



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

Date: February 16th, 2022

Advanced Contract Award Notice (ACAN)

Title: Atlantic Whitefish Holding, Raising and Captive-Breeding

The Department of Fisheries and Oceans Canada has a requirement for the provision of facility and care for the holding, raising and breeding of wild-caught Endangered Atlantic Whitefish to support the species survival and recovery efforts. The purpose of this Advance Contract Award Notice (ACAN) is to signal the government's intention to award a contract for these services to Dalhousie University Aquatron Laboratory, Dalhousie University, 1355 Oxford Street, Halifax, NS B3H 4R2. 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 has a requirement to provide facility and care for the holding, raising and breeding of wild-caught Atlantic Whitefish, listed and protected as Endangered under the federal *Species at Risk Act*, collected in present and future years of the project to support the species survival and recovery efforts. The work will involve the following:

General Tasks

- Holding and rearing of Atlantic Whitefish stocks currently held at the Dalhousie University Aquatron (approximately 115 individuals in tanks of various sizes to accommodate the various size classes. Current broodstock fish are held in 8 fiberglass tanks of 2m diameter by 0.6m deep with access to both fresh and salt water. For holding and rearing of larvae a combination of 60 10L polycarbonate tanks (commonly called zebrafish tanks) are used for very young individuals and 15 130L fiberglass tanks for later staged individuals, also with access to fresh and salt water) As the fish age and grow, it is expected that larger tanks will be required during the contract;
- Holding and rearing of new wild-caught Atlantic Whitefish larvae (captured by DFO and/or partner groups) in future years of the project, and
- Breeding of current stocks as they mature to provide progeny for any future range expansion activities and/or research trials.

Deliverables

- Real time reporting to Project Authority of data collected, including, but may not be limited to:
 - Number of received and surviving wild larvae
 - Feeding and growth records of each year class
 - Water quality and temperature records
 - Fish health records



- Recording and handling of any mortalities or instances of disease outbreaks, as outlined in Standard Operating Procedures
 - Monitoring efforts of fish maturity
 - Spawning activity observations
 - Records of individuals PIT tagged and their associated data (growth records, spawning pairings, genetics, etc.)
 - Estimates of egg numbers, fertilization rates, egg and larval survival rates from spawning (survival rates should aim to meet or exceed those provided in the Atlantic Whitefish culture handbook)
 - Any necessary changes to Standard Operating Procedures
- Two project reports per year (i.e., mid-year and end-of-year) submitted to the DFO Project Authority
 1. Mid-year report on larval collections and survival that must include, but may not be limited to:
 - numbers of fish housed (current and new individuals)
 - relevant data for each year class, including records of biological sampling, growth performance information and summary of annual mortalities.
 - PIT tagging conducted
 2. End-of-year report on the spawning activity that must include, but may not be limited to:
 - information on spawning preparations, and what spawning activity occurred,
 - number of progeny produced including eggs, fertilized embryos, etc.
 - Reports must also include:
 - Overall project description, including methods used, and the final destination of each fish brought into or produced by the project.
 - Created data files (in Microsoft Excel) to track the performance of individual fish and water quality / temperature records and presentation of summary statistics (i.e., data file of all the data shared in real time).
 - Any relevant photographs, sketches, tables and figures.
 - Comprehensive multi-year report (e.g., DFO Technical Report or Data Report) submitted to DFO Project Authority in Microsoft Word and PDF that would summarize all the holding, raising and captive-breeding details and data associated with the work that has been accomplished. The content of the report will be discussed and agreed to with the DFO project and expert authorities at the beginning of the final year of the contract.

The proposed contract is for a period for April 1st, 2022 to March 31st, 2023 with four (4) one (1) year option periods.

The estimated value of the contract, including the option periods, is \$420,750.00 (taxes excluded)

Minimum Essential Requirements

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

- Facility and equipment:

The housing, rearing and breeding of Atlantic Whitefish must be done in a suitable local facility (within Nova Scotia and within a 100-150 km radius from the collection site given the need to transport fish quickly and safely to and from the wild), with tanks of a variety of sizes (minimally with tanks as described in the 'General Tasks' section above), research spaces, and equipment necessary for accommodating a growing captive stock of Atlantic Whitefish and the work required. The facility must be equipped with a mechanical system, which can provide high quality, temperature controlled seawater and freshwater year round. The facility must also have a fail-safe systems in place to safeguard against mechanical failures, including an alarm system



capable of contacting staff after hours in the event of a mechanical issue. The facility must also have access to aquatic veterinary expertise involved in the facility operations.

