Pêches et Océans Canada | Fisheries and Oceans Canada

INTEGRATED FISHERY MANAGEMENT PLAN

LOBSTER FISHING AREA 22 FROM 2010 UNTIL 2014

Quebec Region

Magdalen Islands Area

Last updated on May 23, 2013

Canada

Foreword

The purpose of this Integrated Fishery Management Plan (IFMP) is to identify the principal objectives and requirements specific to the lobster fishery in Area 22 as well as the management measures that will be used to achieve these objectives from 2010 to 2014. This document also serves to communicate the basic information on this fishery and its management to Fisheries and Oceans Canada (DFO) staff, legislated co-management boards established under agreements arising from the settlement of land claims and other stakeholders. This IFMP provides a common understanding of the fundamental "rules" governing the sustainable management of fisheries resources.

This IFMP is not a legally binding instrument which can form the basis of a legal challenge. The IFMP can be modified at any time and does not fetter the Minister's discretionary powers set out in the *Fisheries Act***. The Minister can, for reasons of conservation or for any other valid reasons, modify any provision of the IFMP in accordance with the powers granted pursuant to the** *Fisheries Act***.**

Where DFO is responsible for implementing obligations under land claims agreements, the IFMP will be implemented in a manner consistent with these obligations. In the event that an IFMP is inconsistent with obligations under land claims agreements, the provisions of the land claims agreements shall prevail to the extent of the inconsistency.

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List of Acronyms

APPIM	Association des pêcheurs propriétaires des Îles-de-la-Madeleine
AQIP	Association québécoise de l'industrie de la pêche
CL	Carapace length
C&P	Conservation and Protection
CPUE	Catch per unit of effort
DFO	Fisheries and Oceans Canada
FHAMIS	Fish Habitat Management Information System
FRCC	Fisheries Resource Conservation Council
IFMP	Integrated Fisheries Management Plan
LFA	Lobster Fishing Area
MAPAQ	Ministère de l'Agriculture des Pêcheries et de l'Alimentation du Québec
MLI	Maurice Lamontagne Institute
PA	Precautionary approach
SLD	Statistics and Licensing Division

1. OVERVIEW OF THE FISHERY

1.1 History

The lobster fishery has existed in the Magdalen Islands since 1875. Average annual landings have exceeded 1,600 t since the mid 1980s, with a record 2,824 t being landed in 1992. Thereafter, landings fluctuated before reaching a stable annual average of about 2,400 t since 2004. Historic and current landing data are provided in Appendix 1.

In 1995, the Fisheries Resource Conservation Council (FRCC) published its first lobster report. In the wake of this report, the Association des pêcheurs propriétaires des Îles-de-la-Madeleine (APPIM), which represents most of the lobster harvesters in Area 22, called on the fish harvesters to convince them to increase the minimum size for lobster, the goal being to ultimately double egg production. As a result, the minimum size was increased from 76 mm in 1996 to 83 mm in 2003.

In 2005, APPIM undertook a vast consultation with the aim of reducing the fishing effort, as recommended by Fisheries and Oceans Canada (DFO) Regional Science Branch. As a result of this vast consultation and an additional survey of all Area 22 lobster harvesters conducted by DFO in winter 2006, the number of traps was reduced by three per year per licence from 2006 to 2010 and standards governing trap lines were introduced.

Despite this new and significant effort on the part of the fleet, as early as the beginning of the 2006 fishing season, some people were already expressing their fears that the management measures put into place would become less effective as fishing effectiveness had improved. Consequently, in 2007, the fish harvesters accepted to reduce their fishing schedules and raise their traps only once per day.

An overview of the main management measures implemented in Area 22 is provided in Appendix 2.

1.2 Type of fishery

With the exception of activities connected to a few licences that have been issued for scientific, educational or public display purposes, the only lobster fishing practiced in Area 22 is the commercial fishery.

1.3 Participants

The number of participants in this fishery is stable and limited to 325 fish harvesters. Each owner-operator fishes from his own vessel; the lobster vessels average 39'2" in length.

The fish harvesters work out of ten fishing harbours. Nearly 70% of the fish harvesters operate on the south side of the Magdalen Islands from six harbours located between Havre-Aubert and Grande-Entrée; the remaining 30% ply the waters on the north side from four harbours located between Millerand and Grosse-Île.

Map 1- Fishing harbours in the Magdalen Islands Area

Source: SLD and FHAMIS, DFO, Quebec Region

1.4 Location of the fishery

The Magdalen Islands lobster harvesters have access to Lobster Fishing Area 22 (LFA 22) as described in the Schedule XIII of the Atlantic Fishery Regulations, 1985. Fishing activity is concentrated on rocky reefs—the preferred habitat of the lobster—lying between the shore and about 20 nautical miles offshore. In the 1980s, the Ministère de l'Agriculture des Pêcheries et de l'Alimentation du Québec (MAPAQ) mapped the lobster fishing areas using as its reference points the locations of fishing buoys as shown on aerial photographs.

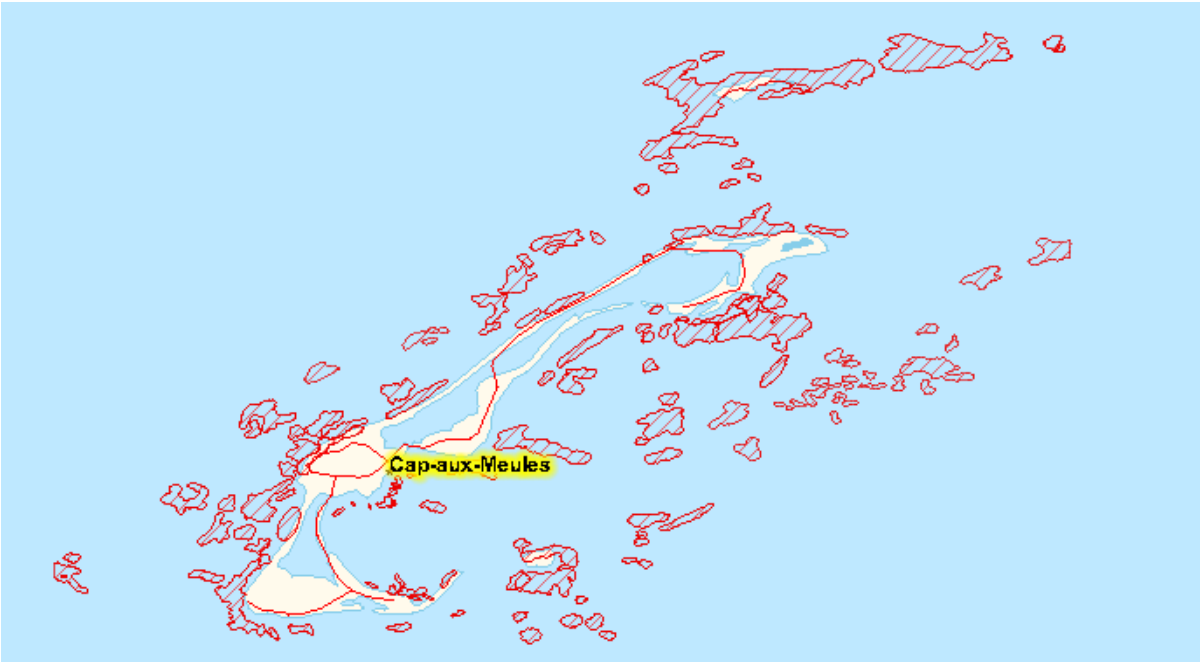
The lobster harvesters generally begin their season by working the seabed farther from shore, where a large proportion of the lobster that have spent the winter offshore are located. As the season advances, the fish harvesters move closer inshore, following the migrating lobster. These fish harvesters use a pursuit strategy to harvest their catch. A smaller number of fish harvesters remain near the shore and, adopting an interception strategy, wait for the lobster to arrive there.

1.5 Fishery characteristics

The lobster fishery is conducted using regulation-sized traps. These traps are highly selective and must be equipped with escape vents that serve to reduce the retention and mortality of undersized lobster and non-targeted species. The size of the escape vent opening was increased in 2003 to take into account the new minimum commercial size.

The lobster fishery is a nine-week spring fishery. As a rule and in keeping with Schedule XIV of the Atlantic Fishery Regulations, 1985, the lobster fishery is closed from July 1 to April 30 of the following year. However, the opening of the lobster fishery in Area 22 can be modified by variation order in response to recommendations made by the Local Advisory Committee. The season opens on the Monday closest to May 6, with fish harvesters being authorized to set their traps the preceding Saturday. This date was chosen following a survey of all lobster harvesters in winter 2003 (before then, the season had opened on the Monday closest to May 10).

Map 2 - Map showing lobster fishing sites (MAPAQ – 1980s)



Source: SLD and FHAMIS, DFO, Quebec Region

The lobster fishery is managed by controlling the fishing effort. The elements controlled include fishing areas, period, the number of gear and their characteristics, and the characteristics specific to the lobsters harvested (berried females, size, etc). The specific measures that will be in place for the duration of this plan are described in Section 6 and in Appendices 3 and 4. These appendices are updated annually.

1.6 Governance

First of all, the fishing activities are subject to the Fisheries Act and its regulations, including more specifically the Atlantic Fishery Regulations, 1985 and the Fisheries (General) Regulations.

The Lobster Local Advisory Committee for Area 22 plays an important role in determining management orientations and objectives for the species. The recommendations put forward by the committee, which works in close partnership with DFO, regularly translate into conservation measures that, without contradicting, go beyond the provisions of the abovementioned legislation. The Local Advisory Committee is composed of fish harvesters' representatives, resources representing the MAPAQ, buyers' and local producers' representatives appointed by the Association québécoise de l'industrie de la pêche (AQIP) and various DFO branches.

This committee meets each winter and additional meetings can be held as needed. The representatives sitting on the committee are the link between the industry and DFO. In this regard, recommendations submitted to the Department are consensus-based rather than the result of a vote. The appointed representatives consult their peers in advance and inform them of the outcome of advisory committee discussions. The terms of reference of the Committee, as approved at the February 2013 Committee meeting are available in Appendix 11.

1.7 Approval process

The Integrated Fisheries Management Plan (IFMP) for Area 22 Lobster is drafted by the Magdalen Islands Area office and then approved by the regional director for Fisheries and Aquaculture Management. The Magdalen Islands Area Director, the Resource and Aquaculture Chief and the Conservation and Protection (C&P) Area Chief together approve the annual management measures that are then published as Notices to Fish Harvesters. Furthermore, they assure the implementation of the IFMP.

2 STOCK ASSESSMENT, SCIENCE AND TRADITIONAL KNOWLEDGE

2.1 Biological synopsis

The American lobster (Homarus americanus) ranges along the west coast of the Atlantic, from Labrador to Cape Hatteras. Adults prefer rocky substrates where they can find shelter, but also live on sandy or even muddy bottoms. While lobsters are generally found in commercial numbers at depths of less than 35 m, they migrate seasonally to shallower, warmer water in spring and early summer and to deeper, less turbulent water in the fall.

Lobsters begin life by going through a planktonic larval phase that lasts about three weeks. During this time, they undergo three stages (Stages I, II and III) before metamorphosing to become postlarvae (Stage IV), which resemble adult lobster. Over the course of the planktonic phase, lobsters are exposed to high mortality due to predator action and displacement by currents, which can carry larvae far from the sites that would be optimal for the continuation of their life cycle.

At the end of this planktonic phase, the postlarvae drift down from the surface layer and settle on the bottom in coastal habitats that offer many crannies where they can find shelter (nurseries). Lobsters are highly dependent on the nature of the substrate for their survival during the early benthic stages and they congregate where shelter already exists. Thus, they are found primarily on gravel and cobble substrates, but also in association with beds of mussels and macroscopic algae where they lead a cryptic existence. The lobsters are distributed almost exclusively in the subtidal zone, at depths of less than 10 m. Habitat quality is a deciding factor in the success of benthic settlement and future recruitment. Lobsters leave the nursery when they reach a carapace length (CL) of about 40-50 mm and outgrow their shelters. At this stage, the lobsters are about 3 to 4 years old. It is estimated that lobsters reach the minimum catch size (83 mm CL) at around 8 years of age, after they have moulted about 16 times since settling on the bottom.

