Fisheries and Oceans Canada | Pêches et Océans Canada

Eastport

Marine Protected Areas Management Plan

2013 – 2018

Canada

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Foreword

The designation of the Eastport Marine Protected Areas (MPAs) on October 11, 2005 represented the successful culmination of several years work initiated by the Eastport Peninsula Lobster Protection Committee (EPLPC), and assisted by many people – some working for Fisheries and Oceans Canada (DFO), some from the seven communities of the Eastport Peninsula, and some from the wider community, including other government departments and various agencies concerned with conservation and stewardship. The evaluation and development of the MPAs was a collaborative process in which all stakeholders, particularly those who served as steering committee members, worked together to build a foundation of knowledge, understanding, trust, and agreement.

Eastport
Marine Protected Areas

Although it was a much anticipated and very special occasion, the designation of the Eastport MPAs was just the beginning of the next phase of collaboration, working to ensure that the MPAs continue to deliver benefits to the marine ecosystem and the fishery that depends on it. To guide this process, a Management Plan was produced in 2007. The Plan incorporated input from the stakeholder groups as well as scientific data and background information, and was intended as a "living" document to be amended as needed. Following designation of the MPAs and development of the initial Management Plan, the MPAs moved from the planning phase to the management phase and the committee was re-named the Advisory Committee to mark this new chapter of the project.

ELIZABETH BENNETT

The Advisory Committee plans to develop strategies to include the wider community in the benefits stemming from the success of the Eastport MPAs. Much important work remains to be done in the area of public education and awareness, using the MPAs as an inspiration for future stewardship initiatives on the Eastport peninsula and beyond.

DFO has developed an updated Management Plan to guide the MPAs from 2013 to 2018. The changes are based on the results of the monitoring programs, science advice, and input from the Advisory Committee and interested public. The Advisory Committee is satisfied that the aims and objectives of the Eastport Marine Protected Areas will be well served by this plan and fully endorse it.

Roger Penney — Feb 15, 2013

Roger Penny
Co-Chair, Eastport MPAs Advisory Committee
Local Fisher
(Original signed by Roger Penney)

Date

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List of Acronyms

AOI	**Area of Interest**
C&P	**Conservation and Protection (Branch of DFO)**
CPUE	**Catch per Unit Effort**
CSAS	**Canadian Science Advisory Secretariat**
DFO	**Fisheries and Oceans Canada**
EPLMA	**Eastport Peninsula Lobster Management Area**
EPLPC	**Eastport Peninsula Lobster Protection Committee**
FAM	**Fisheries and Aquaculture Management (DFO)**
FFAW	**Fish, Food, and Allied Workers union**
FRCC	**Fisheries Resource Conservation Council**
MPA	**Marine Protected Area**
MSC	**Marine Stewardship Certification**
MUN	**Memorial University of Newfoundland**
RAP	**Regional Advisory Process**
SLA	**Service Level Agreement**

JAN MARIE GILL

1.0 Introduction

The Eastport MPAs were officially designated under the *Oceans Act* in October 2005, at the request of local stakeholders. The MPAs are part of an overall lobster conservation strategy for the Eastport Peninsula and are located within a 400 km^2 conservation area known as the Eastport Peninsula Lobster Management Area (EPLMA).

The community-based Advisory Committee provides critical advice on the development and implementation of management strategies including enforcement, conservation initiatives, research, and monitoring within the MPAs and the broader EPLMA. A Management Plan was developed in 2007 with the expectation that key components would be re-evaluated and the Plan updated accordingly.

The 2013 - 2018 Eastport MPA Management Plan has been developed based on the advice of the Advisory Committee, the results of the scientific and enforcement monitoring programs, and recommended changes to the science monitoring program resulting from a formal DFO Science review process. This new Plan builds on the many accomplishments in the management of these MPA sites over the past eight years and is an encouraging example of successful MPA design and community collaboration. Readers are encouraged to provide feedback on any aspect of the plan and can do so using the following contact information:

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1.1 Governance Structure and Vision Statement

With the passing of the *Oceans Act*, DFO has the lead responsibility for oceans management in Canada, including establishing and managing MPAs. Although DFO retains the legislative responsibility to ensure the Eastport MPAs are managed appropriately, the interests of all users are considered in accordance with the provisions of the *Act.* DFO leads a focused, cooperative, and ecosystem-based approach to MPA management involving all levels of government, affected Aboriginal organizations, coastal communities, and non-government stakeholders. Under this strategic partnership, management strategies and actions are identified to help ensure that the conservation objectives are achieved. The regulatory conservation objectives are the primary responsibility of DFO, while the non-regulatory conservation objectives are pursued by community partnerships, initiated by the Advisory Committee with support from DFO.

The Advisory Committee

The Eastport MPA Steering Committee was established in 2001 and was renamed the Eastport MPA Advisory Committee as the MPAs progressed from the planning phase to the management phase. The Committee has provided an excellent forum for issue identification, discussion, and resolution. The member's commitment to stewardship and cooperation in the protection of the MPAs laid the groundwork for the regulations, and on-going management initiatives. The Committee is co-chaired by a member of the Eastport Peninsula Lobster Protection Committee (EPLPC) and a DFO representative. It includes voting members from the EPLPC as well as representatives from local groups such as the Joint Councils of the Eastport Peninsula, fish processors, harbour authorities, tourism associations, and schools. Ex-officio members include representatives of federal, provincial, and municipal departments and fisheries associations or boards. Ex-officio members provide advice and assistance when appropriate and have no voting privileges.

The role of the Committee is to:

- Represent key constituents or stakeholders;
- Provide advice to DFO and other regulators regarding the ongoing management of the Eastport MPAs; and
- Promote awareness and community involvement in the Eastport MPAs.

The vision statement developed by the Committee reflects the overall goal:

To increase stakeholder involvement in the development, management, monitoring, evaluation, and surveillance of local fishery resources and supporting habitats so as to develop sustainable economic activities associated with the MPAs.

The mandate of the Eastport MPA Advisory Committee is stated in the Terms of Reference as follows:

- Revise and implement the Eastport MPA Management Plan as needed;
- Monitor the effectiveness of the Eastport MPAs by encouraging scientific research in the areas and reviewing the results of this research;
- Monitor enforcement of the MPA regulations by working with DFO, the general public, and other affected stakeholders;
- Inform the public of the designation and status of the MPAs and solicit public comments, ideas, and feedback where appropriate;
- Promote the conservation, protection, and sustainable use of marine resources and their habitats; and
- Foster partnerships with other similar interest/stakeholder groups.

Committee members continue to be involved with the management of the Eastport MPAs as an advisory body and by aiding with data collection, enforcement monitoring, public awareness programs, and any other project or activity which supports the conservation objectives. Committee members also explore ways in which the MPAs can assist in environmentally sustainable economic development within their region. It is anticipated that the Advisory Committee will continue to hold meetings as necessary to discuss science, enforcement, and emerging issues, and to allow members of the general public to bring forth concerns and keep all stakeholders updated.

1.2 Management Framework

The Management Plan is an operational tool to guide DFO, the Advisory Committee, and other stakeholders in managing the various activities within the MPAs. The Plan identifies the actions necessary to ensure the objectives of the Eastport MPAs are being met. The Management Plan for the Eastport MPAs includes:

- the management boundaries;
- the regulatory and non-regulatory conservation objectives;
- the regulations that apply within the MPAs;
- the management strategies and actions developed to ensure the objectives are met; and
- performance monitoring.

As an operational tool, the management framework is not intended to be prescriptive. It establishes management standards to assist all stakeholders in meeting the MPA objectives. Figure 1 describes the management framework for the Eastport MPAs.

The collective expertise, knowledge and mandates of DFO, other federal and provincial government departments and agencies, and the Advisory Committee provide the basis for MPA management. Within the Management Plan, priorities and actions as well as specific targets are set in order to measure the progress of the MPAs toward the objectives.

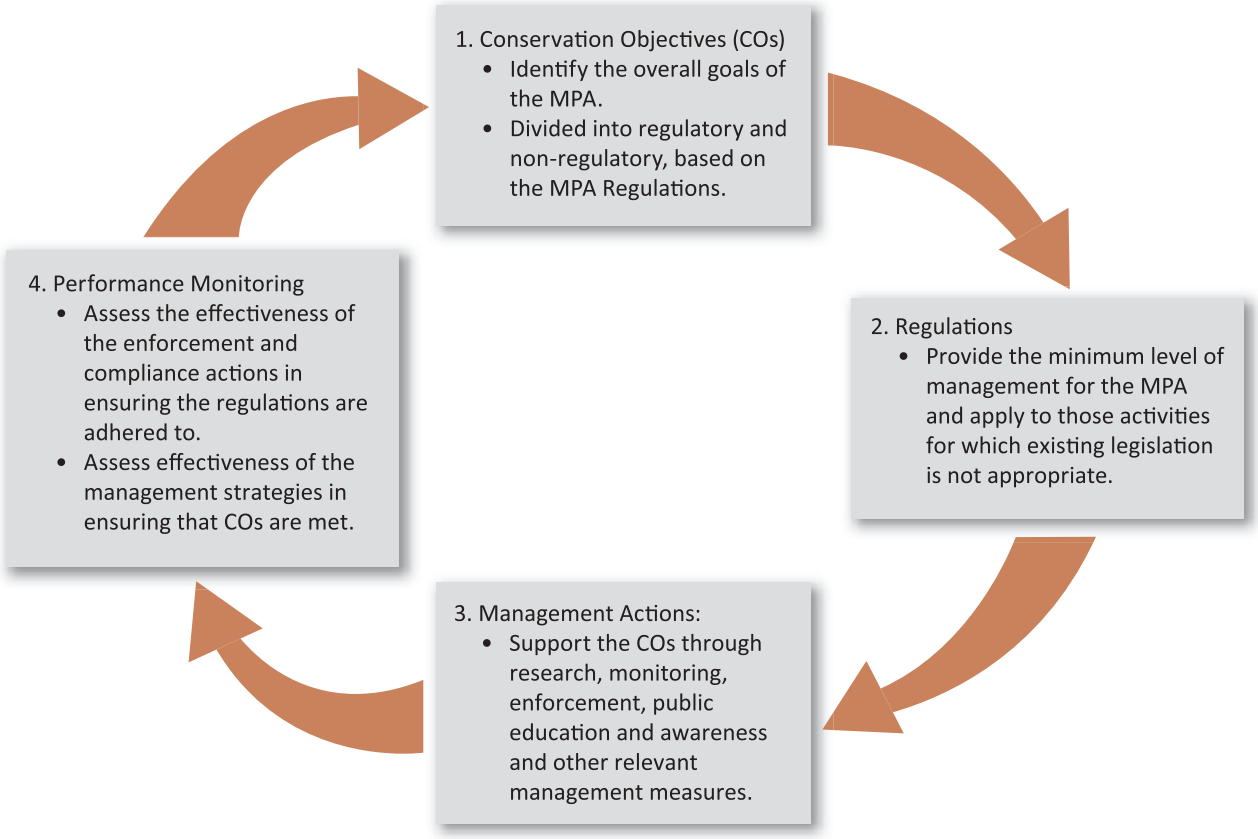

Figure 1: Management framework for the Eastport Marine Protected Areas.

2.0 BACKGROUND

2.1 The Eastport Peninsula

The Eastport Peninsula, surrounded by numerous islands, is a relatively small piece of land jutting out from the mouth of central Bonavista Bay. The rugged coastline is interrupted by a number of headlands, coves, and beaches. Scattered throughout the peninsula are seven core communities: the towns of Salvage, Eastport, Happy Adventure, Sandy Cove, Burnside, St. Chad's and Sandringham. St. Brendan's, located on Cottel Island, is accessed by ferry from Burnside. The collective population for all seven communities on the Peninsula is 1334 (Statistics Canada 2011). In recent years, out migration has become a major concern for most of the communities in this area.

