

Fisheries and Oceans
Canada

Pêches et Océans
Canada

Procurement Hub – Ottawa Office
Centennial Towers, 200 Kent Street
9th Floor, Station W067
Ottawa, Ontario
K1A 0E6

FP802-130259

January 16, 2014

ADVANCED CONTRACT AWARD NOTICE

TITLE: Microsatellite DNA analysis and data synthesis for Beaufort Sea Arctic Cod.

INTRODUCTION:

The Department of **Fisheries and Oceans Canada** has a requirement for the provision of data and analyses describing Genetic structure and diversity of Arctic Cod in the Canadian Beaufort Sea. The purpose of this Advance Contract Award Notice (ACAN) is to signal the government's intention to award a contract for these services to (Seastar Biotech Inc.) 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 15 calendar day posting period.

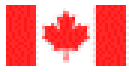
If other potential suppliers submit a statement of capabilities during the 15 calendar day posting period that meet the requirements set out in the ACAN, the government will proceed to a full tendering process on either the government's electronic tendering service or through traditional means, in order 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 Department of **Fisheries and Oceans Canada, Arctic Aquatic Research Division**, has a requirement to conduct laboratory and statistical genetic analysis of 850 Arctic Cod Samples collected in the Canadian Beaufort Sea during the 2013 field season of the Beaufort Regional Environmental Assessment Marine Fishes Program.

The small gadid fish *Boreogadus saida* is a foundational ecosystem component found widely in arctic and boreal waters. It is largely unknown whether the species exist as a genetically homogenous panmictic population, or as assemblage of genetically divergent populations. The answer to this question has important implications for the management of potential effects related to human activities as well as understanding how climate change will impact distribution, abundance and phenology. Molecular population genetics is an



efficient and cost effective method to answer fundamental questions regarding the biology of *Boreogadus saida* and to provide information and tools for effective management of this critical resource.

This contract is aimed at acquiring genetic information regarding *Boreogadus saida* along with the specialized expertise in providing in-depth analysis of the genetics along with other sources of information on distribution, abundance and habitat requirements from concurrent studies. Taken together this integrated, multi-disciplinary approach will provide much needed information regarding, genetic diversity, stock structure, population movements, and habitat use of *Boreogadus saida* in the Canadian Beaufort Sea. In addition it is critical that the genetic information gained allow for interpretation of the population genetics of the fish of the Beaufort Sea in the context of the wider picture of the genetics of the species as a whole.

PURPOSE:

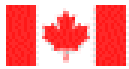
To provide public notification that the Department of Fisheries and Oceans is considering awarding a contract to:

Seastar Biotech Inc.
306 Stewart Avenue
Victoria, BC V9B 1R7

MINIMUM ESSENTIAL REQUIREMENTS:

Any interested supplier must demonstrate by way of a statement of capabilities that it meets the following requirements:

- a) Contractor must have a minimum of ten (10) years' experience performing genetic laboratory analyses and analysis of population genetics data.
- b) Contractor must have a minimum of PhD Degree in molecular biology.
- c) Contractor must have a minimum of five (5) published lead authorships in journal articles on the topic of population genetics.
- d) Contractor must have established working relationships with researchers and/or regulators from US universities and government agencies currently studying Arctic Cod. These must include University of Alaska Fairbanks, US Bureau of Ocean Energy Management Regulation and Enforcement (BOEMRE), US National Oceanic and Atmospheric Administration NOAA).
- e) Contractor must have an existing genetic data base of Arctic Cod from the US Beaufort and Chukchi Seas and Arctic Archipelago and preferably from a wider geographic range than stated here.
- f) Contractor must have analytical capability to conduct microsatellite DNA and show that their proposed analytical method is compatible with analysis on an ABI3730 capillary genetic analyzer and able to combine newly generated data with that which is pre-existing.
- g) Contractor must demonstrate that they have experience in working with a minimum of ten (10) genetic markers specific to Arctic Cod.
- h) Contractor must be able to finish the work and meet the contract deadline of February 28, 2014.



