July 20, 2016

Dear Applicant:

Re: Your request for access to information under Part II of the Access to Information and Protection of Privacy Act FA/17/2016

On June 24, 2016, The Department of Fisheries and Aquaculture (DFA) received your request for access to the following records:

"Briefing materials - in any and all formats, including paper and electronic - prepared for and/or provided to the minister on the topic of the Celtic Explorer and/or the Centre for Fisheries Ecosystems Research (CFER) program. Date range of request is Nov. 1, 2015 to the present."

I am pleased to inform you that a decision has been made by the Deputy Minister for DFA to provide partial access to the requested information. Please note access to pages 35 – 42 inclusive has been refused in accordance with Section 27(1)(h) and 27(2)(a) – Cabinet Confidences as required by 8(2) of the Access to Information and Protection of Privacy Act (the Act), and we have provided you with as much information as possible. In accordance with your request the information has been compiled and the appropriate copies have been enclosed.

Please be advised that you may appeal this decision and ask the Information and Privacy Commissioner to review the decision to provide partial access to the requested information, as set out in section 42 of the Act (a copy of this section of the Act has been enclosed for your reference). A request to the Commissioner must be made in writing within 15 business days of the date of this letter or within a longer period that may be allowed by the Commissioner. Your appeal should identify your concerns with the request and why you are submitting the appeal.

The appeal may be addressed to the Information and Privacy Commissioner is as follows:

Office of the Information and Privacy Commissioner
2 Canada Drive
P. O. Box 13004, Stn. A
St. John's, NL, A1B 3V8

Telephone: (709) 729-6309
Toll-Free: 1-877-729-6309
Facsimile: (709) 729-6500

You may also appeal directly to the Supreme Court Trial Division within 15 business days after you receive the decision of the public body, pursuant to section 52 of the Act (a copy of this section of the Act has been enclosed for your reference).

Please be advised that responsive records will be published following a 72 hour period after the response is sent electronically to you or five business days in the case where records are mailed to you. It is the goal to have the responsive records posted to the Office of Public Engagement's website within one business day following the applicable period of time. Please note that requests for personal information will not be posted online.

If you have any further questions, please contact me by telephone at 709-729-4797 or by email at rhondahickey@gov.nl.ca.

Sincerely,

Rhonda Hickey
ATIPP Coordinator

Enclosures

ACCESS TO INFORMATION AND PROTECTION OF PRIVACY ACT, 2015

Right of access

8. (1) A person who makes a request under section 11 has a right of access to a record in the custody or under the control of a public body, including a record containing personal information about the applicant.

(2) The right of access to a record does not extend to information excepted from disclosure under this Act, but if it is reasonable to sever that information from the record, an applicant has a right of access to the remainder of the record.

(3) The right of access to a record may be subject to the payment, under section 25, of the costs of reproduction, shipping and locating a record.
Cabinet confidences

27. (1) In this section, "cabinet record" means
(h) a record created during the process of developing or preparing a submission for the Cabinet; and

(2) The head of a public body shall refuse to disclose to an applicant
(a) a cabinet record;

Access or correction complaint

42. (1) A person who makes a request under this Act for access to a record or for correction of personal information may file a complaint with the commissioner respecting a decision, act or failure to act of the head of the public body that relates to the request.

(2) A complaint under subsection (1) shall be filed in writing not later than 15 business days
(a) after the applicant is notified of the decision of the head of the public body, or the date of the act or failure to act; or

(b) after the date the head of the public body is considered to have refused the request under subsection 16 (2).

(3) A third party informed under section 19 of a decision of the head of a public body to grant access to a record or part of a record in response to a request may file a complaint with the commissioner respecting that decision.

(4) A complaint under subsection (3) shall be filed in writing not later than 15 business days after the third party is informed of the decision of the head of the public body.

(5) The commissioner may allow a longer time period for the filing of a complaint under this section.

(6) A person or third party who has appealed directly to the Trial Division under subsection 52 (1) or 53 (1) shall not file a complaint with the commissioner.

