



**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À :**

Bid Receiving/Réception des soumissions

Procurement Hub | Centre
d'approvisionnement
Fisheries and Oceans Canada | Pêches et
Océans Canada
301 Bishop Drive | 301 promenade Bishop
Fredericton, NB, E3C 2M6

Email / Courriel : [DFOtenders-
soumissionsMPO@dfo-mpo.gc.ca](mailto:DFOtenders-soumissionsMPO@dfo-mpo.gc.ca)

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

Proposal to: Fisheries and Oceans Canada

We hereby offer to sell to Her Majesty the
Queen in right of Canada, in accordance
with the terms and conditions set out herein,
referred to herein or attached hereto, the
goods and services listed herein and on any
attached sheets at the price(s) set out
therefor.

Proposition à : Pêches et Océans Canada

Nous offrons par la présente de vendre
à Sa Majesté la Reine du chef du
Canada, aux conditions énoncées ou
incluses par référence dans la présente
et aux appendices ci-jointes, les biens
et les services énumérés ici sur toute
feuille ci-annexée, au(x) prix indiqué(s).

Title / Titre Vessel Charter		Date June 21, 2021
Solicitation No. / N° de l'invitation 30000449		
Client Reference No. / No. de référence du client(e) 30000449		
Solicitation Closes / L'invitation prend fin At / à : 14 :00 ADT (Atlantic Daylight Time) / HAA (Heure Avancée de l'Atlantique) On / le : July 6, 2021		
F.O.B. / F.A.B. Destination	Taxes See herein — Voir ci-inclus	Duty / Droits See herein — Voir ci-inclus
Destination of Goods and Services / Destinations des biens et services See herein — Voir ci-inclus		
Instructions See herein — Voir ci-inclus		
Address Inquiries to : / Adresser toute demande de renseignements à : Grace Bowness Email / Courriel: DFOtenders-soumissionsMPO@dfo-mpo.gc.ca		
Delivery Required / Livraison exigée See herein — Voir en ceci	Delivery Offered / Livraison proposée	
Vendor Name, Address and Representative / Nom du vendeur, adresse et représentant du fournisseur/de l'entrepreneur		
Telephone No. / No. de téléphone	Facsimile No. / No. de télécopieur	
Name and title of person authorized to sign on behalf of Vendor (type or print) / Nom et titre de la personne autorisée à signer au nom du fournisseur (taper ou écrire en caractères d'imprimerie)		
Signature	Date	



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PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement associated with this bid solicitation

1.2 Statement of Work

The Work to be performed is detailed under Annex A of the resulting contract clauses.

1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing or by telephone.

1.4 Trade Agreements

The requirement is subject to the Canadian Free Trade Agreement (CFTA).



PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

As this solicitation is issued by Fisheries and Oceans Canada (DFO), any reference to Public Works and Government Services Canada or PWGSC or its Minister contained in any term, condition or clause of this solicitation, including any individual SACC clauses incorporated by reference, will be interpreted as reference to DFO or its Minister.

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.2 Submission of Bids

Bids must be submitted by the date, time and place indicated on page 1 of the bid solicitation.

Due to the nature of the bid solicitation, bids transmitted by facsimile to DFO will not be accepted.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 5 calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Quebec.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.



2.5 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
 - Office of the Procurement Ombudsman (OPO)
 - Canadian International Trade Tribunal (CITT)
- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.



PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that the Bidder submit **all** its **email** bid in separately saved sections as follows and **prior to the bid closing date, time and location**:

Section I: Technical Bid (one soft copy in PDF format)

Section II: Financial Bid (one soft copy in PDF format)

Section III: Certifications (one soft copy in PDF format)

Important Note:

The maximum size per email (including attachments) is limited to 10MB. If the limit is exceeded, your email might not be received by DFO. It is suggested that you compress the email size to ensure delivery. Bidders are responsible to send their proposal and to allow enough time for DFO to receive the proposal by the closing period indicated in the RFP. Emails with links to bid documents will not be accepted.

For bids transmitted by email, DFO will not be responsible for any failure attributable to the transmission or receipt of the email bid. DFO will send a confirmation email to the Bidders when the submission is received.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment in Annex B.

Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.



PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

Refer to Annex D.

4.1.1.1 Point Rated Technical Criteria

Refer to Annex D.

4.1.2 Financial Evaluation

SACC Manual Clause [A0220T](#) (2014-06-26), Evaluation of Price-Bid

4.2 Basis of Selection

4.2.1 Highest Combined Rating of Technical Merit and Price - A0027T (2012-07-16)

1. To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation; and
 - b. meet all mandatory criteria; and
 - c. obtain the required minimum of **20 points** overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of **40 points**.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 70 % for the technical merit and 30 % for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained divided by the maximum number of points available multiplied by the ratio of 70 %.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30 %.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the



highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 70/30 ratio of technical merit and price, respectively. The total available points equal 135 and the lowest evaluated price is \$45,000 (45).

Basis of Selection - Highest Combined Rating Technical Merit (70%) and Price (30%)				
		Bidder 1	Bidder 2	Bidder 3
Overall Technical Score		115/135	89/135	92/135
Bid Evaluated Price		\$55,000.00	\$50,000.00	\$45,000.00
Calculations	Technical Merit Score	$115/135 \times 70 = 59.63$	$89/135 \times 70 = 46.15$	$92/135 \times 70 = 47.70$
	Pricing Score	$45/55 \times 30 = 24.55$	$45/50 \times 30 = 27.00$	$45/45 \times 30 = 30.00$
Combined Rating		84.18	73.15	77.70
Overall Rating		1st	3rd	2nd



PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.1.2 Contractor's Representative

The Contractor's Representative for the Contract is:

Name: _____
 Title: _____
 Address: _____

 Telephone: _____
 Facsimile: _____
 E-mail: _____



5.1.3 Supplementary Contractor Information

Pursuant to paragraph 221 (1)(d) of the Income Tax Act, payments made by departments and agencies under applicable services contracts (including contracts involving a mix of goods and services) must be reported on a T4-A supplementary slip.

To enable the Department of Fisheries and Oceans to comply with this requirement, the Contractor hereby agrees to provide the following information which it certifies to be correct, complete, and fully discloses the identification of this Contractor:

- a) The legal name of the entity or individual, as applicable (the name associated with the Social Insurance Number (SIN) or Business Number (BN), as well as the address and the postal code:

- b) The status of the contractor (individual, unincorporated business, corporation or partnership:

- c) For individuals and unincorporated businesses, the contractor's SIN and, if applicable, the BN, or if applicable, the Goods and Services Tax (GST)/Harmonized Sales Tax (HST) number:

- d) For corporations, the BN, or if this is not available, the GST/HST number. If there is no BN or GST/HST number, the T2 Corporation Tax number must be shown:

5.1.4 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- () MasterCard Acquisition Card;
() Direct Deposit (Domestic and International);

5.1.5 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause, "*former public servant*" is any former member of a department as defined in the [Financial Administration Act](#), R.S., 1985, c. F-11, a former



member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or majority interest in the entity.

"*lump sum payment period*" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"*pension*" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension?

Yes () No ()

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2012-2](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive?

Yes () No ()

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;



-
- f. period of lump sum payment including start date, end date and number of weeks;
 - g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

Print Name

Signature

5.1.6 List of Names for Integrity Verification Form

Bidders must complete the List of Names for Integrity Verification form found in Attachment 1 to Part 5.

The following certification signed by the contractor or an authorized officer:

"I certify that I have examined the information provided above and that it is correct and complete"

Signature

Print Name of Signatory

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy \(http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html\)](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.



ATTACHMENT 1 TO PART 5 LIST OF NAMES FOR INTEGRITY VERIFICATION FORM

Requirements

Section 17 of the [*Ineligibility and Suspension Policy*](#) (the Policy) requires suppliers, regardless of their status under the Policy, to submit a list of names with their bid or offer. The required list differs depending on the bidder or offeror's organizational structure:

- Suppliers including those bidding as joint ventures, whether incorporated or not, must provide a complete list of the names of all current directors.
- Privately owned corporations must provide a list of the owners' names.
- Suppliers bidding as sole proprietors, including sole proprietors bidding as joint ventures, whether incorporated or not, must provide a complete list of the names of all owners.
- Suppliers that are a partnership do not need to provide a list of names.

Suppliers may use this form to provide the required list of names with their bid or offer submission. Failure to submit this information with a bid or offer, where required, will render a bid or offer non-responsive, or the supplier otherwise disqualified for award of a contract or real property agreement. Please refer to [Information Bulletin: Required information to submit a bid or offer](#) for additional details.

List of names for [integrity verification form](#)



PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

There is no security requirement applicable to the Contract.

6.2 Statement of Work

The Work to be performed is detailed under Annex A of the resulting contract clauses.

6.3 Standard Clauses and Conditions

As this contract is issued by Fisheries and Oceans Canada (DFO), any reference to Public Works and Government Services Canada or PWGSC or its Minister contained in any term, condition or clause of this contract, including any individual SACC clauses incorporated by reference, will be interpreted as reference to DFO or its Minister.

All clauses and conditions identified in the Contract by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

6.3.1.1 2010B (2020-05-28), General Conditions - Professional Services (Medium Complexity) apply to and form part of the Contract.

6.3.1.2 Subsection 10 of 2010B (2020-05-28), General Conditions - Professional Services (Medium Complexity) – Invoice submission, is amended as follows:

Delete: 2010B 10 (2020-05-28), Invoice submission
Insert: **Invoice submission**

1. Invoices must be submitted in the Contractor's name to DFO.invoicing-facturation.MPO@canada.ca. The Contractor must submit invoices for each delivery or shipment; invoices must only apply to the Contract. Each invoice must indicate whether it covers partial or final delivery.
2. Invoices must show:
 - a. Contractor's Name and remittance physical address;
 - b. Contractor's CRA Business Number or Procurement Business Number (PBN);
 - c. Invoice Date;
 - d. Invoice Number;
 - e. Invoice Amount (broken down into item and tax amounts);
 - f. Invoice Currency (if not in Canadian dollars);
 - g. DFO Reference Number (PO Number or other valid reference number);
 - h. DFO Contact Name (Name of DFO Project Authority, **Note:** Invoice will be return to the Contractor if that information is not provided);
 - i. Description of the goods or services supplied (provide details of expenditures (such as item, quantity, unit of issue, fixed time labour rates



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- and level of effort, subcontracts, as applicable) in accordance with the Basis of Payment, exclusive of Applicable Taxes;
 - j. Deduction for holdback, if applicable;
 - k. The extension of the totals, if applicable; and
 - l. If applicable, the method of shipment together with date, case numbers and part or reference numbers, shipment charges and any other additional charges.
3. Applicable Taxes must be specified on all invoices as a separate item along with corresponding registration numbers from the tax authorities. All items that are zero-rated, exempt or to which Applicable Taxes do not apply, must be identified as such on all invoices.
 4. By submitting an invoice, the Contractor certifies that the invoice is consistent with the Work delivered and is in accordance with the Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from date of Contract to July 31, 2021 inclusive.