- i) Contractor must demonstrate that they have experience in operating at the research scientist level and have a proven track record working with broad consortiums of researchers to produce results in a collaborative fashion.
- j) Contractor must have experience working in the arctic marine ecosystem with authorships in peer reviewed journals.

JUSTIFICATION:

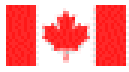
Dr. John Nelson of Seastar Biotech is the current global leader in the analysis of Arctic Cod having amassed samples and track records on developing and applying genetic markers to this species stretching back approximately ten (10) years. He currently leads an international consortium of Arctic Cod genetics research that involves collaboration with researchers found in three (3) different countries.

- a) Contractor has 27 years' experience performing genetic laboratory analyses and 19 years' experience with the analysis of population genetics data.
- b) Contractor has a PhD in molecular and cell biology.
- c) Contractor has published eight (8) articles on population genetics as lead author.
- d) Contractor has current working relationships with Arctic Cod researchers from UAF, BOEMRE and NOAA.
- e) Contractor has pre-established sample and data archives for microsatellite DNA from a circumpolar set of Arctic Cod samples attained by the Contractor through an extensive network of professional collaborations. This includes samples and data from the US Beaufort, Chukchi, Arctic Archipelago and beyond that are not in the public domain and for which the Contractor has exclusive rights for the duration of this requirement. The bulk of the genetic data is not yet published and no other laboratory has access to this data. It is unique in the world and involves the analysis of over 2000 individual Arctic Cod amassed by the Contractor over the course of the last decade.
- f) Contractor has full access to a genetics laboratory, and all relevant equipment (ABI3730 genetic analyzer) and technical support, and can assure comparability of newly generated data with pre-existing data generated within the same laboratory and analytical equipment.
- g) Contractor has pre-developed 19 genetic markers for Arctic Cod.
- h) Contractor has the laboratory resources and technical expertise to finish the work and meet the contract deadline of 28 February 2014.
- i) Contractor has also been working in the Arctic marine field for over a decade and is familiar with the ecology of the region, which will be invaluable in interpreting the genetic results. Contractor is an author on eight (8) articles dealing with arctic ecosystems.

INTELLECTUAL PROPERTY:

Canada intends to retain ownership of any Foreground Intellectual Property arising out of the proposed contract on the basis that the main purpose of the contract is **6.4.1** exception to the TB Policy on Title to Intellectual Property Arising under Crown Procurement Contracts:

6.4 where the main purpose of the Crown Procurement Contract, or of the deliverables contracted for, is:



6.4.1 to generate knowledge and information for public dissemination.

Suppliers who consider themselves fully qualified and available to meet the specified requirements may submit a statement of capabilities in writing to the Contracting Authority identified in this Notice on or before the closing date of this Notice. The statement of capabilities must clearly demonstrate how the supplier meets the advertised requirements.

WORK REQUIREMENTS:

Laboratory and statistical genetic analysis of up to 850 Beaufort Sea cod samples from the 2013 Beaufort Regional Environmental Assessment marine fishes field program. This analysis will provide insight into stock structure and provide guidance for field work to be carried out in 2014. A minimum of ten (10) microsatellite DNA loci will be used to examine Arctic Cod (*Boreogadus saida*) population structure and genetic diversity; genetic markers will be applied to distinguish between Arctic Cod and the morphologically similar Polar Cod (*Arctogadus glacialis*) as well as other cods found in the Beaufort Sea.

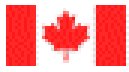
It may also be necessary to carry out DNA sequencing of diagnostic genes of select samples or a representative sub-sample to be able to examine the prevalence of mixing of other arctic gadids in the sample. Once a suitable data base of purely *Boreogadus saida* genotypes are collected the genetic data will be used to produce standard estimates of population structure according to geographic location and habitat parameters, or biological characteristics.