(7) The commissioner shall refuse to investigate a complaint where an appeal has been commenced in the Trial Division.

(8) A complaint shall not be filed under this section with respect to
(a) a request that is disregarded under section 21;

(b) a decision respecting an extension of time under section 23;

(c) a variation of a procedure under section 24; or

(d) an estimate of costs or a decision not to waive a cost under section 26.

(9) The commissioner shall provide a copy of the complaint to the head of the public body concerned.
Direct appeal to Trial Division by an applicant

52. (1) Where an applicant has made a request to a public body for access to a record or correction of personal information and has not filed a complaint with the commissioner under section 42, the applicant may appeal the decision, act or failure to act of the head of the public body that relates to the request directly to the Trial Division.

(2) An appeal shall be commenced under subsection (1) not later than 15 business days

(a) after the applicant is notified of the decision of the head of the public body, or the date of the act or failure to act; or

(b) after the date the head of the public body is considered to have refused the request under subsection 16 (2).

(3) Where an applicant has filed a complaint with the commissioner under section 42 and the commissioner has refused to investigate the complaint, the applicant may commence an appeal in the Trial Division of the decision, act or failure to act of the head of the public body that relates to the request for access to a record or for correction of personal information.

(4) An appeal shall be commenced under subsection (3) not later than 15 business days after the applicant is notified of the commissioner’s refusal under subsection 45 (2).

2015 cA-1.2 s52
Title: Centre for Fisheries Ecosystems Research (CFER)

Issue: Current Status of CFER.

Background and Current Status:
- Recognizing the need for enhanced fisheries science capacity in Newfoundland and Labrador (NL), in 2010 the Province announced an investment of $11.75 million to establish the Centre for Fisheries Ecosystems Research (CFER) at the Marine Institute. This funding consisted of $10.25 million invested by the Department of Fisheries and Aquaculture (DFA) and $1.5 million invested by the Research & Development Corporation (RDC).

- The Province invested an additional $3.35 million to maintain CFER’s human resource, operating, and research capabilities through 2015-16. In October 2015, the Province announced a further investment of $2.6 million to maintain CFER in 2016-17. This investment brings the Provincial Government’s total funding commitment for CFER to $17.7 million.

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-11</td>
<td>$1,500,000*</td>
</tr>
<tr>
<td>2011-12</td>
<td>$3,350,000</td>
</tr>
<tr>
<td>2012-13</td>
<td>$3,658,288</td>
</tr>
<tr>
<td>2013-14</td>
<td>$1,641,712</td>
</tr>
<tr>
<td>2014-15</td>
<td>$2,350,000</td>
</tr>
<tr>
<td>2015-16</td>
<td>$2,600,000</td>
</tr>
<tr>
<td>2016-17</td>
<td>$2,600,000</td>
</tr>
</tbody>
</table>

*Paid by RDC.

- CFER is focusing on offshore and coastal fisheries research and international collaboration. CFER is also training graduate students in the field of fisheries science and management, and providing opportunities for fisheries scientists to work in NL.

- Currently, CFER has 5 research scientists, 5 research and technical personal, 2 administrative positions as well as 3 post-doctoral fellows and 15 graduate students. Dr. George Rose, the Director of CFER since its establishment, recently retired. Memorial University of Newfoundland funds this position and has initiated a recruitment exercise to replace Dr. Rose.

- A Research Advisory Committee provides advice and feedback to CFER regarding areas of research and work plans. Gerard Chidley, a well-known inshore fisher, is the current chair of this committee, which includes representatives from the Provincial and Federal Governments, academia, and industry (including representatives from the inshore and offshore harvesting and processing sectors).
Currently in the sixth year of its mandate, CFER is conducting approximately 40 research projects on species such as cod, capelin, and herring, as well as research on the influences of climate change on the province’s marine ecosystem.

