Fisheries
and Oceans**



Name and Title: Robert Hauknes President
Pacific Halibut Management Association of BC



Carmel Lowe,
Regional Director, Science, Pacific region
Fisheries and Oceans Canada

JUN 21 2018

Date

Date

Name and Title:
Pacific Halibut Management Association of BC

Date



Dr. David T Wilson
Executive Director,
International Pacific Halibut Commission

29/6/18
Date

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and Oceans**

Name and Title:

Pacific Halibut Management Association of BC



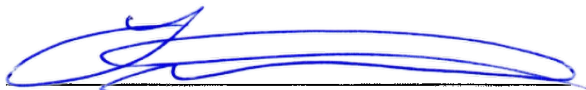
Carmel Lowe,

Regional Director, Science, Pacific region
Fisheries and Oceans Canada

JUN 21 2018

Date


Date



Name and Title: Lyle Pierce Vice-President
Pacific Halibut Management Association of BC

03/07/2018

Date



Dr. David T Wilson
Executive Director,
International Pacific Halibut Commission

29/6/18

Date

Appendix A: The Project

General description, purpose and expected results

This project requires a third at-sea technician, in addition to the normal complement of two technicians onboard each of IPHC's chartered fishing vessels tasked with IPHC's research activities. The third technician, supervised and contracted by the IPHC, will collect two distinct data sets: hook by hook catch enumeration and biological data from rockfishes and lingcod. The third technician will focus on collecting hook by hook catch data, while the other two technicians collect standard halibut survey biological data as well as assist with sampling rockfish and lingcod as halibut sampling workload permits. Protocols are developed so that rockfish and lingcod can be sampled during the haul (Appendix F).

The annual IPHC FISS area in British Columbia waters consists of 166 fixed stations of 20 to 275 fathoms depth, spaced on a 10x10 nautical mile grid. The 2018 BC survey is being expanded with the addition of 135 shallower than 37 m and deeper than 275 m, as well as previously unsurveyed habitat in waters within and near the Strait of Georgia, and in the shallow waters in Hecate Strait east of Haida Gwaii, as well as up various channels and inlets.

Technical Description of the Project

The work plan for the third technician is included in Appendix G.

Deliverables

- 1) Hook by hook catch enumeration and rockfish and lingcod biological data in electronic format
- 2) Biological samples: otoliths (rockfish) and fins (lingcod) for aging and tissue samples for DNA analysis
- 3) Report detailing the results of the 2018 Rockfish Sampling by the Third At-Sea Technician onboard the IPHC FIS survey program
- 4) Financial Report on costs and revenues from the project agreement

Work Plan: Timelines, Milestones and Work Responsibilities

Date/ Period	Milestones	Responsible Party
May 2018	IPHC secures personnel to staff the third technician positions aboard the chartered FIS survey vessels in BC waters.	IPHC
May 2018	Survey briefing	IPHC/DFO
May 28, 2018	Delivery of motion-compensating electronic scales, otolith trays, fin envelopes and DNA kits to IPHC or IPHC charter vessels.	DFO
May 29-Aug. 31, 2018	Data acquisition	IPHC
Sept, 2018	Recovery of motion-compensating electronic scales and all biological sample materials collected	DFO
Nov, 2018	Hook by hook enumeration and rockfish and lingcod biological data in electronic format delivered to DFO	IPHC

Date/ Period	Milestones	Responsible Party
Dec, 2018 - Jan, 2019	Survey debriefing: DFO and IPHC meet in Seattle to resolve data issues and discuss sampling logistics / planning or teleconference.	IPHC/DFO
June, 2019	Preparation of a financial report	IPHC/PHMA
June, 2019	Report on project-related work in a mutually agreeable format, to include Results arising from the work	DFO
June, 2019	Review of Financial Report	PHMA/DFO

Work Responsibilities

DFO

1. Delivery of scales, otolith trays, fin envelopes and DNA kits to IPHC or IPHC survey vessels
2. Recovery of scales, otolith trays, DNA kit, and all other biological materials
3. Deposition of otoliths and fins with the DFO sclerochronology lab and tissue samples with the DFO genetics lab
4. Receive hook by hook enumeration and biological data sets in an electronic format
5. Meet with IPHC to resolve data issues and review survey sampling logistics
6. Upload data to appropriate DFO legacy databases (GFBio)
7. Complete report summarizing results
8. Review financial statements/reports