The techniques applied will be both individual and population based. A comparison will be made between Arctic Cod from the Canadian section of the Beaufort Sea (the focus here) and adjacent areas (including but not limited to the American Beaufort Sea, Chukchi Sea) and from the Arctic Archipelago to provide context for interpretation of genetic differences seen within the Canadian Beaufort Sea and also to examine the level of genetic connectedness (geneflow) between populations of the Canadian Beaufort and elsewhere.

Estimation of migration between stock units will be carried out according to established methods as will the examination of the relationship among individual Arctic Cod independent of where they are caught as a non-biased test of population structure. Standard methods regarding the estimation of genetic diversity will also be employed from which to judge future changes. If needed mixed stock analysis will be employed to examine mixing between adjacent stock units.

Deliverables include:

- A) **Canadian Manuscript Report of Fisheries and Aquatic Sciences, or acceptable published equivalent, integrating 2012 and 2013 data and summarizing** genetic diversity and population structure of Beaufort Sea Arctic Cod, and its relevance in wider context and to issues of shifting ecosystems (e.g., climate change) and regional hydrocarbon development scenarios;
- B) Microsoft Excel or Access database containing all relevant data from genetic analyses **for N=850 Arctic Cod samples collected during the 2013 Beaufort Regional Environmental Assessment Marine Fishes Project;**



C) Presentation of results at least one scientific conference.

PERIOD:

The contract period is estimated to be from the date of contract award until **February 28th, 2014** with the option of extending the contract for an additional one (1) year contract at the discretion of the Minister.

TRAVEL: There is no travel for this requirement.

ESTIMATED VALUE:

The total estimated value of the contract shall not exceed \$41,000.00 excluding all applicable taxes and one (1) option period.

SECURITY: There are no security requirements for this contract.

LOCATION OF WORK:

The contractor will work off-site at their facilities.

Seastar Biotech Inc.
3850 Olympic View Dr
Victoria, BC, V9C 4B1

APPLICABLE STATUTORY AND REGULATORY REQUIREMENTS

Applicability of the following policy requirements applicable to this ACAN process is the following applicable sections:

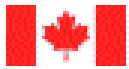
POLICY INFORMATION

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

Government Contracts Regulations (GCRs), 6d) only one person or firm is capable of performing the work
10.2.5 Exception (d) sets competitive bidding aside when only one person or firm can do the job. This exception is quite definitive and should be invoked only where patent or copyright requirements, or technical compatibility factors and technological expertise suggest that only one contractor exists. This exception should not be invoked simply because a proposed contractor is the only one known to management.

TRADE AGREEMENTS:

Applicable Limited Tendering Provision Under Subject to North American Free Trade Agreement



(NAFTA)

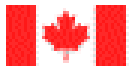
Articles 1016.2(b) and 1016.2(d) of NAFTA are applicable where, for works of art, or for reasons connected with the protection of patents, copyrights or other exclusive rights, or proprietary information or where there is an absence of competition for technical reasons, the goods or services can be supplied only by a particular supplier and no reasonable alternative or substitute exists and for additional deliveries by the original supplier that are intended either as replacement parts or continuing services for existing supplies, services or installations, or as the extension of existing supplies, services or installations, where a change of supplier would compel the entity to procure equipment or services not meeting requirements of interchangeability with already existing equipment or services, including software to the extent that the initial procurement of the software was covered.

Canada Chile Free Trade Agreement (CCFTA)

Kbis Articles 9(b) and 9(c) of CCFTA are applicable on the basis of awarding contracts by means other than open tendering [b] where, for works of art, or for reasons connected with the protection of patents, copyrights or other exclusive rights, or proprietary information or where there is an absence of competition for technical reasons, the goods or services can be supplied only by a particular supplier and no reasonable alternative or substitute exists; [c] for additional deliveries by the original supplier that are intended either as replacement parts, extensions, or continuing services for existing equipment, software, services or installations, where a change of supplier would compel the entity to procure goods or services not meeting requirements of interchangeability with existing equipment, software, services, or installations.