CFER’s research activities include annual acoustic surveys in offshore areas around the province with the research vessel *Celtic Explorer*. Survey results indicate that over the past decade, northern cod biomass in the Bonavista Corridor has increased at an average annual rate of approximately 30 percent. The 2015 survey also detected large increases in cod abundance and size compositions in more northerly spawning areas for the first time since the moratorium. CFER plans to continue with chartering the *RV Celtic Explorer* to conduct its sixth acoustic fisheries survey in May 2016.

CFER has also been using sophisticated “pop-up” satellite tags to provide unique information on groundfish movements and behavior. CFER is the first world-wide to use satellite tagging technology on cod, and the first in NL to use satellite tags on Atlantic halibut.

CFER has produced approximately 70 publications of its research results in scientific journals. The results of CFER’s offshore acoustic surveys up to 2014 were published in the Canadian Journal of Fisheries and Aquatic Sciences. In addition, CFER’s results are being incorporated into federal fish stock assessment processes that guide the establishment of fisheries management measures. CFER’s research will also help inform management processes such as the development of rebuilding plans for the province’s cod stocks.

Analysis:
- The Province’s investment in CFER is providing new insight into the status of cod and other fish stocks around NL, and is therefore contributing to the sustainable management of adjacent fisheries resources. The investment in CFER is also enabling the Province to more effectively contribute to fisheries management decision-making processes.

- In addition, CFER is providing new insight into species distribution and composition within NL’s marine ecosystem, which is enhancing understanding of regime shifts. This may identify new opportunities to industry as we may be able to better predict ecosystem changes.

- CFER, which currently has the largest fisheries research team within any university in Canada, is increasing fisheries science capacity in NL. CFER is also training graduate students in the field of fisheries science and management and providing opportunities for fisheries scientists to work in the province.

Action Being Taken:
- All programs, including CFER, are currently under review.

Prepared/approved by: S. Dwyer, T. Dooley/D. Lewis
Ministerial Approval:

February 26, 2016
Title: Funding proposal from the Centre for Fisheries Ecosystems Research (CFER).

Decision/Direction Required:
• CFER has requested funding towards the satellite tagging of Atlantic halibut in 4R (west coast of Newfoundland).
• It is recommended to provide a contribution of $9,000 to CFER from the 2016-17 budget of the Fisheries Research Grant Program.

Background and Current Status:
• DFO Science has identified the need for improved understanding of the migration patterns of Atlantic halibut. The most recent scientific assessment of Atlantic halibut in the Gulf of St. Lawrence (4RST) noted that a growing number of halibut over 130cm has been observed in catches, but that it is unknown whether this indicates an increase in abundance of this stock component or a change in fish behavior.
• To enhance understanding of stock movements and behavior, since 2013 CFER, the FFAW, and DFO (Quebec region) have collaborated to deploy satellite tags on Atlantic halibut in 4R (northern Gulf of St. Lawrence). Satellite tagging is an innovative technology that not only provides extensive information on stock movements and distribution, but also specific information on behavior and habitat use throughout an entire year.
• Typically used on large pelagics, CFER and the FFAW are amongst the first world-wide to use satellite tagging technology on halibut and the first in Newfoundland and Labrador. DFA has provided a total of $150,500 towards this initiative. DFA has also provided $89,286 to the FFAW to deploy conventional tags on Atlantic halibut in 4R, together with CFER, to inform the design of a Gulf-wide conventional tagging program for the stock.
• Satellite tags collect and store information at two-minute intervals, release from the fish at a pre-programmed time, float to the surface, and transmit the data to a satellite system. Data is transmitted at a temporal resolution of 15-30 minutes after a year’s deployment. This limitation largely precludes analysis of fine temporal scale movements and behaviors across an annual cycle.
• Recovering released satellite tags bypasses these limitations and results in acquiring all the data that was recorded at two-minute intervals and stored in the tags. This enables the extensive analysis of high-resolution data on movements and behavior.
• In 2014 and 2015, CFER rented a “goniometer”, a highly effective device used to detect and locate released satellite tags, which successfully enabled the recovery of 19 tags worth a total of $95,000. The high resolution data provided from the recovered tags are currently being modelled to reveal spawning and overwintering areas of adult halibut. The results to date were presented at the 2015 stock assessment meeting.
• CFER wishes to use a goniometer again this year to recover up to 20 satellite tags that were deployed on very large halibut (>146cm) in areas not currently exploited by inshore harvesters. The data from the recovered tags will be analyzed and compared to information...
derived from tags deployed on mature (but smaller) halibut from inshore areas.