Organizations

IPHC

Subject to IPHC determination to proceed with the Coast-wide FISS survey:

1. IPHC secures personnel to staff the third technician positions aboard the chartered FIS survey vessels in BC waters
2. IPHC informs DFO of FIS survey vessel fishing plans including: home port, estimated date of departure for the survey, fishing plan, and appropriate times for delivery of sampling equipment and supplies
3. IPHC collects full hook by hook catch enumeration data and rockfish biological data during the annual IPHC FIS survey IPHC
4. IPHC informs DFO of the completion of the FIS survey and general logistics for transfer of the sampling equipment and sampled material
5. IPHC to deliver electronic data package to DFO
6. IPHC meets with DFO to:
 - a. review data from the survey
 - b. resolve any outstanding data issues
 - c. deliver any outstanding sampling equipment or sampled material
7. IPHC provides financial report to PHMA detailing costs, expenditures and use of fish revenues for this project

PHMA

1. PHMA provides financial report to DFO detailing costs, expenditures, and use of fish revenues for this project

Project Evaluation

Evaluation of the Project should be performed by DFO, in consultation with the Organizations if required by DFO, and should address the performance items below, as applicable. Once the Project is completed, performance evaluation may address additional aspects of the Project that may not have been anticipated.

1. DFO project authority will determine if the project has been completed, on time, on budget and within scope by reviewing the number of sets conducted, number of sets with complete hook by hook data, and the proportion of the total rockfish catch sampled.
2. DFO project authority will monitor compliance with milestones and document any deviation from pre-agreed to timelines
3. DFO Project authority and data technician, or delegates, will meet with IPHC to review data package delivered for completeness, resolve any issues with the data, and confirm all activities are complete.
4. DFO project authority, or delegate, will confirm all biological samples have been delivered and are in usable condition.
5. DFO and PHMA project authorities will review and agree on completeness of the technical report summarizing the results of this project.
6. DFO, PHMA and IPHC project authorities will discuss any difficulties encountered within the performance of the project and if so, how they were managed to achieve resolution.
7. DFO, PHMA and IPHC project authorities will review financial reports prepared by the PHMA and IPHC detailing the revenues and expenses from this project.

Appendix B: Project Expenditures

Budget Summary for Fiscal Year 2018-2019

Detailed Expenditures	Organizations				DFO	Total Value
	PHMA In-Kind Contribution CDN \$	IPHC In-Kind Contribution US \$	Fish Allocation Contribution		In-Kind Contribution CDN \$	
Description			Contribution remaining in IPHC US \$	Contribution remaining in PHMA US \$		
Salary		US\$4,243			\$22,500	\$26,743
Benefits					\$4,500	\$4,500
Consultant Contracts	\$7,000	\$		US\$39,860		\$46,860
Training						
Equipment (maintenance)					\$4,000	\$4,000
IPHC- Catch Processing						
Supplies (consumables)					\$1,000	\$1,000
Travel						
Other Expenses [preparation and support for agreement, translation]					\$3,000	\$3,000
Total CDN\$ Amounts	CDN\$7,000				CDN\$35,000	CDN\$42,000
Total US\$ Amounts		US \$4,243	US \$10,000	US \$39,860		US \$54,103
TOTAL AMOUNTS	\$7,000	\$4,243	\$10,000	\$39,860	\$35,000	\$96,103

¹ Processing fees represent direct contract expenses for processing rockfish, Lingcod and Pacific Cod caught by IPHC chartered fishing vessels as part of this agreement. IPHC shall contribute net proceeds from rockfish, Lingcod and Pacific Cod caught as part of this agreement. The total cost of the project, to the PHMA, is fixed at approximately US\$39,860 and shall not exceed this amount by more than 10%. The IPHC shall invoice the PHMA in US dollars based on the actual costs of the work.

Grand Totals of All Contributions Table

Grand Totals of All Contribution Table	Organizations				DFO	Total Value
	PHMA In-Kind Contribution CDN \$	IPHC In-Kind Contribution US \$	Fish Allocation Contribution		In-Kind Contribution CDN \$	
Fiscal year			IPHC Contribution remaining in Organization US \$	PHMA Contribution remaining in Organization US \$		
2018-2019 (CDN)	CDN \$7,000				CDN \$35,000	CDN \$42,000
2018-2019 (USD)		US \$4,243	US \$10,000 ¹	US \$39,860		US \$54,103
2018-2019 TOTAL	\$7,000	\$4,243	\$10,000	\$39,860	\$35,000	\$96,103

¹ IPHC shall contribute net proceeds from rockfish, Lingcod and Pacific Cod caught as part of this agreement. The total cost of the project, to the PHMA, is fixed at approximately US\$39,860 and shall not exceed this amount by more than 10%. The IPHC shall invoice the PHMA in US dollars based on the actual costs of the work.