The Eastport Peninsula has relied heavily on fishing for generations, and despite the decline in groundfish, fishing is still vitally important in the area. Of particular importance are the shellfish fisheries (including the lobster fishery). Tourism and recreation is also an important industry on the Eastport Peninsula, with its white sandy beaches, camping, sea kayaking, boat tours, whale watching, hiking, and close proximity to Terra Nova National Park (Hewlin 2002).

Marine species found in the waters surrounding the Eastport Peninsula are likely to inhabit or pass through the Eastport MPAs. Commercial species include lobster, cod, capelin, herring, mackerel, crab, lumpfish, flounder, squid, sea urchin, and whelk. Scallop, mussels and clams are harvested recreationally. Common marine invertebrates include scallop, blue mussels, horse mussels, anemone, sea cucumber, sea stars, jellyfish and polychaetes. Wolffish and Atlantic salmon also occur in the area. Seals and several species of whales are frequent in spring and summer. Marine plants such as eelgrass, Irish moss, and various species of kelp and rockweed are common (LGL Ltd. 2001).

2.2 Origin of the MPAs

American Lobster (*Homarus americanus*) is a commercially harvested species throughout the coastal waters of Newfoundland. During the early 1990s, lobster harvesters recognized a serious decline in lobster stocks which was attributed to increased lobster fishing pressure resulting from groundfish closures. In its 1995 Lobster Conservation Framework, the Fisheries Resource Conservation Council (FRCC) recommended that harvesters take measures to increase egg production, reduce exploitation rates, improve stock structure, and local stakeholder groups and management officials collaborate to sustain their resources. As a result, local harvesters in the Eastport area formed the EPLPC in 1995. Their goal was to implement a lobster conservation strategy for the Eastport Peninsula. EPLPC members provided the information and data required for the management of the resource and implemented measures to address conservation and sustainability.

Based on the initial success of various stewardship initiatives (self-policing and monitoring to reduce illegal fishing, and V-notching to protect egg-bearing females), the EPLPC developed an agreement with Fisheries and Oceans Canada in 1997 to limit local fisheries and close two areas of prime lobster habitat to lobster harvesting (Round Island and Duck Island). A lobster monitoring program was initiated in 1995, providing a record of the lobster population structure, density, and commercial harvest within the EPLMA (DFO 2010).

In 1999 the EPLPC approached DFO to make the two closed areas MPAs under the *Oceans Act*. The proposed Eastport MPAs met the criteria set out in the *Oceans Act* by protecting habitat and creating a refuge for other species and their supporting habitats including Atlantic Cod, Lumpfish, sea urchin, flounder, and two species of wolffish which are legally listed as Threatened under the *Species at Risk Act* (*SARA*). In October 2000, the Minister of DFO identified the Eastport closed areas (Round Island and Duck Islands) as Areas of Interest (AOIs). A Steering Committee was formed in 2002 to evaluate the site's merit as potential MPAs, provide advice to DFO, and help facilitate MPA development.

After a lengthy review process, the Eastport MPAs were designated under the *Oceans Act* October 11, 2005 and a Management Plan was produced in 2007. The Steering Committee has remained intact upon designation of the MPAs and now functions as the Advisory Committee for management of the MPAs.

2.3 The MPA Regulations

Section 35(3) of the *Oceans Act* provides for the development of regulations that allow MPAs to be designated, zoned, and activities or classes of activities to be prohibited. Steps in the development of the regulations and designation of the MPA are outlined in the MPA designation process described in the *National Framework for Establishing and Managing Marine Protected Areas* (in prep.).

The regulations were the outcome of a consensus-based process involving the public, stakeholder groups, and other partners over a three year consultation period. The regulations contain a general prohibition against the disturbance, damage, destruction, or removal of any living organism or any part of its habitat within the MPAs, and prohibit the depositing, discharging, or dumping of substances within the MPAs that is likely to result in harm.

The MPA regulations have the capability of providing long term protection, geared specifically toward the conservation and protection of lobster. All activities that do not violate the prohibitions are permitted in the MPAs. In some circumstances the regulations allow certain activities even though they may cause disturbance, namely activities required for public safety and security purposes. Research, monitoring, and educational activities are managed through the submission of activity plans to DFO for approval. The application form for approval of scientific or educational activities is attached in Appendix A, along with information on the criteria applied to activity plan review and approval. The regulations are included in Appendix B.

2.4 The Management Boundaries

There are two small Eastport MPAs, one surrounding Round Island and the other surrounding Duck Islands as shown in Figure 2 below. Together the MPAs encompass a total area of 2.1 km^2.

The Eastport – Duck Islands MPA consists of waters in Lobster Fishing Area 5 whose outer limit is a series of rhumb lines commencing at a point 48°45’06” N, 53°41’18” W, then to a point 48°44’30” N, 53°40’42” W, then to a point 48°43’54” N, 53°41’18” W, then to a point 48°44’30” N, 53°42’06” W and then to the point of commencement and whose inner limit is the low-water line of the islands within the outer limit.

The Eastport – Round Island MPA consists of waters in Lobster Fishing Area 5 whose outer limit is a line every point of which is at a distance of 198.12 m from the nearest point of the low-water line of Round Island and whose inner limit is the low-water line of the island.

The EPLMA (Figure 2) is the regular fishing area of harvesters from the Eastport Peninsula, and provides a 400 km^2 conservation area around the MPAs where research, science monitoring, and conservation measures such as V-notching, and increased enforcement are carried out in association with the MPAs. Commercial lobster fishing within the inner zone of the EPLMA is limited to members of the EPLPC (traditional users) originally through a Joint Project Agreement with DFO and now as a condition of license. The outer area is used by members of the EPLPC, but is also used by other lobster harvesters within Bonavista Bay.

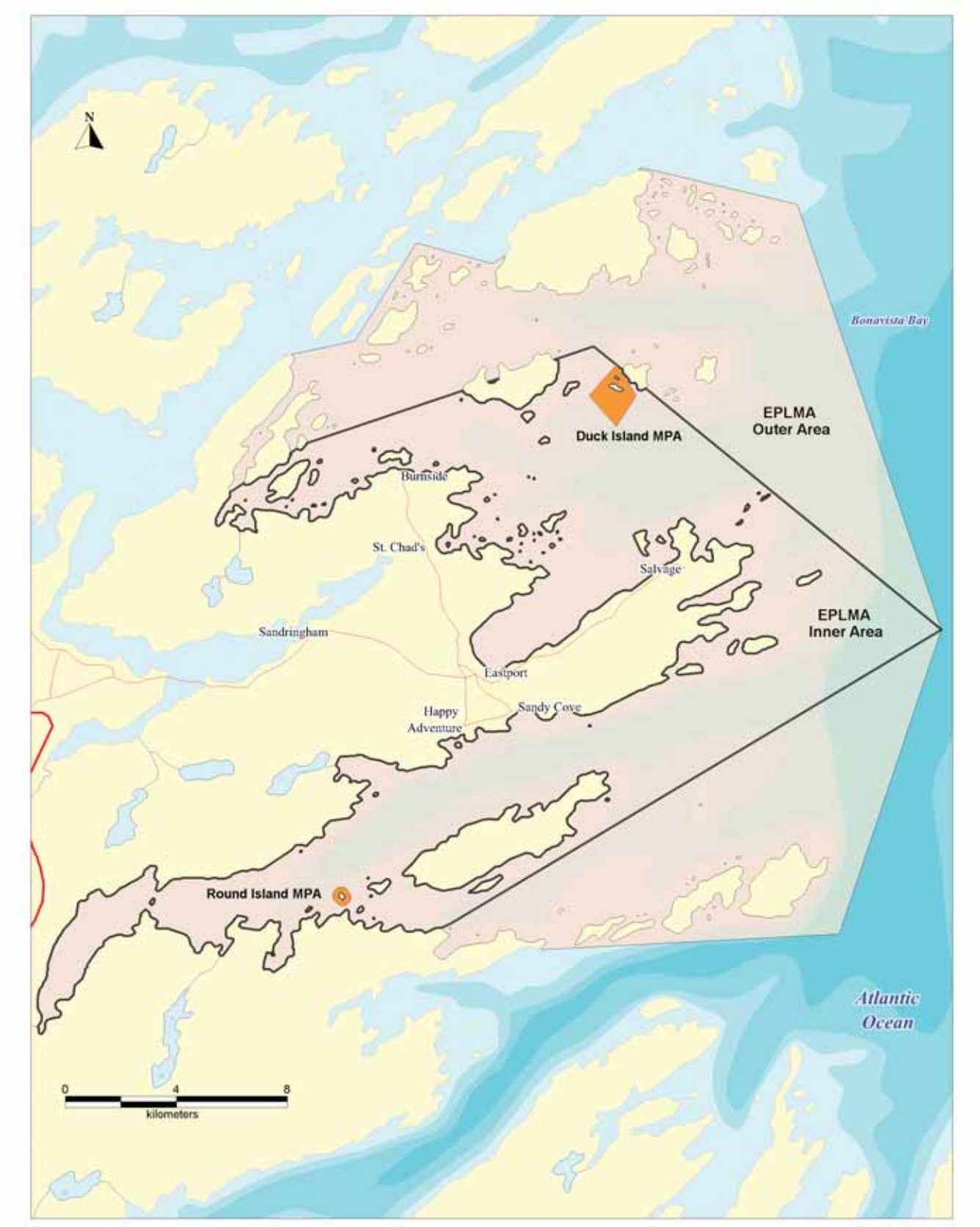

Figure 2: Round Island and Duck Islands Marine Protected Areas (MPAs), and the Eastport Peninsula Lobster Management Area (EPLMA) in which only Eastport harvesters are allowed to fish. Inner area limited to members of the EPLPC.

3.0 MANAGEMENT OF THE MPAs

3.1 The Conservation Objectives

A conservation objective is a statement, expressed in broad terms, which describes an aspiration for the ecological feature(s) of the MPA. Conservation objectives were developed by DFO in collaboration with the Advisory Committee and have been categorized as regulatory and non-regulatory conservation objectives.

Regulatory conservation objectives refer to those for which the MPA was created and are subsequently supported through the development of site specific regulations. In Eastport, the impetus for the development of an MPA was the protection and sustainable fishery of the local American Lobster population. The MPAs afford protection to the Eastport lobster population and the habitats on which it relies. The regulatory conservation objectives for the Eastport MPAs are:

- *To maintain a viable population of American Lobster through the conservation, protection, and sustainable use of resources and habitats within the EPLMA;and*
- *To ensure the conservation and protection of threatened or endangered species.*

Non-regulatory conservation objectives refer to those which are not supported through regulations. While not directly related to the conservation and protection of the American Lobster and its habitats, non-regulatory conservation objectives do support general marine conservation and the overarching goals of the Advisory Committee. The non-regulatory conservation objectives are:

- *To ensure participation of interested and affected stakeholders and the overall management of the resource;*
- *To increase stewardship and public awareness of lobster, the ecosystem of the Eastport MPAs and marine conservation measures;*
- *To promote scientific research to increase levels of understanding regarding the Eastport MPA ecosystem and to help achieve the conservation objectives;*
- *To ensure potential economic benefits resulting from conservation of the resource are centered in the local communities of the Eastport Peninsula; and*
- *To maintain and enhance the quality of the Eastport ecosystem.*

3.2 Program Activities and Achievements

The main activities of the Eastport MPA program include scientific monitoring, enforcement and compliance monitoring, and a variety of public awareness and education initiatives. There are also lobster research projects in and around the MPAs undertaken by independent scientists or scientists working under contract to, or in collaboration with DFO. Members of the EPLPC also participate in monitoring programs within the EPLMA which are coordinated by the Fish, Food and Allied Workers (FFAW) union that represent lobster harvesters in Atlantic Canada. Advice and discussions on these activities are solicited at regular MPA meetings held on the Eastport Peninsula. This section highlights the major activities and achievements completed as part of the first iteration of the Eastport MPAs Management Plan.

3.2.1 Science Monitoring

Since scientists from DFO and MUN and local harvesters first began collecting lobster data in Eastport in 1997, significant work has been completed. Since that time, a collaborative monitoring program was established by DFO and the harvesters with advice and guidance from MUN. During the first phase of MPA management, the science monitoring program involved:

- a lobster monitoring program with four components (logbooks, at-sea-sampling, fall sampling and tag return program); and
- a Wolffish monitoring program.