- CFER will conduct the project in collaboration with the FFAW and is requesting funding from DFA, in the amount of $12,000, to cover project costs, which include:
  - $10,500 to charter a fishing vessel for several days.
  - $1,500 for travel for 2 CFER scientists and 1 technician to Port au Choix.

Analysis:
- The results from this initiative should help address scientific uncertainty regarding the status of the Atlantic halibut resource in the Gulf of St. Lawrence, and thus help inform management measures for this stock.

- DFA has $12,850 remaining in the 2016-17 budget of the Fisheries Research Grant Program. Given this limited amount, it is recommended that DFA provide a contribution of $9,000 (75 percent of the amount requested) to CFER (see attached letter). This will bring DFA's total contribution to this initiative to $159,500.

Prepared/approved by: S. Dwyer; T. Dooley/D. Lewis
Ministerial Approval: June 15, 2016
Fisherlies and Aquaculture
Current status of the Centre for Fisheries Ecosystems Research (CFER)
February 26, 2016

Summary:
The province has invested $15.1 million into CFER since it was established at Memorial University in 2010. CFER is focusing on innovative research to inform the status of the province’s fisheries resources, including offshore acoustic surveys to provide ground-breaking insight on northern cod. No decision has been made regarding funding to maintain CFER beyond 2016-17.

The Minister may be asked if the Province plans to continue its commitment to fisheries science/CFER.

Key messages:
- The research produced by CFER is intended to complement the science work of DFO rather than replace or replicate any federal science initiatives.

- The province sees the opportunity to enhance the partnership between CFER and DFO as they have responsibility for fisheries science and have recently announced they will be increasing their investment in fisheries science.

- CFER is also building capacity at MUN to train new fisheries research scientists for the future benefit of our fishing industry and as a potential source of recruitment for DFO science.

- All programs including CFER are currently under review.
Update on the 2016 CFER survey onboard the RV Celtic Explorer

Jonathan Fisher, on behalf of Dominique Robert (Chief Scientist)
Presented to the Minister of the Department of Fisheries and Aquaculture
3 June 2016
Celtic Explorer 2016:
April 26 (Argentia) to May 11 (St. John’s)

Specific objectives
- Fisheries acoustics and trawl to assess distribution, abundance, food web interactions, and environmental influences
- Biophysical stations (CTD, plankton) to quantify environmental influences
- Multibeam mapping of habitat
- Camera deployments for direct observations of species of interest
- Microplastic sampling

Rationale
- Shelf slope habitats of NAFO 3PsNO are key indicators of climate change in NL waters, where productivity of established and emerging fisheries is rapidly changing
- Shelf slope habitats constitute a very small portion of the DFO survey area
- With acoustic and trawling capacity, Celtic Explorer is a versatile oceanographic platform that will facilitate specific objectives

Status of fisheries
- 3LNO yellowtail flounder MSC re-certified
- 3LNO American plaice near Blim
- 3NO witch flounder opened for the first time in 2015 since 1994
- 3LN redfish TAC established in 2010 (first since 1997), TAC doubled by 2014
- 3NO cod now 64% of Blim and increasing
# The Team