Females reach sexual maturity at a size of about 79 mm (CL) in the southern part of the Magdalen Islands and about 84 mm in the northern part. The males are smaller when they reach maturity. In general, females have a two-year reproductive cycle, spawning one year and moulting the next. A female spawning for the first time can produce nearly 8,000 eggs, whereas one with a carapace size of 127 mm (a jumbo) can produce up to 35,000 eggs. Not only are some large females more fertile, they may also spawn two years in a row before moulting. After the eggs are released, they remain attached to the female's swimmerets for 9 to 12 months, until the planktonic larvae emerge the following summer. It has been observed that spawning and hatching can occur earlier in the season in multiparous females (females spawning for at least the second time) than in primiparous individuals (females spawning for the first time). Also, the emerging larvae produced by multiparous females have been observed to be larger than those produced by primiparous females.

Although recruitment cannot be predicted on the basis of egg numbers, this nevertheless plays a key role in the productivity of populations. Maintaining an adequate egg supply and increasing the contribution of multiparous females to this supply are key stock management goals.

2.2 Ecosystem interactions

The early benthic stages and immature stages of lobster are vulnerable to predation by cunner, tautog and monkfish, particularly on substrates with no algae or few or no shelters. In inshore waters, the vulnerability of lobsters to predation tends to decline rapidly as their size increases. This phenomenon can be explained by the scarcity of large, mobile predators near the coast. Hard-shell lobsters are practically immune to predators once they reach adult size. The

importance of the spiny dogfish as a predator of benthic crustaceans is not well documented. In addition, observations from earlier studies on the stomach contents of harp seals and grey seals have, up until now, shown that crustaceans generally make up a minimal part of their diet and lobster is virtually absent from it.

The lobster lives in close association with the rock crab throughout its life. Rock crab is a key food resource for lobster. Throughout its range, the lobster feeds heavily on rock crab, which has been observed to be a predominant prey species in lobster stomach contents. The lobster shows a marked preference for rock crab when presented with a choice of prey. The rock crab is a high-quality prey item and a substantial source of energy and proteins for the lobster.

The Magdalen Islands are considered to be an autonomous production area for lobster. Recruitment comes essentially from the local adult population with displace to areas far from the Magdalen Islands being limited by the presence of an intermediate layer of cold water.

The water temperature at lobster grounds varies from -1°C to 18°C over the course of the year. Spring temperatures in the last decade have been higher than the average recorded for the last 25 years.

The springtime water temperature when the season opens has a direct impact on catch rates, with warmer water generating higher catch rates. Warmer springs cause fish harvesters to want the season to open earlier.

In the context of climate change, warmer temperatures can foster embryonic and larval development and speed up moulting which can increase the stock's productivity. On the other hand, in the longer term, rising water temperatures could foster the establishment of non-native species which could adversely modify the ecosystem for the lobster. By changing the physical and chemical properties of the water (oxygen, pH), rising water temperatures could also encourage the development of diseases in the lobster. As yet, it is hard to predict what impact, if any, climate change will have.

2.3 Traditional ecological knowledge

The traditional ecological knowledge of the Magdalen Islands lobster fish harvesters was studied in 1995 (master's thesis, Université Laval, Quebec); the study examined their fishing techniques and strategies as well as their knowledge of the resource and the environment, stock management and governance. This knowledge was then incorporated into the stock assessments done in subsequent years, which allowed fish harvesters, scientists and managers to adopt a common point of view regarding the status of stocks and to develop conservation plans together.

2.4 Stock assessment

Stock status was assessed annually until 2005, which made it possible to closely monitor the impacts that increasing the minimum catch size had on lobster populations. The assessment is now done every three years. The most recent assessment was done in winter 2009 and served to describe the status of the stock in 2008 as well as the changes that had occurred from 2006 to 2008, since the previous assessment done in 2005. The next assessment will take place in winter 2012 and will examine the 2009 to 2011 seasons.

The status of the resource is assessed by examining abundance, demographic, fishing pressure and stock productivity indicators. The data used to establish these indicators are obtained from the landings recorded on the purchase slips issued by processing plants, the logbooks used by some index fish harvesters (on a voluntary basis), the sampling done at sea annually since 1995, and a trawl survey conducted on the southeast side of the archipelago since 1995. In addition, divers have studied the benthic deposition of lobster in the Demoiselles area (Baie de Plaisance) since 1995. Since 2003, this last survey has been done in collaboration with the Association des pêcheurs propriétaires des Îles-de-la-Madeleine (APPIM).

The most recent stock assessment showed that abundance indicators remained generally high from 2006 to 2008. Landings have increased since 2005 and in 2008 (2,492 t), they were 20% higher than the average for the last 25 years (2,082 t). The mean catch per unit of effort (CPUE) was fairly stable from 2006 to 2008, about 0.7 lobster/trap and 0.4 kg/trap. In 2008, even though the CPUE in numbers was 12% lower than the 1985-2007 series average, it was about 4% higher in weight. The demographic indicators showed that the average size of lobster caught has been stable since 2003 at a level about 6-7 mm larger CL than the mean size recorded prior to the increase of the minimum legal size, and a mean weight of about 25% higher. From 2005-2008, the sex-ratio remained in favour of males overall and seems appropriate for reproduction. Size structures were truncated and consequently, the proportion of jumbo size lobster (≥ 127 mm CL) remained low (< 1%), but slightly increased nevertheless from 2005-2008. The fishing pressure indicators revealed that the estimated exploitation rates for 2005 to 2007 varied between 71 and 77% in the south and between 69 and 71% in the north, compared with 74% in 2004. However, fishing mortality for the portion of the population ≥ 76 mm CL dropped as a result of the increase in the minimum legal size. The stock productivity indicators remained positive from 2006 to 2008. The abundance of berried females has remained higher than prior to the increase of the minimum legal size and egg production estimates for 2006-2008 were higher by a factor of around two compared to those prior to the increase of the minimum legal size. In 2008, the number of multiparous females was slightly higher than in 2005. Recruitment indices recorded in 2008 (trawl and diving surveys) were positive.

The Science Advisory Report is available in Appendix 5 as well as at the following address: http://www.dfo-mpo.gc.ca/CSAS/Csas/Publications/SAR-AS/2009/2009_013_e.pdf.

2.5 Stock scenarios

In general, the stock status indicators for Magdalen Islands lobster are positive. Abundance is high and has been fairly stable since the early 2000s. Moreover, recruitment within the population appears to be good. The recruitment indices obtained from the 2008 trawl survey suggested that landings in 2009 would remain high, which proved to be the case. Abundance indices for juveniles up to 2 moultings prior to reaching commercial size also suggest that good recruitment can be maintained in the medium term. The benthic deposition observed in recent years has been strong and is even higher than it was before the minimum legal size was increased. These observations augur well and suggest that fishing will continue at interesting levels over the course of the next few years.

It is important to point out that increasing the legal catch size from 76 mm to 83 mm has brought about positive changes, as predicted by the models used to calculate egg production per recruit. It has helped to increase egg production by a factor of two compared to 1996 and to reduce the problem of growth overfishing (i.e. when harvesting at a size smaller than the size producing maximum yield per recruit).

Despite the efforts and positive signs, some improvements to the size structure of the stocks appear necessary. This will help reduce the dependence of the fishery on the annual recruitment and will also help increase the proportion of multiparous females in the population and ensure their reproductive success by maintaining suitable sex-ratios, according to the recommendations made by the Fisheries Resource Conservation Council (FRCC).

2.6 Precautionary approach

There is no formal precautionary approach (PA) for assessing the status of the Magdalen Islands lobster stock that refers to harvest levels since this fishery is not quota managed. Nor is there any official delimitation of areas qualifying where the stock is located (healthy, prudent or critical areas). In contrast, a decision regarding the status of the

stock is nevertheless made based on a series of indicators, for some of which limits and targets have been defined. The catch level can be adjusted by controlling the fishing effort and escape. There are plans to draw up a more formal PA in the coming years. The scientific community held a first discussion meeting for the entire Atlantic region on the topic in April 2010. This discussion dealt with identifying the indicators that could serve as reference points. The minutes of the meeting will soon be available at the following address: http://www.meds-sdmm.dfo-mpo.gc.ca/csas/applications/events/eventIndex_e.asp#juillet.

2.7 Research

In addition to stock assessment work, data from the trawl survey and the diving surveys done at nursery sites have produced new knowledge about lobster biology. In recent years, work on the embryonic development of eggs in trawl-caught females has led to improvements in the understanding of the temporal dynamics of larvae production. Data from the trawl survey have also been used to re-examine the allometric relationships between the lobster's different body parts and its size and to identify the transition phases that correspond to ontogenic changes or sexual maturity.

The study monitoring the lobster's benthic deposition underway since 1995 in the Demoiselles area (Baie de Plaisance) has served to describe the growth trajectory of lobsters during their first three years of benthic life and to make predictions as to the number of moults and the time needed to reach commercial size. The work has also help to determine cohort strength and to better understand the importance winds and surface currents play in terms of transporting larvae to sites suitable for their settlement on the bottom as well as in concentrating and retaining them at those sites. The relative importance of hydrodynamic factors and conservation measures (increased egg production after the minimum legal size was increased) to the success of benthic settlement was also examined.

Work is also underway to find out more precisely when a cohort enters the fishery and what happens over time to the abundance indicator observed at the time of benthic settlement. This study incorporates data obtained from the trawl survey, the diving survey and landings; the objective is to establish the connection between the intensity of benthic deposition and the level of later landings.

Studies on lobster reproduction are currently being conducted in tanks at the Maurice Lamontagne Institute (MLI). They aim to identify the paternal effects on lobster progeny, in particular, to see if the quantity of eggs produced and fertilized is dependent on the quantity of sperm received from a male.

Research is being done by MLI scientists to support industry interventions that seek to increase lobster productivity (artificial reefs and postlarvae seeding); the ultimate goal is to provide solid guidance in this area to the industry and to be able to measure the resulting impacts.

There are plans to characterise the seabed using multibeam sonar in order to better localise the lobster's early habitats. An improved understanding of the locations of habitats that are crucial to the lobster will facilitate the management of other activities that have an impact on the seabed.

The establishment of a capture fisheries research network by the National Sciences and Engineering Research Council of Canada will help to develop research programs on the dynamics of lobster metapopulations in the Atlantic region over the coming years and to enhance understanding of the links between local populations (larval dispersion and adult migration) and consequently, to more precisely assess the impacts of conservation measures on a spatial scale.

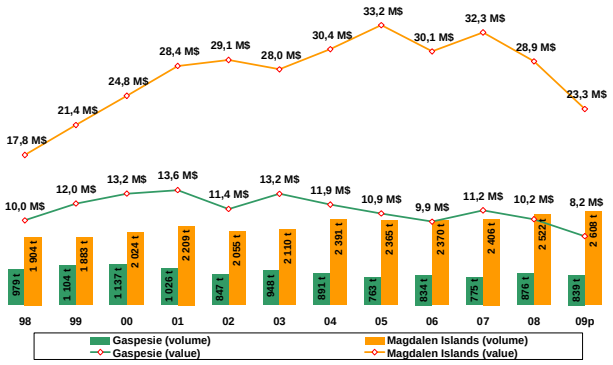
3 ECONOMIC, SOCIAL AND CULTURAL IMPORTANCE OF THE FISHERY

3.1 Portrait of the lobster market

On the international scale, Canada and the United States are responsible for all American lobster landings. Lobsters are landed primarily during the months of May and June. Canada and the United States are also the two countries that import the most American lobster. The other destinations for lobster are Europe and Asia.

In Canada, the main provinces that land lobster are, in order of importance, Nova Scotia, Prince Edward Island and New Brunswick. Quebec ranks fourth with 3,504 tonnes landed in 2009. The Magdalen Islands area contributes nearly three quarters of Quebec's lobster landings and 5% of the entire Canadian lobster supply. One quarter of the lobster landed in Quebec is caught in Gaspe Peninsula waters.

