Competitive Science Research Fund (CSRF) **Application 2021-2022**

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| --- |
| **Project code**  (reserved to SFS) |
| Enter code |

This form is to be used to submit an application to the CSRF for fiscal year 2021-22.

ALL sections must be filled, except for 3, 5 and 10 (fill only if applicable).

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| **1. Theme:** | MISSING! | | **4. Priority identification number (PIN):** |
| **2. Priority:** | MISSING! | | MISSING! |
| **3. Additional info supplied by client:** | MISSING! | |
| **5. Secondary priority directly linked to the research project, if applicable:**  (This section is intended to provide insight on potential links between client priorities, and is not used as an evaluation criterion) | | | |
| None | | | |
| **6. Title of the project:** | Using the Maritimes Food Habits Database to Inform on Predator-Prey Dynamics of the main fish species of commercial interest feeding on forage species (i.e. northern shrimp) | | |
| **7. Duration of requested funding:** | | | 1 year |
| If the project will take longer than 3 years, specify the expected total duration. | | |  |
| **8. Name of principal investigator:** | Manon Cassista-Da Ros | **9. Lead region:** | Maritimes |
| (Manon.Cassista-DaRos@dfo-mpo.gc.ca) |
| **10. Research team** (list of key collaborators /partners – including the principal investigator – and provide the % of FTE time going towards the project)**:** | | | |
| Name | Role in the project, estimated % FTE time, and key expertise | Affiliation | |
| --- (2022-2023) | Role in the project: Technical support  FTE Time: 156 weeks (371%) Key Expertise: Dissection and descriptive statistics | DFO-[ADD REGION] |  |
| Manon Cassista-Da Ros (2022-2023) | Role in the project: Lab technician and data entry  FTE Time: 3 weeks (7%) Key Expertise: | DFO-[ADD REGION] |  |
| Yanjun Wang (2022-2023) | Role in the project: Groundfish research scientist expertise  FTE Time: 0 weeks (0%) Key Expertise: None | DFO-[ADD REGION] |  |
| Allan Debertin (2022-2023) | Role in the project: Atlantic Herring fishery expertise  FTE Time: 0 weeks (0%) Key Expertise: None | DFO-[ADD REGION] |  |
| Monica Finley (2022-2023) | Role in the project: Haddock fishery expertise  FTE Time: 0 weeks (0%) Key Expertise: None | DFO-[ADD REGION] |  |
| Jessica Cosham (2022-2023) | Role in the project: Database QA/QC and uploading of new data.  FTE Time: 3 weeks (7%) Key Expertise: None | DFO-[ADD REGION] |  |

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| **11. Provide a brief overview of the project outlining how it specifically addresses the priority identified**  (please indicate if the project is a continuation of a previous or related ones) (200 words max). | |
| Food habits data has been collected annually from the Summer Research Vessel Ecosystem Survey (SRVES) since the late 1990s. With limited departmental resources, the data had become uninformative without updates to its time-series. In the last few years, a relational database has been developed, the existing data has been validated, and more importantly, new data is now available with the processing of accumulated samples. Predator-prey dynamics play a vital role in understanding the ecosystem dynamics in our commercial fisheries, and directly addresses the research priority (FS-22-05) of investigating these dynamics to provide substantial insight into multi-species stock assessments and science advice. Spatio-temporal changes in prey-predator dynamics will also inform on a long-standing knowledge gap in our region. | |
| **12. Describe the objective(s) of the project** (150 words max). | |
| The primary objectives are to: 1) Complete processing of accumulated samples from the SRVES collection, 2) Establish a spatio-temporal predator-prey relationship from various groundfish species, 3) Incorporate environmental variables to further inform on the predator-prey relationship, 4) Create a technical report describing summaries of diet analyses among species across the Scotian Shelf bioregion, 5) Include this new information in groundfish and forage species stock assessments, and incorporate in productivity processes to compare against results of existing assessments, 6) Incorporate yearly variations in northern shrimp consumption as a productivity index for the Eastern Scotian Shelf northern shrimp assessment. | |
| **13. Outline the methods applied to achieve the objective(s) of the project, and the main steps of the work plan by year** (500 words max). | |
| 2022-2023: Apr 2022-Mar 2023:  - Complete processing of accumulated samples from the SRVES collection  - Establish a spatio-temporal predator-prey relationship from various groundfish and forage species | |
| **14. Project output** – Briefly describe the main project output items, e.g. communication to/with the client(s) and deliverables, including the final report. | |
| Year | Description |

