

**CANADA – HERRING SCIENCE COUNCIL  
COLLABORATIVE AGREEMENT**

**THIS AGREEMENT** is made in duplicate 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

**HERRING SCIENCE COUNCIL** a corporation incorporated under the laws of Nova Scotia with a head office located in Dartmouth, in the province of Nova Scotia ('HSC' or 'Organization')

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

**RECITALS**

WHEREAS the Organization and DFO (each shall be referred to as 'Party' and DFO and the Organization together shall be referred to as 'Parties') wish to collaborate on a project entitled [*Acoustic Herring Spawning Stock Surveys for assessment of 4VWX Herring Stock*] as described in Appendix A hereto ('Project'); and

WHEREAS the Organization 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 Organization and DFO agree to a fair allocation of risk, supported by a project management and risk mitigation framework associated with the Project; and

WHEREAS the Project is relevant to DFO's Mandate, Core Responsibilities and priorities; 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**

Industry vessels perform multiple surveys annually within Scots Bay, German Bank, and other herring spawning grounds (Trinity Ledge, Spectacle Buoy, Seal Island, Browns Bank and offshore Scotian Shelf) as required for input to the Northwest Atlantic Fishing Organization (NAFO) Division 4VWX herring stock advice. The surveys are conducted by 4WX seiner fleet under the coordination of the Herring Science Council (HSC). Industry involvement in the surveys make a significant contribution to the scientific process, encourages ownership of the results, and leads to collaborative and cooperative partnerships.

To enable the calculation of average target strength values for each survey, the HSC collects herring samples that are frozen and collected by DFO.

DFO will provide assistance of calibration of split-beam EK80 scientific echosounders aboard herring seiner vessels.

**(b) Benefits each party will receive from the Project.**

DFO benefits from this collaboration as it obtains the independent survey data necessary to manage this stock component which ensures that the fishery is harvested sustainably. The acoustic survey biomass is presently the primary index used to provide science advice for management of the fishery. Industry benefits from this collaboration as it enables the generation of economic benefit within a sustainable fishery and increases stewardship of the stock through active participation in monitoring activities.

**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 either Party 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 a Party incurs 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 costs associated with equipment, instruments and facilities acquired by the Party 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) "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.
- (h) "Project Authority"** means the person designated by each Party to manage and oversee the execution of this Agreement on its behalf.
- (i) "Project Expenditures"** means expenditures required for the Project, including all applicable taxes, which are itemized in Appendix B, and consisting of In-kind Expenditures.
- (j) "Results"** means all data, software, products and processes arising from the Project whether or not they may be subject to IP rights.

**3 Term of the Agreement and Amendments**

- (a)** The Agreement shall expire, unless terminated sooner in accordance with the termination provisions herein, on March 31, 2025 ('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:

<b>Grand Totals of All Contribution Table</b>	<b>Organization</b>	<b>DFO</b>	<b>Total Value</b>
<b>Fiscal year</b>	<b>In-Kind Contribution</b>	<b>In-Kind Contribution</b>	
2021-2022	\$1,035,374	\$50,589	\$1,085,964
2022-2023	\$1,035,374	\$50,589	\$1,085,964
2023-2024	\$1,035,374	\$50,589	\$1,085,964
2024-2025	\$1,035,374	\$50,589	\$1,085,964
<b>Total</b>	<b>\$4,141,496</b>	<b>\$202,356</b>	<b>\$4,343,856</b>

- (b) DFO will not make any financial contribution to the Organization for this Project.
- (c) The Organization will not make any financial contribution to DFO for this Project.

## 5 Ownership of Equipment

- (a) Any equipment, instruments, and supplies acquired by either Party under this Agreement shall belong to that Party.

## 6 Project Authorities

- (a) The Project Authority for DFO is:

Dr. Allan Debertin  
Aquatic Science Biologist  
St. Andrews Biological Station  
125 Marine Science Dr.  
St. Andrews, NB E5B 0E4  
Telephone/Fax: 506-529-5880/506-529-5862  
E-mail: [allan.debertin@dfo-mpo.gc.ca](mailto:allan.debertin@dfo-mpo.gc.ca)

- (b) The Project Authorities for the Organization are:

Mr. Sherman d'Eon  
President - HSC  
Cape Breeze Seafoods Ltd.  
P.O. Box 20,  
Barrington, NS B0W 1E0  
Telephone/Fax: 902-768-2550/902-768-2418  
E-mail: [sherman@capebreeze.ca](mailto:sherman@capebreeze.ca)

AND

Ms. Jenna Munden  
Program Coordinator  
88 Sunnybrae Ave.  
Halifax, NS B3N 2G7  
Telephone/Fax: 902-293-9552  
E-mail: [herringsciencecoordinator@gmail.com](mailto:herringsciencecoordinator@gmail.com)

- (c) Either Party may by written notice to the other designate a new Project Authority.

