



Procurement Hub – Fredericton
301 Bishop Drive
Fredericton, NB E3C 2M6

December 19, 2017

F5211-170668

ADVANCED CONTRACT AWARD NOTICE

TITLE: Biological processing of fishes captured during the Canadian Beaufort Sea - Marine Ecosystem Assessment

INTRODUCTION:

The purpose of this Advance Contract Award Notice (ACAN) is to signal the government's intention to award a contract for these services to Aquatic, Agricultural and Environmental Tech Services Inc., La Salle, MB. Before awarding a contract, however, the government would like to provide other suppliers with the opportunity to demonstrate that they are capable of satisfying the requirements set out in this Notice, by submitting a statement of capabilities during the ACAN posting period.

If other potential suppliers submit a statement of capabilities during this ACAN posting period that meets the requirements set out in the ACAN, the government will proceed to a full tendering process on either GETS or through traditional means, in order to award the contract.

If no other supplier submits, on or before the closing date, a statement of capabilities meeting the requirements set out in the ACAN, a contract will be awarded to the pre-selected supplier.

BACKGROUND:

The Arctic Aquatic Research Division of Fisheries and Oceans Canada (DFO), Central and Arctic Region, conducted a baseline survey of fishes and habitat parameters in the offshore Canadian Beaufort Sea between 2012 and 2014, as part of the federal government's Beaufort Regional Environmental Assessment – Marine Fishes Project (BREA-MFP). The BREA-MFP was the first comprehensive baseline study of marine fish diversity and associated habitats in the Canadian Beaufort Sea. Current research under the Canadian Beaufort Sea – Marine Ecosystem Assessment (CBS-MEA, 2017-2019) is building on biological baselines established during the BREA-MFP to develop a comprehensive monitoring approach for the offshore Canadian Beaufort Sea, including trophic linkages. The CBS-MEA includes focused research on physical and biological couplings while expanding baseline coverage of species diversity, abundances, and habitat associations to areas of the Canadian Archipelago that are previously unstudied in this context.

This contract involves biological laboratory processing of fishes captured during the 2017-2019 field seasons of the CBS-MEA.

OBJECTIVES:

The objective of this contract is to complete laboratory processing for fish collected during the 2017 CBS-MEA, including biological data collection, and the preparation and preservation of tissue samples for distribution to project collaborators and Arctic research programs within Fisheries and Oceans Canada and other agencies and countries.

It is imperative that data generated from taxonomic identifications and biological processing are comparable to previous linked studies. Laboratory methods and quality control standards must match those employed during the BREA-MFP to ensure compatibility of results for comparative and/or integrated studies.



WORK REQUIREMENT:

All sample sizes within the pricing template are approximations and are subject to possible changes based on sample availability and/or processing constraints.

All instruments used to handle fish tissue will be cleaned with alcohol between samples.

Basic biological processing

Measuring and recording basic biological data including species identification, length (nearest mm), weight (nearest 0.1g), gonad weight (nearest 0.01g), sex, and maturity.

Otoliths will be removed from all fish, when possible, and rinsed clean of blood/tissue and archived in labelled (fish ID#, program, species, location) paper envelopes.

Reduced biological processing

Conduct species identification. Measure length (nearest mm), and weight (nearest 0.1g).

Ageing

When requested, age specimens using otoliths collected in 5.1. Otoliths will be aged whole and also using conventional crack and burn methods.

Removal and preparation of tissues

When requested for a particular specimen, tissue removal and preparation may involve the following:

Genetics: A 0.5cm x 0.5cm piece of pectoral fin will be removed and placed in a labelled (fish ID#) 1.8 ml sealed screw top plastic vial with 99.5% ethanol. In instances where removal of pectoral fin is not possible, or will compromise the integrity of the specimen, a gill arch or muscle tissue sample may be substituted. Notes indicating substitution of tissue will be recorded.

Stable isotopes: Up to 10g of muscle tissue (no skin, bone, scales, etc.) removed, placed on aluminum drying trays, and dried for up to 48 hours in a drying oven. After drying, samples are stored in labelled (fish ID# and sample type) 30 ml scintillation vials with foil caps.

Fatty acids: Whole fish will undergo reduced biological processing and will be homogenized in a commercial blender, vacuum sealed, and frozen. Fish designated for basic biological processing will be cut in half, with one half subsampled for genetics and PAH contaminants as indicated in lab protocol (to be provided). The other half fish will be sub-sampled for stable isotope analysis and mercury then prepared for fatty acid analysis as described above (homogenized in a commercial blender, vacuum sealed, and frozen). Unless alternative arrangements are made, homogenized samples will be transferred to specified lab personnel at the end of each processing day.