<table>
<thead>
<tr>
<th>CFER staff</th>
<th>CFER students</th>
<th>Collaborators/trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wade</td>
<td>Brynn</td>
<td>Natalie Richard (Env. Science)</td>
</tr>
<tr>
<td>Susan</td>
<td>Daigo</td>
<td>Emilie Novaczek (Geography)</td>
</tr>
<tr>
<td>Gord</td>
<td>Devin</td>
<td>Chelsea Hounsell (MI – SOF)</td>
</tr>
<tr>
<td>Kiley</td>
<td>Fred</td>
<td>Rebecca Raymond (MI – SOF)</td>
</tr>
<tr>
<td>Laura</td>
<td>Violaine</td>
<td>Joel Howlett (MI – SOT)</td>
</tr>
<tr>
<td>Dominique</td>
<td>Judith</td>
<td></td>
</tr>
</tbody>
</table>
Objectives

- Impacts on multiple stock assessments
- Dual emphasis on research and *at-sea* training of the next generation of fisheries scientists
  - CFER graduate students
  - MUN graduate students
  - MI undergraduate students
- Survey is directly supporting ongoing and new graduate research projects:
  - Ecology of silver hake in newly colonized areas (L. Zhu, MSc)
  - Distribution of commercially-important flatfish in 3PsNO (D. Flawd, PhD)
  - Mapping the habitat of wolffish (E. Novaczek, PhD)
  - Quantifying microplastics in the diet of cod and silver hake (N. Richard, MSc)
Extended Objectives

• Student representation of >50% was achieved
• CFER biologists and technologists were directly involved in the planning of the survey and gained valuable experience
• Collaborations with other groups within MI, MUN and DFO
• Production of a survey report in autumn 2016
Celtic Explorer 2016: Survey track
Celtic Explorer 2016: Fishing sets
Celtic Explorer 2016: Camera deployments
Data Collected
Fisheries acoustics data

- 2350 nm of continuous survey track to analyze over the next 2 months (lead: Gord Adams, CFER)
- Mixed species will make it important to match signal to catch composition at depth
Multibeam sounder data

- Was operated at the same time as the EK60 to characterize bathymetry and fish habitat
- Joel Howlett (MI mapping program graduate) will analyze the data by September 2016
## Catch data – fish diversity (67 spp)

<table>
<thead>
<tr>
<th>American plaice</th>
<th>frostfish</th>
<th>punctatum</th>
<th>spiny lumpsucker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arctic alligatorfish</td>
<td>glacial lanternfish</td>
<td>ocean pout</td>
<td>spotted tinselselfish</td>
</tr>
<tr>
<td>Arctic staghorn sculpin</td>
<td>Greenland halibut</td>
<td>offshore hake</td>
<td>spotted woffish</td>
</tr>
<tr>
<td>argentine</td>
<td>haddock</td>
<td>Phosichthyid sp.</td>
<td>striped woffish</td>
</tr>
<tr>
<td>Atlantic alligatorfish</td>
<td>hagfish</td>
<td>pollock</td>
<td>thorny skate</td>
</tr>
<tr>
<td>Atlantic cod</td>
<td>hatchetfish</td>
<td>red hake</td>
<td>three-spine stickleback</td>
</tr>
<tr>
<td>Atlantic halibut</td>
<td>herring</td>
<td>redfish</td>
<td>Vahl's eelpout</td>
</tr>
<tr>
<td>Atlantic poacher</td>
<td>hookear sculpin</td>
<td>sandlance</td>
<td>white barracudinia</td>
</tr>
<tr>
<td>barndoor skate</td>
<td>Laval's eelpout</td>
<td>sea raven</td>
<td>white hake</td>
</tr>
<tr>
<td>black belly rosefish</td>
<td>longfin hake</td>
<td>silver hake</td>
<td>winter skate</td>
</tr>
<tr>
<td>black dogfish</td>
<td>longfin sculpin</td>
<td>sloanes viperfish</td>
<td>witch flounder</td>
</tr>
<tr>
<td>blackfin tapirfish</td>
<td>longnose greeneye</td>
<td>smooth skate</td>
<td>Xenodermichthyes copei</td>
</tr>
<tr>
<td>boa dragonfish</td>
<td>mackerel</td>
<td>snakeblenny</td>
<td>yellowtail flounder</td>
</tr>
<tr>
<td>capelin</td>
<td>marlin spike grenadier</td>
<td>snowflake sculpin</td>
<td>variegated snailfish</td>
</tr>
<tr>
<td>deep-sea cardinalfish</td>
<td>monkfish</td>
<td>snowflake sculpin</td>
<td></td>
</tr>
<tr>
<td>Diaphus dumerilli</td>
<td>moustache sculpin</td>
<td>snubnose eel</td>
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<tr>
<td>duckbill snipe eel</td>
<td>Myctophym</td>
<td>spatulate sculpin</td>
<td></td>
</tr>
<tr>
<td>fish doctor</td>
<td></td>
<td>spiny dogfish</td>
<td></td>
</tr>
</tbody>
</table>
Catch data – species diversity