Graphic 1 – Value of lobster landings in Quebec by area, 1998-2009

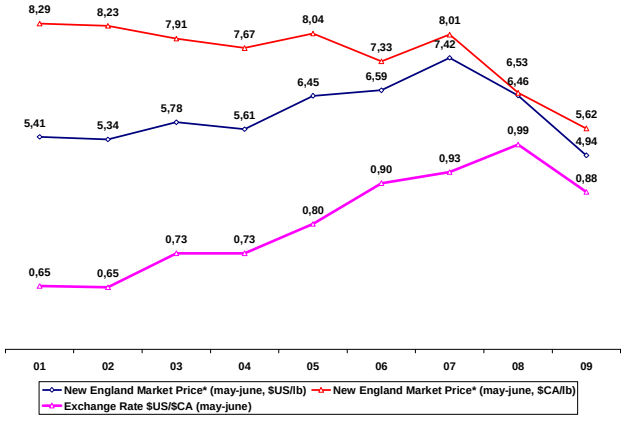


Source: DFO Statistics Branch Compilation: RPEB, DFO, Quebec Region

3.2 Price and exchange rates

The main wholesale markets for American lobster are located along the northeastern seaboard of the United States, more particularly in Boston and New York. The price paid on the Boston market is a good indicator on the landing price that fish harvester of the Magdalen Islands will receive since their tendency is relatively similar. The Boston market price is actually one of the elements used in the fixation process of the landing price on the Magdalen Islands in accordance with joint plan concluded between the fish harvesters and the lobster buyers.

Graphic 2 – Evolution in mean lobster prices on markets and impact of the $US/$CAN exchange rate, 2001-2009



Source: DFO Statistics Branch Compilation: RPEB, DFO, Quebec Region

The exchange rate has a significant impact on the price paid to fish harvesters. When the value of the US dollar increases compared to the Canadian dollar, this has the effect of pushing the price in Canadian dollars upward for Canadian lobster exporters. In contrast, when the value of the US dollar falls, the price in Canadian dollars drops faster (or rises more slowly) than the price in US dollars. For example, in 2009, a stronger-than-expected Canadian dollar combined with a very low price on the American market caused prices to fall on the Canadian market. Other factors that explain the drop in landing prices in 2009 include the credit crisis, the drop in consumer demand due to the recession and the processors' anticipation effect.

3.3 Importance of the lobster fishery on the Magdalen Islands

From 2005 to 2009, Magdalen Islands lobster harvesters caught an average 7,550 kg of lobster each, with a market value of $91,000. Lobster is the principal species landed in this maritime area and generates a total landing value of about $30 million.

According to preliminary data for 2008, the processing industry bought 70 to 90% of the landed lobster from Area 22 and sold it fresh. The rest of the lobster harvested on the Magdalen Islands was processed. Some processing plants also buy lobster off-island and process it locally to meet market demand.

The Magdalen Islands lobster fishery is an important economic activity. There are 325 licence-holders and about 600 helpers. In the Magdalen Islands in 2009, there were ten sea product buyers and/or processors, six of which bought or processed lobster. These processing plants generated 1,000 jobs, about 300 of them to process lobster. Given the Islands population of 12,975 individuals[1], the activities associated with the primary and secondary lobster processing sectors occupy 10% of the population.

[1] These data were obtained from the Statistics Canada 2006 Census Survey.

4 MANAGEMENT ISSUES

The section on management issues provides an overview of the key management matters and problems specific to the lobster fishery in Area 22. The main management issues, already verified with the principal internal and external stakeholders, are presented here in terms of the elements of risk for the Integrated Fisheries Management Plan (IFMP) period of validity. These are, therefore, elements that were considered to be important at the time this plan was drafted, in other words in the context of 2010 and, in this regard, some elements could be specified further or modified in the coming years while other elements could be added to the list. As for the objectives that aim to resolve these issues, the ones selected for the duration of the plan are presented in Section 5.

4.1 Stock productivity

Since the first Fisheries Resource Conservation Council (FRCC) report on lobster was issued in 1995, the fish harvesters have put into place measures to ensure the survival of the Magdalen Islands stock. These measures have been fruitful and the stock is now more productive in terms of weight-per-recruit yield and egg production. Nevertheless, when the stock was last assessed in winter 2009, it was recommended that measures be implemented to improve the size structure of stocks, primarily in order to increase the proportion of multiparous females in the population, in keeping with the FRCC recommendations (2007).

4.2 Importance of lobster for the Magdalen Islands community

As shown in the section on the economic, social and cultural importance of the fishery, the earnings generated by the lobster fishery represent a very large share of the economy of the Magdalen Islands community. Any variation in the number of fishing enterprises or in the earnings of these enterprises has a direct repercussion on the dynamism of the local economy.

4.3 Monitoring of commercial fishing activities and controlling poaching

The degree of compliance with management measures is always conditioned by the monitoring done by fishery officers and the industry's adhesion to those measures. The intensity of fishing activities taking place in a relatively large fishing area calls for a significant investment in human and financial resources on the part of Fisheries and Oceans Canada (DFO). This intensive monitoring is desired by the industry to ensure that the management measures it proposes are respected.

Lobster poaching is a major concern. There are nearly 300 kilometres of coastline that are nearly always accessible, which enormously complicates the fishery officers' task as far as surveillance is concerned. The accessibility of the lagoons combined with the number of recreational divers and individuals who own pleasure craft are factors that need to be taken into account. Finally, like in most rural areas, it is relatively hard for fishery officers to obtain the collaboration of the community, although efforts to raise awareness (school visits, anti-poaching campaigns, etc.) appear to be having a positive effect.

4.4 Market access

Markets are increasingly competitive and consumers are becoming more selective in their purchases, which could require the industry to reposition itself in terms of marketing.

4.5 Habitat and ecosystem

The lobster harvesters and their representatives have several times expressed to DFO their concerns about the need to protect the lobster grounds. It is well documented that lobster prefers to inhabit rocky bottoms as adolescents and adults. Moreover, gravel and cobble substrates in shallow water are known to be the habitats where the lobster settles after the end of its larval phase. The quality of these habitats is a determining factor in the success of the lobster's

benthic settlement and future recruitment. This being said, the interrelations between the various fishing activities (other than the lobster fishery) and other activities (for instance, aquaculture, dredging deposits, etc.) that have an impact on the seabed and on lobster populations are not always taken into consideration when establishing management measures for the diverse species or activities. The issue is to improve our knowledge of these matters (critical lobster habitats and the interrelations between the different activities and these habitats) so as to find solutions that address the concerns expressed by the lobster harvesters. The impact of the lobster fishery on the ecosystem is another issue that will be examined.

5 OBJECTIVES

This section of the Integrated Fisheries Management Plan (IFMP) defines the long-term objectives as identified by Fisheries and Oceans Canada (DFO) and the members of the Area 22 Lobster Local Advisory Committee, whose members notably include lobster harvesters delegated by Association des pêcheurs propriétaires des Îles-de-la-Madeleine (APPIM). The management measures that will be put into place as well as the efforts made by DFO and the industry will seek to achieve the identified objectives. These objectives are set by taking into account the issues described in the previous section and they propose long-term solutions.

5.1 Stock productivity

The objectives are established by taking into account the recommendations included in the document Assessment of lobster stocks of the Magdalen Islands (LFA22) in 2008, a copy of which is provided in Appendix 3. The 2010-2014 IFMP objectives were established in keeping with this science advisory report published in 2009 and will be adjusted to take into account the report that will be published in 2012.

5.1.1 Continue to reduce the fishing effort: reduce the number of authorized traps per fish harvester by three until 2014.

5.1.2 Begin the consultations needed to put into place the additional management measures needed to improve the size structure.

5.1.3 Develop, in collaboration with the industry, a precautionary approach for the lobster stock in Area 22.

5.1.4 Adjust the management measures to take into account the stock status report that will be published in winter 2012.

5.2 Importance of lobster for the Magdalen Islands community

In a context where a resource is of such importance to a community, its sharing becomes a very sensitive concern. To stabilize this situation, resource sharing has remained stable with 325 lobster fishing enterprises involved in this fishery since the 1970s. Maintaining these fishing enterprises has been central to all management decisions made since that time, with all the associated challenges in terms of resource conservation and economic viability. This strategy is still valid today.

5.2.1 Maintain the current situation in terms of the number of lobster fishing enterprises in Area 22 at 325.

5.2.2 When making decisions, take into account the potential increase in operating costs associated with lobster management and thus, keep them as low as possible.

5.3 Monitoring commercial fishing activities and controlling poaching

The Conservation and Protection (C&P) branch continues to dedicate a large portion of its resources to monitoring the commercial fishery. Over the last few years, a number of strategies have been developed to target certain elements and thus, ensure consistency. In addition, given the resource's proximity and how easy it is to access, the community is the first target of any strategy seeking to reduce the intensity of poaching activities.

5.3.1 Put into place a monitoring plan that addresses the critical management measures.

5.3.2 Maintain the Poaching Alert program.

5.3.3 Continue awareness-raising visits to schools.

5.3.4 Ensure prompt and thorough follow-up of complaints received.

5.3.5 Meet with individuals entering the commercial fishery to raise their awareness as to

the importance of the management measures in place.

5.4 Market access

Some types of marketing can require the establishment of particular management measures. Such requests would come from the industry and result from their efforts to reposition themselves in terms of markets.

5.4.1 Within the limits of DFO's mandate, support initiatives by the industry in such areas as traceability, eco-certification or other marketing strategies.

5.5 Habitat and ecosystem

As fishing activities in the Magdalen Islands coastal environment intensify, users are becoming more concerned about the interrelations between the species, and between fishing activities and the habitat. The diverse pressures on critical lobster habitat and the lobster bycatch from other fisheries are of growing concern to fish harvesters. To address these concerns, it will be important to obtain the information needed so that adapted management measures can be put into place.

5.5.1 Identify the habitats that are of importance to the lobster at each stage of its development.

5.5.2 Identify the activities that have an impact on critical lobster habitat.

5.5.3 Document the incidental catches that occur in the inshore fisheries.

Although the trap fishery is generally considered to not have an impact on the habitat, the fact remains that lost traps that continue to fish could have an impact on some species. Moreover, although the lobster trap is highly selective, some non-targeted species do enter the traps, are brought up to the surface and then, returned to the water. To gain a better understanding of the lobster fishery's impacts on the ecosystem, a system will have to be put into place to acquire data on these particular points.

5.5.4 Document and assess the impact of lobster traps lost at sea.

5.5.5 Continue to raise awareness amongst the fish harvesters regarding the importance of having escape panels in their traps, as is required by legislation. In addition, pursue efforts to put in place a third option consisting of using cotton twine to hold the mesh together, like in crab traps.

5.5.6 Document the lobster fishery bycatches.

6 MANAGEMENT MEASURES FOR THE DURATION OF THE PLAN

The lobster fishery is managed by controlling the fishing effort. The elements controlled include fishing areas, period, gear and number characteristics, and the characteristics specific to the lobsters harvested (size, berried females, etc). These management tools are what make the plan's objectives operational.

The management measures that are applied in the Lobster Fishing Area (LFA) 22 are announced by means of Notices to Fishers. These Notices to Fishers are published annually and describe the management measures that will be put into place for a given year. The Notices to Fishers issued by Fisheries and Oceans Canada (DFO) are provided in Appendix 3, which will be updated every year.

The lobster fishing licences issued to fish harvesters have conditions attached to them. These licence conditions, issued pursuant to Section 22 of the Fishery (General) Regulations, can vary from year to year depending on the management decisions described in the Notice to Fish Harvesters. The licence conditions set out in greater detail the management measures in effect and make them operational. The licence conditions associated with lobster fishing licences for Area 22 are provided in Appendix 4, which will be updated every year.

7 SHARED STEWARDSHIP ARRANGEMENT

The Advisory Committee, as described in Section 1.6 (terms of reference available in Appendix 11), is clearly the cornerstone of shared stewardship in the Lobster Fishing Area (LFA) 22. The Advisory Committee is the principal forum where Fisheries and Oceans Canada (DFO) integrates the advice it receives from the various fishing industry representatives, including the lobster harvesters from each community and the resource people delegated by the Association des pêcheurs propriétaires des Îles-de-la-Madeleine (APPIM), into the management of fisheries resources. In the case of LFA 22 lobster, in addition to the formal annual meetings of the lobster advisory committee, regular communication between the local DFO office and the industry help the users of the resource to play an even more active role in defining and making operational the management measures that affect them.

Some of the many examples of collaboration between DFO and the industry notably include the creation of several working groups that were set up to deal with particular subjects, for instance:

a) The opening date analysis committee composed of fish harvesters' representatives from various fishing harbours in the area and mandated to decide on the opening date, when required and in keeping with the rules that were established in advance in collaboration with the industry. The terms of reference used by the analysis committee to decide the opening date are provided in Appendix 4.
b) The weather conditions monitoring protocol established in 2010 by a working group composed of members representing the industry, DFO and other stakeholders such as Transport Canada and the Canadian Coast Guard. This committee determines the weather conditions (wind strength) that would make it preferable—for safety reasons—to delay the opening of the lobster season. The weather condition monitoring rules are provided in Appendix 7.
c) "Index" groups of some thirty lobster harvesters set up by APPIM to validate a variety of initiatives associated with the lobster fishery. A group of this kind was notably established in order to advise on changes needed in the characteristics of lobster traps.