Led by the example of the harvesters on the Advisory Committee, a significant amount of V-notching and informal "patrols" of the management area have been conducted. All lobster harvesters from the Eastport area are eligible to participate in the commercial catch sampling and fall tagging research. The collegial exchange of information between fishers, scientists, fishery managers, and enforcement officers at the Advisory Committee meetings and in the field has benefited all participants with increased knowledge, understanding, trust, and efficiency.

Voluntary logbook data has been collected in the EPLMA since 1997. This data allows the annual commercial catch per unit effort (CPUE) to be evaluated. At-sea sampling has been conducted each year since 1998, showing information on average sizes and the size frequency distribution. As part of the commercial season at-sea sampling, a tag return program was conducted for several years and provided useful information on lobster location. Fall sampling (tagging) data has been collected under various projects and programs since 1997. In 2004 this component became a part of the MPA monitoring program, providing information on average size, number of berried females, and movement.

Water temperature is a major factor determining the age of recruitment (from egg to commercial size). In Newfoundland waters the average age of recruitment is generally estimated at 8 to 10 years (Ennis 2005), and may be as long as 13 years in the colder waters of Bonavista Bay. As a result, it would take 10 to 13 years for any positive effect on catch rates resulting from the MPAs and other conservation measures to be apparent. Also, there is good reason to suspect that larvae dispersing from the Eastport MPAs are having a beneficial effect on a much wider area outside the EPLPC management area.

A study outlining the effectiveness of the MPAs in sustaining a healthy lobster population in the Eastport MPAs and the adjacent area was based on results from the MPA lobster monitoring program (Janes 2009). Changes to the population ten years after closure of the Round and Duck Islands sites include: a higher abundance of large lobsters, including ovigerous females; a broadening of population size structure and increases in average sizes of male and female lobsters; and an increased presence of large lobster in the adjacent fished areas (Collins *et al*. 2009; Collins 2010).

JENNIFER JANES

JENNIFER JANES

The Eastport lobster monitoring program was formally reviewed and validated by DFO through a Canadian Science Advisory Secretariat (CSAS) Regional Advisory Process (RAP) in January 2011 (DFO, in prep.). Details on the RAP recommendations are presented in Section 3.3.1 and results from the lobster monitoring program are presented in Section 3.3.2.

The conservation objectives are being met through the achievements of the Eastport MPAs. The MPAs support large, healthy breeding lobsters and there is some evidence of export of larvae into adjacent areas (Janes 2009; Wilke *et al*. 2009a; Wilke *et al*. 2009b). While local harvesters are not experiencing the "bumper" harvests that they had hoped for, annual CPUE records show that the fishery has been stable for at least 10 years, without the crashes that have been experienced in some other areas. Considering that the Eastport Peninsula is almost at the northern edge of the range for commercial lobster fishery, and there have been difficult weather conditions in recent years, a stable fishery is considered a modest achievement.

Lobster conservation measures within the EPLMA

The majority of the following measures are practiced by lobster fishers throughout the province and serve to limit pressure on the resource. However, compliance with both voluntary and mandatory conservation measures is enhanced within the EPLMA.

Mandatory measures include:

- The fishing season (early May to early July) prohibits harvesting during peak molting and mating periods;
- Commercial lobster fishing within the inner zone of the EPLMA (Figure 2) is restricted to the lobster harvesters from the Eastport Peninsula communities as a condition of license;
- Each harvester has a 150 trap limit (reduced from 200 in 2008);
- Traps must meet certain specifications, trap dimensions and opening size limit, the number/size of lobsters captured;
- Mandatory trap tags, which aid in enforcement;
- Minimum carapace size is set at 82.5 mm to allow a higher percentage of female lobsters to reproduce before they reach commercial age;
- Mandatory release of egg-bearing females enhances the reproductive capacity of the population; and
- Release of V-notched females further enhances the reproductive capacity of the population.

Reduced poaching and adherence to mandatory controls and protection measures is achieved through restriction of access to EPLMA**,** self-policing, and increased patrols by DFO Conservation and Protection (C&P).

Voluntary V-notching

The majority of female lobsters will not spawn before they reach 82.5mm (the minimum legal size for retention by harvesters), and those that do spawn produce a small number of poor quality eggs (Ennis 2005). The clipping of a v-shaped notch in the second from right tail fin of berried (egg bearing) females is a conservation measure referred to as V-notching. Although V-notching is a voluntary measure in Newfoundland, it is illegal to possess a V-notched lobster and harvesters can be fined for retaining them. The mark remains visible through several molts and protects the lobster in the alternate years when it is not berried. In this way, V-notching protects the known spawners in a population which allows the reproductive capacity of the population to increase. A multi-year lobster management plan first implemented in 1998, committed harvesters to V-notching 25% of the berried females in the population each year from 1998 onward.

The historical development of V-notching can be seen by inspecting length frequency distributions extracted from at-sea sampling data over time. The relative abundance of old notched lobsters is much higher than in 1998. There are higher numbers of females surviving to these larger size groups because of V-notching activity.

Wolffish monitoring

Fish harvesters have reported the presence of small numbers of wolffish around the Eastport Peninsula. Since 2007, information packages on Threatened wolffish were distributed to local fish harvesters and researchers, and people were asked to provide locations of any sightings. In addition, harvesters on the MPA Advisory Committee and those participating in the sampling programs were asked about sightings of these species. Despite the continued efforts of this campaign, no sightings have been reported to date.

3.2.2 Enforcement and Compliance Monitoring

The Eastport MPA Advisory Committee raised concerns about poaching within the MPA over the years. Critical periods have been identified as the summer months when tourism is at its peak (i.e., July – August); and the early fall season (i.e., September – October) because lobster monitoring and recreational cod fisheries are both taking place.

In 2007 a Service Level Agreement (SLA) between the Oceans Division and the C&P Program of DFO was signed to increase patrols in the Eastport MPAs during these times. This agreement has been renewed on an annual basis and will continue as long as funding allows. Approximately 78 patrols (59 boat and 19 aircraft surveillance) of the MPA were completed under the SLA's between 2007 and 2011. Several searches were conducted and minor wildlife violations were found in one instance, the fall survey team was inspected once, 2 additional violations were found in 2010, and one written warning was issued under the MPA regulations. To date no charges have been laid. Enforcement and compliance monitoring will continue to be an important component of the Eastport MPA program. The relationship between the community and DFO is strong and it's believed that any illegal activity in the area would be reported. More information about enforcement and compliance monitoring can be found in Section 4.0.

3.2.3 Public Education, Awareness and Stewardship Initiatives

Public awareness, supported by educational and stewardship initiatives, is important in ensuring a high degree of compliance. Knowledge and understanding of the ecological importance of Eastport is likely to further instil an attitude of appreciation and pride from people living, working, and visiting in the area. While in most instances this already exists within adjacent communities, the education program provides sources of information in a form which caters to specific groups, including schools, nearby communities, local fishers, non-governmental organizations, and other government agencies. Public awareness and education will continue to be an important component of the Eastport MPA program in the new phase of MPA management.

Logo development

A logo was developed for the Eastport MPAs in 2003 to help raise awareness and community interest. This logo continues to be associated with the MPAs and is used on signs, newsletters, presentations, promotional items, and at public events.

Signage

A large highway sign, eight advisory signs for docks and boat launches, and two interpretive signs were made possible by funding from PetroCanada, who were approached in 2006 by The Newfoundland and Labrador Legacy Nature Trust on behalf of the Eastport MPAs.

The 4'x 8' highway sign is placed on Route 310 (eastbound) just before Sandringham, the first community encountered when driving onto the Eastport Peninsula. The sign shows the Eastport MPA logo and reads "Eastport Marine Protected Areas - Conservation Works!"

Eight advisory signs are affixed to wharf infrastructure or placed freestanding by boat launches in the communities of Happy Adventure, Salvage, and Burnside. Each displays the map with MPAs clearly defined. The text outlines the prohibitions against fishing, dumping, and pollution in the MPAs as well as contact information for complete regulations.

Interpretive signs have been installed at scenic lookouts next to the popular Eastport and Sandy Cove beaches. Illustrated with a map and photos of lobsters, the signs give the background and rationale for the Eastport MPAs, and conclude with the message that "By protecting prime lobster habitat, we support healthy and productive breeding stock, and a sustainable fishery."

DFO

The issue of signage to mark the MPA boundaries has been discussed at length at several committee meetings. Options included signs placed on the islands and/or informational buoys placed at MPA boundaries. Information buoys are the desired option, because signs placed on the islands would not be seen by approaching vessels until they were already within the MPAs. Discussions with the Canadian Coast Guard and harvesters determined that buoys would need to be retrieved each fall and redeployed each spring due to ice and harsh environmental conditions. Given these constraints and the annual cost and logistics of the deployment and retrieval, it was decided not to proceed with boundary signage for the Eastport MPA at this time.

Public outreach

Over the years several school visits have been conducted in Eastport and Glovertown to present on marine conservation and the Eastport MPAs. The MPAs are showcased at other public outreach events such as the annual beach cleanups, the Eastport SeaFest summer festival, and the Eastport Agricultural and Heritage Festival. At these occasions the general public can view slideshows about the MPAs and marine conservation, participate in contests, receive information and promotional items, and ask questions about the Eastport MPAs, stewardship and conservation.

In an attempt to reach out to the wider community, the Eastport MPA Advisory Committee is fostering connections beyond the fishing sector with local community members interested in conservation and stewardship. Terra Nova National Park, Coastal Connections, and the Eastport Peninsula Heritage Society have all expressed interest in collaborating with Eastport MPAs to encourage marine conservation for the long-term benefit of the community and the region.

Website

The MPA website http://www.dfo-mpo.gc.ca/oceans/marineareas-zonesmarines/mpa-zpm/atlantic-atlantique/eastport-eng.htm was established in 2002 during the development phase of the Eastport Marine Protected Areas and has continued to serve as an online resource since that time. The site contains links background information, maps, photos, and the Eastport MPA Regulations.

The Coastal Current newsletter

Since 2004, the *Coastal Current* has been developed to inform stakeholders about issues related to the Gilbert Bay and Eastport MPAs. Three to four issues are published annually and distributed to over 2000 recipients, including

the residents of the Eastport Peninsula and Port Hope Simpson, Labrador (including nearby areas) and other interested persons. It is anticipated that the newsletter will continue to be distributed as often as needed to ensure that relevant information is shared with the MPA community.

Meetings

DFO collaborated with stakeholders and interested parties in the development and management of the Eastport MPAs. As part of the Management Plan review, annual general meetings of the MPA Advisory Committee will take place, combined with the annual science briefing and public meeting to provide regular updates.

Other informational products

For the past several years an *Information for Boaters* pamphlet, aimed mainly at visiting recreational boaters has been distributed and can be found at local hospitality businesses, DFO offices in Clarenville and Glovertown, town council offices, Harbour Authorities, the Heritage Centre in Eastport, and Terra Nova National Park. The pamphlet includes a map with the coordinates of the MPAs, background information, and an excerpt from the Regulations, including the range of fines that can be levied for infractions.

A placemat is also distributed, free to local restaurants during tourist season, showing a map of the Eastport MPAs, and providing key facts about the MPAs as well as further contact information. Wolffish identification and conservation information is distributed to Eastport Peninsula lobster harvesters and school children, and is displayed at public events. Other informational products displayed and shared at these events include DFO technical reports, the *Eastport MPA Management Plan*, the *Atlas of Human Activities,* and the pamphlet, *What is Marine Debris?,* as well as DVDs on marine environmental quality, conservation and stewardship.

The possibility of developing a Lobster Science Interpretation Center/ Science Station in Eastport has been discussed for some time. In late 2010, preliminary meetings were held with the Eastport Peninsula Heritage Society to encourage a potential partnership which would have the legal standing and mandate necessary to pursue funding for a feasibility study for this project and possibly others. This idea will continue to be investigated.