Appendix C: Risk Management

Project Risk Analysis

Activity or Deliverable	IPHC secures charter vessels for the survey.		
Description of risk event and its consequences	There is a risk that IPHC cannot secure appropriate vessels to conduct the survey. Consequences could be: 1) that inappropriate vessels are chartered to conduct the survey and they do not do an adequate job; 2) that no vessels submit bids to conduct the survey.		
	Likelihood	Impact	Risk Rating
	Unlikely	Very High	Medium
Mitigation measures	Financial incentives and broad advertising of the survey RFPs by the IPHC		
Responsible Party	IPHC		

Activity or Deliverable	IPHC gets approval from DFO to fish standard 10 nmi grid of survey stations.		
Description of risk event and its consequences	There is a risk that IPHC will not be able to sample stations within a Marine Protected Area (MPA) or Rockfish Conservation Area (RCA). The consequence would be a less representative standard grid sample design, leading to biased estimates of halibut and rockfish biomass indices in Canadian waters.		
	Likelihood	Impact	Risk Rating
	Likely	Medium-High (depends on how many banned)	High
Mitigation measures	IPHC will sample only approved survey stations. For stations where the 3 nmi radius around the center point of the station is near or touches an MPA, IPHC will fish the station away from the MPA.		
Responsible Party	IPHC		

Activity or Deliverable	IPHC charter vessels and third technician conduct the survey.		
Description of risk event and its consequences	There is a risk that the IPHC charter vessels and the technicians do not perform well. Consequences could be: 1) vessel breakdown and survey fishing is not completed 2) personnel issues cause a loss of survey data.		
	Likelihood	Impact	Risk Rating
	Unlikely	Very High	Medium
Mitigation measures	IPHC employs highly skilled and reliable charter vessels and staff.		
Responsible Party	IPHC		

Activity or Deliverable	Electronic data files and biological samples are delivered to DFO		
Description of risk event	There is a risk of loss or damage during the transfer of data and biological		

and its consequences	samples. Consequences could be: 1) the data are lost or corrupted 2) the samples are lost, jumbled (otoliths), or desiccated (DNA tissues).		
	Likelihood	Impact	Risk Rating
	Unlikely	Very High	Medium
Mitigation measures	IPHC retains hardcopies and backups of electronic data and there is electronic transfer of data to DFO. IPHC and DFO are very careful in handling biological samples		
Responsible Party	IPHC and DFO		

Activity or Deliverable	Survey Debriefing: Data workshop to discuss and resolve issues with data and survey sampling.		
Description of risk event and its consequences	There is a risk that only one or none of the DFO personnel would be permitted to travel to IPHC. Consequences could be: 1) the data are erroneous or misinterpreted 2) the survey sampling protocols are cumbersome and ill-aligned with objectives of the project.		
	Likelihood	Impact	Risk Rating
	Likely	Very High	High
Mitigation measures	DFO to secure travel funding for 2 personnel. Some issues could be discussed through a series of conference calls.		
Responsible Party	DFO		

Activity or Deliverable	Data Summary and Results Report and Financial Reports completed and reviewed		
Description of risk event and its consequences	There is a risk that the data summary and results report and financial reports are not completed and not reviewed due to the lack of DFO personnel. Consequences could be: 1) lack of industry support for the project; and, 2) no future project agreements with industry.		
	Likelihood	Impact	Risk Rating
	Likely	Very High	High
Mitigation measures	DFO sets this project as a high priority and assigns staff to these tasks.		
Responsible Party	DFO		

Activity or Deliverable	Revenues from the catch of rockfish, Lingcod and Pacific Cod during the survey are insufficient to pay for the fixed processing fees IPHC paid on vessel contracts.		
Description of risk event and its consequences	There is a risk that the proceeds from the sale of rockfish, Lingcod and Pacific Cod are not enough to offset the processing fees IPHC paid on vessel contracts due to the low catch of these fish on the survey and compounded by the low Canadian dollar. Consequences could be: 1) IPHC is in a deficit position with this project in 2018 and, 2) IPHC will not collaborate on similar project agreements with PHMA and DFO in the future.		
	Likelihood	Impact	Risk Rating