The many surveys and consultation activities involving the lobster harvesters in LFA 22 are other examples of shared stewardship. These activities have taken various forms over the years (written surveys piloted by DFO and/or APPIM; the "Grand Tour", a series of visits in the villages organized by APPIM; targeted meetings with lobster groups led by DFO fishery officers). The fact that industry comments are taken into account when identifying new management measures has invariably led to better compliance with these same measures.

Finally, another example of industry involvement is the collaboration of APPIM in the technical committee mandated to monitor the establishment of artificial reefs; artificial reefs projects are compensation measures implemented to counter the effect of undertakings that result in the deterioration of fish habitats.

8 COMPLIANCE PLAN

The General Conservation and Protection (C&P) enforces the legislation, policies and harvesting plans so as to make sure resources are conserved and sustainably developed. The management of Canadian fisheries calls for an integrated approach in terms of monitoring and control activities: the participation of fishery officers in aerial, marine and land patrols; the presence of observers aboard fishing vessels, dockside monitoring and an electronic remote surveillance system.

In compliance with its mandate, which is to manage Canadian fisheries in a sustainable manner, Fisheries and Oceans Canada (DFO) is responsible for the application of the *Fisheries Act* and other related legislation.

The Department also fosters application of the law through education and awareness-raising activities to encourage Canadians to protect fisheries resources and fish habitat. For more information, visit http://www.dfo-mpo.gc.ca/fm-gp/enf-loi/index-eng.htm.

8.1 Regional compliance program

Every year, a lobster fishery monitoring program is developed by the C&P area chief. The plan is based on industry concerns and the information available to the Department, and is used by C&P to plan the deployment of human and financial resources. Year after year, from 30 to 35% of the time allocated to monitoring in the area is designated for the lobster fishery, with on average over 3,000 hours being allocated to this task.

A team of eight fishery officers monitors the lobster fishery in the Magdalen Islands. Since 2003, the area DFO office hires students as assistant fishery officers, largely to monitor the lobster resource. In addition, from time to time officers from other maritime areas in the Quebec Region come to support the local team, either while the commercial fishery is underway or during targeted anti-poaching operations.

During the commercial fishing season, a large percentage of the work involves dockside inspections. On average, 400 of the roughly 16,000 total landings are inspected annually, primarily to verify the size of the lobster and to check for the presence of berried females. The work of the fishery officers also includes verifications at sea and aerial patrols.

Outside the commercial fishing season, poaching monopolizes a large share of the local resources allocated to the C&P program.

Anti-poaching activities are mostly determined on the basis of complaints denouncing acts of poaching. Year after year, the area receives about sixty complaints, over 60% of which involve lobster.

8.2 Consultations

At the Advisory Committee's annual meeting, C&P reports on the monitoring activities that took place during the preceding season or various points of current interest for discussion. The committee members then have the opportunity to comment the level of monitoring and to share their viewpoints on the various management measures in place or on the other points under discussion. Other meetings are organized as needed with the committee members or with fish harvesters' groups to discuss various points or to settle a particular problem.

8.3 Assessment of compliance performance

On average, 10 offences are detected annually during dockside verifications. The principal breaches observed are the possession of undersized lobster or berried females. Given the number of verifications, the degree of compliance with the regulations can be considered to be high. As for the verifications at sea, few irregularities have been recorded over the years. The primary purpose of at-sea monitoring is to verify trap-related compliance (escape vents, tagging, number of authorized traps, etc.). As for poaching, some 5 to 6 individuals per year are caught and prosecuted for a variety of charges.

8.4 Current compliance-related issues

As mentioned earlier, the landing of undersized lobster and berried females are the principal items of concern regarding the commercial fishery for C&P. The industry also asks C&P to ensure compliance of such measures as the prohibition to haul the traps the day they are set and more than once per day thereafter during the season. Poaching also continues to be a concern and operations to control its intensity are a priority.

8.5 Compliance strategy

Dockside and at-sea monitoring will be more targeted by taking into account the complaints received and the fish harvesters' records. Meetings are planned with fish harvesters entering the fishery to go over with them the important points of the regulation and licence conditions. A Poaching Alert awareness-raising campaign will be conducted in 2010. The campaign will seek to raise public awareness and have people take responsibility regarding the impact of poaching on marine resources, including lobster, and ultimately, to encourage them to report illegal activities. Priority will be given to cases of alleged poaching recognized as being serious.

9 PERFORMANCE REVIEW

This section of the Integrated Fisheries Management Plan (IFMP) defines the indicators that will serve to assess progress in reaching the objectives identified in Section 5. It proposes a list of qualitative and quantitative indicators that will be updated annually to take into account the evolution of work underway. They will first be reviewed by Fisheries and Oceans Canada (DFO) in November or December, and then by the Advisory Committee at a meeting held the following winter. The annual update of these indicators is provided in Appendix 8.

Objective	Result indicators
Stock productivity	Work and initiatives connected to the precautionary approach for the Area 22 lobster stock that has been accomplished.
	Number of traps authorized for each year of the plan.
	Work and initiatives connected to improvements in the size structure that have been accomplished.
Importance of lobster for the Magdalen Islands community	Stability in the number of lobster fishing enterprises in Area 22: 325.
	Impact of new initiatives associated with lobster fishery management on the operating costs of lobster harvesters.
Monitoring commercial fishing activities and controlling poaching	Number of dockside and at-sea verifications during the current year and compared to preceding years.
	Percentage of fisher officer hours allocated to lobster during the current year and compared to preceding years.
	Degree of compliance with legislation and management measures (number of offences in relation to verifications).
	Number of offences connected to lobster poaching for the current year and compared to preceding years.
	Number of complaints received for the current year and compared to preceding years.
	Number of information meetings at schools (% of the targeted clientele that was in fact met).
	Percentage of lobster harvesters met by fishery officers during the current year.
Market access	Advancement of work connected to traceability, eco-certification or other marketing strategies.
	Work accomplished by DFO in response to industry demand.

Objective	Result indicators
Habitat and ecosystems	Advancement of work being done on inshore fishery bycatches to identify lobster fishery and lobster bycatch in the other inshore fisheries.
	Advancement of work on the impact of lobster traps lost at sea.
	Advancement of work on regulatory amendments in order to offer fish harvesters a third option in terms of the mandatory escape panels on lobster traps.
	Number of lobster harvesters per year that have equipped their traps with escape panels.

APPENDIX 1: LANDINGS AND VALUES – 1875 TO 2012

LOBSTER AREA 22
LANDINGS AND VALUE PER YEAR

Year	Quantity (t)	Value (M$)	Year	Quantity (t)	Value (M$)
1875	9	N/A	**1911**	375	N/A
1876	57	N/A	**1912**	1640	N/A
1877	126	N/A	**1913**	1454	N/A
1878	177	N/A	**1914**	836	N/A
1879	171	N/A	**1915**	838	N/A
1880	103	N/A	**1916**	1025	N/A
1881	215	N/A	**1917**	892	N/A
1882	216	N/A	**1918**	846	N/A
1883	213	N/A	**1919**	1273	N/A
1884	236	N/A	**1920**	1502	N/A
1885	268	N/A	**1921**	1105	N/A
1886	231	N/A	**1922**	1191	N/A
1887	208	N/A	**1923**	1360	N/A
1888	117	N/A	**1924**	799	N/A
1889	149	N/A	**1925**	934	N/A
1890	155	N/A	**1926**	1151	N/A
1891	177	N/A	**1927**	928	N/A
1892	252	N/A	**1928**	1008	N/A
1893	292	N/A	**1929**	1023	N/A
1894	302	N/A	**1930**	1117	N/A
1895	281	N/A	**1931**	918	N/A
1896	339	N/A	**1932**	1247	N/A
1897	319	N/A	**1933**	1215	0.18
1898	278	N/A	**1934**	1376	0.27
1899	290	N/A	**1935**	985	0.22
1900	270	N/A	**1936**	893	0.25
1901	204	N/A	**1937**	785	0.17
1902	195	N/A	**1938**	779	0.11
1903	302	N/A	**1939**	776	0.13
1904	267	N/A	**1940**	786	0.12
1905	402	N/A	**1941**	795	0.14
1906	248	N/A	**1942**	717	0.18
1907	267	N/A	**1943**	757	0.33
1908	233	N/A	**1944**	1026	0.43
1909	311	N/A	**1945**	1087	0.60
1910	N/D	N/A	**1946**	1043	0.69

Year	Quantity (t)	Value (M$)	Year	Quantity	Value (M$)
1947	910	0.34	**1983**	1208	5.86
1948	1130	0.55	**1984**	1193	5.92
1949	839	0.40	**1985**	1458	7.71
1950	906	0.44	**1986**	1581	9.41
1951	971	0.50	**1987**	1885	13.10
1952	973	0.51	**1988**	1807	12.75
1953	1097	0.82	**1989**	2417	13.85
1954	1127	0.68	**1990**	2392	9.07
1955	1155	0.69	**1991**	2657	13.59
1956	1462	0.93	**1992**	2818	19.60
1957	1153	0.77	**1993**	2605	17.80
1958	1073	0.73	**1994**	2051	17.00
1959	1251	0.92	**1995**	2189	22.54
1960	1446	1.06	**1996**	2247	21.75
1961	1405	1.02	**1997**	1922	19.90
1962	1768	1.30	**1998**	1904	17.74
1963	1608	1.41	**1999**	1883	21.10
1964	1254	1.38	**2000**	2024	24.50
1965	1289	1.56	**2001**	2176	27.66
1966	1488	1.67	**2002**	2024	28.67
1967	1284	1.64	**2003**	2087	27.66
1968	1059	1.40	**2004**	2371	31.40
1969	883	1.30	**2005**	2335	32.78
1970	951	1.72	**2006**	2340	29.71
1971	900	1.60	**2007**	2371	31.88
1972	785	1.90	**2008**	2487	28.27
1973	909	2.46	**2009**	2565	22.88
1974	882	2.43	**2010**	3033	25.80
1975	975	2.58	**2011**	2644	27.26
1976	998	2.93	**2012**	2668	28.06
1977	1080	3.80			
1978	1111	4.83			
1979	1216	5.20			
1980	1022	3.83			
1981	1227	5.00			
1982	1195	5.27			

APPENDIX 2: LOBSTER MANAGEMENT TIMELINE FOR AREA 22

1870: Prohibition on landing berried females.
1953: Minimum legal size set at 2½ inches.
1957: Minimum legal size set at 3 inches.
During the 1960s: Fish harvesters required to hold a licence to fish for lobster.
During the 1960s: Number of traps limited (300).
1973: Maximum number of licences set (325).
1985: Trap tagging becomes mandatory (each trap must bear a valid tag issued by the Department of Fisheries and Oceans Canada).
1991: Lobster harvesters are recommended to install escape vents on their traps to allow small lobster to get out.
1992: Escape vents become mandatory (43 mm).
1995: An equivalence factor is introduced to allow fish harvesters to use 210 "large traps" or 300 "small traps". The maximum dimensions of large traps are set at 125 cm long by 90 cm wide and 50 cm high. For "small traps", the maximum dimensions are 81 cm long by 61 cm wide and 50 cm high.
1995: Prohibition on fishing in the Grande-Entrée channel.
1996: Prohibition on Sunday fishing, to make official the voluntary measure already in place for some years in response to industry recommendations.
1997: Prohibition on using "large traps", all fish harvesters now use traps measuring 81 cm long by 61 cm wide and 50 cm high.
1997 to 2003: Minimum legal size increases by one millimeter per year until it reaches 83 mm, thus doubling egg production per female.
1999: Prohibition on equipping traps with pieces of rope or line to prevent the capture of very large lobster; this measure aims to leave large broodstock in the water.
2003: Minimum size of escape vents is increased to 47 mm (to correspond to the minimum legal size of lobster which was increased annually for 7 years).
2006 to 2010: Number of traps is reduced by three traps per year (15 traps in all).
2006: Minimum number of traps per trawl is set at 7 traps; maximum distance between traps is set at 8 fathoms; maximum length of a single trawl of traps is set at 56 fathoms.
2007: Prohibition on fishing before 5:00 h in the morning and after 19:30 h in the evening.
2007: Prohibition on hauling lobster traps more than once per day.
2011 to 2014: Planned reduction of an additional three traps per year (12 additional traps, a total reduction of 27 traps per fish harvester).
2013: mandatory escape panels with a third option by conditions of licence.
Beginning in 2016: Introduction of a different maximum height for square traps so that their volume is equivalent to that of hemicylindrical traps (81 cm long by 61 cm wide and 42 cm high).