3.3 Management Plan Review

The Management Plan review process examined the conservation objectives of the MPAs to determine if they remain appropriate, evaluated the management actions in terms of achieving the conservation objectives, and identified important issues for the future management of the MPAs. The 2013 to 2018 Management Plan was based on the results of the scientific and enforcement monitoring programs, and advice from the Advisory Committee, regional stakeholders, Oceans, Science, and Fisheries and Aquaculture (FAM) branches of DFO.

3.3.1 Regional Advisory Process (RAP)

A DFO Science led Regional Advisory Process (RAP) was held in St. John's on January 27, 2011 and was attended by lobster biologists and researchers from DFO and Memorial University of Newfoundland (MUN) as well as representatives of the FFAW, and the Eastport MPA Advisory Committee. This process reviewed the indicators, strategies, and protocols for the Eastport MPA lobster monitoring program (DFO, in prep.).

Participants agreed that the current monitoring activities are appropriate to monitor the Eastport MPA against its regulatory conservation objective. Outside the MPAs, logbook data provides information useful for the estimation of population size, as well as the performance of the fishery (CPUE), while at-sea-sampling during the commercial season provides supplementary information on the lobster population structure, including size range of males and females, sex ratio, fecundity, and the incidence of V-notching. Fall research sampling (includes tagging inside and outside the MPAs) provides information on comparative size and population structure. Tagging activities provide information on population density inside the closed area and the movement behaviour of lobsters. However, an enhanced protocol and further analysis of the available data was recommended. Some recommendations will be put into effect in 2012 while others will require more time, funding, and scientific expertise.

Recommendations for enhancing monitoring protocols include:

- add traps for small and large lobsters during the fall research program;
- establish enhanced reference sites based on habitat characteristics during fall sampling;
- improve record of location (map) of fall research and at-sea sampling sites;
- compare at-sea sampling to FFAW at-sea sites; and
- improve the tracking of lobster movement.

Recommended enhancements to the analysis of existing data:

- estimate total egg production/reproductive potential/fecundity inside the MPA versus outside as an indicator of recruitment (fall tagging);
- estimate lobster abundance and density ;
- conduct further analysis of tagging data (e.g., movement by size groups);
- graph data using the actual numbers not percentages;
- clarify appropriate area for monitoring: MPAs/adjacent area/EPLMA.

Further research is required to:

- improve monitoring of large females and improve understanding of the effects of V-notching on the Eastport lobster population (e.g., male/female size ratio, reproductive success);
- understand carrying capacity and density dependence of lobster populations in the closed areas;
- explore reference levels for the Eastport lobster population to provide a benchmark for determining population status in future assessments; and
- understand prevailing oceanographic conditions to develop effective protocols for the study of larval drift.

3.3.2 Eastport Lobster Monitoring Program

Monitoring the condition and trends of biological and ecological indicators to determine if the MPA is meeting the conservation objectives is a critical component of the Eastport MPA Management Plan. Two main lobster monitoring programs are conducted on an annual basis. The spring program (log books and at-sea sampling) is conducted in

association with the commercial fishery, while the fall sampling is a research program which monitors and tags lobsters inside and outside the MPAs. Other lobster research has been conducted, most notably larval drift and juvenile settlement studies. These programs are described below.

Log books

From 1997 to 2009, Eastport lobster harvesters participated in a voluntary logbook program throughout the commercial lobster fishing season. Each day they collected information on the number of legal size lobsters caught, number of traps hauled, number of commercial berried females, number of lobster V-notched by the harvester, and the number of undersize males and females (Janes 2005). In 2010, the log book program became mandatory for all lobster fishers as a condition of license. This program collects the same data except for information on undersized lobsters and berried females. That year the Eastport harvesters used only the mandatory logbooks, and data on undersized lobsters and berried females was not collected. This practice was reviewed, and now a single combined logbook with mandatory and voluntary sections (on undersized lobsters and berried females) has been put in place for Eastport peninsula harvesters.

The logbook data is used to calculate CPUE, providing a measure of abundance of commercial-sized lobster in the Eastport area. Data shows that commercial CPUE has remained stable from 1997 to 2009 (Figure 3). This is consistent with average CPUE for the Newfoundland region, but some areas have declined while other areas have increased (DFO, in prep.).

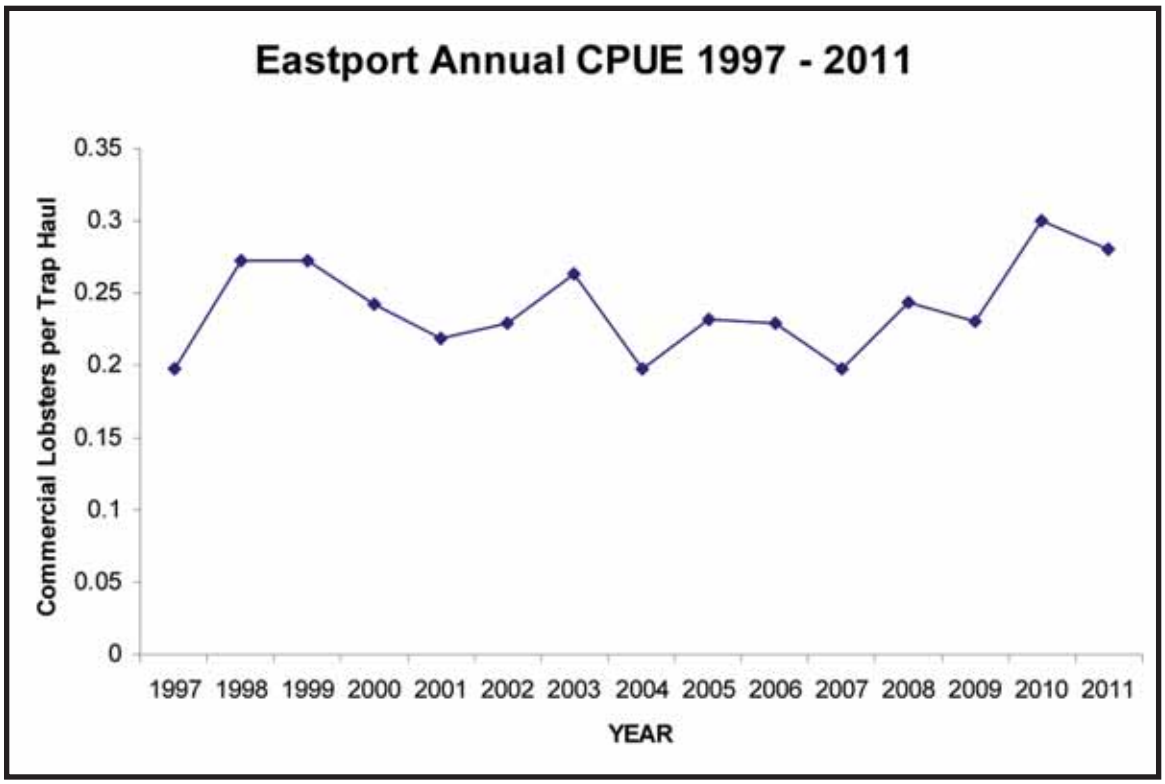

Figure 3: Annual commercial lobster CPUE in Eastport (1997-2011).

At-sea sampling program

At-sea sampling data has been collected annually since 1998 throughout the EPLMA. During the commercial fishing season harvesters sample every fourth commercial trap, recording carapace length, sex, and presence of eggs and/or V-notch. From this data, average size (carapace length) is calculated for males and females and size frequency histograms are created to be used as biological indicators. Results show that the average size of males is still close to that of the legal size limit for retention (82.5 mm), but the average size for females has increased (Figure 4).

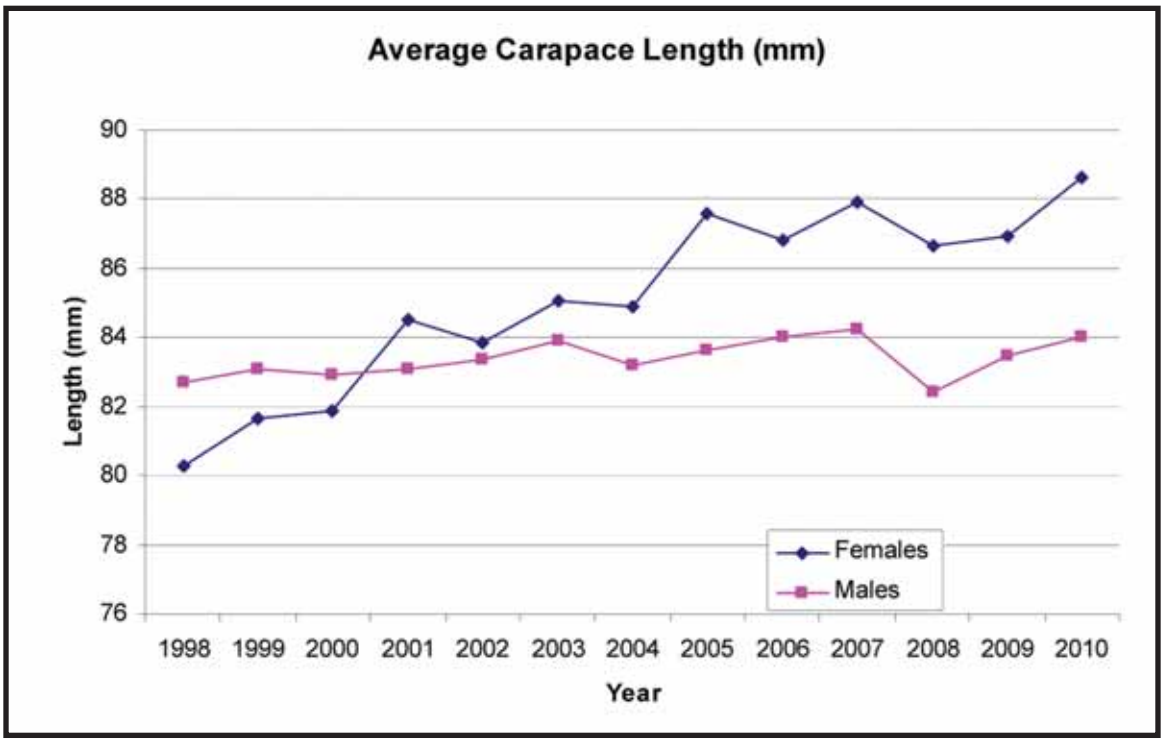

Figure 4: Average commercial lobster size in the Eastport area.

This program essentially provides data on the population structure during commercial season. Detailed data for 2010 from the Eastport area is shown in Figure 5 below.

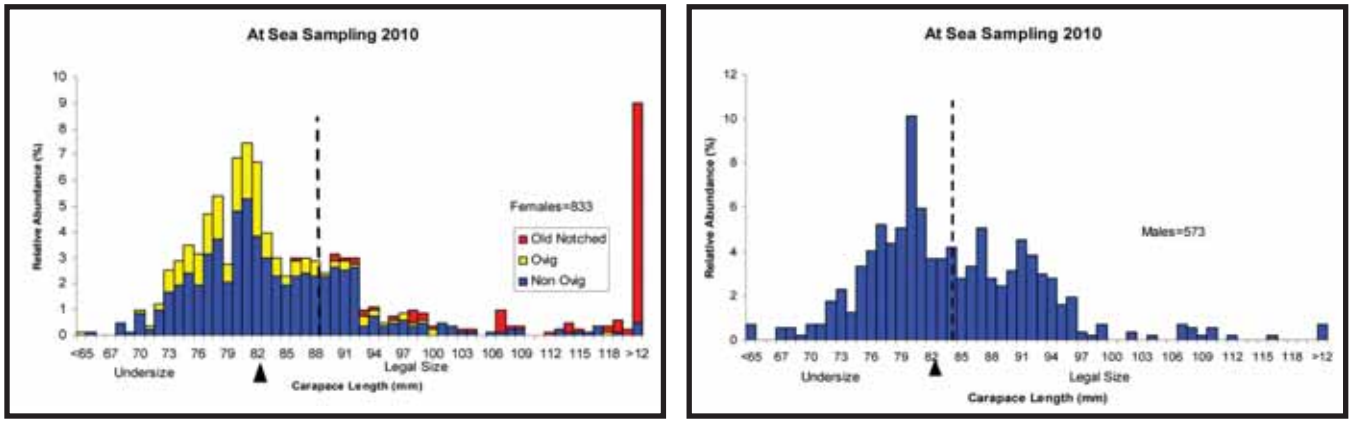

Figure 5: Size structure of the female (left) and male (right) lobsters in the Eastport Area.