	Likely	Very High	High
Mitigation measures	IPHC carries this deficit over to 2019 and applies this to the project in the next agreement. For future agreements, DFO, PHMA, and IPHC reconsider the Use of Fish funding arrangements such that the processing cost and revenue are linked directly to the Use of Fish.		
Responsible Party	DFO, IPHC, and PHMA		

Appendix D: Background Information, Results and Intellectual Property Rights

1. Background Information¹

- 1.1. Each Party ("Disclosing Party") shall promptly disclose to another ("Receiving Party") any Background Information in its possession that is required by the Receiving Party to perform any Project activities for which the Receiving Party is responsible, excluding Background Information subject to third-party intellectual property rights. The Disclosing Party retains its rights in any Background Information disclosed to the Recipient Party.
- 1.2. Background Information disclosed by a Party shall be deemed confidential however the confidentiality of Background Information disclosed orally shall expire unless transferred in tangible form to the Receiving Party within two (2) weeks following disclosure. A Receiving Party may not disclose to third parties in any way whatsoever confidential Background Information of the Disclosing Party without the prior written authorization of the Disclosing Party.
- 1.3. The confidentiality obligations in article 1.2 above shall not apply to Background Information that is or falls lawfully in the public domain, that was lawfully in the possession of a Receiving Party prior to receiving it from a Disclosing Party, or that is received by a Receiving Party from a third party not bound by any confidentiality obligations. . Subject to 18(f), nothing in this arrangement shall be interpreted to limit or waive the privileges and immunities granted to the International Pacific Halibut Commission as an International Organization by the Governments of Canada and the United States.
- 1.4. Any confidentiality obligation with respect to Background Information shall remain in effect until such time as the information becomes public.

2. Results²

- 2.1. The Parties understand and agree that any Results arising under this Agreement should be managed in the best interest of the Parties.
- 2.2. Each Party shall promptly inform the others of any Results it generates and provide to the other Parties all technical information that may be necessary to enable the Parties to use those Results.
- 2.3. A Party is free to publish any Results in accordance with sub-article (a) provided it ensures that data integrity is preserved in the publication, and that the publication does not jeopardize the authorship interest of another Party's employees or the IP rights of another Party.
 - (a) If a Party ("Publishing Party") wishes to publish any Results, it shall submit these Results to the other Parties for review. The other Parties may, within thirty (30) days, request the Publishing Party, by written notice, to withhold publication of the Results or any portions thereof, for a reasonable time, for the purpose of securing its employees' authorship interest and protecting IP rights. Any obligation to withhold disclosure of Results may not exceed one year from the date of the notice, or one year following the end of the Agreement, whichever date is the earliest.

¹ "Background Information" is defined in section 2 of this Agreement.

² "Results" is defined in section 2 of this Agreement.

3. Intellectual Property ("IP") Rights³

3.1. Ownership of IP rights in Results

- (a) DFO owns the IP rights in Results generated solely by its employees.
- (b) Each Organization owns the IP rights in Results generated solely by its employees and shall otherwise be free to determine ownership of such IP rights.
- (c) The IP rights in Results generated jointly by employees of both Parties will be jointly own by the Parties ("Joint IP"), and will be managed according to section 4.
- (d) Notwithstanding any conflict with any other provision in this Agreement, any student of the Organizations who may be involved in the Project retains the copyright in any research report, Masters or PhD thesis subject only to the confidentiality provisions herein.

3.2. Licensing of IP rights in Results

- (a) Any Party that owns IP rights in Results hereby grants to the other a non-exclusive, non-transferable, royalty-free and paid-up licence in respect of such IP rights and for the duration of the IP rights, allowing the other Parties to use, reproduce, modify and translate the IP and any parts thereof for non-commercial research purposes only.
- (b) The Organizations may request from DFO, a licence to use, reproduce, modify and translate DFO-owned IP rights for commercial purposes. The request shall be in writing and shall be delivered to DFO no later than three (3) months following the end of the Agreement. The Parties shall negotiate the terms and conditions of such a licence in good faith; however if they can't agree within three (3) months following the beginning of licence negotiations, or at such later time as they may agree, DFO will no longer be obligated to continue licence negotiation with the Organizations.