## **7 Project Management**

As agreed by both Parties, a technical or oversight committee shall not be struck to manage the Project, however DFO and the Organization shall maintain close communication through the duration of the Agreement to ensure that the terms of the Agreement are being met and Project work is progressing on schedule or in an adjusted manner that is acceptable to both Parties.

The respective Project Authorities shall be the primary contact for both Parties in all matters related to the conduct of the Project.

Changes to the Agreement, matters arising from the Agreement, or revisions to the scope of work outlined in Appendix A to this Agreement shall be discussed by DFO's and HSC's respective Project Authorities, management teams and contracting/financial authorities, and subsequently agreed, in writing, by both Parties.

Authorization for any changes to the Agreement and/or scope of work shall, for DFO, be approved as required by DFO's Project Authority, management and contracting/financial authorities.

Authorization for any changes to the Agreement and/or scope of work shall, for the HSC, be approved as required by the HSC's Project Authority, management, internal review committees and Board of Directors.

## **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 other 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 Organization will assist DFO in completing an overall evaluation of the Project in accordance with the 'Project Evaluation' section of Appendix A.
- (f) The Organization 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 Organization, 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 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 either Party may refer the dispute to arbitration in accordance with the *Commercial Arbitration Act*. The Parties agree to have arbitration hearings conducted at Dartmouth, Nova Scotia. The decision rendered by the arbitrator shall be final, executable, not subject to appeal and binding on the Parties.

## **13 Liabilities**

### **(a) Indemnification**

- (i) Each Party (referred to as 'Indemnifying Party' for the purpose of this section) hereby agrees to 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) The 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.

## **14 Termination**

- (a) Either Party may terminate the Agreement by notice to the other without liability, and the other Party hereby waives its rights to initiate any proceedings against the terminating Party if:
  - (i) the other Party 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) the other Party 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) the other Party has submitted or submits false or misleading information in respect of the Project or in respect of 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 Party agrees 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 Organization without liability, and the Organization hereby waives its rights to initiate any proceedings against DFO or Canada if:
  - (i) the Organization is insolvent, in receivership, bankrupt, files for bankruptcy, or is involved in any act of bankruptcy or any bankruptcy proceeding, such termination to take effect immediately after the notice date; or
  - (ii) the Organization is subject to criminal prosecution or is 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 either 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 either Party to notify the other 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 Party any sums due under the Agreement.

## **15 *Impact Assessment Act (IAA)***

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

## **16 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.

## **17 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 Organization 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 Organization shall ensure that any former public office holder who is currently employed by or an agent of the Organization 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 Nova Scotia and the Province of New Brunswick.

### **(f) Location**

The Project shall be performed at the Herring Science Council, Dartmouth, in the Province of and at the St. Andres Biological Station, St. Andrews in the Province of New Brunswick. Fieldwork

will be conducted within NAFO Division 4X, primarily on the German Bank and Scots Bay spawning grounds.

**(g) Force Majeure**

No breach of an obligation under this Agreement by either Party 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 such Party including, without limitation, fire, natural disaster, inclement weather, power failures, accident, war, rebellion, insurrection, riot and invasion provided that the Party 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.

**(h) 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.

**(i) No Assignment**

Neither Party may assign the Agreement, in whole or in part, without the prior written consent of the other Party.

**(j) 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. Neither Party may use any symbol or mark of the other Party without the express written permission of the other Party.
- (ii) The Organization will provide to DFO a copy of any materials developed by the Organization 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 Organization agrees 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.

**(k) Official Languages**

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

**(l) Lobbying Act**

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

**(m) Time of Essence**

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

**(n) Representation and Warranty**

The 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.



(o) **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 Organization through their duly authorized representatives.