The increased abundance of very large females is likely a result of V-notching. The relative abundance of large lobster (both male and female) provides a higher reproductive capacity.

Fall sampling program

Since 2004, two crews of harvesters were trained and hired to conduct the tagging program, sampling 50 pots per crew over the entire season. All lobsters captured are measured to collect information on the population structure and average size of lobsters during commercial season.

This research takes place early in the fall (September - October) inside the MPAs (Round and Duck Islands) as well as in the adjacent commercial fishing areas. From 2004 to 2010 the program utilized regular commercial lobster traps, with 25 traps set inside the MPAs and 25 set outside, directly adjacent to the MPA border, for a total of 100 traps. Traps are sampled every day, weather permitting, for a 3 to 5 week period. Fish harvesters tag the lobsters with streamer tags and collect and record information on carapace length, gender, berried status, V-notch status, tag numbers, trap number, and area caught or recaptured.

The fall tagging data shows an increase in the relative abundance of large lobsters (male and female) from 1997 to 2009 inside the Round Island and Duck Island MPAs. Figure 6 shows the change in the population size structure inside the MPAs since 1997 when the areas were first closed to lobster fishing.

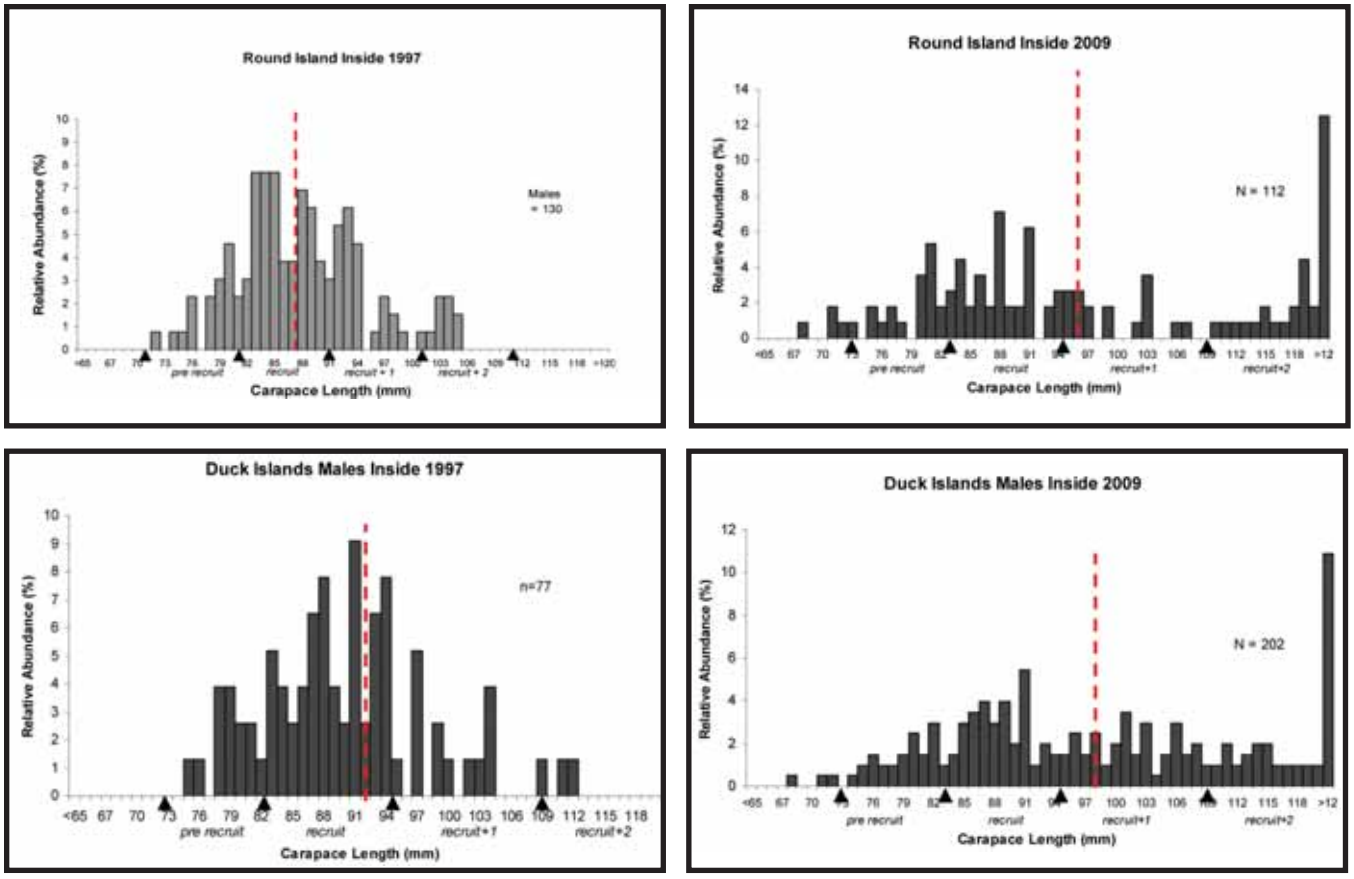

Figure 6: Relative abundance of lobster size classes inside the Eastport MPAs (1997 to 2009).

An additional 16 modified traps were introduced to the fall program in 2011, 8 targeting very small lobsters and 8 targeting very large lobsters, as these size classes are thought to be under-represented.

Data obtained from the modified traps will provide enhanced monitoring of:

- lobster population size structure inside and outside the MPA;
- total egg production/reproductive potential/fecundity inside the MPA versus the outside as an indicator of recruitment. By capturing very large females we can assess their actual fecundity. A new, non-evasive technique of estimating eggs numbers is under development (Currie *et al*. 2010) and may be adopted for use in the Eastport monitoring program;
- the effect of high abundance of large females (due to V-notching) on small lobsters in adjacent area. The distribution of both very large and very small lobster will provide an indication of their ability to inhabit the same area.

Larval and juvenile settlement studies

Adequate lobster reproduction is required to sustain a viable population. Eggs are carried externally, attached to the under-side of the tail of the female lobster for about a year before they are fully developed and ready to hatch. Soon after hatching is complete, the female will moult and mate, beginning the normal two-year reproductive cycle. Larvae are released into the water column and spend four to six weeks as semi-passive drifters in before settling out of the water column and taking shelter from predation in appropriate habitat. It is believed that post-settlement mortality rates are comparatively low, and therefore the juvenile benthic stage (new lobsters entering the population each year) is recognized as a potential predictive tool for future recruitment into the fishery. Each year the commercial catch consists largely of incoming recruits, which reach commercial size at 8 to 10 years of age.

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To help assess the efficacy of the Eastport MPAs in conserving lobster stocks and sustaining a viable fishery, researchers from MUN, led by Kate Wilke, conducted studies in Eastport from 2007 to 2009 to determine what effects the closed areas have on egg production, where the larvae produced inside the MPAs are being transported, and where juvenile lobster settlement is occurring. At-sea sampling of adult lobsters was conducted around Round Island and Duck Islands during the commercial season. A comparison of average sizes inside and outside the MPAs revealed that lobsters inside were significantly larger than their counterparts in fished areas. As larger lobster size translates to greater egg production, larval tows were conducted to determine the density and location of juveniles in and around the Eastport MPAs. Five locations were sampled using neuston tows, and settlement trays were deployed to study newly settled lobster. Unfortunately this aspect of the study was largely inconclusive as the capture of juvenile lobster proved to be problematic. For more information on these studies, see Jones *et al*. (2008 a) and Jones *et al*. (2008 b). Information on the likely distribution of juvenile benthic lobsters originating in the Eastport MPAs based on surface circulation models is available from Ennis (2011).

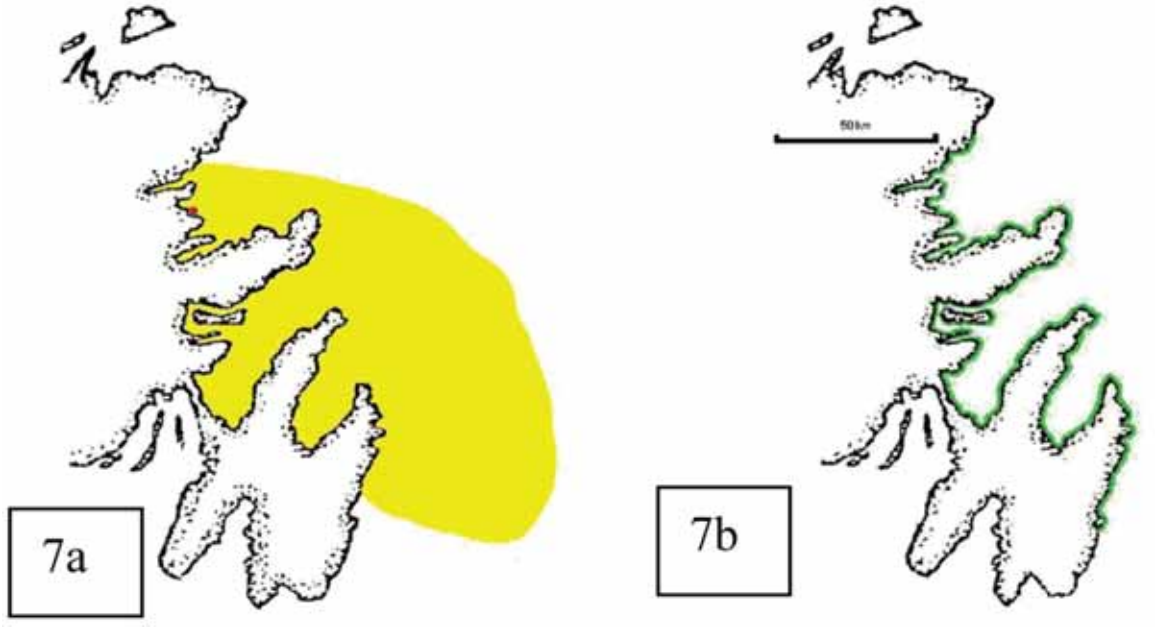

Figure 7: 7a shows the likely distribution by end of stage III of lobster larvae originating in the Eastport MPAs (indicated by red dot). 7b shows the likely distribution of settlement by postlarval lobsters (indicated by narrow strip adjacent to the coastline) subsequent to the dispersal depicted on left (Ennis 2011).

3.3.3 Advisory Committee Review

The Management Plan was presented to the Advisory Committee as the primary means of consultation, on April 29, 2010. Commercial lobster fishing within the inner zone of the EPLMA is limited to members of the EPLPC, which are represented on the Committee. Stakeholders from the community, the FFAW, municipal government, and other industries also sit on the Committee. A formal Science review of the monitoring plan was the main suggestion from the group, the results of which were detailed in Section 3.3.1. All comments put forward from the Committee have been included in this Plan, and the main suggestions and changes are summarized in the topics below.

- Modified traps: In 2011 traps designed to capture small lobsters (under 70 mm) and very large lobsters (over 125 mm) were added at each MPA site to the fall sampling program. In 2012, additional traps will be added, totaling 40 in each site. Exact locations, trap design and bait may have to be adapted until successful capture of the target size ranges are achieved, and then a standardized protocol will be developed. This will provide information on the co-occurrence/proximity of very large and pre-commercial sized lobsters, and the fecundity of very large lobsters in presence/absence of very large males.
- GPS locations: Fall sampling crews should take GPS coordinates of each MPA and reference site so that the study can be replicated in the future.
- Improve tracking of lobster movement: There was general agreement that incentives for tag returns would increase the number returned. Some felt that incentives cause an increase in the level of effort. Information on the location of tagged captures will be required to make this exercise effective.
- Recommended enhancements to the analysis of existing data: All agreed that it is important to make the most out of the data collected. To accomplish this, in 2012 Wilke and Stanley developed a lobster data template in Microsoft Excel.