3.3. Patenting of inventions derived from Results

- (a) The Parties shall fully cooperate with each other and assist each other free of charge in the preparation and filing of patent applications related to inventions associated with any Results however no Party may file patent applications incorporating Results of another Party without the prior written permission of that Party.
- (b) Each Party shall promptly provide to the others a copy of every patent application that it files in relation to any such inventions.
- (c) Each Party shall execute such conveyances or other documents as reasonably required for the filing, prosecution and maintenance of any patent applications and for defending any issued patents related to such inventions; however no Party shall be obligated to incur any costs in relation to any such patent applications or any such patents.

4. Management of Joint IP

- 4.1. The Parties agree that Joint IP shall be managed by the Party that has contributed the most to such Joint IP ("IP Manager"). The IP Manager shall determine any disclosure, protection, reproduction and commercialization of the Joint IP taking into consideration the other Parties' interests and internal policies, except if the Joint IP consists of an invention or software in which

³ "Intellectual Property" or "IP" is defined in section 2 of this Agreement.

case section 4.3 shall also apply.

- 4.2. It is agreed that the IP Manager design may assign management of a Joint IP to one of the other Parties who upon accepting the assignment becomes the IP Manager of such Joint IP.
- 4.3. With respect to Joint IP consisting of an invention or software that has a significant commercial potential, the Parties agree to co-operate in good faith to develop a detailed management plan relating to the protection and commercialization of the Joint IP, while ensuring that the Parties' mutual interests in the Joint IP are protected.

5. Term of Application

- 5.1. The obligations of the Parties in this Appendix shall survive the expiration or termination of the Agreement.

Appendix E: Provisions related to Biological Materials

- 1) Biological Material produced from Project-related activities performed by a Party shall belong to that Party.
- 2) Ownership of Intellectual Property related to Biological Material produced from the Project shall be determined in accordance with the provisions of Appendix D.
- 3) If DFO receives any Biological Material from an Organization, DFO will not return the Biological Material to that Organization unless requested, in writing, any time while the Agreement is in effect, in which case DFO will return to that Organization any such Biological Material that is no longer needed for the Project and remaining in its possession, subject to the following provisions:
 - a) DFO shall not be responsible for the condition of the Biological Material or the death of animals that DFO receives from an Organization;
 - b) DFO shall not be obligated to return to an Organization any deceased animals or any Biological Material which, in DFO's opinion, presents a health or environmental risk; and
 - c) An Organization pays to DFO upon request all DFO costs related to the transfer of the Biological Material back to that Organization.

Appendix F –Statement of Work

2018 CATCH ENUMERATION AND ROCKFISH BIOLOGICAL DATA COLLECTION DURING THE IPHC STANDARDIZED STOCK ASSESSMENT SURVEY

Introduction

The annual IPHC Fishery Independent Setline Survey represents one of the most extensive research programs conducted in the Northeast Pacific Ocean which is used to conduct stock assessments on Pacific Halibut. DFO conducts research and manages groundfish fisheries in British Columbia (BC) and has used the indices for species other than Pacific Halibut from the IPHC survey data in stock assessments. In order to collect additional data on other groundfish species in BC, particularly rockfish species, DFO, PHMA, and IPHC support the deployment of an additional technician aboard each chartered IPHC survey vessel in BC to collect both (1) hook-by-hook species identification data on the total catch and (2) biological data on rockfish species caught during survey operations. The work is designed to provide catch rates for numerous groundfish species and biological samples of various rockfish species off the coastal waters of BC for stock assessment. Biological data collected includes length, weight, sex, gonad maturity, otoliths for age determination, and genetic material for some species.

The annual IPHC Fishery Independent Setline survey area in British Columbia waters consists of 166 fixed stations of 20 to 275 fathoms depth, spaced on a 10x10 nautical mile grid. The setline survey provides data used to compute indices of Pacific halibut density for use in monitoring stock trends, estimating stock distribution, and as an important input in the stock assessment.

Since 2016, IPHC secretariat has employed space-time modelling to estimate density indices. This approach makes use of additional information within the setline survey catch data, along with auxiliary information collected on the survey (such as station depth) to lead to improved estimates over the previous method (computing the arithmetic mean over sampled stations, with some adjustments applied). Specifically, improvements in estimation are made by fitting models to the data that account for spatial and temporal dependence, which make use of the degree to which the halibut distribution is patchy (has regions of high and low density), and that those patches tend to persist with time.