**Herring Science Council**

  
\_\_\_\_\_  
*Sherman d'Eon, President*

May 11, 2021  
Date

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

**Alain  
Vézina**                      Digitally signed by  
Alain Vézina  
Date: 2021.05.05  
07:44:59 -04'00'  
\_\_\_\_\_  
*Dr. Alain Vézina*  
*Regional Director Science, Maritimes Region*

\_\_\_\_\_  
Date

AND

  
\_\_\_\_\_  
*Jenna Munden, Program Coordinator*

May 11, 2021  
Date

## **Appendix A: The Project**

### **General description, purpose and expected results**

The general description, purpose and expected results of the Project are as set out in section 1 of this Agreement.

### **Technical Description of the Project**

Fishing vessels equipped with echosounders that are capable of logging acoustic backscatter systematically conduct multiple surveys within the pre-defined survey boxes to estimate spawning stock biomass of herring in Scots Bay and German Bank. These surveys are a continuation of past collaborations with commercial herring seiners that began in 1999, and performed unbiased standardized surveys on German Bank, Scots Bay, and Trinity Ledge, to enable year to year comparison of spawning stock biomass estimates.

The Herring Science Council (HSC) will conduct 5 surveys annually, in each of the two main spawning grounds (Scots Bay and German Bank). Each survey will involve completing a minimum of 8 acoustic transects. If there are fewer than 4 vessels participating, the HSC will perform as many transects as possible. Vessels participating in the surveys and recording the acoustic transects are equipped with a calibrated logging system. Transect selection is based on a DFO specified protocol which evenly spaces transects within each survey box depending on the number of vessels participating. The HSC is responsible for coordinating the surveys. Biological samples to identify the species, maturity stage, and size of acoustic targets are an essential component of these surveys. One or more commercial fishing vessels participating in the survey will collect representative samples where and whenever possible.

The HSC will provide technical and analytical support/assistance to DFO for data collection, archiving of the acoustic data and documentation of survey transect stop and start locations and times. The HSC will be responsible to download all acoustic data from participating vessels, file data backups for archiving and transfer unedited acoustic data to DFO. HSC will perform an independent acoustic analysis of the acoustic data and will transfer processed data to DFO. DFO will perform an independent acoustic analysis of the unedited data to produce acoustic-based estimates of herring spawning stock biomass. Following DFO independent scrutiny, blind comparisons between acoustic analysis results will be conducted between HSC and DFO to determine whether errors have occurred in DFO processing, acting as a quality control check. DFO editor will decide final scrutiny following the blind analysis check.

DFO will provide documentation of the standard operating procedures and develop quality control and quality assurance checks for all acoustic data (including acoustic surveys of German Bank and Scots Bay performed in previous years). Demonstration and mentoring of editing procedures will be provided by DFO to the HSC to ensure consistency of acoustic data scrutiny as required. DFO will also provide assistance of calibration of split-beam EK80 scientific echosounders aboard herring seiner vessels.

## Deliverables

- 1) Calibration of echosounders used for the surveys. HSC responsible for single-beam echosounder systems. DFO to help calibration of split-beam EK80 scientific echosounders, until such time HSC can perform calibrations independent of DFO personnel and equipment.
- 2) Minimum of five acoustic surveys with 8 transects each of Scots Bay and German Bank survey boxes, annually.
- 3) Acoustic surveys of other spawning areas when possible.
- 4) Collection of length frequency and biological samples from each survey (if successful).
- 5) Collection, scrutiny of data, acoustic data processing, and biomass estimates for each survey by the HSC.
- 6) DFO scrutiny of data, acoustic data processing, and biomass estimates for each survey.
- 7) Blind comparisons between DFO and HSC edited data will occur as a quality control check. An annual meeting will occur between DFO and HSC acousticians to review the comparisons. DFO editor will decide final scrutiny.
- 8) Monitoring of fish size from catches.
- 9) Development of standard operating procedure and quality control quality assurance checks of acoustic scrutiny.
- 10) Perform CSAS review of the standard operating procedure and use documented CSAS report for review all years of collected data.

