



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

29 January 2018

**F5211-170706**

**ADVANCED CONTRACT AWARD NOTICE**

**TITLE: Arctic phytoplankton and ice algae taxonomic analysis**

**ACAN:**

The purpose of this Advance Contract Award Notice (ACAN) is to signal the government's intention to award a contract for these services to Sylvie Lessard ENR, Avis Conseils et Analyses Taxonomique de Phytoplankton, 295 Rang, Ste-Anne de-la- Rochelle (QC) J0E 2B0. 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.

**INTRODUCTION:**

Fisheries and Oceans Canada (DFO) requires taxonomic analysis of Arctic ice algae and phytoplankton, in the size range of micro and nanoplankton, at the lowest possible taxonomic level under inverted microscopy, to support ecosystem studies on the impacts of climate change and other stressors on Arctic marine ecosystems, food web structure, and biodiversity.

**BACKGROUND:**

DFO participates in the long-term monitoring of marine ecosystems in the Canadian Arctic, including ice-associated ecosystems of the high Canadian Arctic and coastal ecosystems. Taxonomic analyses of phytoplankton and ice algae primary producers are required to evaluate community composition, and potential shifts in community structure and /or species dominance as they relate to carbon cycling and climate-driven changes in biodiversity and ecosystem integrity.

**OBJECTIVES:**

The objectives are to analyze Arctic sea ice, under ice and coastal or offshore water column samples for taxonomic identification of ice algae and phytoplankton species. The taxonomic analysis includes potentially harmful algal cell species and will be conducted to the level of species whenever possible using an inverted microscope (200-400X magnification).

**WORK REQUIREMENT:**

Contractor shall analyze up to a maximum of 60 sea ice and or marine water samples from various Arctic locations, annually. The sea ice and phytoplankton samples (20-250 ml) are preserved with acidic lugol solution and stored at room temperature. Each sample will be sub-

sampled, settled using Utermöhl chambers and analyzed according to established taxonomic protocols in marine science (Lund et al. 1958), using an inverted microscope (200-400X magnification). Original count data for each microscope transect, total counts, and final cell concentrations in the sample (cells per L) will be provided.

Samples will be shipped from the Marine Productivity Laboratory, Freshwater Institute Winnipeg, to the contractor. All analyses will be completed by an experienced ice algae and marine phytoplankton taxonomic expert, Sylvie Lessard. Marine Productivity laboratory will provide a list detailing samples to be analyzed, the environment where they were collected (e.g. ice or marine waters), the location and when appropriate depth of collection. Marine Productivity will clearly label all samples with a sample identification number. The contractor will provide final data corresponding to same sample identification number.

**TASKS AND DELIVERABLES:**

Contractor shall process and analyze acidic lugol's preserved taxonomy samples according to established protocols for Arctic ice algal and marine phytoplankton analyses.

Contractor shall provide raw and final data for:

- each species identified, including vegetative cell, empty cells or cysts/spores,
- unidentified species grouped by genus and cell size
- major cell groups (e.g. pennate and centric diatoms).

Contractor shall provide details of subsampling and counting protocols.

Contractor shall inform Marine Productivity Laboratory if sample counts are hindered by any confounding factors such as abundance of sediments.

**RESOURCES AND LEVEL OF EFFORT:**

All samples completed and data sent to Marine Productivity by 31 March 2018.

**MANDATORY CRITERIA:**

- The contractor's resource must have a certification from a recognized institution in phytoplankton taxonomy.
- The contractor's resource must have a minimum of 10 years' experience in taxonomic analysis of marine phytoplankton and ice algae from the Canadian Arctic.
- The contractor has specialized training in the identification of taxa of phytoplankton and ice algae (diatoms, dinoflagellates and flagellate groups including Coccolithophorides, Prasinophytes, Cryptophytes, Euglenophytes), and experience identifying these taxa from the Arctic including the Beaufort Sea, Baffin Bay, the Canadian Archipelago and Hudson Bay.
- The contractor has extensive (> 5 years) experience identifying harmful algal species in the Atlantic and Arctic Oceans.
  
- The contractor is familiar with the taxonomic identification of samples preserved in acidic lugol's solution and is able to identify phytoplankton or ice algae cells preserved in this manner.
  
- The contractor will provide the workspace, and laboratory equipment and materials necessary for the completion of scientifically defensible Arctic marine phytoplankton and ice algae cell identification and counts. In particular, the contractor will provide:

Hydro-Bios settling chambers and settling columns of a variety of sizes (5, 10, 25, 50 and 100 ml) to adapt for sample conditions;

Hydro-Bios bottom glass and key, and rounded glass covers for the Hydro-Bios settling chambers;

Pre-calibrated pipettes 100 µl – 5 ml, and high-precision volumetric measurements for samples of up to 100 ml;

An inverted microscope with 100X, 200X, and 400X magnification, with phase-contrast and differential interference contrast, with size measurement capability;

A digital camera adapted to the inverted microscope;

Specialized taxonomic documentation and references for the identification of ice algae and marine phytoplankton in the Canadian Arctic

### **Methods**

The contractor will prepare the marine samples for taxonomic identification by sedimenting the appropriate volume of sample, using Hydro-Bios settling chambers and columns, for representative and reliable analysis of the community composition of the sample.

The contractor will identify and count phytoplankton and ice algae cells at the lowest taxonomic level, under the inverted microscope. A minimum of 400 cells or 3 transects will be counted.

The contractor will document the species list and counts in excel worksheets, and will estimate the final concentration of cells in the sample.

The contractor will provide the original worksheet counts and the final results to the Contracting Authority, and will include additional information relevant to the sample, such as the presence of sediments, abundance of cysts, or other ecological observation.

### **ESTIMATED VALUE**

The total value of the contract shall not exceed \$115,000.00, excluding all applicable taxes for the firm period from contract award to 31 March 2019 with 4 option years, each of 1 year duration. Initial Contract period is estimated at \$23,000.00; Option Year 1 is estimated at \$24,000.00; Option Year 2 is estimated at \$24,000.00, Option Year 3 is estimated at 22,000.00, and Option Year 4 is estimated at 22,000.00.

### **TRADE AGREEMENTS APPLICABILITY OR OTHER OBLIGATIONS:**

No Trade Agreements apply. NAFTA Exemption FisheryStudies.

### **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. It is feasible and affordable to complete the requirement.

### **INTELLECTUAL PROPERTY:**

No new Intellectual Property will be created in this contract.

**CONTRACT PERIOD:**

The firm period of the contract is from contract award to 31 March 2019 inclusive. The contract will include 4 optional years each of 1 year duration, to be activated at the discretion of DFO.

Firm period: Contract Award to 31 March 2019

Option Year 1: 1 April 2019 to 31 March 2020

Option Year 2: 1 April 2020 to 31 March 2021

Option Year 3: 1 April 2021 to 31 March 2022

Option Year 4: 1 April 2022 to 31 March 2023

**SUPPLIER'S RIGHT TO SUBMIT A STATEMENT OF CAPABILITIES:**

Suppliers who consider themselves fully qualified and available to provide the services described herein, **must 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:**

**13 February 2018 at 1400 (AST)**

Inquiries and statements of capabilities are to be directed to:

**Vicki McEwan**

Team Lead – Contracting Services

Procurement Hub – Fredericton

Telephone: (506) 452-4065

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