In most Regulatory Areas, the standard, annual setline survey 18.52 km (10 nmi) grid is fished in waters within the 37-503 m (20-275 fm) depth range. Information from commercial fishery data and other fishery-independent sources showed the presence of Pacific halibut down to depths of 732 m (400 fm) and in waters shallower than 37 m. Further, most Regulatory Areas had significant gaps in coverage within the standard 37-503 m depth range. The incomplete coverage of Pacific halibut habitat by the survey likely led to biased estimates of WPUE and NPUE density indices in some Regulatory Areas that were then used in the stock assessment modelling and for stock distribution estimation. For this reason, the IPHC has been undertaking a sequence of setline survey expansions since 2014 (following a 2011 pilot), with stations added to the standard grid to cover habitat not previously sampled in our survey. The expansions involve adding stations to one or two Regulatory Areas each year, and reverting to the annual grid for those areas in subsequent years.

Regulatory Area 2B (along with Area 2C), which covers BC waters, is scheduled for a setline survey expansion in 2018. An additional 135 stations will be sampled. Regulatory Area 2B has large regions of previously unsurveyed habitat, notably in waters within and near the Strait of Georgia, and in the shallow waters in Hecate Strait east of Haida Gwaii, as well as up various channels and inlets (Figure 1).

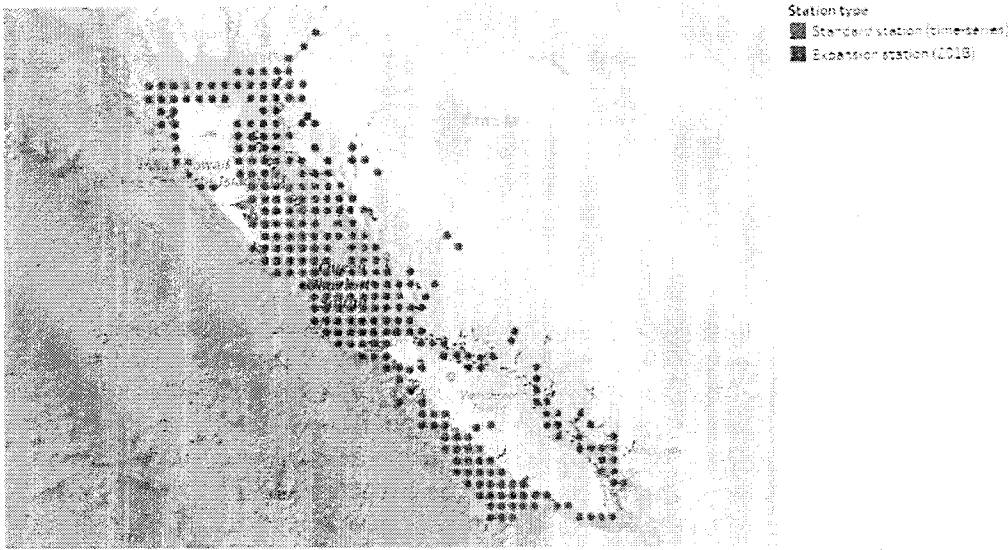


Figure 1. Standard and expansion stations for the IPHC Longline Survey in BC.

We expect that the proposed 2018 setline survey expansion will improve precision and reduce bias in density index estimates in Regulatory Area 2B. This will be the case not only for estimates of indices in 2018, but also for estimates from prior and subsequent years. This is in part because the additional data will lead to improvements in the current covariate model, giving us a better understanding of the relationship between density and depth in deeper (>503 m) and shallower (<37 m) waters than the current design. Further, temporal dependence in the data means that density estimates around the new expansion stations will be improved in terms of bias and precision, and our analysis of previous expansion data shows that this improvement will persist for several years. As required by the regulations governing Rockfish Conservation Areas, the IPHC will not sample in Rockfish Conservation Areas that have been closed to fishing.