## Work Plan: Timelines, Milestones and Work Responsibilities

Date/ Period	Milestones	Responsible Party
April 1, 2021	Project start	N/A
August 15, 2021	Calibrations of echosounder systems completed aboard industry vessels for 2021	Organization/DFO
November 15, 2021	Completion of 2021 acoustic surveys in Scots Bay and on German Bank.	Organization
December 15, 2021	Completion of preliminary biomass estimates for each survey for 2021	Organization
January 30, 2022	Completion of size and catch reporting for 2021	DFO
February 15, 2022	Blind-analysis review meeting for quality checks completed for 2021	DFO/Organization
February 28, 2022	Finalization of acoustic biomass estimates for 2021.	DFO
August 15, 2022	Calibrations of echosounder systems completed aboard industry vessels for 2022.	Organization/DFO
November 15, 2022	Completion of 2022 acoustic surveys in Scots Bay and on German Bank.	Organization
December 15, 2022	Completion of preliminary biomass estimates for each survey for 2022	Organization

<b>Date/ Period</b>	<b>Milestones</b>	<b>Responsible Party</b>
January 30, 2023	Completion of size and catch reporting for 2022	DFO
February 15, 2023	Acoustic biomass estimates completed by DFO and blind-analysis review for quality checks completed.	DFO/Organization
February 28, 2023	Finalization of acoustic biomass estimates for 2022	DFO
March 31, 2023	Completion of draft SOP for review for in CSAS process.	DFO/Organization
August 15, 2023	Calibrations of echosounder systems completed aboard industry vessels for 2023	Organization/DFO
November 15, 2023	Completion of 2023 acoustic surveys in Scots Bay and on German Bank.	Organization
December 15, 2023	Completion of preliminary biomass estimates for each survey for 2023	Organization
January 30, 2024	Completion of size and catch reporting for 2023	DFO
February 15, 2024	Acoustic biomass estimates completed by DFO and blind-analysis review for quality checks completed for 2023	DFO/Organization
February 28, 2024	Finalization of acoustic biomass estimates for 2023	DFO
March 31, 2024	CSAS process finalized and updated SOP for acoustic processing completed. CSAS Res. Sci. Doc. published	DFO
August 15, 2024	Calibrations of echosounder systems completed aboard industry vessels for 2024	Organization/DFO
November 15, 2024	Completion of 2024 acoustic surveys in Scots Bay and on German Bank.	Organization
December 15, 2024	Completion of preliminary biomass estimates for each survey for 2024	Organization
January 30, 2025	Completion of size and catch reporting for 2024	DFO
February 15, 2025	Acoustic biomass estimates completed by DFO and blind-analysis review for quality checks completed for 2024	DFO/Organization
February 28, 2025	Finalization of acoustic biomass estimates for 2024	DFO
March 31, 2025	Complete and systematic review of the entire Scots Bay and German Bank acoustic biomass index from 1999 to 2024	DFO/Organization

## **Project Evaluation**

Evaluation of the Project should be performed by DFO, in consultation with the Organization if required by DFO, and should address the questions below and any lessons learned (as applicable).

- 1) Were the milestones achieved?
- 2) Did the intended activities take place within scope/ within budget?
- 3) Were the deliverables of the project delivered?
- 4) Did the collaboration achieve its purpose?
- 5) Briefly describe any successes of the current project and potential improvements for future projects.

## Appendix B: Project Expenditures

### Budget Summary for Fiscal Year 2021-2022:

Detailed Expenditures Table	Organization				DFO	Total Value
	Financial Contribution to DFO	In-Kind Contribution	Fish Allocation Contribution (if applicable)		In-Kind Contribution	
Description			Financial Contribution made to DFO	Contribution remaining in Organization		
Salary of the Organization: project management: participants, data, reporting results.		\$100,076				\$100,076
Contract Value of Seasonal Employee for Surveys		\$10,500				\$10,500
Cost for Scots Bay surveys vessel time (fuel, crews, etc.)		\$504,000				\$504,000
Cost for German Bank surveys vessel time (fuel, crews, etc.)		\$336,000				\$336,000
Salary – Indeterminate employees					\$39,834	\$39,834
Benefits (e.g. 27% of Salary)					\$10,755	\$10,755
Acoustic System Computers		\$23,598				\$23,598
Acoustic Calibrations and Data Conversion		\$27,000				\$27,000
Travel		\$9,200				\$9,200
Equipment Maintenance and Repair		\$25,000				\$25,000
<b>Total</b>		<b>\$1,035,374</b>			<b>\$50,589</b>	<b>\$1,085,964</b>