Canada Peru Free Trade Agreement (CPFTA)

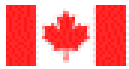
Article 1409.1(b) (i), (ii) and (iii) of CPFTA is applicable on the basis of limited tendering due to reasons where, for works of art, or for reasons connected with the protection of patents, copyrights or other exclusive rights, or proprietary information or where there is an absence of competition for technical reasons, the goods or services can be supplied only by a particular supplier and no reasonable alternative or substitute exists.



LANGUAGE OF WORK:

The contractor **must** be fluent in English. Fluent is defined as Written, Verbal, and Comprehension at an intermediate or advance level. Please see below legend.

Legend	Oral	Comprehension	Written
Basic	<p>A person speaking at this level can:</p> <ul style="list-style-type: none"> *ask and answer simple questions; *give simple instructions; and *give uncomplicated directions relating to routine work situations. 	<p>A person reading at this level can:</p> <ul style="list-style-type: none"> *fully understand very simple texts; *grasp the main idea of texts about familiar topics; and *read and understand elementary points of information such as dates, numbers, or names from relatively more complex texts to perform routine job-related tasks. 	<p>A person writing at this level can:</p> <ul style="list-style-type: none"> *write isolated words, phrases, simple statements or questions on very familiar topics using words of time, place or person.
Intermediate	<p>A person speaking at this level can:</p> <ul style="list-style-type: none"> *sustain a conversation on concrete topics; report on actions taken; *give straightforward instructions to employees; *provide factual descriptions and explanations. 	<p>A person reading at this level can:</p> <ul style="list-style-type: none"> *grasp the main idea of most work-related texts; *identify specific details; and *distinguish main from subsidiary ideas. 	<p>A person writing at this level can:</p> <ul style="list-style-type: none"> *deal with explicit information on work-related topics since they have sufficient mastery of grammar and vocabulary.
Advanced	<p>A person speaking at this level can:</p> <ul style="list-style-type: none"> *support opinions; and understand and express hypothetical and conditional ideas 	<p>A person reading at this level can:</p> <ul style="list-style-type: none"> *understand most complex details, inferences and fine points of meaning; and *have a good comprehension of specialized or less familiar material. 	<p>A person writing at this level can:</p> <ul style="list-style-type: none"> *write texts where ideas are developed and presented in a coherent manner.



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RESPONSE:

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 (See below) on or before the closing date. The Statement of Capabilities must clearly demonstrate how the supplier meets the requirement described herein.

The closing date and time for accepting written statements of capabilities challenging this requirement, is: **Thursday, January 30, 2014 at 11a.m. (EST)**. As it is intended to proceed in a timely manner, responses received after the closing date will not be considered.

Inquiries and statements of capabilities are to be directed to:

Grace Chau

Senior Contracting Officer

Procurement Hub – Ottawa Office

Telephone: (613) 993-8935

Facsimile: (613) 991-1297

E-mail: Grace.Chau@dfo-mpo.gc.ca

Statement of Capabilities received on or before the closing date will be considered solely for the purpose of deciding whether or not to conduct a competitive procurement. Information provided will be used by DFO for technical evaluation purposes only, and will not to be construed as a proposal. Your written Statement of Capabilities must provide sufficient evidence that demonstrates it is capable of fulfilling the Science Branch requirement. Suppliers who submit a Statement of Capabilities prior to the closing date and time will be notified in writing as to the Department's decision whether it will continue with the aforementioned procurement, or proceed to a full bid solicitation process.

Should you have any questions concerning this requirement, please contact the identified Contracting Officer. The DFO file number, the Contracting Officer's name and the closing date of the ACAN must appear on the outside of the envelope in block letters or, in the case of a facsimile transmission, on the covering page. Documents may be submitted in either official language of Canada.