This project relates to DFO's legal mandate to administer the Fisheries Act, which provides authorities and powers to DFO for the conservation and sustainable utilization of Canada's fisheries resources in marine and inland waters. This project supports management of sustainable ecosystems and fosters the strategic outcomes for Economically Prosperous Maritimes Sectors and Fisheries. The activities undertaken will link to the Program Alignment Architecture (PAA) under the Program "Integrated Fisheries Management, and Program sub-activities "Commercial Fisheries" and "Fisheries Science Collaborative Program" by providing improved scientific information in support of fisheries management decisions. It will also link to this PAA by providing enhanced avenues for stakeholder engagement in research and assessment activities.

This project is a collaborative effort between DFO, PHMA and IPHC to collect data about incidentally captured rockfish encountered during the IPHC annual Fishery Independent Setline Survey.

DFO technicians prepare and maintain equipment and sampling kits for use on the surveys, as well as receive, proof and manage data and biological specimens collected on the survey. DFO biologists manage partnerships, administrates the collaborative agreement process, participates in pre and post-season meetings, writes reports and analyzes survey data.

1. Completion of the survey according to the specifications and protocols set out by DFO.
2. Participation of the parties in pre and post-survey meetings with one another to prepare for the surveys and debrief on the outcomes of the survey.

3. Participation of DFO's BI-03 and EG-04 in a data workshop directly with the IPHC to resolve data inconsistencies and update data collection if required.
4. Participation of the parties in pre and post-survey meetings with HAB and GHLAC to report out on the nature of this agreement and the results from the survey; collaboration on the development of meeting agendas and materials for these meetings.
5. Financial Report on costs and revenues from the agreement.
6. Summary of survey activities and results.

This is an example of the general terms of IPHC specifications. Work will be done to these specifications, however actual terms will remain embedded within the contract that IPHC establishes with the vessel.

1. Survey Specifications

A. Vessel requirements

Subject to IPHC determination to proceed with the FIS survey, the IPHC will ensure each chartered IPHC survey vessel in BC meets the following requirements.

- i. The vessels must be mechanically sound in all respects, seaworthy for fishing in the designated areas, and suitably equipped, licensed and experienced for fishing halibut with conventional longline gear.
- ii. The vessel must have a well-insulated fish hold capable of packing all retained species in ice. Vessels will not be allowed to use Refrigerated Sea Water (RSW) or 'slush' the catch.
- iii. The vessel must have adequate deck space to allow survey staff to carry out their duties. We will require space to mount a recording shack (approximately 36" by 38" by 74" high) with an attached fish measuring cradle. The location of the shack must not obstruct fishing or processing operations and must be close to the dressing table.
- iv. Accommodations shall be clean and sanitary. The vessel shall have adequate accommodations for the vessel crew and at least three survey staff.
- v. The vessel must have a usable marine head, which can be used in privacy for male or female survey staff.
- vi. A galley reasonably equipped with a cook stove, refrigerator for food storage, and sink is required.
- vii. Vessels must possess a current Ministry of Transportation certificate (Canada Steamship Inspection Certificate) and comply with all federal Transport Canada regulations.
- viii. Vessels must demonstrate that insurance coverage is in place for the survey period.

B. Vessel gear requirements

The IPHC will ensure that the vessel owner shall provide and replace, as needed, all gear and associated equipment necessary for commercial longline fishing.

- i. At least 32 skates of conventional longline gear must be prepared before the charter. All gear will be 1,800 feet long (300 fathoms) with 100 hooks per skate. Snap gear is not allowed.
- ii. Skates shall be uniformly rigged with circle hooks (#16/0 Mustad or equivalent) spaced along the groundline at 18-foot intervals (100 per skate).
- iii. Gangions shall be 72-thread count, hard lay material between 24 to 48 inches after tying. Swivels are not allowed.
- iv. A weight of approximately 5 to 10 pounds must be snapped on or tied to the groundline at each skate junction.
- v. All vessels shall provide and use an approved seabird deterrent device (e.g., tori line) while setting the gear.

C. Bait

- i. The IPHC will bear the cost of all ice and bait purchased and transported for the charter. Bait shall be frozen chum salmon, number 2 semi-bright or better.
- ii. The IPHC shall ensure that crew will be responsible for cutting the salmon into pieces approximately 1/4 to 1/3 pound for baiting the gear. The IPHC requires that the bait not be salted, but instead kept on ice or frozen until used. IPHC staff will monitor bait size during the charter to ensure compliance to survey standards.
- iii. Auto-baiting machines are not permitted for use on IPHC survey sets.