[tinselfish]

Barndoor skate

Offshore hake
## Catch data – invert diversity (72 taxa)

<table>
<thead>
<tr>
<th>Bivalve</th>
<th>Crustacean</th>
<th>Echinoderm</th>
<th>Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anyonyx sp.</td>
<td>Munidopsis curviostra</td>
<td>Lebbeus microcberos</td>
<td>Lebbeus polaris</td>
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<tr>
<td>Themsepo sp.</td>
<td>Stereomastis sculpta</td>
<td>Lebbeus polaris</td>
<td>Pandalus borealis</td>
</tr>
<tr>
<td>Anemone</td>
<td>Brisaster fragilis</td>
<td>Pandalus borealis</td>
<td>Pandalus montagui</td>
</tr>
<tr>
<td>Duva florida</td>
<td>Ceramaster sp.</td>
<td>Pasiphaea multidentata</td>
<td>Pasiphaea tarda</td>
</tr>
<tr>
<td>Flabellum</td>
<td>Crinoid</td>
<td>Sabinea sarsii</td>
<td>Sclerocrangon boreas</td>
</tr>
<tr>
<td>Gersemia rubiformis</td>
<td>Ctenodiscus crispatus</td>
<td>Spirontocaris lillijiborgi</td>
<td>Spirontocaris spinus</td>
</tr>
<tr>
<td>Penatula sp.</td>
<td>Ctenodiscus crispatus</td>
<td>Spirontocaris lillijiborgi</td>
<td>Spirontocaris spinus</td>
</tr>
<tr>
<td>Hemithiris sp.</td>
<td>Henricia sp.</td>
<td>Boltenia sp.</td>
<td>Halocynthia sp.</td>
</tr>
<tr>
<td>Bathypolypus bairdii</td>
<td>Hipasteria sp.</td>
<td>Halocynthia sp.</td>
<td>Halocynthia sp.</td>
</tr>
<tr>
<td>Illex sp. (squid)</td>
<td>Leptasterias sp.</td>
<td>Arcoscapellum sp.</td>
<td>Bryozoa</td>
</tr>
<tr>
<td>Rossia sp. (bobtail squid)</td>
<td>Ophiuroidea sp.</td>
<td>Pseudarchaster sp.</td>
<td>Pycnogonid</td>
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<tr>
<td>Arcoscapellum sp.</td>
<td>Psilaster andromeda</td>
<td>Spiral</td>
<td>Acanthephyra sp.</td>
</tr>
<tr>
<td>Crab (Northern Stone)</td>
<td>Pteraster sp.</td>
<td>Scallops</td>
<td>Acanthephyra sp.</td>
</tr>
<tr>
<td>Crab (Stone)</td>
<td>Sanddollar</td>
<td>Acanthephyra sp.</td>
<td>Polychaetes</td>
</tr>
<tr>
<td>Crab (Toad)</td>
<td>Sea Cucumber</td>
<td>Argis dentata</td>
<td>Porifera</td>
</tr>
<tr>
<td>Euphausiid</td>
<td>Solaster papposus</td>
<td>Aristaeopsis edwardsianus</td>
<td>Pycnogonid</td>
</tr>
<tr>
<td>Gamarid</td>
<td>Strongylocentrotus sp.</td>
<td>Eualus gaimardi</td>
<td>Pycnogonid</td>
</tr>
<tr>
<td>Hermit crab</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Catch data – fish sampling