Development of the lobster data template and analysis program enables:

- an estimate of lobster abundance and density;
- determination of a significant increase in average size of lobster inside the MPAs versus outside the MPA;
- establishment of a size/fecundity relationship in conjunction with the size frequency graphs (proportion females berried) to determine an estimate of egg production inside MPA, and the estimation of total egg production/reproductive potential/fecundity inside the MPA versus the outside, as an *Index of Fecundity* and an indicator of recruitment; and
- further analysis of tagging data (e.g., movement by size groups).

It was also agreed that an attempt must be made to attract researchers to conduct further investigations on priority issues such as effects of V-notched lobsters on the Eastport lobster population (e.g., male/female size ratio and reproductive success); carrying capacity and density dependence of lobster populations in the closed areas; and identification of reference levels for the Eastport lobster population to provide a benchmark to better determine population status in future assessments.

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3.4 Management Strategies and Actions

The conservation objectives of the Eastport MPAs were developed to achieve a sustainable lobster population in the Eastport area and to protect lobster spawning, rearing, and feeding areas. The Eastport MPAs have two regulatory conservation objectives for which DFO is obligated to monitor for effectiveness. Table 1 outlines the management strategies and actions associated with these objectives. It also identifies the related legislation and responsible leads.

Table 1: Eastport Regulatory Conservation Objectives and Management Actions with Associated Short and Long Term Goals

Regulatory Conservation Objective: **To maintain a viable population of lobster through the conservation, protection, and sustainable use of resources and habitats within the EPLMA.**		
Management Action: Protect lobster and their habitat through legislation within the MPAs	**Lead Responsible:** DFO	**Related Legislation:** *Eastport Marine Protected Areas Regulations*

Short Term Goals:

- Monitor the lobster population inside and outside the MPAs, and within the EPLMA, to ensure that the management measures are effective. The monitoring program will include:
  - Collection of data from commercial log books and at-sea sampling to determine *Commercial CPUE*, *Commercial Size Frequency,* and eventually *Population Estimate inside the EPLMA.*
  - A continuation of the fall tagging program with a modified protocol to allow survey of small and large sized lobsters which were underrepresented by the previous protocol. This will be accomplished through the addition of a number of modified traps designed to target small (under 70mm) and large (over 125mm) lobsters. This data will determine if there is a significant increase in average size of lobster inside the MPAs vs. outside the MPA and will also be used to develop an *Index of Fecundity* inside the MPA vs. outside. A size fecundity relationship in conjunction with the size frequency graphs (proportion females berried) will be used to determine "an estimate" of egg production inside MPA. The capture of very large and under-sized lobster will also provide some information on the co-occurrence/proximity of very large and pre-commercial sized lobsters, and the fecundity of very large lobsters in presence/absence of very large males.

Long Term Goals:

- Ensure the benefits of monitoring and research programs outweighs any negative impacts through the requirement for assessment/approval of activity plans for all potentially harmful activities as outlined in Section 5.0 in the MPA Regulations.
- Monitor extent of lobster movement over time, focusing on the large female lobsters.

Regulatory Conservation Objective: **To ensure the conservation and protection of threatened or endangered species.**		
Management Action: Protect wolffish through a monitoring program, public awareness and education initiatives	**Lead Responsible:** DFO	**Related Legislation:** *Eastport Marine Protected Areas Regulations Species At Risk Act*

Short Term Goals:

- Encourage local fish harvesters to report any observation of wolffish in lobster pots within the EPLMA.
- Collaborate with researchers conducting multi-species studies in the area, to collect information on the incidences of wolffish within the EPLMA and surrounding area.

Long Term Goals:

- To determine a population estimate of wolffish within the EPLMA if adequate data is obtained.

The Eastport MPAs have five non-regulatory conservation objectives. Although DFO is not obligated to manage or monitor the non-regulatory objectives, it is recognized that they are important in the management of these MPAs. Table 2 outlines the management strategies and actions associated with the non-regulatory conservation objectives and the responsible leads.

Table 2: Eastport MPA Non-Regulatory Conservation Objectives and Management Actions with Associated Short and Long Term Goals

Non-Regulatory Conservation Objective:	Responsible Lead
To ensure participation of interested and affected stakeholders in the overall management of the resource.	Advisory Committee with support from DFO
Short Term Goals: • Hold annual MPA Advisory Committee meetings to ensure stakeholder support and involvement. • Hold science briefings, regional workshops and public meetings to provide updates on status of research, monitoring, and management actions associated with the MPA and the larger EPLMA. Long Term Goals: • Investigate the possibility of conducting a feasibility study for a Lobster Science Interpretation Center/Science Station.	

Non-Regulatory Conservation Objective:	Responsible Lead
To increase stewardship and public awareness of American Lobster, the ecosystem of the Eastport MPAs, and the marine conservation measures.	DFO with support from Advisory Committee
Short Term Goals: • Develop, produce, and distribute future issues of the Coastal Current. • Maintain the Eastport MPA website on national DFO webpage. Long Term Goals: • Increase public awareness through publication of brochures, involvement in community events, and promotion of a Lobster Science Interpretation Center/Science Station.	

Non-Regulatory Conservation Objective:	Responsible Lead
To promote scientific research to increase levels of understanding regarding the Eastport MPA ecosystem and help to achieve the conservation objectives.	DFO
Short Term Goals: • Develop funding proposals and collaborate with existing research programs to provide scientific support for MPA related research.	

Table 2: cont'd

Non-Regulatory Conservation Objective:	Responsible Lead
To ensure potential economic benefits offered by conservation of the resource are centered in the local communities of the Eastport Peninsula.	Advisory Committee
Short Term Goals: • Foster connections with other local community groups interested in conservation and stewardship such as Terra Nova National Park, Coastal Connections, the Eastport Peninsula Heritage Society and the FFAW, who have all expressed interest in collaborating with Eastport MPAs to encourage marine conservation for the long-term benefit of the community and the region. • Continue to limit commercial lobster fishing rights to traditional users within the EPLMA to help ensure possible economic benefits related to the lobster fishery stay within the area. • Increase tourism in the area through increased public awareness materials such as signage, brochures, participation in public events, etc. • Increase economic benefits through expenditures associated with research activities in the area. Long Term Goals: • Investigate further possible economic benefits associated with the MPA.	

Non-Regulatory Conservation Objective:	Responsible Lead
To maintain and enhance the quality of the Eastport ecosystem.	DFO, Environment Canada, Advisory Committee
Short Term Goals: • Develop teaching aids with respect to fish plant effluent and marine debris.	

4.0 ENFORCEMENT AND COMPLIANCE

To achieve the conservation objectives, effective compliance strategies are required. This component of the Management Plan addresses the operational responsibilities of DFO to meet regulatory requirements. Following MPA establishment, the Eastport Advisory Committee identified compliance concerns within the MPAs, and an enforcement and compliance monitoring program was developed. As with any additional regulation or management measure, there will continue to be pressure on DFO C&P staff to enforce the MPA regulations. Although reports from C&P officers suggest illegal fishing activity is currently low, individuals have been prosecuted in the past. There is an expectation by local residents that enforcement within the MPA will continue to be effective, ensuring compliance with MPA regulations.

In 2007, a Service Level Agreement (SLA) between the Oceans Division and the C&P Program was signed to increase patrols in the Eastport MPA. Fisheries officers are designated as Enforcement Officers under the *Oceans Act* and have the power to collect evidence and lay charges. As outlined in the SLA, the officers make additional boat and air patrols to enforce the MPA regulations during vulnerable times of the year (see Section 3.2.2). Compliance strategies include monitoring control and surveillance activities, special investigations or undercover operations as deemed necessary, and a combination of education and awareness programs. This agreement has been renewed on an annual basis and will continue as funding allows.

The aim of compliance monitoring is to promote adherence to the regulations and management measures. Non-compliance detected by patrols and inspections will result in appropriate enforcement actions. Enforcement of the regulations and subsequent offences will be dealt with under the *Oceans Act* or *Fisheries Act* as applicable. There will also be a reliance on feedback by community members to assess the effectiveness of compliance programs and adherence to management measures. Fisheries Officers have reported excellent cooperation from community residents, showing continued support for the Eastport MPAs. Violations of the regulations carry penalties under the *Oceans Act* from a maximum of $100,000 on summary convictions to $500,000 for indictable offences. Violations of the *Fisheries Act* such as non-compliance with licence conditions or management measures carry similar penalties.

4.1 Environmental Response Protocol

The September 19, 2009 oil spill at Tabbey's Harbour in Gilbert Bay MPA in Labrador highlighted the need to establish a new protocol for DFO as part of the current regional environmental emergency response process, when responding to emergencies within MPAs (Figure 8). Since the MPAs are a remote area which could compromise the collecting of evidence, it is very important for community individuals to report any incidents and learn what they could do to help (i.e., collect water samples, take pictures, give statements).

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MPA Environmental Emergency Protocol

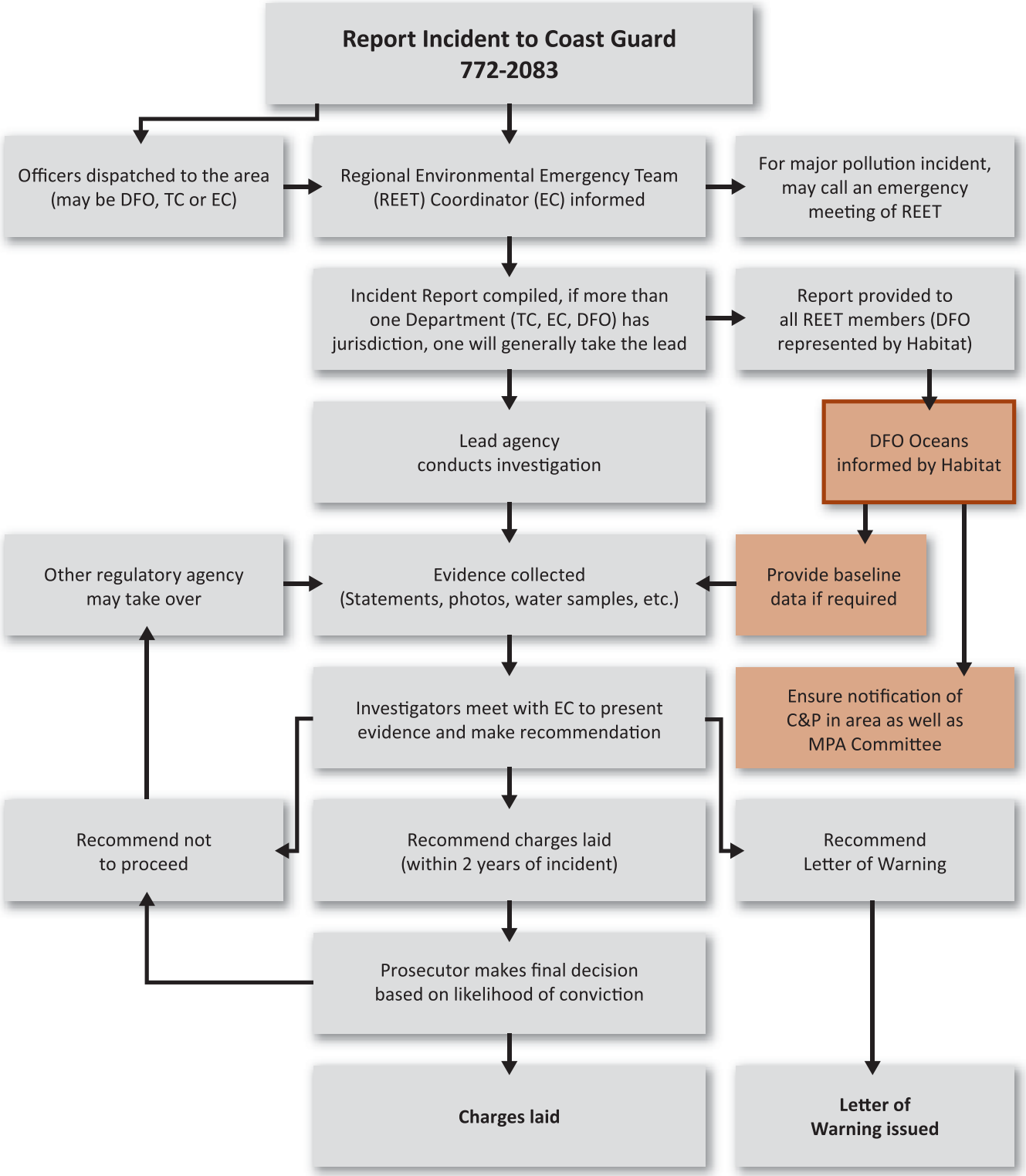

Figure 8: Emergency oil spill environmental response protocol and Oceans role with respect to possible spills in an MPA.

