Competitive Science Research Fund (CSRF) **Letter of Intent**

This form is to be used to submit a Letter of Intent (LOI) to seek funding from the CSRF.

ALL sections must be completed, except where noted “if applicable”.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1. Research Area:** | | Fisheries Science | | | | | | | | |
| **2. Research Focus:** | | Stock Assessment Science | | | | | | | | |
| **3. Research Priority:** | | Ecosystem Approach to Fisheries Management | | | | | | | | **4. PIN** |
| FS-22-05 |
| **5. Project Identification** | | | | | | | | | | |
| **5.1 Project Title:** | | 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) | | | | | | | | |
| **5.2 Amount of requested funding** - Enter total funding requested for the project [last cell of section 11.4] | | | | | | | | | $165,331 | |
| **5.3 Duration of requested funding** - Enter 1, 2, or 3 years | | | | | | | | | 3 | |
| **5.4** If the project will take longer than 3 years, specify the expected total duration (if applicable) | | | | | | | | |  | |
| **5.5 Principal Investigator (PI)** | | Name: Manon Cassista-DaRos  Email: Manon.cassista-DaRos@dfo-mpo.gc.ca | | | **Lead Region:** | **Maritimes** | | | | |
| **5.6 Co-PI:**  (if applicable) | | Name:  Email: | | | **Co-PI Region:**  (if applicable) | **Maritimes** | | | | |
| **6. Research team** (list all key collaborators/partners, provide % of identified FTE time going towards project)**:** | | | | | | | | | | |
| **Name** | | **Role in the project**  (estimated % FTE time, and key expertise) | | | **Region**  (enter ‘external’ if not from DFO) | If partner / collaborator is external, identify the institution: | | | | |
| Manon Cassista-DaRos | | Project Lead; 25% FTE, prey-predator dynamics and stock assessment | | | Maritimes |  | | | | |
| Jessica Cosham | | Project support; 20% FTE, spatial analysis | | | Maritimes |  | | | | |
| FTE EG-03 | | Project support; 100% FTE, diet and meta-analyses | | | Maritimes |  | | | | |
| Allan Debertin | | Collaborator, 5%, herring assessment lead | | | Maritimes |  | | | | |
| Monica Finley | | Collaborator, 5%, haddock assessment lead 5haddoassassassassessmentleadleadlead | | | Maritimes |  | | | | |
| Yanjun Wang | | Collaborator, 5%, groundfish research scientist | | | Maritimes |  | | | | |
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| **7. Client Engagement** – Identify the client colleague with whom you are discussing this proposal (Name and client sector, region) and briefly explain discussions had to date (number of conversations, nature of discussion [ex/ agreement on deliverables, clarification of research question, etc.]) **(100 words max).** | | | | | | | | | | |
| **Client Name(s) and client sector** | | Irene Andrushchenko, Allan Debertin, Claire Mussels, Yanjun Wang, Heather Bowlby, Monica Finley – Science Stock Assessment leads | | | **Region** | **Maritimes** | | | | |
| **Brief explanation of discussions:** Discussions of interest and use of prey-predator dynamics products with assessment leads. Because Northern shrimp is an important part of marine food chain, there is keen interest from all leads in the project results, as it has been a knowledge gap for all involved. The herring and groundfish leads will be collaborating on this project as noted above. We also anticipate interest from other groups whose stock species predate on shrimp. | | | | | | | | | | |
| **8. Project Summary** – Clearly (i) describe how the project specifically addresses the priority; (ii) List the primary objective(s) of the project; and (iii) outline the methods to be applied to achieve those objectives **(300 words max).** | | | | | | | | | | |
| **Summary Description:**  The objectives of this project are to: **1)** Developand validate a methodology to derive key predator/prey relationships from the Summer Ecosystem Survey data in the food habits database, **2)** Generate a time-series of this index including the vulnerability of important forage species to different commercially important stocks. **3)** Include this new information in groundfish and forage species stock assessments, and incorporate in productivity models to compare against results of existing ones. This information will play a vital role in understanding broader ecosystem dynamics, and contribute to ecosystem-based management in stock assessments. Changes in prey-predator dynamics will characterize their role in marine food webs as they inform on a long-standing knowledge gap in our region. **4)** Perform spatial analyses of stomach information relative to environmental variables such as temperature and depth across the Scotian Shelf bioregion. **5)** Compose, present, and compare summaries with multivariate analysis of stomach content among species across the Scotian Shelf bioregion. **6)**  Incorporate yearly variations in northern shrimp consumption as an index in the surplus production model being developed for the Eastern Scotian Shelf northern shrimp assessment. | | | | | | | | | | |