Bulk weights and individual lengths taken on all specimens identified

Length, weight, sex, maturity, liver weight, muscle sample, stomach, otolith taken in a variety of species (sub-sampled):

- Atlantic cod (562)
- Haddock (274)
- Pollock (107)
- Silver hake (948)
- Redfish (688)
- Atlantic halibut (73)
- American plaice + yellowtail flounder (250)
Video footage analysis

- Complementary information on abundance of species that are not vulnerable to the trawl
- New information on species’ behaviour/overlap
Video footage analysis
hagfish, cod and halibut
Video footage analysis
redfish, white hake, krill
Biophysical data

- ‘CTD’ (conductivity, temp., depth) data and plankton samples being processed to reveal temperature/depth associations, spawning activity and early life dynamics
Microplastics analyses

- Sampled in surface waters using continuous sampler and vessel filters as well as in the guts of cod and silver hake
Wolffish abundance and habitat

- Collected length and weight data on all specimens

- Will use multibeam data to map potential habitat of wolffish
Next steps...

Ongoing laboratory/computational analyses of *Celtic Explorer* data (CFER and summer students)

Production of a detailed survey report (Autumn 2016)

Contribute data and research results to the assessment of multiple stocks of importance to NL ecosystems and fisheries. In particular:

- **3Ps**
- **Unit 2, 3O**
- **3NOPs**
- **3NO**
Acknowledgements

- Funding: Department of Fisheries and Aquaculture

Newfoundland Labrador

- Officers and crew of the RV Celtic Explorer
Decision/Direction Note
Department of Fisheries and Aquaculture

Title: Funding request from the Centre for Fisheries Ecosystems Research (CFER).

Decision/Direction Required:
- CFER is requesting funding towards the project titled, "Mackerel reproduction in White Bay and Notre Dame Bay and its implications for stock assessment."
- It is recommended to provide $11,250 to CFER from the 2016-17 budget of the Fisheries Research Grant Program.

Background and Current Status:
- Trends in stock status for mackerel are inferred mainly from an egg survey conducted annually in the southern Gulf of St. Lawrence, as it is considered the stock's main spawning area. The survey has indicated that mackerel abundance has declined to the lowest levels in the time-series. The TAC has been reduced from 36,000t in 2013 to 8,000t in 2016.
- After spawning in the southern Gulf, a portion of the mackerel stock typically migrates to the northeast coast of Newfoundland during late summer to feed, before returning to the Scotian Shelf and Georges Bank for the winter. Due to warmer water temperatures in recent years, mackerel may be reaching the northeast coast of Newfoundland earlier than usual and spawning in areas in 3K. The current survey could therefore be missing a significant proportion of the spawning biomass, which would result in an underestimate of stock size.
- To investigate the possibility that some of the main spawning grounds of mackerel have shifted north and outside of the survey area in the Gulf of St. Lawrence, in summer 2015 CFER and the FFAW conducted three egg abundance and larval surveys in White Bay and Notre Dame Bay (3K), together with DFO (NL and Quebec regions). Mackerel samples were also collected by harvesters during the sentinel survey. DFA provided $53,593 to CFER and the FFAW towards this initiative.
- The surveys did not detect any spawning activity in 3K. 2015 was a particularly cold winter and spring; however, which may have delayed the migration of mackerel into areas of 3K until after the spawning season.
- Given the atypical conditions in 2015, CFER wishes to extend sampling to 2016, in which water temperatures so far appear to be more characteristic of the current warming trend. CFER, together with the FFAW and DFO, plan to conduct two mackerel surveys in White Bay and Notre Dame Bay in July and August in 3K.
- The first survey will be conducted using a DFO research vessel and expenses will be covered by DFO. CFER is requesting funding from DFA, in the amount of $15,000, to cover the costs of the second survey that include:
  - $12,000 to charter a fishing vessel.
  - $3,000 to partially cover a graduate student stipend.
- Five harvesters will also collect mature mackerel samples during the sentinel survey; this cost will be covered by CFER.
• The project results will be provided to DFO and reviewed at the scientific assessment process for mackerel.