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| **14.1 Data management** – Briefly describe the main elements of (i) data acquisition, (ii) data storage / archiving / access, and (iii) data publishing (150 words max). | | | | | | | | | |
| 2022-2023: i) Diet composition data of several groundfish species ii) Oracle Database iii) Data informs on prey-predator dynamics and groundfish diet composition that can be used to inform in stock assessment commercial fisheries. The data products are also needed for both EAFM and MPA planning.  PLEASE REVIEW THIS SECTION!!!! | | | | | | | | | |
| **14.2 Innovation** – Describe how the project will generate or promote innovation (150 words max). Innovation is defined as the development of modified or novel approaches, theories, concepts, ideas or solutions, in line with departmental mandate. | | | | | | | | | |
| This project will promote the use of one of the most valuable data sources in the Maritimes Region. The food habits database has been housing prey-predator data from the region since the mid-80s. With many custodians, no accessibility platform since the Virtual Data Center (VDC), a lack of departmental funds, and the inability to keep the data annually updated, it has been limiting and uninformative for current DFO advice in stock assessments. Additionally, this data can support with open-data initiatives. | | | | | | | | | |
| **15. Project risk management** – Briefly (i) identify and assess the risks for the project’s completion within the planned timeframe (e.g. COVID-19 restrictions, vessel availability, lab space, etc.), and (ii) describe the mitigation measures to address them (200 words max). Please also answer questions in 15.1 and 15.2. | | | | | | | | | |
| **15.1** Does this project require **fieldwork?** | | | | | | | No | | |
| **15.2** Have you applied for funded **ship time** under the CCG ship time call out for this project? | | | | | | | No | | |
|  | | | | | | | | | |
| **16. Budget** – Outline the funding requested from the CSRF for the applicable years. | | | | | | | | | |
|  | **Year 1** | | **Year 2** | | **Year 3** | | | **Total** | |
| **Salary** (O&M $) | 204500.0 | | 0 | | 0 | | | 204500.0 | |
| **Contract(s)** | 0 | | 0 | | 0 | | | 0 | |
| **Equipment** | 13600.0 | | 0 | | 0 | | | 13600.0 | |
| **Supplies** | 0 | | 0 | | 0 | | | 0 | |
| **Travel** | 0 | | 0 | | 0 | | | 0 | |
| **Vessel costs** | 0 | | 0 | | 0 | | | 0 | |
| **Other** | 0 | | 0 | | 0 | | | 0 | |
| **Overhead** (15%) | 0 | | 0 | | 0 | | | 0 | |
| **Total** | 218100.0 | | 0 | | 0 | | | 218100.0 | |
| **Detail of costs:** | | | | | | | | | |
| **Salary** | 2022-2023 - --- (EG-03) @ 156.0 weeks = $ 204,500.00 | | | | | | | | |
| **Contract(s)** |  | | | | | | | | |
| **Equipment** | 2022-2023 - Lab consumables, software, travel, and publication costs = $ 13,600.00 (O&M) | | | | | | | | |
| **Supplies** |  | | | | | | | | |
| **Travel** |  | | | | | | | | |
| **Vessel costs** |  | | | | | | | | |
| **Other** |  | | | | | | | | |
| **16.1 Other sources of funding, if applicable:** | | | | | | | | | |
|  | **Year 1** | | **Year 2** | | **Year 3** | | | **Total** | |
|  | Cash | In-kind | Cash | In-kind | Cash | In-kind | | Cash | In-kind |
| Identify the source | Enter $$ | Enter $$ | Enter $$ | Enter $$ | Enter $$ | Enter $$ | | **Enter $$** | **Enter $$** |
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| Provide any additional information on the other sources of funding relevant to the project (e.g. type of in-kind contribution) (200 words max). | | | | | | | | | |
| Over the years we have only been able to secure short-term funding mostly through FSWEP initiatives. We also have had funds from the Oceans group to help with the processing of the samples collected from the MPA areas. | | | | | | | | | |
| **Definitions:**  Cash contribution: funding received by accountable project manager to finance the activity. The funding can come from within DFO or transferred from external partners.  In-kind contribution: Contribution that does not involve transfer of money. DFO undetermined staff time (salary) or time from partners are considered as in-kind contribution. Include percentage of PI’s time dedicated to project. | | | | | | | | | |
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| **17. References** | | | | | | | | | |
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