6.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to two (2) additional one (1) year period(s) under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 15 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Grace Bowness
Title: Contracting Officer
Department: Fisheries and Oceans Canada
Directorate: Material and Procurement Services
Address: 301 Bishop Drive, Fredericton, NB, E3C2M6
Telephone: 506 429 6269
Facsimile: 506 452 3676
E-mail address: DFOtenders-soumissionsMPO@dfo-mpo.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.



6.5.2 Technical Authority (to be completed at contract award)

The Technical Authority for the Contract is:

Name: _____
 Title: _____
 Organization: _____
 Address: _____
 Telephone: ___ ___ ___
 Facsimile: ___ ___ ___
 E-mail address: _____

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Contractor's Representative (to be completed at contract award)

The Contact Information's of the person responsible for:

Name: _____
 Title: _____
 Organization: _____
 Address: _____
 Telephone: ___ ___ ___
 Facsimile: ___ ___ ___
 E-mail address: _____

6.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2012-2](#) of the Treasury Board Secretariat of Canada.

6.7 Payment

6.7.1 Basis of Payment

6.7.1.1 The Contractor will be paid in accordance with Annex "B" – Basis of Payment

6.7.1.2 All prices and amounts of money in the Contract are exclusive of the Goods and Services Tax (GST) or Harmonized Sales Tax (HST), whichever is applicable, unless otherwise indicated. GST or HST, to the extent applicable, will be incorporated into all invoices and progress claims for goods supplied or work performed and will be paid by Her Majesty. The Contractor agrees to remit to Canada Revenue Agency any GST or HST paid or due.

6.7.1.3 Any payment by Her Majesty under this contract is subject to there being an



appropriation for the fiscal year in which the payment is to be made.

6.7.2 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$ _____ (*insert amount at contract award*). Customs duties are excluded and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
 - a. when it is 75% committed, or
 - b. four months before the contract expiry date, or
 - c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,whichever comes first.
3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

6.7.3 Methods of Payment

6.7.3.1 Single Payment

Canada will pay the Contractor upon completion and delivery of the Work in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

6.7.4 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- i. Acquisition Card;
- ii. Direct Deposit (Domestic and International)

6.8 Invoicing Instructions

6.8.1 Payments will be made provided that:

6.8.1.1 The invoice(s) must be emailed to DFO Accounts Payable, at the email address indicated below:

Email: DFO.invoicing-facturation.MPO@canada.ca
CC: AP Coder (*insert at contract award*)



6.9 Certifications and Additional Information

6.9.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

6.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Quebec.

6.11 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions [2010B](#) (2020-05-28), General Conditions - Professional Services (Medium Complexity);
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) the Contractor's bid dated _____ (*insert at contract award*)

6.12 Insurance - Specific Requirements

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must include in their submission, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors; coverage must be placed with an Insurer with an A.M. Best Rating no less than "A-". The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

6.13 Vessel Condition A9141C (2008-05-12)

The Contractor warrants that the vessel provided to Canada is mechanically sound, completely seaworthy, equipped with readily accessible lifesaving equipment, will be adequately manned and in full compliance with the [Canada Shipping Act](#), S.C. 2001, c. 26.



6.14 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "Dispute Resolution".



ANNEX “A ” STATEMENT OF WORK

1.0 Scope

1.1. Objective:

A Contractor is needed to provide Fisheries and Oceans Canada (DFO) with a fishing vessel and accompanying crew to conduct an ichthyoplankton (fish eggs and larvae) research survey in the Northwest Atlantic Fisheries Organization (NAFO) zones 4R, and 3Pn, in early July of 2021. The survey will support fisheries research into the abundance and distribution of Atlantic mackerel (henceforth mackerel) eggs and larvae outside of their main spawning site in the southern Gulf of Saint Lawrence (GSL; NAFO 4T).

1.2. Background:

The Science Sector of Fisheries and Oceans Canada (DFO) is mandated to provide scientific information essential to the conservation and sustainable use of fisheries resources. Scientists assess stock status and advise fishery managers and industry on conservation and management measures to protect exploited species. They conduct research on the biology, ecology and physiology of marine invertebrates and fishes, as well as on the factors influencing their abundance, recruitment, growth and reproduction.

The goal of this work is to develop conservation strategies that ensure a sustainable exploitation of marine resources. Stock assessments are conducted for many commercially exploited species in the Northwest Atlantic, including the northern spawning contingent (population) of Atlantic mackerel. Mackerel is a pelagic fish with an important ecological role as it is prey to many predators, including some species of commercial importance. It also supports an important commercial fishery in all Atlantic Canadian Provinces and Quebec. The end use of mackerel is mostly bait for other commercially exploited species including lobster, snow crab, and tunas.

A standardized mackerel egg and larvae survey covering their main spawning area (southern GSL) began in 1979 and continues to this day. The information gathered during these surveys is used to help determine the status of the spawning stock. A similar survey takes place in the territorial waters of the United States. Over the years, a number of exploratory surveys specifically targeting mackerel have also taken place in addition to the regular survey.

1.3. Terminology:

DFO – Fisheries and Oceans Canada

GSL – Gulf of Saint Lawrence

NAFO – Northwest Atlantic Fisheries Organization

mackerel – Atlantic mackerel (*Scomber scombrus*)

Survey Vessel – the vessel provided by the Contractor

2.0 Reference Documents:

- NAFO map
- Study area map
- Technical document on the sampling gear



3.0 Requirements:

The Contractor will be required to provide a crew and survey vessel that is properly rigged to be able to deploy the sampling gear (details below). The survey vessel must be able to provide adequate room and board for two DFO scientists as well as well-ventilated protected space on the vessel and sufficient space on the deck to effectuate operations. The survey will take place off the western and southern coasts of Newfoundland in early July for approximately 10-15 days.

3.1 Scope of Work:

A Contractor is needed to provide Fisheries and Oceans Canada (DFO) with a fishing vessel and accompanying crew to conduct an ichthyoplankton research survey in Northwest Atlantic Fisheries Organization (NAFO) zones 4R, and 3Pn, in early July of 2021. The survey will support fisheries research into the abundance and distribution of Atlantic mackerel (henceforth mackerel) eggs and larvae outside of their main spawning site in the southern Gulf of Saint Lawrence (GSL; NAFO 4T). Information on the abundances and distributions of other species sampled during the survey, as well as associated environmental data, may be used to inform research on other species monitored by DFO. The survey will contribute to a long term time series that requires following established sampling protocols during specific time periods. The survey is platform dependent and the vessel is required to have certain characteristics in order to complete the work (Outlined below in section 3.1.1-3.1.6).

The survey schedule will encompass a total period of 10 (minimum) to 15 (maximum) consecutive days in early July, starting no later than July 10th, 2021. An additional day for loading equipment and running equipment tests prior to the survey will be required as well as time after the survey for unloading of equipment. Loading of equipment and reception of the science staff will take place and end in Gaspé, Q.C. Choice of another port in Gaspésie will be considered if convenient for both the Contractor and the DFO science staff. Survey operations will be directed by DFO staff on board the survey vessel and will occur in Canadian territorial waters within the Northwest Atlantic Fisheries Organization (NAFO) zones 4R, 4T, 4Vn, 3Pn, and 3Ps. The actual start and end dates of the survey will be determined during a pre-survey meeting between the contractor and DFO science staff. DFO will also provide a cruise plan to the vessel prior to the start of the survey.

3.1.1 General Requirements

The Survey Vessel must be a mid-shore or offshore fishing vessel (over 65 ft.) capable of station holding and of towing the survey sampling gear (i.e. Bongo nets) at a defined speed of 2.5-3.5 knots. The vessel must be able to conduct operations around the clock (24 hour days). DFO science staff will be operating on a 12 hour shift (06:00 – 18:00). Returns to port will only be considered during the mission if considered necessary (for example during very bad weather, medical reasons etc.).

The primary objective of the survey is to sample the water column according to protocols as specified by DFO. The objectives of the surveys can only be met if the surveys are conducted according to the specified protocols. Therefore, the survey may be suspended at any time if the Chief Scientist onboard the vessel thinks the objectives are being compromised.

All equipment and gear specified in this document and that which is not specified but is necessary for the safe and continued operation of the vessel must be operational at the beginning of the survey and maintained in working order by the Contractor throughout the duration of the survey. If the Survey Vessel is unable to conduct survey operations due to either malfunctioning or damaged equipment, those hours will be considered off-survey and payment will be pro-rated based on 24 hour days. Any hours required for repair of DFO-supplied equipment will count as fully paid.

The Survey vessel must be able to arrive at Gaspé Quebec ready to begin loading of equipment and receiving science staff no later than July 10th 2021.



3.1.2 Licenses and Certifications

The contractor must ensure that they have all appropriate licenses and certifications related to the operation of a fishing vessel according to the requirements of the Federal government, DFO, and Transport Canada. Required licenses and certifications include but are not limited to: a valid Transport Canada Vessel Inspection Certificate, Transport Canada and maritime licenses and certificates applicable to the area of operations, a current and valid fishing license in at least one area in NAFO areas 3-4, and current and valid insurance. A Scientific Fishing Permit will be provided by DFO.

3.1.3 Specific Vessel Requirements

In addition to the general requirements, the Contractor's survey vessel must be rigged to deploy the survey gear (Bongo nets) following DFO protocols described below to meet the objectives of this contract. The Bongo nets (333 μ m) themselves are attached to two 61 cm aluminum frames and the totality of the survey gear weighs approximately 400 lbs. The survey gear will need to be attached to a cable (minimum 300 m) in order to effectively sample the water column at various depths while accounting for the survey vessel's cruising speed and any prevailing water currents. The Contractor must ensure that they are able to perform the following operations:

At each station the survey gear must be able to be safely lifted and lowered from the deck and deployed a safe distance off the side of the survey vessel while cruising at 2.5-3.5 kts. While maintaining the constant cruising speed of 2.5-3.5 kts the bongo nets need to be lowered and raised in the water column (by way of the winch) repeatedly in a saw-tooth pattern at a constant rate of 0.5 m/s to a maximum depth of 50 m for a minimum of 10 m at each station.