5.0 MONITORING AND MANAGEMENT PLAN FOLLOW-UP

The effectiveness of the management actions in meeting the MPA conservation objectives will be measured through the scientific and compliance monitoring programs described in this Plan, which will be reviewed and revised every five years. However, DFO will adapt management actions on a continuous basis should amendments be required, based on the advice of the Advisory Committee and results of scientific and compliance monitoring. This Plan is a living document and the principle of adaptive management will be applied to ensure that the conservation objectives are met.

The Regional Advisory Process of DFO Science confirmed that the activities currently being carried out to monitor the Eastport lobster population are appropriate to provide information for many of the indicators required to monitor the MPAs against the regulatory COs. Changes to the lobster population ten years after closure of the Round and Duck Islands sites include: a higher abundance of large lobsters, including ovigerous females; a broadening of population size structure and increases in average sizes of male and female lobsters; and an increased presence of large lobster in the adjacent fished areas. However, following the Management Plan review, the Regional Advisory Process, and advice from academia, an enhanced protocol and further analysis of the available data were recommended.

Changes to the lobster monitoring program include four new reference sites for the fall sampling program, the addition of descriptive statistics, statistical analysis of CPUE data, additional experimental traps targeting the very small and very large lobsters during fall sampling, and the GPS mapping of at-sea sampling and fall sampling areas to ensure scientific consistency of future lobster research projects in the area. Following the RAP, the EPLMA was added to the regulatory conservation objective for the Eastport MPAs in order to clarify the area where monitoring takes place. The development of a data analysis and visualization template for MPA monitoring indicators will provide a template into which lobster monitoring data collected for the MPA program can be entered. Coding to perform statistical analysis of data, as well as tools to visualize results of analysis, including line graphs, size frequency histograms, and boxplots have been built into the template as well.

Efforts will be made to engage researchers to investigate areas of study which would benefit not only the MPA program, but also lobster research within Newfoundland waters. Continued support and participation from the Advisory Committee members is crucial to the success of the MPAs and our efforts to expand awareness as well as MPA benefits.

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Appendix A

Application for Approval for Scientific or Educational Activities within Newfoundland and Labrador Marine Protected Areas

ANNETTE POWER

Activity Plan

Application for Approval for Scientific or Educational Activities within Newfoundland and Labrador Marine Protected Areas

Date Submitted _____

Box 1: Identification of Marine Protected Area

Box 2: Contact Information		
Principal Contact (Name and Job Title)	*Address*	*Telephone, Facsimile and Email*
Chief Scientists (Name and Job Title)	*Address*	*Telephone, Facsimile and Email*
Research Vessel (Name and number of crew	*Captain or pilot's name*	*Telephone, Facsimile and Email*
Name of organization proposing the activity	*Funding Agency*	

Box 3: Purpose of Activity

Box 4: Description of Activity
E.g. types of data to be collected, sampling protocols or other techniques to be used to collect data, types of equipment to be used, methods for mooring or anchoring of equipment (if applicable), type and identity of vessels to be used, and every substance, if any, that is to be deposited, discharged or dumped with the area

Box 5: Activity Justification

Box 6: Period and Duration within the MPA

Box 7: Location of Activities within the MPA (attach map)

Box 8: List of Licenses, Permits, Authorization or Consents

Box 9: Assessment of Environmental Impacts

Activities under Assessment

Pathways for Interactions

Scope of Potential Impacts on Environment

Potential for Impacts of Environment on Activity

Cumulative Effects

Box 10: Mitigation, Monitoring and Evaluation

Box 11: Conclusions

Box 12: References

Box 13: Appendix

Draft Guidelines for Preparing and Submitting Activity Plan Applications for Scientific or Educational Activities in Newfoundland and Labrador Marine Protected Areas

1. Introduction

With the designation of a Marine Protected Area (MPA) under the *Ocean Act*, there are associated regulations. These regulations generally outline the geographic area of the MPA, the associated management zones (if any), prohibited activities and exceptions with provisions for the approval of scientific and educational activities within the MPA.

STOCK PHOTO

It is recognized that scientific or educational activities have the potential to disturb, damage or destroy or remove living organisms or its habitat from a MPA. Therefore any person that proposes to carry out a scientific or educational activity in a MPA must submit an Activity Plan outlining specific information requirements. Activity Plans must be submitted to the Department of Fisheries and Oceans (DFO) 60 days prior to the day the proposed activity is to commence. The DFO must approve the plan if the proposed activity is not likely to damage or destroy the habitat of a living marine organism in the MPA within 30 days of receiving the Plan.

These guidelines describe the information requirements of the Activity Plan application and approval process.

2. Application Content

Box 1: Identification of the MPA

The name of the MPA in which scientific or educational activity is being proposed is provided.

Box 2: Contact Information

Provide the name, job title and contact information for the principal contact and chief scientist(s). The curriculum vitae of any research scientists or personnel performing the activity should be provided in an appendix. The identification of the vessel(s) (ships or aircrafts), the name and contact information of the captain(s) or pilot(s), and the number of crew/berths per vessel should also be provided. The name of the organization proposing the activity and the funding agency must also be identified. The funding proposal can be provide as an appendix.

Box 3: Purpose of Activity

Provide a brief description of the objective of the activity, the methods to be used and why this activity should occur within the MPA boundaries.

Box 4: Description of Activity

For the description of the activity, provide a detailed explanation of the objectives and hypotheses to be tested. Also provide a description of the types of data to be collected, sampling protocols and methodologies and equipment to be used. If equipment is to be deployed, the method of mooring or anchoring of equipment (if applicable), the duration and position (latitude and longitude and position in the water column) within the MPA should be specified. Diagrams and pictures of the equipment should be provided.

The types and identity of the vessels to carry out the work must be provided.

The types of animals/organisms and habitats to be studied must be identified. If specimens are to be collected, the number of specimens, the location and sampling protocols and equipment must be described. The purpose of this collection must be explained and associated/following experimentation described.

If any substance is to be deposited, discharged or dumped within the area it must be described in detail.

Box 5: Activity Justification

Describe why and how this activity could be beneficial to the management or monitoring of the conservation of the MPA. Provide the rationale for the activity being conducted in the MPA. If the project has been done in the past, describe how the information collected benefited science and the management of the MPA. If appropriate, also explain how the proposed activity may facilitate other investigations within the MPA.

Box 6: Period and Duration within the MPA

Provide the exact dates the vessel(s) will be in the MPA and the duration of the activity to be conducted.

Box 7: Location of Activity within the MPA (attach map)

Provide the exact latitude and longitude and zone (if applicable) where the activity will be occurring. Provide a map showing the location of the proposed activity.

Describe in general terms the biophysical oceanographic condition of the proposed location, including but not limited to; water depth, substrate type(s), predominant currents, tidal patterns, predominant wind direction/fetch, etc. If known, the likely macro flora and fauna assemblages should be described.

State the name and number of port of calls that the vessel(s) will be using.

Box 8: List of licences, permits, authorizations or consents

Provide a list of the licences, permits, authorizations or consents that were obtained to conduct or apply to the activity that this application is requesting approval for. If there were any other research or monitoring activities done under these licences, permits, authorizations or consents please provide details.

Box 9: Assessment of Environmental Impacts

Activities under Assessment

List the activities to be assessed for potential environmental impacts.

Pathways for Interactions

List the potential pathways in which damage or destruction of the environment (habitat or the organisms) could occur during, or as a result of, the activity in the MPA.

Scope of Potential Impacts on Environment

Assess and discuss the environmental consequences to performing this activity in the MPA. State if the activity could be done outside the boundaries of the MPA and still meet the

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objectives. Provide the potential impacts this activity may have on all aspects of the environment (species, habitat, etc.). If there is removal of species, describe the potential impacts of the removal on the population as well as other species and their population. Species under the Species at Risk Act (SARA) must be addressed. Determine the potential impact* the activity will have on all aspects of the marine environment.

Potential for Impacts of Environment on Activity

State if the type of environment (oceanographic or geographic) could have on the activity and the gear used. Determine the potential impact* the environment may have on the activity.

Cumulative Effects

State if there are any cumulative effects either with past or current activities happening within the MPA. Determine the potential impact* on the MPA.

Box 10: Mitigation, Monitoring and Evaluation

State the proposed mitigation measures that will be used to address the impacts describe above.

State the kinds of monitoring and evaluation that will be used to determine if the mitigation efforts are minimizing the impacts and to ensure that there are no unexpected impacts.

Box 11: Conclusions

Summarize the overall impacts of the proposed activity and determine the potential impact* on the MPA.

Box 12: References

State any references that were used in the activity plan application.

* The potential impacts are to be described as negligible, low, medium, high, or unacceptable. These descriptors are to be defined in terms of the duration, spatial scale, magnitude, sensitivity of species, and magnitude (individual, community or population levels).

Box 13: Appendix

Append location map and any supplementary material

3. Other Considerations

Zones

Exceptions to the general prohibitions outlined in the MPA regulations must be considered in the above. Specifically, any zonation of the MPA must be considered and described in the information provided and assessment of environmental effects.

Cumulative Impacts

No activities will be approved for the MPA if the cumulative impacts to the area resulting from past and current activities cause disturbance, damage, destruction, or removal.

TIM ANDERSON

Submission of Application

Two copies of the application (Activity Plan) must be submitted 60 days before the activity to the Fisheries and Oceans Canada, Oceans Division.

Approval Process

A response will be sent to the applicant within 30 days of receiving the application. It will be evaluated according to the criteria set forth in the MPA regulations. The applicant will be contacted if there is incomplete information or if the reviewer needs clarification on the activity or application. The application will be reviewed by Oceans Division and they may seek expert advice on certain aspects of the application.

Reporting Requirements

Under the *Oceans Act* section 35(3)(b)(iii), the proponent is to provide a report describing the research. The report should summarize the purpose of the research, the method used as well as the results collect. It should content the chief scientist(s) name, the dates when the work was performed, the location (latitude and longitude), name and number of specimens collect, location of any deployed material and the result for the monitoring evaluation of mitigation measures. Also state, if any, the unexpected impacts to the MPA. The report is to be submitted to the Oceans Division with 2 months of the completion of the research.

Contact Information

For further information on the Guidelines for submitting applications for research and monitoring approval in the MPA or the MPA regulation, write to Fisheries and Oceans Canada, Oceans Division:

Oceans Division
Ecosystems Management
Fisheries and Oceans Canada
P.O. Box 5667
St. John's, NL A1C 5X1
MPANL@dfo-mpo.gc.ca

JENNIFER JANES

Appendix B

The Eastport Marine Protected Area Regulation

JENNIFER JANES

EASTPORT MARINE PROTECTED AREAS REGULATIONS

INTERPRETATION

1. (1) In these Regulations, "waters" means, in addition to the waters, the bed and subsoil below the waters to a depth of two metres.

(2) In these Regulations, all geographical coordinates (latitude and longitude) are expressed in the North America Datum 1983 (NAD 83) geodetic reference system.

(3) In Schedule 1, the lines connecting the points are rhumb lines.

