EMPLOYMENT OPPORTUNITY:

An Evaluation of Fisheries Management Measures in the Gulf of St. Lawrence: from Environmental Conditions and Predicted Outcomes to Observed Stock Responses

CASUAL POSITION:

This process will be to fill one casual position with Fisheries and Oceans Canada (DFO) Gulf Fisheries Centre in Moncton, New Brunswick. The project Principal Investigators are Drs. Stephanie Boudreau and Jenni McDermid (DFO Science) with key collaborators, Dr. Tyler Tunney (DFO Science) and Fisheries and Aquaculture Management Branch.

The position is to **start as soon as possible**, with the work to be **completed 90 days from the contract start date** and **no later than March, 31, 2020**. Salary range for the casual position is $20,000-$30,000 CAD, dependent upon experience. There is the possibility of an extension after March 2020. Working remotely can be discussed.

BACKGROUND:

DFO is mandated with the conservation and sustainable use of Canada's fisheries resources. To achieve this, DFO chooses among different management measures based on experience or specific model predictions. However, stock responses to management measures are complex and can sometimes be hard to predict. Even measures that appear straightforward, such as the moratoria applied to Atlantic cod, have not achieved the desired outcome. One hypothesis for this inconsistency is that traditional fisheries management decisions are species-specific and do not consider ecosystem responses. To our knowledge there has been no formal evaluation of the level of agreement between the expected and the observed responses of marine stocks to different management measures. Such an evaluation would foster conversation between Science and Management sectors, where understanding the outcomes of management measures is a critical piece of science that can inform decision-makers on achieving the conservation and sustainability goals. This is particularly true in Gulf Region where there are the highest number of stocks in the critical zone in Canada as determined by the Precautionary Approach and a requirement to develop rebuilding plans (Bill C-68). This work will also contribute to the Ecosystem Approach to Fisheries Management National initiative.

OBJECTIVES:

The primary objective of this project is to learn from past management measures by evaluating the agreement between predictions and responses of marine stocks in the Northwest Atlantic Ocean. This will be achieved by: (1) compiling a database of applied stock assessment management measures, their expected outcomes, and the observed response of the stocks, and (2) analyzing the expected and observed outcomes of various management measures and advice. The focus of the database will be on fin-fish and crustacean stocks assessed in the Gulf of St. Lawrence.

DUTIES (Methods):

This project would collect information from the Canadian Science Advisory Secretariat (CSAS) Gulf Region stock assessments. We will develop a set of questions to be applied to each stock assessment. The database would compile data on:

- Stock assessment science advice (e.g., status of stock),
- Environmental variables and ecosystem considerations included in the science advice,
- Management measures taken (e.g., closures, TAC, short or long-term decision-making),

- Predicted response of stock to management measures (e.g., reduce catch = increase in stock abundance),
- Responses of the stocks.

A meta-analysis will be applied to the database to quantifying outcomes of different management measures.

DELIVERABLES (Anticipated):

- Database of stock assessment and effectiveness of management measures and outcomes in the Atlantic.
- Desktop audit of stock assessments and whether ecosystem-informed advice has been integrated into fisheries management decision-making in the Gulf Region. This will build on an existing review by the Aquatic Climate Change Adaptation Services Program.
- Peer-reviewed primary publication(s) and/or report(s), including a manuscript on the expected response of marine fish stocks to fisheries management measures in the Gulf of St. Lawrence and how ecosystem information has been integrated into Fisheries Management decision-making in the Gulf Region.

EDUCATION:

Graduation with graduate degree from a recognized post-secondary institution with specialization in a field relevant to the duties of the position and an interest in evidence-based decision making in fisheries management. PhD (postdoctoral) preferred.

EXPERIENCE and ABILITIES:

- Experience in authoring or co-authoring scientific papers and reports.
- Experience conducting scientific work or policy/program work with respect to fisheries science, ecosystem approaches for fisheries management, an/or conservation measures.
- Experience organizing and conducting research as a project lead.
- Knowledge of how the status of aquatic species, habitat, or ecosystems are assessed to generate science advice.
- Knowledge of DFO's Canadian Science Advisory processes, policies, and publications.
- Ability to communicate effectively in writing

TO APPLY:

Please e-mail 1) **your curriculum vitae** (CV); and 2) a **covering letter** supporting the CV and outlining how you meet the requirements under Education, Experience and Abilities, by November 1, 2019, to, Stephanie Boudreau, stephanie.boudreau@dfo-mpo.gc.ca. Shortlisted applicants will be invited to participate in a telephone interview.