APPENDIX 3: NOTICE TO FISHERS

Fisheries and Oceans Canada
Quebec Region

Notice to fishers

2010 MANAGEMENT MEASURES
FOR LOBSTER FISHING AREA 22

Magdalen Islands, April 27, 2010 – The Department of Fisheries and Oceans today announced the 2010 management measures for Lobster fishing area 22

1. **Context**
   Lobster fishing area 22 involves 325 commercial fishers. In 2009, more than 5.6 million pounds of lobster was sold by the Magdalen Islands fish harvesters. This represents an increase of around 12% over the average for the past 7 years. The value of the fishery was 22.8 million dollars, a 20% decrease compared to 2008 where the final value was 28.5 million dollars. It constitutes the most important coastal fishery of the Magdalen Islands.

   At their meeting held February 23, 2010, the Lobster Advisory Committee recommendation to DFO was to continue the implementation of the management measures identified in the management plan for 2006-2010. The additional measures implemented in 2007 with regards to the fishing schedule and the ban on hauling lobster traps more than once per day also remain in place for 2010.

2. **Biology**
   The main recommendations from the area 22 lobster stock assessment for 2006-2008 remain in effect and are as follows:

   "In spite of the past efforts and of the positive signs observed, improvements in the size structure seem to be required. This would help to reduce the fishery's dependence on the annual recruitment and would allow increasing the percentage of multiparous females in the population and ensuring their reproduction success while keeping an adequate sex ratio, all of this in conformity with the FRCC recommendations (2007). It is thus important to pursue the ***reduction of the fishing effort*** *program started in 2006. On a longer-term perspective, it will be necessary to define biological reference points for the development of a* ***precautionary approach*** *in this fishery".*

3. **Lobster data**
   DFO would like to remind the importance of keeping a network of index fishers in area 22, in order to ensure that the biologists in charge of the stock assessment have access to the required data. Any fisher interested to participate in the index fishers program may contact Ms. Louise Gendron at 418 775-0618.

Canada

4. Soaking of traps

In order to protect the resource and to reduce the impact on the eel grass, rules are in place with regards to the soaking of traps. Fisheries and Oceans Canada will keep authorising the soaking of completed traps from March 15 to May 1st in tidal waters less than 3 feet deep only, outside any dock, fishing harbour or marina.

This directive does not engage any other authority that may be concerned by the soaking of lobster traps.

5. Fishing season

Unless otherwise stated, the fishery will open May 3, 2010, under the following conditions:

- authorisation to set traps on Saturday, May 1st, at 5:00 h;
- no fishing authorised on the day the traps are set;
- no fishing authorised on Sundays, for the whole duration of the fishing season.

In order to encourage the safest possible setting of traps for all lobstermen, a protocol is put in place to postpone the setting of traps when winds are 25 knots or more. The description of the procedure that will be followed by DFO is appended.

6. Fishing schedule

Fishers are authorised to haul their traps during the period comprised between 5:00 h and 21:30 h, with exception for the last two (2) days of the fishing season (the last Friday and the last Saturday) where the fishing schedule will not apply.

Moreover, fishers are not authorised to haul their traps more than once per day.

If, for exceptional reasons beyond his or her control, a fisher is unable to respect the fishing schedule in effect, he or she must contact a DFO Fishery Officer in order to obtain authorisation to deviate from the established schedule.

7. Minimum catch size

The minimum size is 83 mm. DFO reminds fishers that 83 mm is more than 3¼″ and that they must make sure to meet this requirement.

8. Fishing gear

a) Number of traps:

For the 2010 season, 285 traps with maximum outside dimensions not exceeding 81 cm in length, 61 cm in width and 50 cm in height, for all types of traps.

Moreover, as announced last year, starting in 2016, **square traps** shall meet the following maximum outside dimensions:

81 cm in length;
61 cm in width;
42 cm in height.

b) Trap lines (trawl):
Minimum 7 traps per line.
Maximum 8 fathoms between each trap.
Maximum 56 fathoms from the first to the last trap, no matter the number of traps per line.

c) Escape mechanisms:
47 mm in height by 127 mm in length for rectangular escape vents or 60 mm in diameter for circular escape vents.

d) Buoy Identification:
Fishers are responsible for ensuring that their commercial fishing vessel registration number (VRN) appears on their buoys at all times. Trap lines that carry buoys that are not marked with a VRN are at risk of being hauled by Fishery Officers for purposes of verification.

9. Self-management of replacement tags

During the day the traps are set, untagged traps are not allowed aboard the fishing vessel.

In addition to the 285 tags initially issued, each fisher will receive 10 replacement tags that he or she will manage himself or herself. The procedures to follow are explained to fishers when they receive their license conditions.

DFO reminds fishers of the importance of returning broken tags that they have on hand, because when these tags are returned to DFO, they are not calculated in the total number of traps lost by a fisher. Therefore, by bringing back these tags, a fisher can avoid having to change his entire series during the season.

10. Allowable catches

Competitive fishery.

11. Incidental catches

In accordance with the *Atlantic Fishery Regulations*, lobster fishers are not authorised to keep any groundfish species by-catch.

12. Simultaneous fisheries

The following fisheries are not authorized at the same time as the lobster fishery (a fisher who holds licenses for species caught with traps):
Lobster and whelk;
Lobster and rock crab;
Lobster and toad crab.

Moreover, at their request, lobstermen cannot fish simultaneously lobster and flounder using a special bait fishing authorisation.

13. Surveillance

Fishery Officers require the collaboration of fishers to ensure adequate surveillance of the lobster, a resource that is of capital importance to the Magdalen Islands economy.

DFO encourages fishers to report illegal acts by contacting a Fishery Officer at 418 986-2095 or Poaching Alert at 1 800 463-9057, it's confidential.

14. Species at Risk Act (SARA)

At the time this Management plan is promulgated, the Atlantic species listed are the following ones: Spotted wolffish, Northern wolffish, Leatherback turtle and Atlantic Walrus. Other species could be added within the year. All by-catches of species identified above must be returned to the water and released in the exact capture location. Moreover, fishermen shall inform DFO of their by-catches by filling out the SARA logbook.

FOR ADDITIONAL INFORMATION

Christian Houle
Area Director
Fisheries and Oceans Canada
Magdalen Islands Area
418 986-2095

Sylvette Leblanc
Area Chief, Resource Management and Aquaculture
Fisheries and Oceans Canada
Magdalen Islands Area
418 986-2095

Jean Richard, Area chief
Conservation and Protection
Fisheries and Oceans Canada
Magdalen Islands Area
418 986-2095

Fisheries and Oceans Canada
Quebec Region

Notice to fishers

2011 MANAGEMENT MEASURES
FOR LOBSTER FISHING AREA 22

Magdalen Islands, March 25, 2011 – The Department of Fisheries and Oceans announced today the 2011 management measures for Lobster fishing area 22

1. **Context**
   Lobster fishing area 22 involves 325 commercial fish harvesters. In 2010, more than 6.6 million pounds of lobster were sold by the Magdalen Islands fish harvesters. This represents an increase of around 28% over the average for the past 7 years. The value of the fishery was 25.8 million dollars, a 13% increase compared to 2009 where the final value was 22.8 million dollars. It constitutes the most important coastal fishery of the Magdalen Islands.

   The Area 22 Lobster Advisory Committee met on February 16, 2011 and made its recommendations to DFO.

2. **Biology**
   The main recommendations from the area 22 lobster stock assessment for 2006-2008 remain in effect for 2011 and are as follows:

   "In spite of the past efforts and of the positive signs observed, improvements in the size structure seem to be required. This would help to reduce the fishery's dependence on the annual recruitment and would allow increasing the percentage of multiparous females in the population and ensuring their reproduction success while keeping an adequate sex ratio, all of this in conformity with the FRCC recommendations (2007). It is thus important to pursue the ***reduction of the fishing effort*** *program started in 2006. On a longer-term perspective, it will be necessary to define biological reference points for the development of a* ***precautionary approach*** *in this fishery".*

   The next scientific advice of lobster populations in area 22 is scheduled for the winter of 2012.

3. **Lobster data**
   A pilot-project for the implementation of an electronic logbook will start gradually during the 2011 fishing season. This project is part of the area 22 lobster sustainability plan submitted to DFO by the APPIM in April 2010.

   In addition, starting in 2011 and in collaboration with the industry, DFO will begin some work aiming at documenting the lobstermen incidental catches.

Gouvernement du Canada Government of Canada

Canada

4. Soaking of traps

In order to protect the resource and to reduce the impact on the eel grass, rules are in place with regards to the soaking of traps. Fisheries and Oceans Canada will keep authorising the soaking of completed traps from March 15 to May 1st in tidal waters less than 3 feet deep only, outside any dock, fishing harbour or marina.

This directive does not engage any other authority that may be concerned by the soaking of lobster traps.

5. Fishing season

The fishery will open April 30, 2011, under the following conditions:

- authorisation to set traps on Saturday, April 30, at 5:00 h;
- no fishing authorised on the day the traps are set;
- no fishing authorised on Sundays, for the whole duration of the fishing season.

In order to encourage the safest possible setting of traps for all lobster fish harvesters, a protocol is put in place to postpone the setting of traps when winds are 25 knots or more. The description of the procedure that will be followed by DFO is appended.

6. Fishing schedule

Fish harvesters are authorised to haul their traps during the period comprised between 5:00 h and 21:30 h, with exception for the last two (2) days of the fishing season (the last Friday and the last Saturday) where the fishing schedule will not apply.

Moreover, fish harvesters are not authorised to haul their traps more than once per day.

If, for a major reason and beyond his or her control, a fish harvester is unable to respect the fishing schedule in effect, he or she must contact a DFO Fishery Officer in order to obtain authorisation to deviate from the established schedule.

7. Minimum catch size

The minimum size is 83 mm. DFO reminds fish harvesters that 83 mm is more than 3¼″ and that they must make sure to meet this requirement.

8. Fishing gear

a) Number of traps and dimensions :

For the 2011 season, 282 traps with maximum outside dimensions not exceeding 81 cm in length, 61 cm in width and 50 cm in height, for all types of traps.

As announced in 2009, **square traps** shall meet the following maximum outside dimensions, starting in 2016:

81 cm in length;
61 cm in width;
42 cm in height.

b) Trap lines (trawl):
Minimum 7 traps per line.
Maximum 8 fathoms between each trap.
Maximum 56 fathoms from the first to the last trap, no matter the number of traps per line.

c) Escape mechanisms:
47 mm in height by 127 mm in length for rectangular escape vents or 60 mm in diameter for circular escape vents.

d) Escape panel:
Starting in 2013 and as stated in the letter sent to all lobster fish harvesters in June 2010, all lobster traps shall be mandatorily fitted with an escape panel as per current regulations.

e) Buoy Identification:
Fish harvesters are responsible for ensuring that their commercial fishing vessel registration number (VRN) appears on their buoys at all times. Trap lines that carry buoys that are not marked with a VRN are at risk of being hauled by Fishery Officers for purposes of verification.

9. Replacement tags

During the day the traps are set, untagged traps are not allowed aboard the fishing vessel.

In addition to the 282 tags initially issued, each fish harvester will receive 2 replacement tags that he or she will manage himself or herself. To obtain additional replacement tags, the fish harvester must provide the number of each tag to be replaced to the Department of Fisheries and Oceans. The procedures to follow will be explained to fish harvesters when they receive their conditions of licence.

DFO reminds fish harvesters the importance of returning broken tags that they have on hand, because when these tags are returned to DFO, they are not calculated in the total number of traps lost by a fish harvester. Therefore, by bringing back these tags, a fish harvester can avoid having to change his entire series during the season.

10. Allowable catches

Competitive fishery.

11. Incidental catches

In accordance with the *Fishery (general) Regulations*, lobster fish harvesters are

not authorised to keep any groundfish species by-catch.