In order to complete this operation, the Survey Vessel must meet certain technical specifications and be rigged in a way that can complete the operation to the satisfaction of the DFO science staff (see section 3.3). The contractor will have three options to accomplish these operations:

- 1) The contractor may provide a survey vessel fully rigged to complete the contract. This can be done by connecting the survey gear to a cable (minimum 300 m) and running the cable through a hydraulic crane or retractable arm. The length of the cable and thus the lowering and raising of the survey gear from the deck, deploying the survey gear off the side, and lowering and raising the survey gear in the water column can be controlled by connecting the cable to either an electric or hydraulic winch fixed to the hull of the survey vessel and powerful enough to perform the operations described above.
- 2) If the contractor does not have an electric or hydraulic winch capable of performing the above operations, the contractor must allow DFO technical staff to temporarily install an electric winch to the survey vessel. This winch weighs approximately 5000 lbs and requires reliable power source of 460 V/ 30 A. The winch's motor strength is 3 HP and its dimensions are 5ft length x 6 feet width x 4 feet height. The survey vessel must have enough space on its deck and the capability of providing the required power source for the operation of the winch.
- 3) If the contractor does not have an electric or hydraulic winch capable of performing the above operations, the contractor must allow DFO technical staff to temporarily install a hydraulic winch to the survey vessel. The winch weighs approximately 2300 lbs and requires a hydraulic system on the survey vessel. Its dimensions are 3.5ft length x 4ft width x 4ft height. The survey vessel must have enough space on its deck and the capability of providing the required power source for the operation of the winch

The survey vessel's crew will be expected to operate and maintain the chosen system used to deploy the survey gear. The survey vessel's crew will also be expected to aid in the stabilization of the survey gear as it is lowered and raised from the deck and as it is brought to the side of the vessel once a station is complete. Therefore, in addition to the crewmember navigating the survey vessel in the wheelhouse, there must be a minimum of two deckhands available during operations. One deckhand will operate the crane/arm and the other will operate the winch and



assist in stabilization of the survey gear. A source of fresh sea water with a hose and nozzle will be required on the deck in order to rinse the nets and for cleanup.

The depth of the sampling gear will be measured by a Scanmar attached to the frames of the bongo nets and monitored on a computer. The operations deck must be visible from where the depth monitoring equipment is installed (wheelhouse or a defined dry and protected area on the survey vessel). This area must have access to a 120 V power source to provide power to the monitoring equipment (computer).

Once a station is complete, the sampling gear will be returned to the side of the vessel where science staff and the crew of the vessel will rinse down the nets with fresh sea water. The sampling gear will then be lowered gently to the deck where science staff will continue with various tasks described in further detail in section 3.1.4.

3.1.4 Scientific Activity Requirements

Following the operations described above in section 3.1.3, science staff will continue spraying the nets with fresh sea water, take various measurements from the gear, detach the codends of the nets, and then transfer and transport the samples to a well ventilated and protected workspace on the deck where they will preserve the samples. A well protected and well ventilated workspace is required for the preservation of the samples as the preservation solution (Formol) is a dangerous and volatile material. The workspace must be large enough to fit a table with sink that DFO staff will provide. The supply of Formol must be able to be secured to the vessel and adequately protected from all sources of damage. Science staff will transfer the preserved samples to glassware housed in boxes (both provided by DFO) and must be stored and secured safely within the vessel. A second sample will be transferred to a sealable plastic bag and frozen. To do this, a freezer (minimum of -18 C) with a reliable source of electricity must be provided and installed on the survey vessel by the contractor.

In addition to the above activities, an adequate dry workspace must be provided to science staff for various tasks inside the survey vessel. This workspace must have a table, chairs, and a reliable source of electricity 120 V for the use of their work laptop computers.

This scientific equipment can be stored and secured on the deck in a hermetically sealed container provided by DFO. Sufficient space on the deck or elsewhere on the survey vessel is required to store and secure this equipment. Assistance with loading and securing this container and all other equipment will be required of the Survey Vessel's crew. These container(s) will contain the following (length cm x width cm x height cm):

- 3 wooden transport cases (36 x 18 x 18)
- 1 plastic case (24 x 18 x 16)
- 1 plastic case (12 x 16 x 7)
- 6 plastic cases (22 x 18 x 17)
- 1 box (12 x 12)
- 2 duffel bags (hockey sized)
- 2 bags containing immersion suits (1/2 hockey duffel bag size)

3.1.5 Vessel Accommodations

The contractor must ensure that the survey vessel can provide room and board for two DFO science staff for the length of the survey. More specifically the elements listed below:

The survey vessel must provide clean and sanitary accommodations for the vessel crew and science staff.

The Contractor must supply clean, sanitary, dry, and comfortable mattresses covered with clean, fitted covers. The Contractor must also supply sheets, blankets, comforters, pillows, and towels for the scientific personnel.

The Survey Vessel must provide dry storage space in the accommodations for the clothing and personal effects of science staff.



The Survey Vessel must each have at least 1 functioning shower and toilet that can be used in privacy by the crew and science staff. The Contractor must provide toilet paper, soap and paper towels.

The Survey Vessel must provide sufficient potable fresh water for vessel and personal use (including showers) for the vessel crew plus the additional scientific staff for the indicated vessel endurance.

The Survey Vessel must provide three (3) nutritionally balanced meals each survey day. Meal times will be coordinated with the Chief Scientist to accommodate both the need to complete sampling work and the time required to prepare meals by the cook. Meals will be provided by the Contractor for all scientific personnel during all survey days.

3.1.6 Health and Safety

The Contractor must comply with all federal and provincial/territorial legislation regarding occupational health and safety.

The Captain has final discretion over the safety of the vessels and all personnel.

The Captain must review safety procedures and equipment (e.g., life rafts, immersion suits, personal flotation devices, First Aid supplies) with the vessel crew and science staff at the beginning of the survey and after any change in vessel or science personnel. Muster stations for all vessel crew in the case of fire, abandon ship, or other emergency must be identified to the crew and a ship's emergency drill must be conducted.

The Captain must adhere at all times to navigational rules and regulations contained in the Canada Shipping Act whether it be during operations, running, drifting, or when at anchor.

DFO will provide immersion suits and personal flotation devices (PFDs) for all science staff. The Survey Vessel must provide adequate dry, storage for all immersion suits for both the vessel and science crew.

The Survey Vessel must provide Transport Canada approved life jackets in good repair for all personnel aboard.

Smoking must be prohibited in the Survey Vessels' accommodation space, scientific work areas (including the wheelhouse), and mess.

Accommodation space, scientific work areas (including the wheelhouse), and the mess must be adequately ventilated and free from tobacco smoke, excessive engine noise, and hydrocarbon fumes.

During inclement weather, the Captain and Chief Scientist will work together to determine if fishing and sampling operations will continue. The Captain may suspend operations whenever it is determined that sampling is not feasible or to protect the safety of the vessel and crew. The Chief Scientist will suspend operations when the weather is affecting the sampling ability of the net or the ability to safely and accurately record and collect biological samples. Note that weather days will be paid at the full daily rate.

The Survey Vessel shall maintain First Aid supplies appropriate to an industrial work environment.

3.2 Language of Work

The language of work is English or French.

3.3 Special Requirements

Any fishing activities that do not comply with the scientific protocol are in violation of the fishing licence conditions and may lead to cancellation of the contract.

3.4 Change Management Procedures

Any changes to the scope of the project will be discussed by the DFO Project Authority and

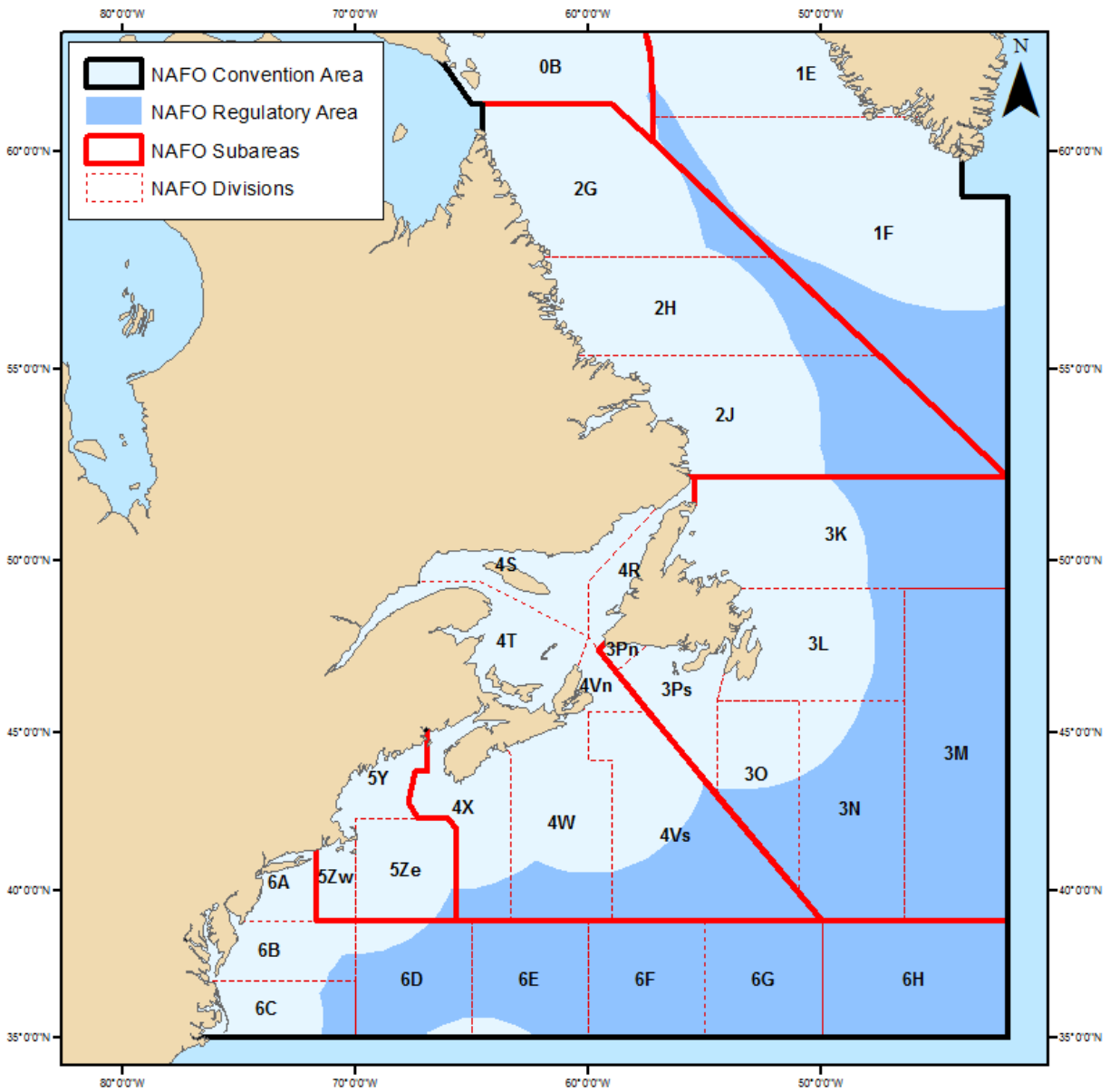


Contractor and actioned by means of a formal contract amendment issued by the Contracting Authority.