- Experience:

Must have a minimum 10 years direct experience with mechanical operations of aquatic systems and a broad range of experience (minimum of 2 years) in aquatic research such as in the following areas. Must have previous experience in aquaculture at both hatchery and grow out levels, and specific experience with the handling, care and culture of Endangered aquatic species at risk.. Must have experience with population and conservation genetics of fish, including aquatic species at risk. Must have experience with similar projects of similar size, scope and complexity. Must have experience in the rearing of all life stages of salmonid fishes, including knowledge/experience in finfish physiology, finfish nutrition, assessing sexual maturation and experience in artificial spawning techniques of salmonids.

- Academic qualifications: Must possess at minimum Bachelor's degree from a recognized university in the field of aquatic sciences or aquaculture.
- Professional designation, accreditation, and/or certification: Must possess certification in the operation of Recirculating Aquatic Systems (RAS) or a minimum of 10 years' experience working in RAS. Must have a Good Animal Practice Certificate from the Canadian Council on Animal Care (CCAC).

Justification for the Pre-Selected Supplier

Dalhousie's Aquatron is the largest university aquatic research facility in Canada. It has tanks in a variety of sizes, research spaces, and equipment perfect for accommodating a growing captive stock of Atlantic Whitefish. This facility is also backed by a mechanical system, which can provide high quality, temperature controlled seawater and freshwater year round, and fail-safe systems in place. It also has a professional team of both biologists and mechanical operators who are available to run the systems and help meet research objectives. Additionally, Dalhousie University has aquatic veterinary expertise on campus that are involved in Aquatron operations. About the Aquatron: <https://www.dal.ca/dept/aquatron/about.html>.

Dalhousie University also has previous experience with Atlantic Whitefish, as they were bred and raised in the Aquatron for use in graduate research projects ([Cook et al. 2010/055](#); [Cook 2012](#)) and they have been leading on holding, raising and breeding wild-caught Atlantic Whitefish since 2019. They currently have four year classes of individuals on site.

Those involved in this work at Dalhousie also have the necessary expertise.. The current project manager has 25 years of direct experience with mechanical operations of aquatic systems and broad ranging experience in numerous areas of aquatic research. They also have previous experience in aquaculture working in both fin fish and shellfish at both hatchery and grow out levels. They now also has 3 years' experience in holding, raising and breeding Atlantic Whitefish. Their role as Aquatron Manager involves the management and direction of work at the Aquatron Laboratory which includes supervision of facility research, scientific research, contract research, and mechanical operation and maintenance. Another project resource is an expert in population and evolutionary genetics and conservation biology. This expert has 35 years of experience with population and conservation genetics of fish, including many at-risk species, has more than 170 publications in the scientific literature, and has served as a member of the Committee on the Status of Endangered Species in Canada (COSEWIC) and co-chair of the Marine Fishes Specialist Subcommittee of COSEWIC. He has conducted research on Atlantic Whitefish in the past, and is currently developing new microsatellite and mitochondrial DNA genetic markers to monitor Atlantic Whitefish genetic diversity and manage broodstock and captive breeding.



Intellectual Property

The Contractor will own any intellectual property generated as a result of any contract(s) awarded. However, the Crown retains the right of use of all work product or intellectual property so generated for use in the administration of programs, mandate, and other related work.

Trade Agreements Applicability or Other Obligations:

Trade agreements applicable for this requirement include Canadian Free Trade Agreement (CFTA)

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. Dalhousie's Aquatron is the only known facility to accommodate this requirement.

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.

The closing date and time for accepting statements of capabilities is: **March 3rd, 2022 2:00 p.m. AST (Atlantic Standard Time).**

Inquiries and statements of capabilities are to be directed to:

Name: Cal LaKing
Title: Contracting Specialist
Department: Fisheries and Oceans Canada
Address: 301 Bishop Drive Fredericton, NB E3C 2M6
Telephone: 506-478-3581
E-mail address: DFOtenders-soumissionsMPO@dfo-mpo.gc.ca