Analysis:
• As last year was anomalously cold relative to the recent trend in water temperatures, continuing the initiative this year is important to fully assess the possibility of mackerel spawning off the northeast coast. This study could lead to a better understanding of mackerel behavior in response to changing ocean conditions and have important implications for the scientific assessment of the resource.

• DFA has $24,100 remaining in the 2016-17 budget of the Fisheries Research Grant Program. Given this limited amount, it is recommended that DFA provide a contribution of $11,250 (75 percent of the amount requested) to CFER towards the mackerel spawning study (see attached letter). This will bring DFA's total contribution to this initiative to $64,843.

Prepared/approved by: S. Dwyer; T. Dooley/D. Lewis
Ministerial Approval: Received from Honourable Steve Crocker

June 13, 2016
Dear Dr. Robert:

This is in response to your request for a financial contribution from the Department of Fisheries and Aquaculture towards the project titled "Mackerel reproduction in White Bay and Notre Dame Bay and its implications for stock assessment."

The Department of Fisheries and Aquaculture has reviewed your proposal, and we are pleased to advise you that we have approved a contribution of $11,250 towards your project from our 2016-17 budget. While we are unable to fully accommodate your request, this financial contribution will assist with the continuation of this initiative in 2016. The proposed research should provide new insight into the spawning behaviour and distribution of Atlantic mackerel and help ensure management measures are based on reliable scientific information. I look forward to continued collaboration between academia, government, and the fishing industry regarding fisheries research in Newfoundland and Labrador.

Staff from my department will contact you to finalize the terms and conditions of this funding. I wish you success with your upcoming research and look forward to the results of this study.

Sincerely,

STEVE CROCKER, MHA
Carbonear - Trinity - Bay de Verde
Minister

c: Mr. Tom Brown, Centre for Fisheries Ecosystems Research
  Mr. Tom Dooley, Department of Fisheries and Aquaculture
Dr. Jonathan Fisher  
Fisheries and Marine Institute of  
Memorial University of Newfoundland  
jonathan.fisher@mi.mun.ca

Dear Dr. Fisher:

This is in response to your request for a financial contribution from the Department of Fisheries and Aquaculture towards your project titled, "Application of proven satellite tag recovery methodologies to yield the first high resolution annual data on the movements and behaviors of giant Atlantic halibut in the Gulf of St. Lawrence."

The Department of Fisheries and Aquaculture has reviewed your proposal, and I am pleased to advise you that we have approved a contribution of $9,000 towards this project from our 2016-17 budget. While we are unable to fully accommodate your request, this financial contribution will assist with the continuation of this initiative in 2016. The results from this project should enhance our understanding of the movements, distribution, and behavioral patterns of Atlantic halibut in the northern Gulf of St. Lawrence. Such information is important to help inform the status of this valuable fisheries resource. I am pleased that this innovative research will continue to be conducted in collaboration with the Fish, Food and Allied Workers and other partners. I look forward to continued collaboration between academia, government, and the fishing industry regarding fisheries research in Newfoundland and Labrador.

I would like to thank you for your continued contribution to fisheries science in Newfoundland and Labrador, and wish you success with your upcoming research. Staff from my department will contact you to finalize the terms and conditions of this year's funding.

Sincerely,

STEVE CROCKER, MHA  
Carbonear - Trinity - Bay de Verde  
Minister  

c: Mr. Tom Brown, Centre for Fisheries Ecosystems Research  
Mr. Tom Dooley, Department of Fisheries & Aquaculture

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