**Budget Summary for Fiscal Year 2022-2023:**

Detailed Expenditures Table	Organization				DFO	Total Value
	Financial Contribution to DFO	In-Kind Contribution	Fish Allocation Contribution (if applicable)		In-Kind Contribution	
Description			Financial Contribution made to DFO	Contribution remaining in Organization		
Salary of the Organization: project management: participants, data, reporting results.		\$100,076				\$100,076
Contract Value of Seasonal Employee for Surveys		\$10,500				\$10,500
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Salary – Indeterminate employees					\$39,834	\$39,834
Benefits (e.g. 27% of Salary)					\$10,755	\$10,755
Acoustic System Computers		\$23,598				\$23,598
Acoustic Calibrations and Data Conversion		\$27,000				\$27,000
Travel		\$9,200				\$9,200
Equipment Maintenance and Repair		\$25,000				\$25,000
<b>Total</b>		<b>\$1,035,374</b>			<b>\$50,589</b>	<b>\$1,085,964</b>

**Budget Summary for Fiscal Year 2023-2024:**

Detailed Expenditures Table	Organization				DFO	Total Value
	Financial Contribution to DFO	In-Kind Contribution	Fish Allocation Contribution (if applicable)		In-Kind Contribution	
Description			Financial Contribution made to DFO	Contribution remaining in Organization		
Salary of the Organization: project management: participants, data, reporting results.		\$100,076				\$100,076
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Cost for German Bank surveys vessel time (fuel, crews, etc.)		\$336,000				\$336,000
Salary – Indeterminate employees					\$39,834	\$39,834
Benefits (e.g. 27% of Salary)					\$10,755	\$10,755
Acoustic System Computers		\$23,598				\$23,598
Acoustic Calibrations and Data Conversion		\$27,000				\$27,000
Travel		\$9,200				\$9,200
Equipment Maintenance and Repair		\$25,000				\$25,000
<b>Total</b>		<b>\$1,035,374</b>			<b>\$50,589</b>	<b>\$1,085,964</b>



**Budget Summary for Fiscal Year 2024-2025:**

Detailed Expenditures Table	Organization				DFO	Total Value
	Financial Contribution to DFO	In-Kind Contribution	Fish Allocation Contribution (if applicable)		In-Kind Contribution	
Description			Financial Contribution made to DFO	Contribution remaining in Organization		
Salary of the Organization: project management: participants, data, reporting results.		\$100,076				\$100,076
Contract Value of Seasonal Employee for Surveys		\$10,500				\$10,500
Cost for Scots Bay surveys vessel time (fuel, crews, etc.)		\$504,000				\$504,000
Cost for German Bank surveys vessel time (fuel, crews, etc.)		\$336,000				\$336,000
Salary – Indeterminate employees					\$39,834	\$39,834
Benefits (e.g. 27% of Salary)					\$10,755	\$10,755
Acoustic System Computers		\$23,598				\$23,598
Acoustic Calibrations and Data Conversion		\$27,000				\$27,000
Travel		\$9,200				\$9,200
Equipment Maintenance and Repair		\$25,000				\$25,000
<b>Total</b>		<b>\$1,035,374</b>			<b>\$50,589</b>	<b>\$1,085,964</b>

**Grand Totals of All Contributions Table**

<b>Grand Totals of All Contribution Table</b>	<b>Organization</b>	<b>DFO</b>	<b>Total Value</b>
<b>Fiscal year</b>	<b>In-Kind Contribution</b>	<b>In-Kind Contribution</b>	
2021-2022	\$1,035,374	\$50,589	\$1,085,964
2022-2023	\$1,035,374	\$50,589	\$1,085,964
2023-2024	\$1,035,374	\$50,589	\$1,085,964
2024-2025	\$1,035,374	\$50,589	\$1,085,964
<b>Total</b>	<b>\$4,141,496</b>	<b>\$202,356</b>	<b>\$4,343,856</b>

## Appendix C: Risk Management

### Project Risk Analysis

Activity or Deliverable	Calibration of echosounders aboard commercial vessels for the purposes of accurate acoustic surveys.		
Description of risk event and its consequences	Calibrations do not occur, leading to inaccuracy of surveys. Internal COVID-19 precautions may prevent DFO staff traveling to Nova Scotia (Currently requires RDG approval).		
	Likelihood	Impact	Risk Rating
	Low	High	Very High
Mitigation measures	Perform calibrations of commercials in New Brunswick with Herring Science Council (HSC) staff present and provide training to HSC staff in the event that DFO staff cannot travel to Nova Scotia. Provide technical support over the phone or video phone.  Calibrations can also occur after surveys if travel permission is allowed later in the year.		
Responsible Party	DFO and HSC		