12. Simultaneous fisheries

The following fisheries are not authorized at the same time as the lobster fishery:

- Lobster and whelk;
- Lobster and rock crab;
- Lobster and toad crab;
- Lobster and flounder for bait (drag, dipnets, nets or traps);
- Lobster and yellowtail flounder, winter flounder or American plaice (mobile gear).

13. Surveillance

Fishery Officers require the collaboration of fish harvesters to ensure adequate surveillance of the lobster, a resource that is of capital importance to the Magdalen Islands economy.

DFO encourages fish harvesters to report illegal acts by contacting a Fishery Officer at 418 986-2095 or Poaching Alert at 1 800 463-9057, it's confidential.

14. Species at Risk Act (SARA)

Pursuant to the Species at Risk Act (SARA), no person shall kill, harm, harass, capture, take, possess, collect, buy, sell or trade an individual or any part or derivate of a wildlife species designated as extirpated, endangered or threatened.

At the time this Management Plan is promulgated, the Atlantic species targeted by these measures are the following ones : Spotted wolffish, Northern wolffish, Leatherback Turtle and Atlantic Walrus (Northwest Atlantic population). New species could be added to the SARA within the year.

All by-catches of species identified above must be returned to the water and released in the exact capture location and, if the fish is still alive, with as little harm as possible. In addition, fish harvesters must complete the SARA logbook.

FOR ADDITIONAL INFORMATION

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Fisheries and Oceans Canada
Quebec Region

Notice to Fish Harvesters

2012 MANAGEMENT MEASURES
FOR LOBSTER FISHING AREA 22 (LFA 22)

Magdalen Islands, March 22, 2012 - The Department of Fisheries and Oceans announced today the 2012 management measures for Lobster Fishing Area 22

1. **Context**
   Lobster Fishing Area 22 consists of 325 commercial fish harvesters. In 2011, 5.9 million pounds of lobster were sold by Magdalen Islands fish harvesters. This represents an increase of about 6% over the average for the past seven years. The value of the fishery was $26.6 million, a 10% increase compared to 2010 (preliminary data excluding season-end refunds).

   A 2010–2014 Integrated Fishery Management Plan (IFMP) is in place in LFA 22 and available at http://www.qc.dfo-mpo.gc.ca/publications/documents /PGIP_Homard_22_2010 2014_101221_EN.pdf.

   The Area 22 Lobster Advisory Committee met on February 22, 2012 and shared its recommendations for the 2012 fishing season with DFO.

2. **Stock status report**
   The last review of the stock assessment held in February 2012 concluded, based on the high abundance and productivity, that the Magdalen Islands lobster stock was in good shape. It was also mentioned that in the present environmental conditions, the present exploitation levels did not compromise its viability. A precautionary approach (PA) is presently being developed for the Islands' lobster stock and reference points were set to define the three zones of the stock status (healthy, cautious and critical zones). In 2011, according to the PA, it is considered that the Islands' lobster stock is in the healthy zone.

   The results of the LFA 22 lobster stock assessment, based on data from the 2009 to 2011 seasons, will soon be available at the following electronic address: http://www.meds-sdmm.dfo-mpo.gc.ca/csas-sccs/applications/publications/result-eng.asp?params=0&series=7&year=2012.

   This scientific advice will be in effect for the 2012 to 2014 fishing seasons inclusive.

3. **Precautionary approach**
   The precautionary approach developed in 2011, in collaboration with the *Association des pêcheurs propriétaires des Îles-de-la-Madeleine* (APPIM), will be in effect as of the 2012 season and can be summed up as follows:

   - As long as landings are above the upper reference point set at 4 million pounds, the stock is in the healthy zone and no additional action is required.
   - If landings are between the upper reference point and the lower reference point (between 4 million and 2 million pounds), the stock is in the cautious zone and successive and additive actions according to a predetermined schedule are required (escapement and effort control measures).
   - If landings are under the limit reference point (less than 2 million pounds), the stock is in the

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critical zone and partial fishery closure and recovery measures identification should follow.

The decision rules' details will be available in the amended version of the IFMP.

4. Lobster data

A pilot project to implement an electronic logbook began in 2011 under the Area 22 lobster sustainability plan submitted by APPIM to DFO in April 2010. The project will continue in 2012 on a voluntary basis.

Moreover, in 2011, in collaboration with the industry, DFO conducted at-sea sampling to document lobster fish harvesters' incidental catches. The results, to be published over the course of this year, state that in all, lobster fish harvesters caught under 100 t, which represents very small values.

The report on incidental catches will soon be available at the following electronic address: http://www.meds-sdmm.dfo-mpo.gc.ca/csas-sccs/applications/publications/result-eng.asp?params=0&series=7&year=2012

5. Soaking of traps

In order to protect the resource and to reduce the impact on the eel grass, rules are in place with regard to the soaking of traps. DFO will keep authorizing the soaking of completed traps from March 15 to May 1 in tidal waters less than three feet deep only and outside any dock, fishing harbour or marina.

This directive does not engage any other authority that may be concerned by the soaking of lobster traps.

6. Fishing season

Subject to the rules in effect until 2012 inclusive, the fishery will open on Saturday, May 5 at 5:00 h with the setting of traps. The hauling of traps will begin on Monday, May 7. Fishing remains unauthorised on the day the traps are set, as well as on Sundays all season long.

To encourage the safest possible setting of traps for all lobster fish harvesters, a protocol is in place to postpone the setting of traps when winds are 25 knots or more.

Lastly, the Advisory Committee will meet in the fall of 2012 to share its recommendations with DFO regarding rules for setting opening dates from 2013 onward.

7. Fishing schedule

Fish harvesters are authorized to haul their traps during the period comprised between 5:00 h and 21:30 h, with the exception of the last two days of the season (the last Friday and the last Saturday), when the fishing schedule will not apply.

Moreover, fish harvesters are not authorized to haul their traps more than once per day.

If, for exceptional reasons beyond his or her control, a fish harvester is unable to respect the fishing schedule in effect, he or she must contact a DFO Fishery Officer to obtain authorization to deviate from the established schedule for that day.

8. Minimum catch size

The minimum size is 83 mm.

9. Fishing gear

a) Number and dimensions of traps
For the 2012 season, 279 traps with maximum outside dimensions not exceeding 81 cm in length, 61 cm in width and 50 cm in height for all types of traps.

As announced in 2009, **square traps** shall meet the following maximum outside dimensions starting in 2016:
81 cm in length;
61 cm in width;
42 cm in height.

b) Trap lines (trawl)
Minimum 7 traps per line.
Maximum 8 fathoms between each trap.
Maximum 56 fathoms from the first to the last trap, no matter the number of traps per line.

c) Escape mechanisms
47 mm in height by 127 mm in length for rectangular escape vents or 60 mm in diameter for circular escape vents.

d) Exit panels
As of 2013, all lobster traps must be equipped with exit panels. For more information on mechanisms that will be accepted by DFO, please contact a DFO Fishery Officer.

e) Buoy identification
Fish harvesters are responsible for ensuring that their commercial fishing vessel registration number (VRN) appears on their buoys at all times. Trap lines that carry buoys that are not marked with a VRN are at risk of being hauled by Fishery Officers for purposes of verification.

10. Replacement tags

During the day the traps are set, untagged traps are not allowed aboard the fishing vessel. Afterwards, two untagged traps are allowed on board; they must be tagged only when they are used.

In addition to the 279 traps initially issued, each fish harvester will receive 10 replacement tags that he or she will manage himself or herself. Fish harvesters must inform DFO each time they use a replacement tag. The procedures to follow were sent to all lobster fish harvesters and explained to them by Fishery Officers at meetings held in the winter of 2012.

11. Allowable catches

Effort-based management.

12. Incidental catches

Under the *Fishery (General) Regulations*, lobster fish harvesters are not authorized to keep any groundfish species caught incidentally.

13. Simultaneous fisheries

The following fisheries are not authorized at the same time as the lobster fishery:

- Lobster and whelk;
- Lobster and rock crab;

- Lobster and toad crab;
- Lobster and flounder for bait (dredge, dip nets, nets or traps);
- Lobster and Yellowtail Flounder, Winter Founder or American Plaice (mobile or fixed gear).

14. Surveillance

Fishery Officers require the collaboration of fish harvesters to ensure adequate surveillance of the lobster, a resource that is of capital importance to the Magdalen Islands economy.

DFO encourages fish harvesters to report illegal acts by contacting a Fishery Officer at 418-986-2095 or Poaching Alert at 1-800-463-9057. The call is confidential.

15. Species at Risk Act (SARA)

As indicated in Section 73 of the *Species At Risk Act*, the following species must be returned to the water immediately and, when the fish is alive, in a manner that causes it the least harm: Spotted wolffish, Northern wolffish, Leatherback Turtle and Striped Bass (St. Lawrence Estuary population).

FOR ADDITIONAL INFORMATION

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Notice to Fish Harvesters

2013 MANAGEMENT MEASURES
FOR LOBSTER FISHING AREA 22 (LFA 22)

Magdalen Islands, March 11, 2013 - The Department of Fisheries and Oceans announced today the 2013 management measures for Lobster Fishing Area 22

1. **Context**
   Lobster Fishing Area 22 consists of 325 commercial fish harvesters. In 2012, 5.8 million pounds of lobster were sold by Magdalen Islands fish harvesters. This represents an increase of about 5% over the average for the past seven years. The value of the fishery was $28.1 million, a 3% increase compared to 2011.

   A 2010–2014 Integrated Fishery Management Plan (IFMP) is in place in area 22 and available at http://www.qc.dfo-mpo.gc.ca/publications/documents/PGIP_Homard_22_2010-2014_101221_EN.pdf

   The Area 22 Lobster Advisory Committee met on February 12, 2013 and shared its recommendations for the 2013 fishing season with DFO.

2. **Stock status report**
   The last review of the stock assessment held in February 2012 concluded, based on the high abundance and productivity, that the Magdalen Islands lobster stock was in good shape. It was also mentioned that in the present environmental conditions, the present exploitation levels did not compromise its viability. A precautionary approach (PA) has been developed for the Islands' lobster stock and reference points were set to define the three zones of the stock status (healthy, cautious and critical zones). According to the Scientific advice in 2011 and the PA, it is considered that the Islands' lobster stock is in the healthy zone.

   The results of the LFA 22 lobster stock assessment, based on the data from the 2009 to 2011 seasons, are available at the following electronic address: http://www.meds-sdmm.dfo-mpo.gc.ca/csas-sccs/applications/publications/result-eng.asp?params=0&series=7&year=2012.

   This scientific advice is in effect for the 2012 to 2014 fishing seasons inclusive.

3. **Precautionary approach**
   The precautionary approach developed in 2011, in collaboration with the *Association des pêcheurs propriétaires des Îles-de-la-Madeleine* (APPIM), is in effect since the 2012 season and can be summed up as follows:

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- As long as landings are above the upper reference point set at 4 million pounds, the stock is in the healthy zone and no additional action is required.
- If landings are between the upper reference point and the lower reference point (between 4 million and 2 million pounds), the stock is in the cautious zone and successive and additive actions according to a predetermined schedule are required (escapement and effort control measures).
- If landings are under the limit reference point (less than 2 million pounds), the stock is in the critical zone and partial fishery closure and recovery measures identification should follow.

4. Soaking of traps

In order to protect the resource and to reduce the impact on the eel grass, rules are in place with regard to the soaking of traps. DFO will keep authorizing the soaking of completed traps from March 15 to May 1 in tidal waters less than three feet deep only and outside any dock, fishing harbour or marina.

This directive does not engage any other authority that may be concerned by the soaking of lobster traps.

5. Fishing season

DFO is currently conducting a survey of lobster fish harvesters in area 22 in order to verify their interest to advance the opening date of the fishery by maximum one week, when there is no ice and that the harbours are considered as safe (dredging). Three options are currently submitted to the fish harvesters:

• First hauling on the Monday nearest to May 6
• Setting traps on the last Saturday of April
• First hauling on the Monday nearest to May 1

The results will be compiled during the month of March and the opening date will be confirmed as soon as possible.

Fishing remains unauthorised on the day the traps are set, as well as on Sundays all season long.

To encourage the safest possible setting of traps for all lobster fish harvesters, a protocol is in place to postpone the setting of traps when winds are 25 knots or more.

6. Fishing schedule

Fish harvesters are authorized to haul their traps during the period comprised between 5:00 h and 21:30 h, with the exception of the last two days of the season (the last Friday and the last Saturday), when the fishing schedule does not apply.