3.5 Ownership of Intellectual Property

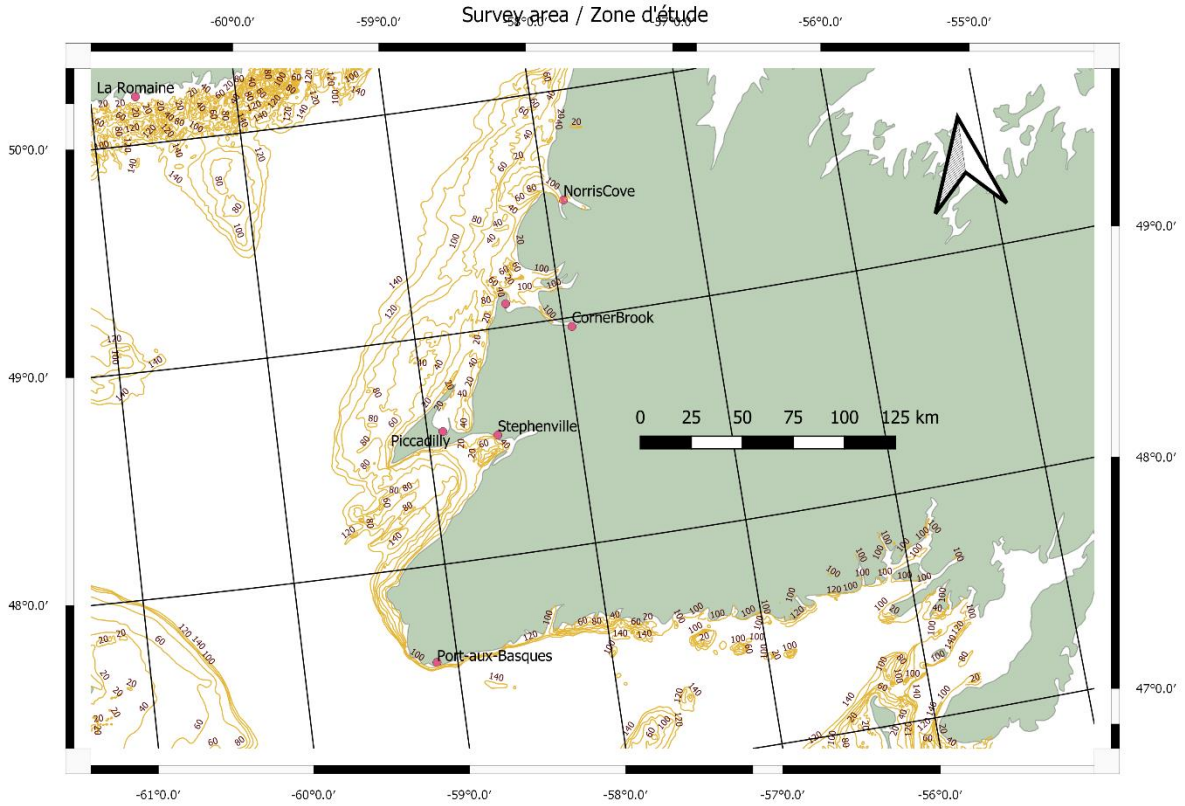
Fisheries and Oceans will own any resulting intellectual property from this contract as it will be used to generation knowledge and information intended for public dissemination.

NAFO Map





Survey Area



The MARMAP Bongo Zooplankton Samplers

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and

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Abstract

Two bongo zooplankton samplers are described and the methods of construction given. Each sampler consists of a pair of nets mounted so that the mouth openings of the rigid body sections are on either side and in front of the towing wire. The results of tests comparing the bongo samplers with a 1-m ring net and the Gulf III enclosed sampler indicate that the bongo samplers give a more representative sample of the ichthyoplankton community than either of the other two types. The results of testing the bongo samplers for filtration efficiency and the effects of different mouth areas, towing distances and towing speeds show that none of these factors had a significant effect upon the catch per volume of water filtered.

Introduction

The zooplankton samplers described in this paper were developed primarily to collect pelagic eggs and larvae of fishes and their forage organisms inhabiting the upper 200 m of water over the continental shelf of the Northwest Atlantic. The fisheries of this area exhibit great variation in the annual recruitment of many species, seemingly caused by variation in mortality during the very early life stages of the fishes. In order to study these variations in mortality rates and their causes, a better sampler than those customarily used in this type of work was needed. It was obvious that such a study would require the use of many ships, probably from several nations, over several years. Sampling would have to be done year-round in all kinds of weather. A standard quantitative sampler was needed that was simple, sturdy, reliable, efficient, and preferably inexpensive, and that could be deployed from small vessels used in coastal waters as well as from large offshore research vessels.

The samplers described here were inspired by one developed by McGowan and Brown (MS 1966). Departure from their design has been considerable but the basic principle of a pair of nets with mouth openings on either side of and in front of the towing wire remains the same. They called their sampler the "bongo net" and that name has been retained for those described here.

MARMAP is an acronym for Marine Resources Monitoring, Assessment, and Prediction program of the USA National Marine Fisheries Service. The MARMAP program and its international cooperators have adopted our versions of the bongo net (Fig. 1) as their standard zooplankton samplers. Smith and Richardson (1977) in a recent FAO publication recommended the bongo configuration as the best type of gear for ichthyoplankton surveys.

Description of the Samplers

The tests and trials described below were convincing enough to indicate that the bongo design was better than either the traditional ring-net or the more modern high-speed enclosed net. It was also considered that two sizes would be useful: a rather large sampler with fairly coarse mesh to filter a large volume of water without using excessive ship time to collect fish larvae which may be scarce at certain times in certain places, and a smaller sampler of fairly fine mesh to collect forage organisms. The sizes adopted for use, 20 cm and 61 cm inside diameters, gave roughly a 9:1 ratio to test the effects of mouth area on catches, and construction materials for these sizes happened to be conveniently available.

The 20-cm MARMAP bongo

The bodies of this sampler (Fig. 2) were made of commercially available polyvinyl chloride (PVC) pipe, nominally 8 inches (20 cm) in diameter with wall thickness of 5/16 inches (8 mm). The pipe was cut into 30-cm lengths which were turned in a lathe to square the ends, round the leading and trailing edges, and make a groove 32 mm wide and 3 mm deep near the trailing edge. This groove is used to fasten the collar of the net to the sampler body with a stainless steel hose clamp. Actual measurement of 10 sampler bodies, after construction, gave an average mouth area of 0.0314 m².

The towing yoke (Fig. 2), used to fasten the sampler to the towing wire and support the two bodies, is made of Type 304L stainless steel flatbar bent and welded to shape. The cylindrical wire fastener is a modified swivel-top messenger. The slot in the fastener is a loose fit on 1/4-inch (6mm) wire, permitting the sampler to rotate in the horizontal plane. The trunnion pins permit rotation in the vertical plane.

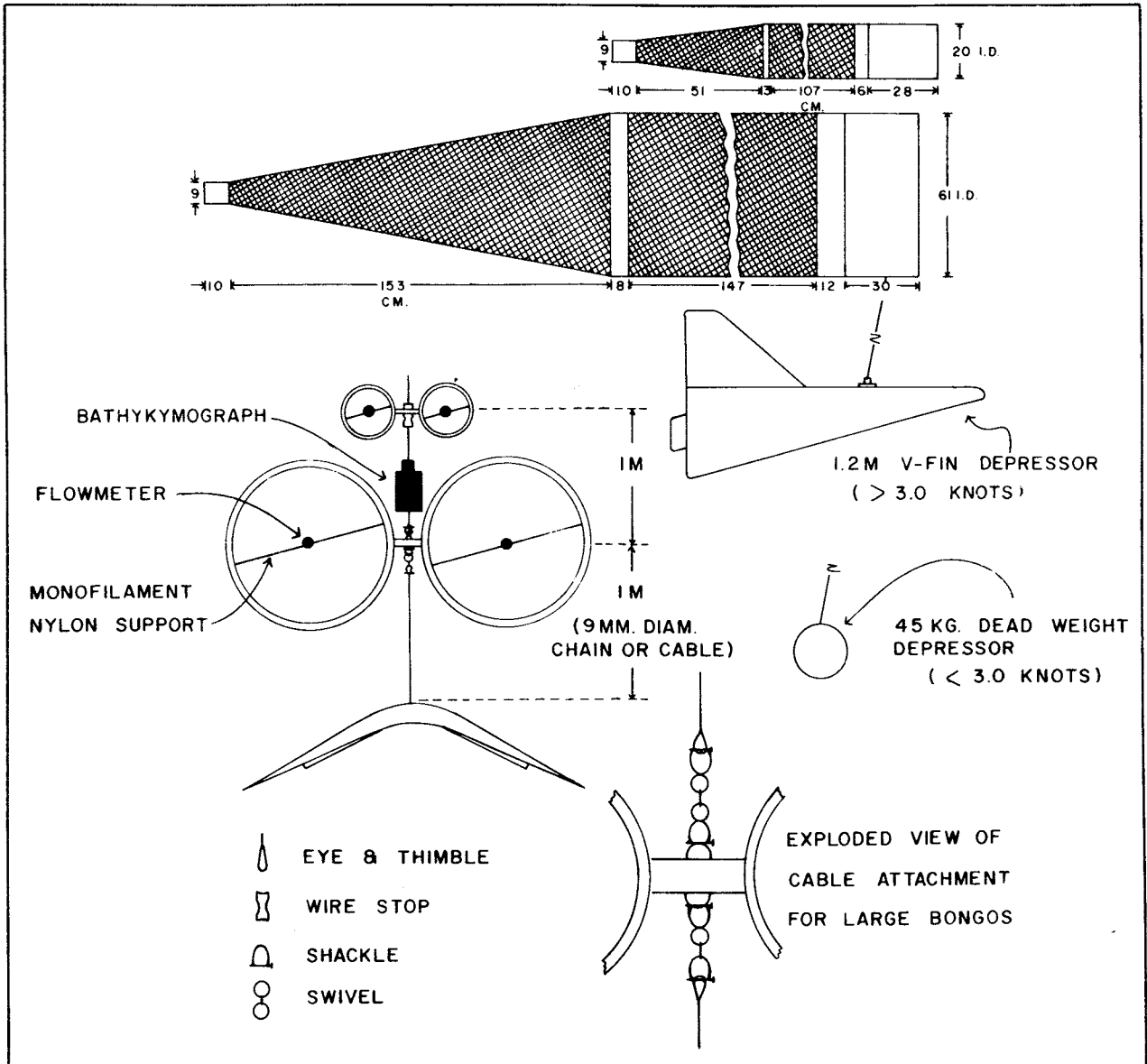


Fig. 1. The MARMAP bongo sampler array.

so that the sampler always faces straight ahead when being towed. A wire-stop is used below the sampler to support it on the towing wire. Stops at various positions along the towing wire allow a series of samplers to be used for simultaneous collections at different depths.