Activity or Deliverable	Minimum of three acoustic surveys each of Scots Bay and German Bank spawning boxes annually.		
Description of risk event and its consequences	No surveys of Scots Bay and German Bank undertaken. No information for input to stock assessment for the Southwest Nova Scotia/Bay of Fundy spawning component		
	Likelihood	Impact	Risk Rating
	Rare	High	Very High
Mitigation measures	Multiple vessels from multiple owners are expected to participate. DFO would have to contract vessels or perform surveys with less spatial and temporal precision than industry vessels can provide.		
Responsible Party	HSC and DFO		

Activity or Deliverable	Collection of length frequencies		
Description of risk event and its consequences	Herring are not commercially captured to provide length information. Uncertainty in target strength estimate would increase.		
	Likelihood	Impact	Risk Rating
	Unlikely	Low	Low
Mitigation measures	Use samples collected just before or just after survey or use most recent annual average size estimates for the time and location of the spawning herring.		
Responsible Party	DFO and HSC		

Activity or Deliverable	Collection of acoustic data. Independent (blind-review) processing of acoustic data by HSC		
Description of risk event and its consequences	Data collection, archiving, and preliminary analysis not completed. No spawning stock biomass available as assessment input for this spawning component.		
	Likelihood	Impact	Risk Rating
	Rare	High	Very High
Mitigation measures	Collection of acoustic data is expected during acoustic surveys. If independent processing of acoustic data does not occur, DFO can still provide spawning stock biomass estimate but with less quality control checks.		
Responsible Party	DFO/HSC		

Activity or Deliverable	Blind-comparison of acoustic processing by DFO and HSC.		
Description of risk event and its consequences	Blind comparisons do not occur causing less quality control checks. Potentially causing inaccuracy in the biomass index.		
	Likelihood	Impact	Risk Rating
	Rare	medium	Very High
Mitigation measures	DFO and HSC are expected to each complete independent processing. Annual review and blind-comparisons are expected to occur.		
Responsible Party	DFO/HSC		

Activity or Deliverable	Update standard operating approach (SOP) for acoustic biomass estimates. Complete CSAS review of the SOP for acceptance of index and perform systematic review on all herring acoustic surveys.		
Description of risk event and its consequences	DFO fails to update SOP and perform CSAS review of the SOP. Standard operating procedure is not updated. Failure to review previous index qualitatively could cause less accuracy in biomass estimates moving forward.		
	Likelihood	Impact	Risk Rating
	Unlikely	Low	Negligible
Mitigation measures	Continued communication with HSC to complete draft documents for SOP and review through CSAS process. Have sufficient staff within Herring and Acoustics working group to complete all work planning tasks assigned.		
Responsible Party	DFO		

## **Appendix D: Background Information, Results and Intellectual Property Rights**

### **1. Background Information<sup>1</sup>**

- 1.1. Each Party ("Disclosing Party") shall promptly disclose to the other ("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 Receiving Party.
- 1.2. Background Information disclosed by either 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 evidence.
- 1.4. Any confidentiality obligation with respect to Background Information shall remain in effect until such time as the information becomes public.

### **2. Results<sup>2</sup>**

- 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 other of any Results it generates and provide to the other Party all technical information that may be necessary to enable that Party to use those Results.
- 2.3. Either 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 the other Party's employees or the IP rights of the other Party.
  - (a) If a Party ("Publishing Party") wishes to publish any Results, it shall submit these Results to the other Party for review. The other Party 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.

### **3. Intellectual Property ("IP") Rights<sup>3</sup>**

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<sup>1</sup> "Background Information" is defined in section 2 of this Agreement.

<sup>2</sup> "Results" is defined in section 2 of this Agreement.

<sup>3</sup> "Intellectual Property" or "IP" is defined in section 2 of this Agreement.

- 3.1. Ownership of IP rights in Results
  - (a) DFO owns the IP rights in Results generated solely by its employees.
  - (b) The 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 owned 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 Organization 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 Party to use, reproduce, modify and translate the IP and any parts thereof for non-commercial research purposes only.
  - (b) The Organization 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 Organization.
- 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 neither Party may file patent applications incorporating Results of the other Party without the prior written permission of that Party.
  - (b) Each Party shall promptly provide to the other 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 neither 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 Party's interests and internal policies, except if the Joint IP consists of an invention or software in which case section 4.3 shall also apply.
- 4.2. It is agreed that the IP Manager may assign management of a Joint IP to the other Party 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  
a)