Moreover, fish harvesters are not authorized to haul their traps more than once per day.

If, for exceptional reasons beyond his or her control, a fish harvester is unable to respect the fishing schedule in effect, he or she must contact a DFO Fishery Officer to obtain authorization to deviate from the established schedule for that day.

7. Minimum catch size

The minimum size is 83 mm.

8. Fishing gear

a) Number and dimensions of traps

For the 2013 season, 276 traps with maximum outside dimensions not exceeding
cm in length, 61 cm in width and 50 cm in height for all types of traps.

As announced in 2009, **square traps** shall meet the following maximum outsi
dimensions starting in 2016:
81 cm in length;
61 cm in width;
42 cm in height.

b) Trap lines (trawl)

Minimum 7 traps per line.
Maximum 8 fathoms between each trap.
Maximum 56 fathoms from the first to the last trap, no matter the number of tra
per line.

c) Escape mechanisms

47 mm in height by 127 mm in length for rectangular escape vents or 60 mm
diameter for circular escape vents.

d) Exit panels

As of 2013, all lobster traps must be equipped with exit panels. For mo
information on the mechanisms that are acceptable, please contact your local DF
office.

e) Buoy identification

Fish harvesters are responsible for ensuring that their commercial fishing vess
registration number (VRN) appears on their buoys at all times. Trap lines that car
buoys that are not marked with a VRN are at risk of being hauled by Fishe
Officers for purposes of verification.

9. Replacement tags

It is prohibited to have on board a fishing vessel an untagged trap. Fish harvesters a
authorised to keep on board the vessel two replacement traps, as long as they bear a tag

10. Incidental catches

Under the *Fishery (General) Regulations*, lobster fish harvesters are not authorized
keep any groundfish species caught incidentally.

11. Simultaneous fisheries

The following fisheries are not authorized at the same time as the lobster fishery:

- Lobster and whelk;
- Lobster and rock crab;
- Lobster and toad crab;

- Lobster and flounder.

12. Surveillance

Fishery Officers require the collaboration of fish harvesters to ensure adequate surveillance of the lobster, a resource that is of capital importance to the Magdalen Islands economy.

DFO encourages fish harvesters to report illegal acts by contacting a Fishery Officer at 418-986-2095 or Poaching Alert at 1-800-463-9057. The call is confidential.

***13.* Species at Risk Act (SARA)**

As indicated in Section 73 of the *Species At Risk Act*, the following species must be returned to the water immediately and, when the fish is alive, in a manner that causes it the least harm: Spotted wolffish, Northern wolffish, Leatherback Turtle and Striped Bass (St. Lawrence Estuary population).

FOR ADDITIONAL INFORMATION

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APPENDIX 4: CONDITIONS OF LICENCE

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LICENCE CONDITIONS 2010

LOBSTER – AREA 22
ILES-DE-LA-MADELEINE

Under subsection 22(1) of the *Fishery (General) Regulations*, the following conditions apply:

1. IDENTIFICATION

HOLDER: «NOM_INTERVE» **FIN:** «NIP_INTERVE»

NAME OF VESSEL: «NOM_NBPC» **VRN:** «NBPC»

2. TRAP

The trap that it is permitted to use shall:

(1) Meet the following dimensions:
81 cm maximum in length; 61 cm maximum in width; and 50 cm maximum in height.

(2) Not have any piece of rope or line that is fastened to the trap, anywhere outside or inside the trap.

3. ESCAPE VENT

You are prohibited from using for fishing purposes or having on board a vessel any lobster trap that is not equipped with a circular or rectangular escape mechanism as described below.

CIRCULAR VENT	RECTANGULAR VENT
In at least one of the outer walls of each parlour, the top of the openings is at most 102 mm from the floor of the trap. Two unobstructed circular openings of a diameter no less than 60 mm.	In at least one of the outer walls of each parlour, the top of the opening is at most 102 mm from the floor of the trap. One unobstructed rectangular opening no less than 127 mm in length and no less than 47 mm in height.

4. TRAWLS

(1) Each trawl must count at least (minimum) 7 traps.

(2) The maximum distance authorised between each trap of a same trawl is 8 fathoms.

(3) The maximum length for each trawl, between the first and the last trap, is 56 fathoms.

5. SIMULTANEOUS FISHERIES

Pursuant to the present conditions, you are not authorised to fish simultaneously lobster and one or more of the following species during a same fishing trip: (1) whelk; (2) rock crab, (3) toad crab (hyas species) and (4) flatfish pursuant to a special authorisation for bait purposes (dragnet, dipnet or trap) or fishing licence conditions to fish winter flounder with a maximum of 5 gillnets and/or 20 dipnets.

6. HAULING OF TRAPS

(1) You are not authorised to haul your traps from sea during the period between 05:00 h and midnight on the lobster fishing opening day.

(2) You are not authorised to haul your traps from sea more than once per day.

7. FISHING TIMETABLE

(1) With exception for the last two days prior to the closure of the area 22 lobster fishing (the last Friday and the last Saturday), you are not authorised to haul your traps from sea during the period between 21:30 h and 5:00 h, from Monday to Saturday inclusively.

(2) For the entire duration of the fishing season, you are not authorised to remove lobster from your traps or to bait traps already set on Sundays, between 00:01 h and midnight.

HOLDER : «NOM_INTERVE» **FIN:** «NIP_INTERVE»

8 RESTRICTION / GRANDE-ENTRÉE CHANNEL

Lobster fishing is prohibited at all times in the sector of the Grande-Entrée channel located north of a line between the following points in the order listed:

47°32'46.0" N	61°33'37.8" W
47°32'37.8" N	61°34'13.2" W
47°33'30.0" N	61°35'30.0" W

9. RESTRICTION / AQUACULTURE SITES

Lobster fishing is prohibited at all times in the aquaculture sites demarcated by the straight lines joining the following points in the order listed:

Sites situated front of House Harbour		Site situated West of the "Newhall"	
47°22'10.32" N	61°45'14.28" W	47°24'42" N	61°34'00" W
47°21'52.62" N	61°43'54.66" W	47°24'42" N	61°32'30" W
47°21'11.22" N	61°44'16.44" W	47°22'48" N	61°32'30" W
47°21'29.22" N	61°45'35.70" W	47°22'48" N	61°34'00" W
47°22'10.32" N	61°45'14.28" W	47°24'42" N	61°34'00" W

10. RESTRICTION / ARTIFICIAL REEFS

Lobster fishing is prohibited at all times in the two artificial reefs sites located front of "*les Demoiselles*" and demarcated by the straight lines joining the following points in the order listed:

Site 1		Site 2	
47°15'16.68" N	61°51'14.04" W	47°15'24.54" N	61°50'31.62" W
47°15'13.62" N	61°51'08.52" W	47°15'21.42" N	61°50'26.16" W
47°15'10.62" N	61°51'12.18" W	47°15'18.42" N	61°50'29.76" W
47°15'13.68" N	61°51'17.64" W	47°15'21.54" N	61°50'35.28" W

11. REPLACEMENT TAGS

(1) When using any of the replacement tags that were issued to you by DFO, you shall immediately fill out the Tag Replacement Control Document.

(2) The Tag Replacement Control Document, the replacement tags, and the cancelled tags (except for the tags lost at sea with traps) shall be on board your fishing vessel at all times and available upon request from a Fishery officer.

12. TAG REPLACEMENT CONTROL DOCUMENT

Replacement tag no.	Cancelled tag no. (if available)	Date the new tag is used	Captain's signature

HOLDER : **«NOM_INTERVE»** **FIN:** **«NIP_INTERVE»**

Replacement tag no.	Cancelled tag no. (if available)	Date the new tag is used	Captain's signature

IF YOU NEED ANY MORE REPLACEMENT TAGS, YOU SHALL CONTACT YOUR DFO LOCAL OFFICE AT 418 986-2150.

Signature of licence holder / Date
«NOM_INTERVE»

Signature of authorized DFO Officer / Date

THESE CONDITIONS CANCEL AND REPLACE THOSE ISSUED PREVIOUSLY FOR THE SPECIES MENTIONED ABOVE.

THESE CONDITIONS ARE PART OF YOUR COMMERCIAL FISHING LICENCE AND MUST BE ATTACHED TO THAT LICENCE.

THE VALIDITY OF THESE CONDITIONS IS SUBJECT TO OPEN AND CLOSE TIME ORDERS AND/OR ANY VARIATION ORDERS.

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CONDITIONS OF LICENCE 2011

LOBSTER – AREA 22
ILES-DE-LA-MADELEINE

Under subsection 22(1) of the *Fishery (General) Regulations*, the following conditions apply:

1. IDENTIFICATION

HOLDER: «NOM_INTERVE» **FIN:** «NIP_INTERVE»

NAME OF VESSEL: «NOM_NBPC» **VRN:** «NBPC»

2. TRAP

The trap that it is permitted to use shall:

(1) Meet the following dimensions:
81 cm maximum in length; 61 cm maximum in width; and 50 cm maximum in height.

(2) Not have any piece of rope or line that is fastened to the trap, anywhere outside or inside the trap.

3. ESCAPE VENT

You are prohibited from using for fishing purposes or having on board a vessel any lobster trap that is not equipped with a circular or rectangular escape mechanism as described below.

CIRCULAR VENT	RECTANGULAR VENT
In at least one of the outer walls of each parlour, the top of the openings is at most 102 mm from the floor of the trap. Two unobstructed circular openings of a diameter no less than 60 mm.	In at least one of the outer walls of each parlour, the top of the opening is at most 102 mm from the floor of the trap. One unobstructed rectangular opening no less than 127 mm in length and no less than 47 mm in height.

4. TRAWLS

(1) Each trawl must count at least (minimum) 7 traps.
(2) The maximum distance authorized between each trap of a same trawl is 8 fathoms.
(3) The maximum length for each trawl, between the first and the last trap, is 56 fathoms.

5. SIMULTANEOUS FISHERIES

(1) Pursuant to the present conditions, your are not authorized to fish simultaneously lobster and one or more of the following species during a same fishing trip:
   a) whelk
   b) rock crab
   c) toad crab (hyas species)
   d) flatfish pursuant to a special authorization for bait purposes (dragnet, dipnet, gill net or trap)
   e) yellow tail flounder, winter flounder and American Plaice pursuant to a groundfish mobile gear fishing licence.

(2) For the purposes of the present, "fishing trip" means a voyage that commences at the time a fishing vessel leaves a port to engage in fishing and terminates at the time fish caught during that period are offloaded.

6. HAULING OF TRAPS

(1) You are not authorized to haul your traps from sea during the period between 05:00 h and midnight on the lobster fishing opening day.
(2) You are not authorized to haul your traps from sea more than once per day.

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«NO_COND_PERM»

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7. FISHING TIMETABLE

(1) With exception for the last two days prior to the closure of the area 22 lobster fishing (the last Friday and the last Saturday), you are not authorized to haul your traps from sea during the period between 21:30 h and 5:00 h, from Monday to Saturday inclusively.

(2) For the entire duration of the fishing season, you are not authorized to remove lobster from your traps or to bait traps already set on Sundays, between 00:01 h and midnight.

8 RESTRICTION / GRANDE-ENTRÉE CHANNEL

Lobster fishing is prohibited at all times in the sector of the Grande-Entrée channel located north of a line between the following points in the order listed:

47°32'46.0" N	61°33'37.8" W
47°32'37.8" N	61°34'13.2" W
47°33'30.0" N	61°35'30.0" W

9. RESTRICTION / AQUACULTURE SITES

Lobster fishing is prohibited at all times in the aquaculture sites demarcated by the straight lines joining the following points in the order listed:

Sites situated front of House Harbour		Site situated West of the "Newhall"	
47º22'10.32" N	61º45'14.28" W	47º24'42" N	61º34'00" W
47º21'52.62" N	61º43'54.66" W	47º24'42" N	61º32'30" W
47º21'11.22" N	61º44'16.44" W	47º22'48" N	61º32'30" W
47º21'29.22" N	61º45'35.70" W	47º22'48" N	61º34'00" W
47º22'10.32" N	61º45'14.28" W	47º24'42" N	61º34'00" W

10. RESTRICTION / ARTIFICIAL REEFS

Lobster fishing is prohibited at all times in the four artificial reefs sites located front of *"les Demoiselles"* and demarcated by the straight lines joining the following points in the order listed:

Site 1		Site 2	
47º15'16.68" N	61º51'14.04" W	47º15'24.54" N	61º50'31.62" W
47º15'13.62" N	61º51'08.52" W	47º15'21.42" N	61º50'26.16" W
47º15'10.62" N	61º51'12.18" W	47º15'18.42" N	61º50'29.76" W
47º15'13.68" N	61º51'17.64" W	47º15'21.54" N	61º50'35.28" W
Site 3		**Site 4**	
47º15'19.08" N	61º51'03.84" W	47º15'09.24" N	61º51'02.58" W
47º15'18.96" N	61º51'02.04" W	47º15'09.66" N	61º51'00.90" W
47º15'17.04" N	61º51'02.40" W	47º15'07.86" N	61º51'00.00" W
47º15'17.22" N	61º51'04.20" W	47º15'07.38" N	61º51'01.50" W

11. REPLACEMENT TAGS

To obtain more replacement tags you shall contact your DFO local office at 418-986-2150 and leave a message on the recorder indicating :

- your name
- name of your vessel
- landing port
- tag numbers to be replaced.