D. Technicians

Technicians must be experienced at longline research survey data collection, to include the recording of fishing vessel set numbers and hook tallies (Hook Tally Form) and biological sampling of rockfish and lingcod (Set Form C). Details on these forms are set out in the 2018 Rockfish Sampling Project Biological Sampling Manual (Appendix G).

DFO will provide motion compensated weigh scales, otolith trays, and DNA collection vials. IPHC will supply measuring strip, data entry forms, knives, forceps and other basic sampling equipment. Sampling equipment includes a motion compensating scale calibrated for +/- 2 gm accuracy, measuring board for +/- 1 cm accuracy, knife for cutting fish, chisel and tweezers for removing otoliths, plastic 2 ml vials filled with 98% ethanol and scissors for DNA samples and other assorted sampling data sheets, pencils and cleaning supplies.

Samplers will collect data by set, whole-haul hook occupancy data (see 1 below) and biological data from rockfish (see ii below) and Lingcod (see iii below).

- i. Record the status or occupancy of each hook as gear is retrieved, including hook status (empty, bait remaining, bent or broken), and identification to species of all fish and invertebrates caught, as well as meta data including fish that are lost at the rail, line snarls or parted gear or other anomalies;
- ii. Rockfish will be collected and bio-sampled throughout the set for weight to the nearest gram, fork length in centimetres, sex and maturity by observing the gonads, and for ageing by collection of cleaned and dried otoliths. Otolith extraction shall be conducted by the "Market Method" from within the gill cavity to avoid damaging the outside of the fish. Genetic tissue

(fin clip stored in ethanol) will be collected from Rougheye Rockfish and Blackspotted Rockfish. Fish must be weighed and measured in the round state, then dressed by the crew and returned to samplers for collection of otoliths and sex and maturity ratings. For further details see the Rockfish Sampling Project Biological Sampling Manual (Attached).

- iii. Lingcod will be collected and bio-sampled throughout the set for weight to the nearest gram, fork length in centimetres, sex and maturity by observing the gonads, and for ageing by collection of dorsal fin rays (see the Lingcod Biological Sampling Manual).

Prioritization of sampling

Priority	Species
1	Yelloweye Rockfish
2	Redbanded Rockfish
3	Quillback Rockfish
4	Lingcod
5	Copper Rockfish
6	China Rockfish
7	Tiger Rockfish
8	Black Rockfish

2. Pre and Post Survey Meetings

A pre-survey meeting and/or conference call will be held to discuss issues related to this contract. The technicians must arrange, together with any other staff pertinent to this contract, to be available for this meeting/call. The date and time of the meeting will be scheduled by DFO.

After completion of the survey, a post-survey debriefing will be held. The purpose of the debriefing is to provide DFO with an evaluation of the program, a discussion on the data collected and the transfer of the data collected during the surveys to DFO (see data section below). The date and time of the meeting will be scheduled by DFO and IPHC survey manager, no later than 30 January 2019.

3. Data Transfer

A summary of the charter activities shall accompany the survey data (MS Word document) and biological materials. Information in this document shall include; 1) the name of the charter vessels, masters, crew, and technicians onboard during the surveys, 2) the dates of fishing and offloading, including the "hail-in" numbers assigned, as well as 3) any other anecdotal information that is deemed to be of particular interest to those interpreting the data from the survey.

The delivery of the electronic survey data to DFO is required by the 31 of November 2018. This data can be provided in a MS Excel or an Access Database format. The data should be organized by the trip, set, skate, hook by hook and biological data levels with the appropriate primary keys. All data codes must be converted to DFO codes and any new codes and sampler information must be reported for inclusion in the DFO dataset. The original data forms by vessel should be scanned and provided as images in PDF format.

Appendix G –2018 Area 2B Rockfish sampling manual

(See attached, no changes from 2016)

Appendix H –2018 Area 2B Lingcod Biological Sampling on the IPHC FISS

DFO is requesting the collection of biological samples from Lingcod for the 2018 expanded FISS in BC. We would like to take the opportunity on the expansion to collect information about Lingcod sex-specific selectivity-at-age of the survey.

Please follow these procedures for the collection of Length/Sex/Maturity/Weight/Age data. Sublegal (less than 65 cm) as well as legal (>65 cm) Lingcod should be sampled. If more than 25 Lingcod are landed in a set (unlikely), sample the first 25 Lingcod for LSMWA and count and release the remainder.

(See attached)