| **9. Deliverables / Project Outputs –** Clearly (i) describe the expected deliverables (be sure to include the mandatory ***final report*** on the results/outcomes for clients); and (ii) explain their relevance/usefulness to clients **(250 words max).** | | | | | | | | | | |
| **(i) The expected deliverables** are a technical report on prey-predator dynamics including data products that can be incorporated by stock assessments. A primary paper on trends in consumption of shrimp by specific predator species, and spatial predator distribution with the inclusion of environmental factors. Depending on the breadth of the results a second paper may be a possibility, and/or poster presentation. We will also prepare a final report for the specific interests of our clients.  **(ii) The final deliverables will be useful to the clients** as sources of information for their assessments; depending on what predator-prey relationships are observed, it may be of interest to include shrimp stock health as a species in different assessments (e.g. where shrimp stock health may directly impact another commercially important species). | | | | | | | | | | |
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| **10. Data Management Plan** – Identify the SDM-SC data manager for your region and the expected data steward for the life of the project and afterward | | | | | | | | | | |
| **10.1 SDM-SC data manager in your region:** | | | | Lei Harris | | | | | | |
| **10.2 Data Steward for the project:** | | | | Manon Cassista-Da Ros | | | | | | |
|  | | | | | | | | | | |
| **11. Budget** – Outline funding requested from the CSRF for the applicable years. Use the ‘Budget Spreadsheet’ template on the CSRF website to assist with these calculations. *\*\*****Round to the nearest dollar.*** | | | | | | | | | | |
| **11.1 Salary requested** | **Year 1** | | **Year 2** | | **Year 3** | | | **Salary Total** | | |
|  | $65,500 | | $68,000 | | $71,000 | | | $204,500 | | |
| **Outline salary costs**  Briefly identify what salary funding will be used for | | | | | | | | | | |
| Year 1   * FTE EG-03 salary (step 2) * Travel to | | | | | | | | | | |
| Year 2   * FTE EG-03 salary (step 3) | | | | | | | | | | |
| Year 3   * FTE EG-03 salary (step 4) | | | | | | | | | | |
| **11.2 O&M requested** | **Year 1** | | **Year 2** | | **Year 3** | | | **O&M Total** | | |
|  | $ 1,500 | | $1,500 | | $11,100 | | | $14,100 | | |
| **Outline O&M costs**  Briefly identify what O&M funding will be used for. Ex./ contract(s), equipment, publishing, etc. | | | | | | | | | | |
| Year 1   * Single user licence for Surfer software 1.5K/year | | | | | | | | | | |
| Year 2   * Single user licence for Surfer software 1.5K/year | | | | | | | | | | |
| Year 3   * Publication submission and publishing fees (if necessary) est. $5.0 K * Poster printing fees (if necessary) est. $100.00 * Travel costs for presenting (if necessary) est. $6.0 K | | | | | | | | | | |
| **11.4 Total Funding Requested –** Sum of Salary and O&M Totals | | | | | | | | $218,600 | | |
| **11.5 Other sources of funding** - Identify possible other sources of funding (program or institution), type (cash/in kind) and amount of additional funding/support you would need (if applicable). | | | | | | | | | | |
| 1. Analytical support – Allan Debertin, DFO Science Maritimes | | | | | | | | In-kind | | |
| 1. Analytical support - Yanjun Wang, DFO Science Maritimes | | | | | | | | In-kind | | |
| 1. Analytical support – Monica Finley, DFO Science Maritimes | | | | | | | | In-kind | | |
| **Total amount from other funding sources:** | | | | | | | | **In-kind contribution** | | |
| **Definitions:**  Cash contribution: Funding received by accountable project manager to finance the activity. The funding can come from within DFO or may be transferred from external partners.  In-kind contribution: A contribution of goods/supplies, services, and/or time (from external collaborators) that does not involve the transfer of money. | | | | | | | | | | |
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