The 61-cm MARMAP bongo

The cylindrical bodies of this sampler (Fig. 3) were constructed of fiberglass reinforced polyester resin (FRP), 30 cm long with wall thickness of 12 mm. The inner diameter is 24 inches (61 cm), giving a mouth area of 0.2923 m². The leading edge is rounded and the trailing edge has a 1/4-inch (6 mm) raised bead, just

forward of which the net is fastened by a stainless steel hose clamp.

The yoke (Fig. 4), also made of Type 304L stainless steel, is an axle between two cheek plates riding in a split sleeve with a nylon or teflon bushing, allowing orientation in the vertical plane. The two pad-eyes welded to the lugs of the split sleeve are shackled to the towing wire with good quality swivels to allow orientation in the horizontal plane. The two sampler bodies are bolted to the cheek plates of the yolk with reinforcing plates inside the bodies to better distribute the towing load. The round bar at the rear of the yoke is intended to reduce the bending load on the axle when the samplers are towed at high speed.

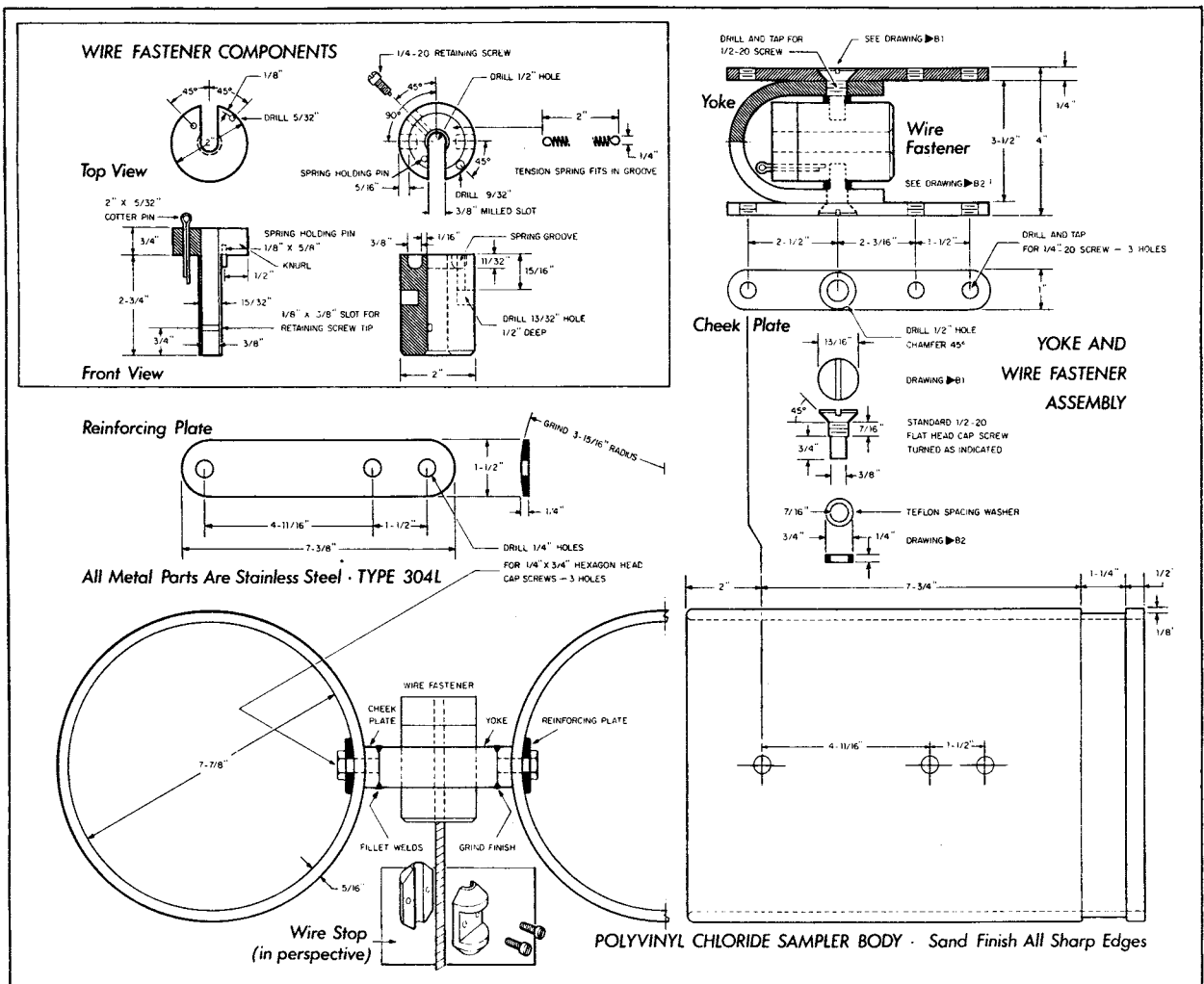


Fig. 2. Construction details of the 20-cm MARMAP bongo sampler.

Nets and Accessories

The nets used on the bongo samplers are cylinder-cones (Fig. 1), this construction having been shown (Smith *et al.*, 1968) to be highly resistant to clogging. The practice has been to make the open area in the gauze of the conical section equal to three times the mouth area and to put enough gauze in the cylindrical section so that the ratio of the total open gauze area to the mouth area is 8-15:1 depending on the mesh size. The finer the mesh size used, the larger the net. Mesh sizes from 0.1 to 0.5 mm have been used for sampling in neritic and littoral waters with very few cases of clogging, most of which were caused by blooms of filamentous algae or dense concentrations of salps or ctenophores.

The two nets on a sampler need not have exactly the same mesh size, but the difference cannot be too great especially on the 20-cm sampler, as the more

rapid accumulation of catch in the net with the smaller mesh will throw the sampler out of balance to the extent that it ultimately stops sampling. The difference in mesh size should not be much more than 0.15 mm.

Codend cups of various types (metal, plastic, glass, canvas, gauze) have been tried at one time or another, and all have been more or less unsatisfactory. The weight of most types of cups causes the rear end of the net to sink at slow speed, and they whip around dangerously during retrieval in strong winds. Instead of using codend cups, the best method was to securely tie the end of the net with twine. The nets are gently hosed down before being brought on board, washing most of the catches into the conic part of the codends. Further hosing on board cleans the forward part of the nets, and the rear part of the nets are carefully washed after the codends are placed in buckets and untied. The catch from each net is bottled and preserved after

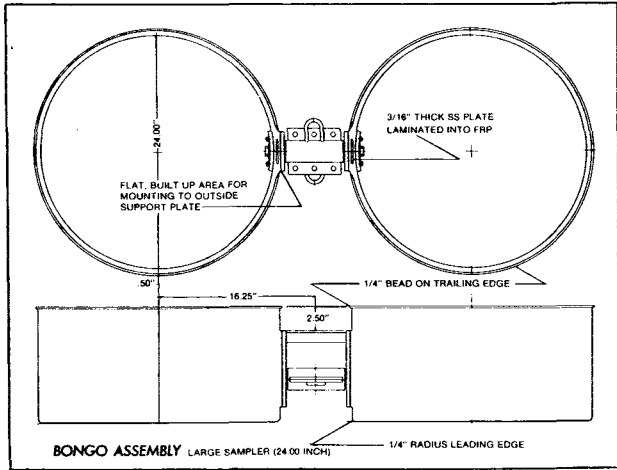


Fig. 3. Assembly details of the 61-cm MARMAP bongo sampler.

straining through a fine-mesh sieve.

Flowmeters of various types to measure the volume of water filtered have been used both inside and outside the sampler bodies. A satisfactory type of flowmeter used consists of a 6-digit counter encased in a 3.5-cm transparent acrylic sleeve with a brass bullet-shaped nose piece. The 7.6-mm diameter rotor is precision-molded in plastic with helical vanes fastened directly to the shaft of the counter. The design of the rotor vanes is such that they offer minimum resistance to water flow and shed seaweed strands or other debris which tend to clog the traditional ducted fan-type flowmeters. All moving parts are stainless steel or plastic. Although the flowmeters are calibrated by the manufacturer, further recalibration is carried out in a tank on shore and checked against the ship's electromagnetic log at sea.