APPLICATION

2. These Regulations apply to the marine protected areas designated in section 3.

DESIGNATION

3. The following areas of the sea in Bonavista Bay are designated as marine protected areas:

(*a*) those waters within an area of the sea — depicted in Schedule 1 and to be known as the Eastport – Duck Island Marine Protected Area – whose outer limit is a series of rhumb lines commencing at a point 48°45'06" N, 53°41'18" W, then to a point 48°44'30" N, 53°40'42" W, then to a point 48°43'54" N, 53°41'18" W, then to a point 48°44'30" N, 53°42'06" W and then to the point of commencement and whose inner limit is the low-water line of the islands within the outer limit; and

(*b*) those waters within an area of the sea — depicted in Schedule 2 and to be known as the Eastport – Round Island Marine Protected Area – whose outer limit is a line every point of which is at a distance of 198.12 m (650 feet) from the nearest point of the low-water line of Round Island and whose inner limit is the low-water line of the island.

PROHIBITED ACTIVITIES

4. (1) In a marine protected area, no person shall

(*a*) disturb, damage or destroy, or remove from the marine protected area, any living marine organism or any part of its habitat; or

(*b*) carry out any activity — including depositing, discharging or dumping any substance, or causing any substance to be deposited, discharged or dumped — that is likely to result in the disturbance, damage, destruction or removal of a living marine organism or any part of its habitat.

(2) Despite subsection (1), a person may carry out any activity excepted under section 5 or any scientific or educational activity for which a plan is approved under section 7.

EXCEPTIONS

5. The following activities may be carried out in a marine protected area:

(*a*) fishing that is carried out in accordance with the *Aboriginal Communal Fishing Licences Regulations*; and

(*b*) any activity that is carried out for the purpose of public safety, national security or law enforcement or in response to an emergency.

ACTIVITY PLAN

6. Every person who proposes to carry out a scientific or an educational activity in a marine protected area shall submit to the Minister for approval, not less than 60 days before the day on which the activity is proposed to begin, a plan that contains the following information and documents:

(*a*) the name, address and telephone number, and if applicable, the facsimile number and electronic mail address, of a person who can be contacted in respect of the plan;

(*b*) a detailed description of the proposed activity that sets out

(i) the purpose of the proposed activity,

(ii) the period or periods during which the proposed activity is to be carried out,

(iii) a map on which the location of the proposed activity is identified,

(iv) the types of data that are to be collected, if any, and the sampling protocols or other techniques to be used to collect the data,

(v) the types of equipment, if any, that are to be used during the proposed activity, including those for gathering data, and if any of the equipment is to be anchored or moored in the marine protected area, the methods by which the anchoring or mooring is to be conducted,

(vi) the type and identity of every vessel, within the meaning of section 2 of the *Canada Shipping Act*, that is to be used to carry out the proposed activity, and

(vii) every substance, if any, that is to be deposited, discharged or dumped within the marine protected area during the proposed activity;

(*c*) an assessment of the environmental effects that are likely to occur within the marine protected area as a result of the proposed activity; and

(*d*) a list of every licence, permit, authorization or consent obtained or applied for in respect of the proposed activity.

7. (1) Subject to subsection (2), the Minister shall, within 30 days after the day on which a plan that is submitted in accordance with section 6 is received, approve the plan if the proposed activity is not likely to damage or destroy the habitat of a living marine organism in the marine protected area and

(*a*) in the case a scientific activity, the proposed activity is to be carried out for the purpose of monitoring the effectiveness of conservation measures implemented in, or for the management of, the marine protected area; and

(*b*) in the case of an educational activity, the proposed activity is to be carried out for the purpose of increasing public awareness of the marine protected area or providing information in respect of the conservation measures implemented in that area.

(2) The Minister shall not approve a plan if the cumulative environmental effects of the proposed activity in combination with any other past and current activities carried out within the marine protected area are likely to damage or destroy the habitat of living marine organisms in that area.

REPORTING OF ACCIDENTS

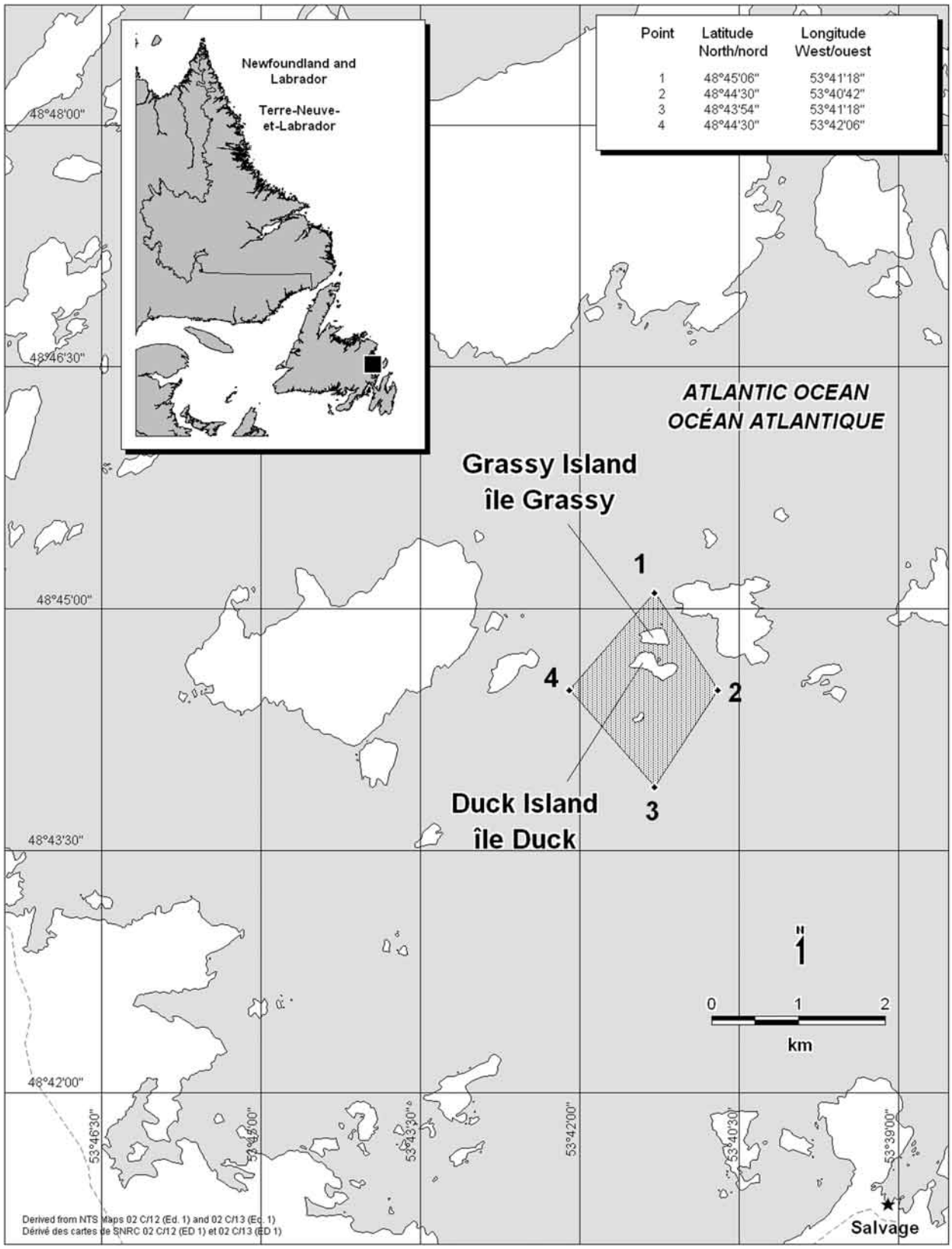
8. Every person involved in an accident that is likely to result in any disturbance, damage, destruction or removal prohibited under subsection 4(1) shall, within two hours after its occurrence, report the accident to the Canadian Coast Guard.

COMING INTO FORCE

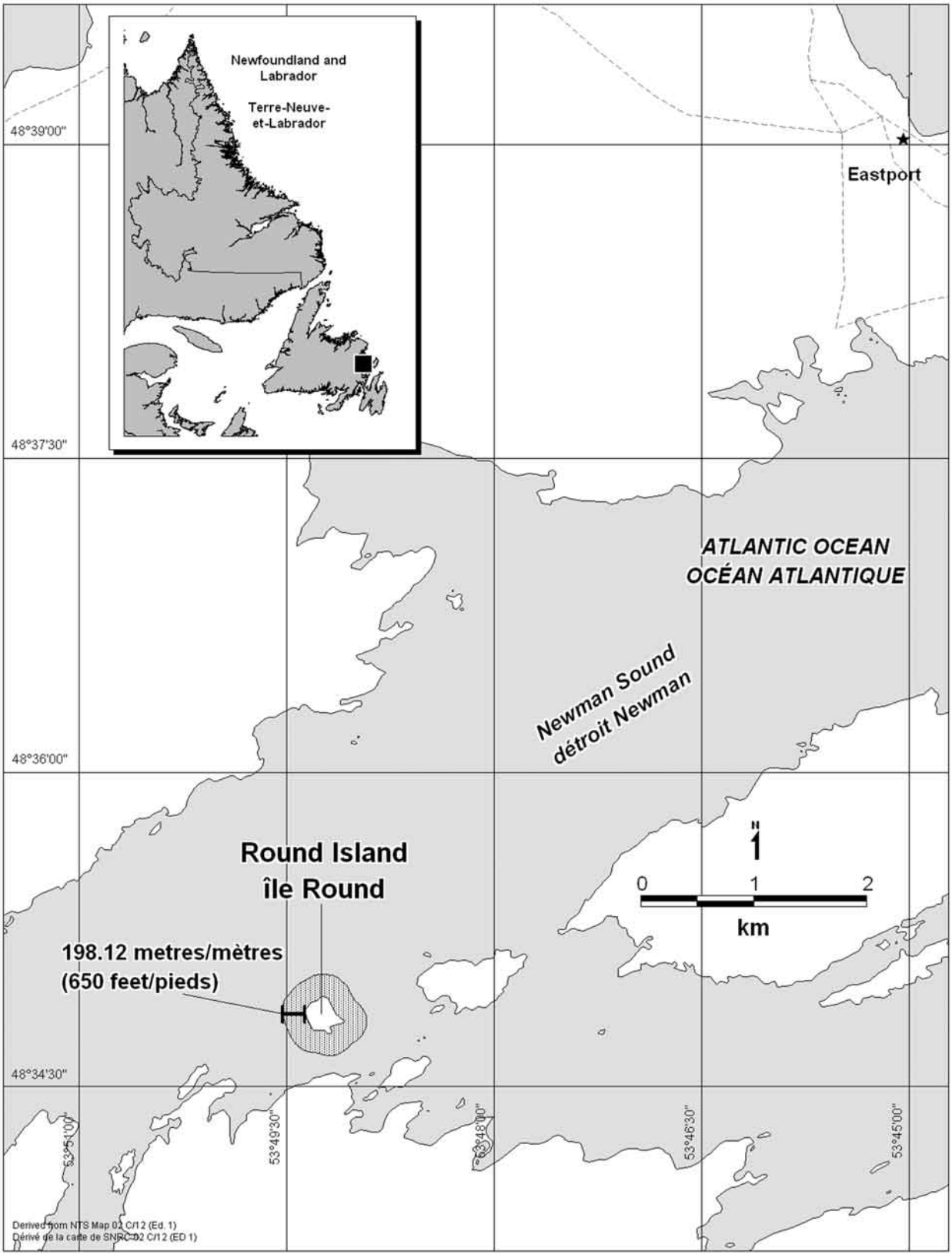
9. These Regulations come into force on the day on which they are registered.

ELIZABETH BENNETT

SCHEDULE 1
(Subsection 1(3) and paragraph 3(a))
EASTPORT – DUCK ISLAND MARINE PROTECTED AREA



SCHEDULE 2
(Paragraph 3(b))
EASTPORT – ROUND ISLAND MARINE PROTECTED AREA



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