Energetics: Muscle (0.5 cm x 0.5 cm) and liver samples will be frozen in 2 oz Whirl-Pack bags or other suitable container specified by the Project Authority at -80°C for biochemical analysis.

Voucher specimens

Voucher specimens will be collected for each new species encountered with a minimum of three and maximum of five per species encountered. Specimens will be placed in appropriately sized wide-mouthed glass jars with polypropylene lids and polyfoam liners. The specimens will be fixed in buffered 10% formalin for 7 days then rinsed in distilled water before being transferred into 70% ethanol. Clear labelling of species ID and tag information on the inside and outside of the containers will be maintained throughout the process.

Guts

Intestinal tracts will be removed from a specified number of fish and fixed in labelled (fish ID# and sample type) containers with 10% formalin.



Intestinal tracts will be removed from a specified number of fish, placed in labelled bags (fish ID # and sample type) and frozen.

Fish will be selected from a range of size classes and habitats to be determined by the Project Authority.

Digital Images

Publication quality digital images will be obtained of representative specimens, defining characteristics, and physical anomalies. In some cases, a microscope mounted imaging system will be required. Notes will be submitted indicating corresponding fish ID#, and pertinent written description/details regarding the subject of the image (i.e. What is the structure/anomaly? Where on the specimen? Reference to key, etc). The fish ID number shall be visible in the image for images of whole representative specimens and, when appropriate, a scale reference will be used. Images will be named according to fish ID number, and a spreadsheet inventory of images will be provided to the Project Authority.

Standardized digital images will be taken of each Greenland Halibut (*Reinhardtius hippoglossoides*) for geometric morphometrics. A protocol will be provided in advance by the Project Authority.

Data summary and quality control

Upon completion of work, the contactor will summarize basic biological data (including age where applicable) in Microsoft Excel spreadsheets, and will submit flash-drive copies of all relevant lab notes, digital photos, and electronic correspondences with project collaborators to the Project Authority. Spreadsheets shall be organized with a separate worksheet for each taxonomic family, in a provided format that allows for easy data manipulation. A spreadsheet template will be provided prior to commencing work. Digital images will also be organized in separate folders for each taxonomic family, with subfolders if practical. Images will be named according to instruction stated above (Section 5.6).

Fish will be assigned a DFO database ID during processing. The ID will be assigned based on whether the sample will be archived after processing or whether the sample has been consumed during processing. Separate lists of sequential numbers will be provided to the Supplier and will be recorded on a data sheet template.

Prior to submitting data to the Project Authority, the Supplier will conduct quality measures that include 100% data verification for accuracy. Data verification methods will be documented and provided with the data summary.

CONSTRAINTS

Lab processing will be conducted according to a detailed protocol which will be provided prior to commencing work. The protocol provides methods for quality assurance and control (QA/QC) of data, which must be applied by the Supplier. Data submitted as a deliverable for this contract must meet QA/QC standards as outlined in the protocol.

To ensure continuity in methods and approach, the Supplier will ensure continuity in staff for the duration of the contract. If specialized assistance is required to assure quality control while completing a task, a subSupplier with specialized expertise in that area (e.g. taxonomic identification of a particular specimen or family) may be utilized for that particular task, in addition to the primary individuals. **ACCURATE TAXONOMIC IDENTIFICATIONS ARE CRITICAL.**

If for any reason during contract period, a proposed team member becomes unavailable or needs to change, a replacement with the same or better qualifications and experience can be offered. However, it is the Suppliers responsibility to seek approval from the Project Authority and provide the name, qualifications and experience of the proposed replacement in advance.



MINIMUM MANDATORY REQUIREMENTS

Any interested Vendor must demonstrate by way of a Statement of Capabilities that it meets the following minimum requirements:

- a) The vendor must have at least five years' experience conducting fisheries related laboratory work including common dissection techniques and taxonomic identification using keys.
- b) The vendor must demonstrate capacity and a viable management plan to complete the work within the contract deadline(s), while meeting or exceeding quality control standards as set forth by the Project Authority.
- c) The vendor must have at least five years' experience conducting validated (i.e., expert peer reviewed) species identifications, and collection of biological data, from demersal and pelagic marine fishes, including deepwater species (to 1500 m sampling depth), common to the Bering and Chukchi and Beaufort Sea, including species from the Taxonomic Families: Agonidae, Ammodytidae, Clupeidae, Coregoninae, Cottidae, Cyclopteridae, Gadidae, Gasterosteidae, Liparidae, Myctophidae, Osmeridae, Petromyzontidae, Pleuronectidae, Psychrolutidae, Rajidae, Salmonidae, Stichaeidae, Zoarcidae.
- d) The vendor must demonstrate experience determining the sex of fish by visual inspection of the gonads, and assessing relative state of maturity.
- e) The vendor must demonstrate experience conducting validated (i.e., expert peer reviewed) ageing of Arctic marine species from the families Gadidae, Cottidae, Zoarcidae, Agonidae, Stichaeidae and Liparidae using otoliths.
- f) The vendor must demonstrate experience with professional-grade imaging equipment and have the ability to take publication quality images in a laboratory setting using both SLR and microscope mounted imaging technology.
- g) The vendor must demonstrate experience preparing tissues for stable isotope, fatty acids and genetics analyses, and own related specialized equipment (i.e., -80 freezer, drying oven).

Departmental Support

Work Environment

Work will be conducted in the Suppliers own place of work.

Use of Assets

No assets will be provided by Fisheries and Oceans

DELIVERABLES & TIME SCHEDULE

The Supplier will provide the Project Authority with the items 1-6 prior to each invoice:

1. Microsoft Excel spreadsheet containing summary of basic biological data (including reduced sampling and age data) and corresponding identification information for each fish processed. A spreadsheet template will be provided prior to commencing work.
2. Digital images of representative specimens for each species, including defining characteristics and physical anomalies and/or parasites (named as per section 5.6)
3. Fish tissue samples to be prepared for distribution to project collaborators (labelled as per section 5.3)
4. Aging structures provided in labelled envelopes (date, species, ID number, as per section 5.1)
5. Relevant shipping documents and copies of electronic correspondences with project collaborators regarding the analysis described within this contract.
6. Copies of all relevant lab notes and rough data recorded during the analysis described within this contract.



TRADE AGREEMENTS APPLICABILITY OR OTHER OBLIGATIONS:

Trade agreements applicable for this requirement include Agreement on Internal Trade (AIT), North American Free Trade Agreement (NAFTA), and World Trade Organization – Agreement on Government (WTO-AGP)

GOVERNMENT CONTRACTS REGULATIONS EXCEPTION AND LIMITED TENDERING REASONS:

The following policy requirements are applicable to this ACAN process:

Applicable Exceptions to Soliciting Bids under the Government Contracting Regulations (GCRs) (Section 6):

Section 10.2.1 Section 6 (d) only one person or firm is capable of performing the work applies to this ACAN for the following reasons:

There are no known alternative sources of supply. The Canadian Museum of Nature is responsible for taxonomic verification as well as archiving / housing voucher specimens on behalf of Canada. This was competed in the past with no other bids being received other than this supplier.

INTELLECTUAL PROPERTY:

The Department of Fisheries and Oceans has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada on the following grounds:

Exception 6.4.1 – The main purpose of the contract, or the deliverables contracted for, is to generate knowledge and information for public dissemination.

CONTRACT PERIOD:

The contract period is estimated to be from the date of contract award to October 31, 2018 with the option of extending the contract for two (2) additional one (1) year periods at the discretion of the Minister.

If exercised: Option #1: November 01, 2018 to October 31, 2019 and Option#2: November 01, 2019 to October 31, 2020

ESTIMATED VALUE:

The total estimated value of the contract shall not exceed \$100,000.00 excluding all applicable taxes for the initial year, \$100,000.00 for option year one, and \$100,000.00 for option year two if exercised by the Minister.

INSURANCE

The Contractor is responsible for deciding if insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any insurance acquired or maintained by the Contractor is at its own expense and for its own benefit and protection. It does not release the Contractor from or reduce its liability under the Contract.

SUPPLIER'S RIGHT TO SUBMIT A STATEMENT OF CAPABILITIES:

Suppliers who consider themselves fully qualified and available to provide the services described herein, may submit a Statement of Capabilities in writing to the Contracting Officer identified in this Notice on or before closing date. The Statement of Capabilities must clearly demonstrate how the supplier meets the advertised requirements.

CLOSING DATE FOR SUBMITTING STATEMENT OF CAPABILITIES:

Tuesday, January 30, 2018 at 2:00 p.m. (Atlantic Time)



Fisheries and Oceans Pêches et Océans
Canada Canada

Inquiries and statements of capabilities are to be directed to:

Kimberly Walker

Senior Contracting Officer

Procurement Hub – Fredericton

Telephone: (506) 452-3624

Facsimile: (506) 452-3676

Email: DFOtenders-soumissionsMPO@dfo-mpo.gc.ca