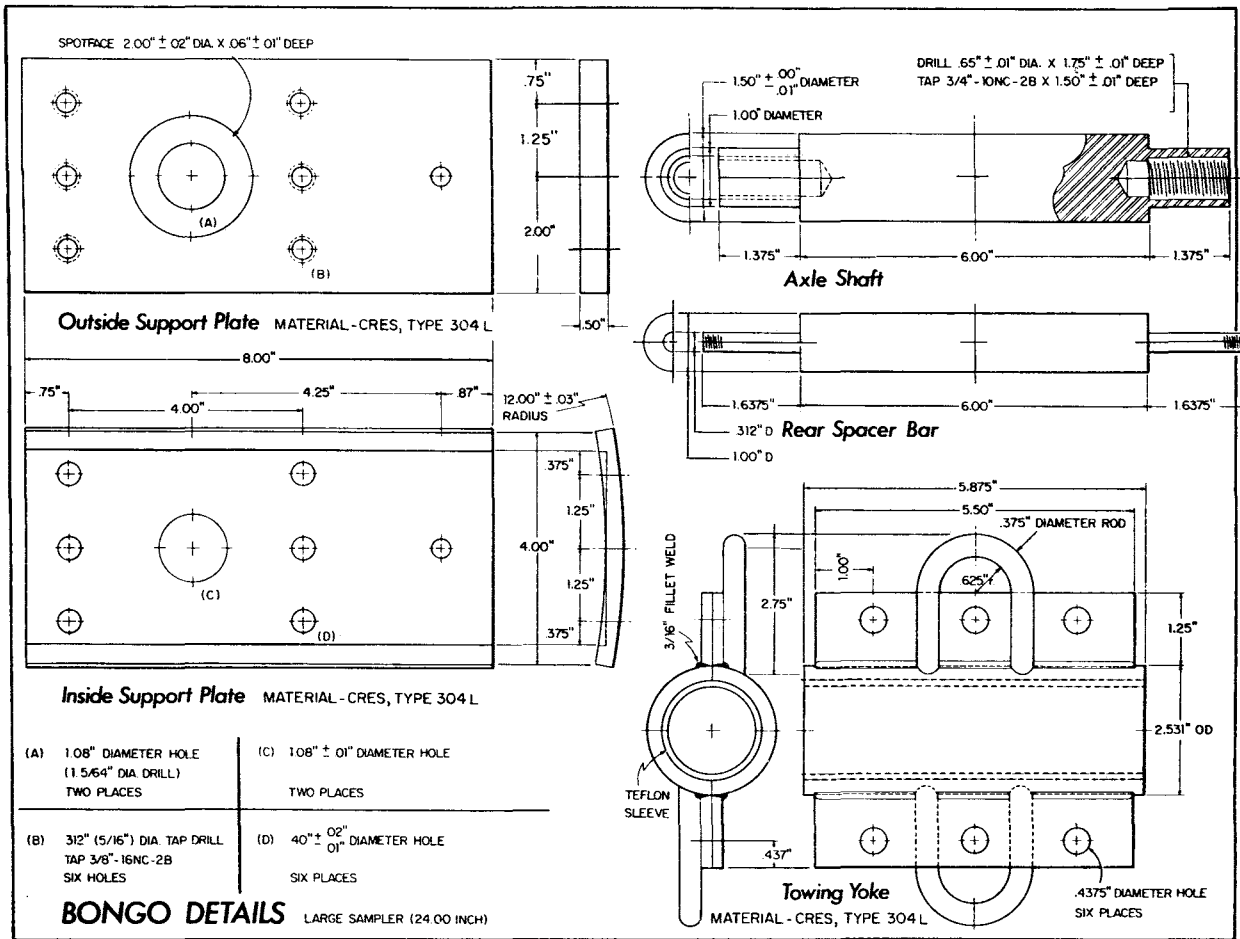


Fig. 4. Construction details of the yoke of the 61-cm MARMAP bongo sampler.

A time-depth recorder has been used on most of the tows, giving a strip-chart recording of the amount of time sampling as a function of depth.

A depressor of some type is required to overcome the drag of the samplers and to maintain them at the desired depths. A simple weight of about 45 kg was found to be sufficient at low speeds, below 3 knots. A 4-ft (1.22-m) V-fin depressor was used at higher speeds. With both samplers at the end of 270 m of towing wire (6 mm), the V-fin took the gear down to 160 m at 3 knots, 115 m at 5 knots, and 100 m at 7 knots. Tank tests have shown the drag of the samplers at the above speeds to be 100, 350 and 650 kg respectively.

Remarks on Construction

The MARMAP program has adopted the designs of the bongo samplers described above, but the details of dimensions and materials are not unique. Anyone desiring to modify the designs should be careful of a few points. The sampler bodies must be long enough so that the mouths will always be forward of the towing wire. The two mouth openings must be in the same plane and the towing point must be exactly centered or the sampler will not face precisely in the direction that it is being towed. The pivot point of the yoke should be about 25 mm forward of the balance point of the bodies. The samplers will not enter the water smoothly and tow truly unless they are tail heavy.

The dimensions given in Fig. 2, 3 and 4 were taken from the construction drawings used by the MARMAP Program Office to purchase more than 100 units which have been distributed to many investigators in the United States and several other countries. As a result, components are interchangeable and a damaged sampler can be used as a source of spare parts. There are no exact metric equivalents of the nuts, bolts, rods and bars that were used to fabricate the samplers, and a simple mathematic conversion from inches to metric equivalents would not be useful. A completely new "metric model" of the sampler could be designed, if there were a need, but similar metric components can be substituted if necessary without changing the fundamental design.

PVC and FRP materials were used for the sampler bodies because these products were readily available, relatively inexpensive, and strong enough to withstand the rough handling at sea, but other materials might be equally satisfactory. Even the shape need not be fixed, as square-shaped bodies were tested in some early trials and found to work as well as cylindrical bodies. Some investigators have constructed similar samplers using aluminum tubing for the leading and trailing edges with fore and aft spacers and a canvas sleeve fastened around the frame. This type of construction may provide a lighter, more manageable, and cheaper

sampler, but filtration efficiency may be reduced by turbulence inside and outside the sampler. The yoke can be made of other metals such as steel or bronze, but care should be taken to avoid using dissimilar metals so that welds do not become sites of electrolytic corrosion.

Tranter and Heron (1967) have reported some interesting tests using sampler bodies shaped like truncated cones. Their design giving the greatest filtration efficiency had a cylindrical forward section, 25 cm long and 12.7 cm inner diameter, to which was attached a conical section 10 cm long which expanded to an inner diameter of 18 cm. With the net attached to the rear end of the cone, they reported filtration efficiency of 1.145 for the net mouth opening. This amounts to 2.3 times the mouth opening of the sampler.

Filtration Efficiency of the 61-cm Sampler

The filtration efficiency, that is, the volume of water accepted by the sampler divided by the volume of water presented to it, of the 61-cm sampler has been measured at the USA Naval Ship Research and Development Center (Smith, MS 1972). The tests were made in the high-speed towing basin with the sampler (one side only) and the net mounted on a strut attached to the towing carriage. A pitot-static pressure probe was mounted on another strut which passed through a slit in the net, placing the probe approximately 6 mm ahead of the trailing edge of the sampler body. Pressure data were taken at velocities from 0.5 to 6.5 knots (25–335 cm/sec) in 0.5 knot increments. The pressure probe was calibrated by running it in the free stream with the sampler removed.

The pressure probe was first placed at the center of the mouth opening and a complete series of data on carriage velocity and the corresponding pressure inside the sampler obtained. The probe was then lowered 15.2 cm below the center point of the mouth opening and the series of speed runs repeated. Successive runs were then made with the probe located 22.9, 26.7, 28.6, 29.2 and 30.0 cm from the center.

Table 1 gives the results of the measurements expressed as relative velocity, that is, the observed pressure inside the sampler divided by the free stream pressure clear of the sampler, for speeds of 2.5–5.0 knots. The instruments were difficult to read accurately at speeds less than 2.5 knots, and vibration interfered with the readings at speeds greater than 5.0 knots. All of the values, except those taken close to the wall of the sampler, are equal to or greater than 1.0 (Table 1), indicating that the sampler actually takes in and filters about 6–7% more water than would be predicted from the product of mouth area times

TABLE 1. Relative velocities of water passing through the sampler compared to the speed of the sampler through the water at seven radial distances from the center of the mouth opening, with mean and standard deviation for each location over a range of speeds from 2.5 to 5.0 knots.

Sampler speed (knots)	Relative velocities for 7 radial distances (cm) from center of sampler mouth opening						
	0.00	15.2	22.9	26.7	28.6	29.2	30.0
2.5	1.083	1.083	1.000	1.083	1.083	1.083	1.000
3.0	1.056	1.111	1.056	1.000	1.056	1.111	1.000
3.5	1.125	1.083	1.083	1.083	1.083	1.083	0.958
4.0	1.063	1.063	1.094	1.125	1.063	1.094	1.000
4.5	1.045	1.000	1.023	1.091	1.023	1.000	0.955
5.0	1.080	1.100	1.080	1.080	1.060	1.040	1.040
Mean	1.075	1.073	1.056	1.077	1.061	1.069	0.992
S.D.	0.028	0.040	0.037	0.041	0.022	0.041	0.032

distance towed. It should also be noted that the flow of water through the sampler is quite uniform. The flowmeter, therefore, can be located anywhere it can be conveniently mounted provided that the rotor is kept about 50 mm away from the wall of the sampler.

Results of Field Tests

The two sizes of the MARMAP bongo samplers have been tested to measure the differences, if any, in catches of port and starboard nets, different mouth areas, different towing speeds, different towing distances, and any day-night effects. Towing speeds were 3 and 6 knots (93 and 186 m/min), and distances were 1 and 2 nautical miles (1,852 and 3,704 m). All nets were 0.505 mm nylon mesh cylinder-cones with filtering ratios of about 8:1 in the 61-cm sampler and 15:1 in the 20-cm sampler. An 8.5-cm ducted-fan flowmeter (TSK) was mounted in each of the samplers and another on the outside of the 61-cm sampler. The flowmeters and the ship's electromagnetic log were

calibrated on the Provincetown, MA, measured mile. The bongo sampler array is shown in Fig. 1.

The sampling area was a 10-mile (18 km) square in the Gulf of Maine with average water depth of about 100 m. Four sets of eight stations each and the sequence in which the four combinations of speed and distance were made were randomly selected, two of each combination in each eight-station replicate. Two replicates were done at night and two during the day. All tows were made horizontally at about 20 m, using the same length of wire for each tow.

In addition to the expected plankton organisms, a goosefish (88 cm), a silver hake (32 cm) and three dogfish (78, 62 and 57 cm) were caught, all being taken at night in the 61-cm sampler at 6 knots; two of the dogfish were taken in the same tow, one in each net. Plankton samples were preserved at sea and subsequently sorted on shore. Seven species of fish larvae from 2 to 20 mm long were identified and

TABLE 2. Catches of fish larvae (numbers per 100 m²) in the four-net MARMAP bongo array for the different combinations of speed (S) in knots and distance (D) in nautical miles. (The symbol ... indicates that the catch was not sorted.)

S-D	Night				Day				
	20-cm		61-cm		S-D	20-cm		61-cm	
	Port	Stbd	Port	Stbd		Port	Stbd	Port	Stbd
6-2	45	38	...	33	6-2	16	13	...	9
3-2	34	23	17	...	3-2	76	71	65	...
3-1	53	...	80	73	6-2	29	...	43	28
6-2	28	...	57	59	6-1	110	137	...	97
6-1	...	25	16	20	3-1	...	60	56	90
3-2	712	...	912	1016	6-1	...	435	435	lost
3-1	142	192	212	...	3-2	...	95	79	33
6-1	318	285	225	...	3-1	154	199	...	123
3-2	99	101	76	...	3-1	35	...	32	47
6-1	...	27	25	25	6-2	39	...	32	33
3-2	...	25	19	21	6-1	35	50	43	...
6-2	45	76	...	47	3-1	lost	40	43	...
3-1	...	48	54	65	3-2	25	30	32	...
6-1	10	18	10	...	6-1	...	110	125	120
6-2	...	52	65	62	6-2	58	55	...	48
3-1	434	504	...	336	3-2	...	42	38	42

counted (yellowtail flounder, Atlantic cod, four-bearded rockling, silver hake, Atlantic redfish, cunner and shanny). The catch of one net randomly selected from each tow was not sorted, as indicated in Table 2.

Catch per tow was converted to catch per 100 m³, using the sampler mouth area and the observed revolutions of the flowmeters inside the nets as a measure of the distance towed. Comparison of these readings with the flowmeter attached outside the sampler and with the ship's electromagnetic log showed no evidence of clogging. The 20-cm sampler filtered about 60 m³ of water through each net during the 1-mile tows and about 120 m³ during the 2-mile tows, whereas the 61-cm sampler filtered about 550 m³ and 1100 m³ respectively over the same distances. The numbers of fish larvae caught per 100 m³ of water filtered by the nets are given in Table 2.

Statistical analyses

The traditional parametric tests were not considered appropriate for data of the type presented here, as the number of samples is small, their distributions are not normal, and the variances are not independent of the means. Logarithmic transformations on other data, not reported here, did not materially improve the situation. Consequently, the following analyses are based on non-parametric (sometimes called distribution-free) statistical tests. These tests are not particularly new (Bradley, 1968) but they seem to have been neglected by all but a few investigators of marine populations. Specifically, the Wilcoxon matched-pairs signed-rank test was used to compare two sets of related samples, and the Kruskal-Wallis test was used to compare two or more sets of independent samples (Siegel, 1956; Conover, 1971).

All analyses were made using the catch per unit volume filtered.

Port and starboard nets

Application of the Wilcoxon test for differences in catches of fish larvae by the port and starboard nets of both samplers indicated no significant difference for both the 20-cm sampler (P = 0.16) and the 61-cm sampler (P = 0.54).

The 20-cm and 61-cm samplers

The availability of more samples for these comparisons enabled the testing of the day and night samples separately as well as combined. All tests were made on a diagonal of the sampler array, comparing the catch of the port net of one sampler with the starboard net of the other sampler. There was no significant difference between the catch per unit volume of the larger net and that of the smaller net either during the day (P = 0.08) or at night (P = 0.86) or for day and night catches combined (P = 0.25).

Day and night effects

Having confirmed that there was no significant difference between the port and starboard nets, the catch rates of fish larvae by the 20-cm starboard net and the 61-cm port net was taken as being representative of each tow. In cases where the catch of the selected net was not sorted, the catch of the other net of the pair was used. Using the Kruskal-Wallis test, the four replicate blocks were tested to see if the population in the area sampled had changed during the 2 days spent sampling (Table 3). Catch rates declined somewhat on the second day but the

TABLE 3. Results of the Kruskal-Wallis test comparing catches of fish larvae (number per 100 m³) under various factors investigated using the two sizes of bongo sampler. (N = number of tows, ΣR = sum of ranks, H = test statistic, and P = probability that differences caused by chance.)

Factor	N	20-cm sampler			61-cm sampler		
		ΣR	H	P	ΣR	H	P
Block 1	8	132			149		
Block 2	8	157			158		
Block 3	8	121			116		
Block 4	8	118	1.34	0.72	105	2.77	0.42
Night	16	253			265		
Day	16	275	0.17	0.69	263	0.002	0.96
3 kt/1 mi	8	160			159		
3 kt/2 mi	8	131			127		
6 kt/1 mi	8	138			136		
6 kt/2 mi	8	99	2.71	0.45	106	2.05	0.57
3 knots	16	291			286		
6 knots	16	237	1.04	0.31	242	0.69	0.42
1 mile	16	298			295		
2 miles	16	230	1.64	0.20	233	1.37	0.25

difference was not significant for either net. Both nets showed no significant day-night differences.

Speed and distance effects

Application of the Kruskal-Wallis test to examine speed and distance effects showed no significant difference between the catch rates for the four speed-distance combinations, although both nets took the fewest larvae during the 6 knot-2 mile tows (Table 3). Looking at speed of tow only, catch rates were higher at 3 knots than at 6 knots, but the difference was not significant for either sampler. The 1-mile tows took more fish larvae per unit volume than the 2-mile tows, but again the differences were not significant.

Comparison of Bongo Nets with Other Samplers

Gehringer's bongo and the Working Party-3 net

Jack W. Gehringer (pers. comm., National Marine Fisheries Service, Washington, D. C.) compared the performance of the Working Party-3 net (Fraser, 1966) with a bongo-type sampler which he devised. His bongo, with mouth area of 0.172 m² on each side, was fitted with a 0.947-mm mesh net on one side and 0.333-mm mesh on the other. The Working Party-3 net was a 1-m ring net with 0.947-mm mesh. Both samplers were towed simultaneously from the port and starboard sides of the vessel at 3 knots. The nets with calibrated ducted-fan flowmeters were towed at a depth of about 5 m.

In 27 paired tows, the bongo net with 0.947-mm mesh filtered 7,632 m³ of water and caught 4,969 fish larvae (65 per 100 m³), while Working Party-3 net filtered 31,773 m³ of water and caught 8,672 larvae (27 per 100 m³). The catch per unit volume of the bongo was thus about 2.4 times that of the Working Party-3 net. The Wilcoxon test on the paired tows (Table 4) shows a significant difference ($P = 0.005$) between the

TABLE 4. Numbers of fish larvae taken per 100 m³ of water filtered during 27 simultaneous hauls of a bongo net and a Working Party-3 ring net (unpublished data from J. W. Gehringer).

Set no.	Bongo	WP-3	Set no.	Bongo	WP-3
1	11.2	7.7	15	1.3	0.3
2	349.7	40.6	16	10.1	1.8
3	234.9	155.7	17	53.2	23.4
4	185.4	47.1	18	0.7	0.5
5	225.9	9.0	19	4.6	6.3
6	48.3	6.1	20	31.1	36.3
7	7.2	0.3	21	153.5	228.8
8	6.7	3.2	22	235.2	46.2
9	29.3	33.3	23	3.5	2.1
10	24.3	32.6	24	18.5	6.4
11	90.5	29.6	25	11.4	10.4
12	0.7	0.8	26	6.5	1.8
13	4.9	1.5	27	3.5	0.6
14	2.4	1.2			
			Mean	65.0	27.2

catch rates of the 2 samplers.

The 20-cm MARMAP bongo and Gulf III

Sherman and Honey (1968) tested the 20-cm bongo sampler against the widely used Gulf III encased sampler (Gehringer, 1952). Ten tows were made at 6 knots for 30 minutes with both samplers on the same towing wire about 25 cm apart. The mouth openings of both samplers were the same (20 cm diameter) and the nets used (nylon on the bongo, metal on the Gulf III) were 0.366-mm mesh. Calibrated flowmeters were used to measure the distance towed.

The catches consisted of a mixture of zooplankters, about 80% copepods. The mean catch of copepods in the bongo was 14,483 per 100 m³ while the Gulf III took only 1,722 per 100 m³. In a later paper, Sherman and Honey (1971) reported that all of the significant differences between the two samplers occurred among the smaller organisms (median width < 0.38 mm), while there were no significant differences between samplers in the catches of larger organisms (median width > 0.40 mm). In no case was there a significant difference between the two nets of the bongo sampler. They concluded that many of the smaller organisms had been extruded through the tail of the Gulf III by high filtration pressure across the meshes.

The Standard MARMAP Sampling Array

The standard MARMAP sampling array (Fig. 1) consists of a 20-cm bongo, a 61-cm bongo, a time-depth recorder (bathykymograph), and either a 12.2 m V-fin depressor or a 45 kg weight. Flowmeters to measure the distance towed and the volume filtered are fitted to all nets. A wire-stop holds the 20-cm sampler on the wire 1 m above the 61-cm sampler which is shackled with a swivel to an eye at the end of the towing wire. The depressor is fastened to a 1-m length of chain which is shackled with a swivel to the lower pad-eye of the 61-cm sampler. The time-depth recorder is fastened to the wire between the samplers. Nylon nets (Nitex) with mesh sizes of 0.253 and 0.333 mm are used on the 20-cm sampler and mesh sizes of 0.333 and 0.505 mm on the 61-cm sampler. Net sizes may be changed for special collections, and occasionally only one size of sampler may be used.

Discussion

It seems clear that plankton samplers of the bongo type collect more ichthyoplankton per unit volume of filtered water than either the traditional bridled ring-net or the more modern encased samplers. Their superior performance is probably the result of the smoother water flow in front of, within and behind the

nets. The tank tests show that the rate of flow through the bongo sampler is quite uniform. A flowmeter located anywhere (except against the wall) would register within 2% of the mean (Table 1).

The bongo samplers, because of their unobstructed mouth openings, reduce the avoidance problems caused by the bridle, pennant and towing wire in front of the ring net. They also reduce the extrusion problem of the encased samplers because of the lower filtration pressure across the meshes. However, further work should be done to reduce, or at least measure, the effects of both avoidance and extrusion, and to study by more sophisticated hydrodynamic methods the behaviour of the net as it is being towed through the water. Only after such studies will more meaningful conclusions be drawn from field collections.

The best results with the bongo sampler will probably be obtained with a judicious balance of towing speed, mesh size, and mouth area to gauze area ratio, based on the size range of the specific components of the plankton community which are of interest. The use of conic sections in the sampler bodies offers opportunities for increasing the volume of water filtered per unit of ship time, but this may cause complications by selectively sampling plankters of different densities.

Although most tows show good agreement between the catches of the two nets on the same sampler, occasional tows show larger differences. These differences seem to be random and average out when the results from several stations are pooled, but they may be real, rather than just sampling error, and reflect the effects of sampling patchy distributions.

Station procedures have been standardized in the MARMAP program so that valid comparisons can be made between collections at different times and places by different ships. The primary objective is to sample all levels of the water column equally to a depth of 200 m, or to within 5 m of the bottom in shallow areas, with a double oblique tow at 1.5–2.0 knots. Because setting the gear over the stern into the propeller wash is highly undesirable, the ship should have a boom long enough to place the samplers in the water well away from the side to avoid turbulence and discharges.

Sampling under the MARMAP program involves maintaining a constant speed of 2.0 knots, with the ship heading into the wind as the gear is being lowered smoothly at 50 m per minute until the desired sampling depth has been reached, and then immediately hauled back at 20 m per minute until the samplers break the surface. There should be no hesitation at the interface, as this would lead to over-sampling the surface layer.

In some operations, like the ICNAF Larval Herring Survey Program (ICNAF, MS 1972), tows have been

made at 3.5 knots because some of the ships involved could not maneuver at the slower desired speed of 2.0 knots. On some stations, after the 2.0 knot tow, a second tow is made at 4.5 knots, usually with the 61-cm sampler only fitted with two 0.505 mm nets, in an attempt to sample the larger larvae which may be able to avoid the gear when towed at 2.0 knots. Towing the gear at high speeds is not advocated for routine operations, although the bongo sampler has been towed at 9.0 knots without destroying the gear.

Acknowledgements

We find it impossible to acknowledge all of the advice and help that we received from many of our colleagues both in the National Marine Fisheries Service, formerly Bureau of Commercial Fisheries, and in other institutions. Our collections of data were made aboard the research vessel *Albatross IV*, and we thank the crew for the care with which they handled the gear. The samples were sorted, under the supervision of R. R. Marak, mainly by students temporarily employed during the summer, and we appreciate their contributions.

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Note

Construction drawings and specifications for the samplers, nets and accessories may be obtained from the authors.



**ANNEX "B"
BASIS of PAYMENT**

The bid must specify the price per day at sea (see definition of day at sea below), for a total of 10 days at sea, as well as the price for the days spent at the wharf in the event of bad weather (see definition of day at wharf below). Billing will be done depending on the number of days at sea and the number of days spent at the wharf.

Firm Contract Period – Contract Award to July 31, 2021

Item	Unit	Up to Number of Units	Price per Unit	Extended Price
Day at sea	Per Day	10	\$ _____	\$ _____
Day spent at wharf	Per Day	5	\$ _____	\$ _____
Total Price (excluding taxes)				\$ _____

Option Year 1 – August 1, 2021 to July 31, 2022

Item	Unit	Up to Number of Units	Price per Unit	Extended Price
Day at sea	Per Day	10	\$ _____	\$ _____
Day spent at wharf	Per Day	5	\$ _____	\$ _____
Total Price (excluding taxes)				\$ _____

Option Year 2 – August 1, 2022 to July 31, 2023

Item	Unit	Up to Number of Units	Price per Unit	Extended Price
Day at sea	Per Day	10	\$ _____	\$ _____
Day spent at wharf	Per Day	5	\$ _____	\$ _____
Total Price (excluding taxes)				\$ _____



** The inclusion of volumetric data in this document does not represent a commitment by Canada that Canada's future usage of the services described will be consistent with this data.

One payment will be made per year.

Once the project has started, the days described below will be considered as days spent at the wharf and may therefore be charged at the corresponding rate in the section Basis of payment :

- Days of bad weather conditions requiring the Survey vessel to remain at a wharf.

Days spent at a wharf because of mechanical or structural problems of the Survey Vessel will not be considered as days at sea or days spent at the wharf. They cannot be charged. Costs for repairs of all mechanical or structural damage to the Survey Vessel are the responsibility of the Contractor. All costs associated to any damage or loss to DFO equipment or samples are the responsibility of the Contractor.

The Contractor will be paid according to the number of days at sea and days spent at a wharf. Sea days include days of transit and days when surveying.

The firm price per day at sea MUST include ALL costs associated with conducting the work including but not limited to:

- Fishing gear and gear required to operate the survey gear
- Freighting and vessel operations
- Crew wages
- Meals for crew and DFO scientists
- Fuel
- Vessel insurance
- Maintenance
- Contract administration
- Sampling logistics
- Equipment leasing
- Material (preserved samples and logbook)
- Communications



ANNEX "C" INSURANCE CONDITIONS

1. The Contractor must obtain protection and indemnity insurance that must include excess collision liability and pollution liability. The insurance must be placed with a member of the International Group of Protection and Indemnity Associations or with a fixed market in an amount of not less than the limits determined by the [Marine Liability Act](#), S.C. 2001, c. 6. Coverage must include crew liability, if it is not covered by Worker's Compensation as detailed in paragraph (2.) below.
2. The Contractor must obtain worker's compensation insurance covering all employees engaged in the Work in accordance with the statutory requirements of the territory or province or state of nationality, domicile, employment, having jurisdiction over such employees. If the Contractor is subject to an additional contravention, as a result of an accident causing injury or death to an employee of the Contractor or subcontractor, or due to unsafe working conditions, then such levy or assessment must be paid by the Contractor at its sole cost.
3. The protection and indemnity insurance policy must include the following:
 - a. Additional insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada, represented by Public Works and Government Services Canada.
 - b. Waiver of subrogation rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Fisheries and Oceans and Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.
 - c. Notice of cancellation: The Contractor will provide the Contracting Authority thirty (30) days prior written notice of policy cancellation or any changes to the insurance policy.
 - d. Cross liability and separation of insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
 - e. Litigation rights: Pursuant to subsection 5(d) of the [Department of Justice Act](#), R.S.C. 1985, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to:

Director Business Law Directorate,
Quebec Regional Office (Ottawa),
Department of Justice,
284 Wellington Street, Room SAT-6042,
Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:

Senior General Counsel,
Civil Litigation Section,
Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought



against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.



**ANNEX “D”
EVALUATION CRITERIA**

Proposals submitted for this requirement must clearly demonstrate that the Bidder meets all of the Mandatory Criteria. Failure to demonstrate this will result in the Proposal being deemed NON-COMPLIANT and given no further consideration.

The Bidder must include the following tables in their proposal, indicating the proposal page number or section that contains information to verify that the criterion has been met.

For the Bidder’s examples and for each of the proposed resources, project experience is to be used to demonstrate compliancy and must include the following information:

- The client organization;
- The dates/duration of the project start and end (**month and year**);
- A description of the project, including the scope and elements of the framework, and the results/outcomes of the work undertaken by the proposed resources;
- A description of the activities performed by the proposed resources; and,
- The name and contact information of the client Project Authority.

Proposals which do not contain the following documentation will be declared non-responsive and no further evaluation will be conducted with respect to the proposal.

Mandatory Criteria

	MANDATORY CRITERIA	REFERENCE PAGE
M1.	The Bidder MUST provide a mid-shore or offshore vessel greater than 65 ft. in length. A photo of the vessel must be provided with dimensions stating it is a minimum of 65 ft.	
M2.	The survey vessel MUST be able to begin operations in Gaspé Québec no later than July 10 th , 2021.*	
M3.	The survey vessel MUST be able to cruise at a constant speed of 2.5-3.5 kts.*	
M4.	Each crew member MUST have 2 years of experience fishing in any NAFO areas 2 to 4.	
M5.	The Bidder must provide copies of the following certificates/licenses: <ul style="list-style-type: none"> • The Survey Vessel MUST have a current and valid Transport Canada Vessel Inspection Certificate. • The Captain(s) must have a current and valid fishing license in at least one of NAFO areas 3-4. • Registration certificate of the vessel. 	



M6.	The operations deck MUST be visible from the wheelhouse or a designated dry area where the monitoring equipment can be installed.*	
M7.	The survey vessel MUST have a steady reliable source of electricity (120 volts) from this designated space for the operation of the monitoring equipment*	
M8.	The survey vessel MUST have a source of fresh seawater on the deck of operations with a working hose and nozzle that can reach the sampling gear when not deployed.*	
M9.	The survey vessel MUST be equipped with GPS, a depth sounder, and a reliable communications system to contact shore.*	
M10.	The Bidder MUST ensure that science staff have a well ventilated and protected workspace in order to preserve the collected samples on the survey vessel and large enough for a portable table and sink to be secured (space for two people working on the same table).*	
M11.	The survey vessel MUST have a working freezer or cold room (minimum -18 C) installed with a reliable source of electricity for storage of samples.*	
M12.	The survey vessel MUST have adequate dry space for storing and securing all scientific materiel equipment listed in section 3.1.3 of the Statement of Work.*	
M13.	The Bidder must: <ul style="list-style-type: none"> • provide clean and sanitary accommodations for the vessel crew and 2 science staff on board the survey vessel.* • supply clean, sanitary, dry, and comfortable mattresses covered with clean, fitted covers for two science staff and all crew of the Survey Vessel.* • supply sheets, blankets, comforters, pillows, and towels for the two scientific staff.* • provide toilet paper, soap and paper towels.* 	
M14.	The survey vessel must: <ul style="list-style-type: none"> • provide dry storage space in the accommodations for the clothing and personal effects of two science staff.* • The survey vessel must each have at least 1 functioning shower and toilet that can be used in privacy by the crew and science staff.* • provide sufficient potable fresh water for vessel and personal use (including showers) for the 	



	<p>vessel crew plus the additional two scientific staff for the entirety of the survey.*</p> <ul style="list-style-type: none"> • provide three (3) nutritionally balanced meals each day.* 	
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*** M2, M3, M6 through M14: the bidder demonstrates they meet this criteria by providing a statement of their capabilities**

Point Rated Criteria

	Rated Criteria	RATING	REFERENCE PAGE
R1.	The Bidder provides a realistic estimate of the transit time between Gaspé, QC and Stephenville NL. The contractor provides the cruising speed of the survey vessel in order for the validation of the estimate.	<p>Transit time is less than 1 day – 10 points</p> <p>Transit time is 1 day – 5 points</p> <p>Transit time is 2 days or more – 0 points</p>	
R2.	The Bidder provides the Survey Vessel's cruising speed in knots, which will be used to estimate the transit times between stations in the survey area.	<p>Cruising speed is greater than 11 kts – 15 points</p> <p>Cruising speed is between 8-10.9 kts – 10 points</p> <p>Cruising speed is between 5-8 kts – 5 points</p> <p>Cruising speed is less than 5 kts – 0 points</p>	
R3.	The Bidder provides a survey vessel rigged in a way that it can complete all operations described in sections 3.1.1-3.1.6 of the Statement of Work.	<p>Bidder provides survey vessel has an installed winch and a crane or retractable arm capable of performing the required operations. A photo and the technical specifications of the winch are provided - 15 points</p> <p>Bidder allows DFO science staff to install the electric winch described in section 3.1.3 of Statement Of Work. Survey vessel must have all other necessary equipment* – 10 points</p> <p>Contractor allows DFO science staff to install the hydraulic winch described in section 3.1.3. of the</p>	



		Statement of Work. Survey vessel must have all other necessary equipment* – 5 points Contractor cannot provide a winch and/or is not able/willing to allow DFO staff to install a winch on the survey vessel – 0 points.	
Minimum 20 out of 40 points required to be declared responsive			Total /40

*** R3: where indicated, the bidder demonstrates they meet this criteria by providing a statement of their capabilities**