Signature of licence holder / Date
«**NOM_INTERVE**»

Signature of authorized DFO Officer / Date

THESE CONDITIONS CANCEL AND REPLACE THOSE ISSUED PREVIOUSLY FOR THE SPECIES MENTIONED ABOVE.

THESE CONDITIONS ARE PART OF YOUR COMMERCIAL FISHING LICENCE AND MUST BE ATTACHED TO THAT LICENCE.

THE VALIDITY OF THESE CONDITIONS IS SUBJECT TO OPEN AND CLOSE TIME ORDERS AND/OR ANY VARIATION ORDERS.

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CONDITIONS OF LICENCE 2012

LOBSTER – AREA 22
ILES-DE-LA-MADELEINE

Under subsection 22(1) of the *Fishery (General) Regulations*, the following conditions of licence apply:

1. IDENTIFICATION

HOLDER: «NOM_INTERVE» **FIN:** «NIP_INTERVE»

NAME OF VESSEL: «NOM_NBPC» **VRN:** «NBPC»

2. TRAP

The trap that it is permitted to use shall:

(1) Meet the following dimensions:
81 cm maximum in length; 61 cm maximum in width; and 50 cm maximum in height.

(2) Not have any piece of rope or line that is fastened to the trap, anywhere outside or inside the trap.

3. ESCAPE VENT

You are prohibited from using for fishing purposes or having on board a vessel any lobster trap that is not equipped with a circular or rectangular escape mechanism as described below.

CIRCULAR VENT	RECTANGULAR VENT
In at least one of the outer walls of each parlour, the top of the openings is at most 102 mm from the floor of the trap. Two unobstructed circular openings of a diameter no less than 60 mm.	In at least one of the outer walls of each parlour, the top of the opening is at most 102 mm from the floor of the trap. One unobstructed rectangular opening no less than 127 mm in length and no less than 47 mm in height.

4. TRAWLS

(1) Each trawl must count at least (minimum) 7 traps.
(2) The maximum distance authorized between each trap of a same trawl is 8 fathoms.
(3) The maximum length for each trawl, between the first and the last trap, is 56 fathoms.

5. SIMULTANEOUS FISHERIES

(1) Pursuant to the present conditions, your are not authorized to fish simultaneously lobster and one or more of the following species during a same fishing trip:
   a) whelk
   b) rock crab
   c) toad crab (hyas species)
   d) flatfish pursuant to a special authorization for bait purposes (dragnet, dipnet, gill net or trap)
   e) yellowtail flounder, winter flounder and American Plaice pursuant to a groundfish mobile or fixed gear fishing licence.

(2) For the purposes of the present, "fishing trip" means a voyage that commences at the time a fishing vessel leaves a port to engage in fishing and terminates at the time fish caught during that period is offloaded.

6. HAULING OF TRAPS

(1) You are not authorized to haul your traps from sea during the period between 05:00 h and midnight on the lobster fishing opening day.
(2) You are not authorized to haul your traps from sea more than once per day.

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7. FISHING TIMETABLE

(1) With exception for the last two days prior to the closure of the area 22 lobster fishery (the last Friday and the last Saturday), you are not authorized to haul your traps from sea during the period between 21:30 h and 5:00 h, from Monday to Saturday inclusive.
(2) For the entire duration of the fishing season, you are not authorized to remove lobster from your traps or to bait traps already set on Sundays, between 00:01 h and midnight.

8 RESTRICTION / GRANDE-ENTRÉE CHANNEL

Lobster fishing is prohibited at all times in the sector of the Grande-Entrée channel located north of a line between the following points in the order listed:

47º 32' 46.00" N	61º 33' 37.80" W
47º 32' 37.80" N	61º 34' 13.20" W
47º 33' 30.00" N	61º 35' 30.00" W

9. RESTRICTION / AQUACULTURE SITES

Lobster fishing is prohibited at all times in the aquaculture sites demarcated by the straight lines joining the following points in the order listed:

Sites situated front of House Harbour		Site situated West of the "Newhall"	
47º 22' 10.32" N	61º 45' 14.28" W	47º 24''42.00" N	61º 34' 00.00" W
47º 21' 52.62" N	61º 43' 54.66" W	47º 24' 42.00" N	61º 32' 30.00" W
47º 21' 11.22" N	61º 44' 16.44" W	47º 22' 48.00" N	61º 32' 30.00" W
47º 21' 29.22" N	61º 45' 35.70" W	47º 22' 48.00" N	61º 34' 00.00" W
47º 22' 10.32" N	61º 45' 14.28" W	47º 24' 42.00" N	61º 34' 00.00" W

10. RESTRICTION / ARTIFICIAL REEFS

Lobster fishing is prohibited at all times in the four artificial reefs sites located front of "*les Demoiselles*" and demarcated by the straight lines joining the following points in the order listed:

Site 1 (Transport Canada)		Site 2 (Transport Canada)	
47º 15' 16.68" N	61º 51' 14.04" W	47º 15' 24.54" N	61º 50' 31.62" W
47º 15' 13.62" N	61º 51' 08.52" W	47º 15' 21.42" N	61º 50' 26.16" W
47º 15' 10.62" N	61º 51' 12.18" W	47º 15' 18.42" N	61º 50' 29.76" W
47º 15' 13.68" N	61º 51' 17.64" W	47º 15' 21.54" N	61º 50' 35.28" W
47º 15' 16.68" N	61º 51' 14.04" W	47º 15' 24.54" N	61º 50' 31.62" W

Site 3 (APPIM)		Site 4 (APPIM)	
47º 15' 19.20" N	61º 51' 19.20" W	47º 15' 09.18" N	61º 51' 09.42" W
47º 15' 19.20" N	61º 51' 09.00" W	47º 15' 09.18" N	61º 51' 08.94" W
47º 15' 17.82" N	61º 51' 09.00" W	47º 15' 07.20" N	61º 51' 08.94" W
47º 15' 17.22" N	61º 51' 09.48" W	47º 15' 07.20" N	61º 51' 09.42" W
47º 15' 19.20" N	61º 51' 19.20" W	47º 15' 09.18" N	61º 51' 09.42" W

11. REPLACEMENT TAGS

(1) Every time you lose a tag and/or use a replacement tag, you shall contact your DFO local office at 418 986-2150 and leave a message on the recorder indicating :
   a) your name
   b) the name of your vessel
   c) the tag number(s) to be replaced
   d) the number(s) of the replacement tag that you are using.
(2) To obtain additional replacement tags, you must contact your DFO local office at 418 986-2095 (from Monday to Friday, from 8:00 h to noon and from 13:00 h to 16:30 h).

Signature of licence holder / Date
«NOM_INTERVE»

Signature of authorized DFO Officer / Date

THESE CONDITIONS CANCEL AND REPLACE THOSE ISSUED PREVIOUSLY FOR THE SPECIES MENTIONED ABOVE.

THESE CONDITIONS ARE PART OF YOUR COMMERCIAL FISHING LICENCE AND MUST BE ATTACHED TO THAT LICENCE.

THE VALIDITY OF THESE CONDITIONS IS SUBJECT TO OPEN AND CLOSE TIME ORDERS AND/OR ANY VARIATION ORDERS.

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CONDITIONS OF LICENCE 2013

LOBSTER – AREA 22

Under subsection 22(1) of the *Fishery (General) Regulations*, the following conditions apply:

1. IDENTIFICATION

LICENCE HOLDER / VESSEL OPERATOR: «NOM_INTERVE» FIN: «NIP_INTERVE»

NAME OF VESSEL: «NOM_NBPC» VRN: «NBPC»

2. APPLICATION

(1) These conditions are part of the licence holder / vessel operator's commercial fishing licence and must be attached to that licence.

(2) The current conditions cancel and replace all previous conditions delivered to the present licence holder / vessel operator to fish for the species specified under section 3.

3. AUTHORIZED SPECIES

Lobster.

4. FISHING AREA(S)

(1) Subject to a variation order, the licence holder / vessel operator is authorized to fish in the following area(s): 22, as described in the document entitled *Fishing areas for lobster*.

(2) Despite subsection (1), it is prohibited to fish in the following portions of area(s):

a) in the sector of the Grande-Entrée channel located north of a line between the following points in the order listed:

1. 47º 32' 46.00" N 61º 33' 37.80" W
2. 47º 32' 37.80" N 61º 34' 13.20" W
3. 47º 33' 30.00" N 61º 35' 30.00" W

b) in the aquaculture sites demarcated by the straight lines joining the following points in the order listed:

Sites situated front of House Harbour

1. 47º 22' 10.32" N 61º 45' 14.28" W
2. 47º 21' 52.62" N 61º 43' 54.66" W
3. 47º 21' 11.22" N 61º 44' 16.44" W
4. 47º 21' 29.22" N 61º 45' 35.70" W
5. 47º 22' 10.32" N 61º 45' 14.28" W

Site situated West of the "Newhall"

1. 47º 24' 42.00" N 61º 34' 00.00" W
2. 47º 24' 42.00" N 61º 32' 30.00" W
3. 47º 22' 48.00" N 61º 32' 30.00" W
4. 47º 22' 48.00" N 61º 34' 00.00" W
5. 47º 24' 42.00" N 61º 34' 00.00" W

5. AUTHORIZED FISHING GEAR

Trap:
The licence holder / vessel operator may not use or have on board more traps than that of the maximum allowed under the present licence.

(1) Size
Maximum length: 81 centimetres
Maximum width: 61 centimetres
Maximum height: 50 centimetres

(2) Escape vent
The licence holder / vessel operator may not use or have on board any trap that is not equipped with a circular or rectangular escape mechanism as described below:

a) Circular vents
Two unobstructed circular openings of a diameter no less than 60 millimetres, the top of the openings is at most 102 millimetres from the floor of the trap in at least one of the outer walls of each parlour.

b) Rectangular vents
One unobstructed rectangular opening of a length no less than 127 millimetres and a height no less than 47 millimetres and the top of the opening is at most 102 millimetres from the floor of the trap in at least one of the outer walls of each parlour.

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(3) Escape panel
A trap that is not equipped with an exit panel in conformity with the Atlantic Fishery Regulations, 1985 must be equipped with an untreated soft cotton twine of a diameter not exceeding 5 millimetres. This cotton twine must replace the original twine in a serial of consecutive meshes forming a straight line of a 152 millimetres minimum length The cotton twine must be attached to the meshes situated on both serial ends, only intertwined in the other meshes and installed in one of the outer walls of each parlour.

(4) Trawl
a) Each trawl must count at least (minimum) 7 traps.
b) The maximum distance authorized between each trap of a same trawl is 8 fathoms.
c) The maximum length for each trawl, between the first and the last trap, is 56 fathoms.

(5) Tagging
a) The licence holder / vessel operator shall not fish with or have on board the vessel, a trap unless a single valid tag with a unique identification number is securely attached to it in the manner for which the tag was designed and in a manner such that the tag is readily visible when the trap is not in the water.
b) A trap which is being fished under this licence shall not have more than one tag attached to it.
c) An original tag is valid if:
(i) the color of the tag is purple;
(ii) the tag has a locking device that renders the tag tamperproof;
(iii) the tag bears a clear and legible unique tag number composed of the name of the species, the fishing area, the Tag Supplier Identification Number and the sequential number assigned to that tag;
(iv) the tag manufacturer or his logo is identified on the tag; and
(v) the tag is obtained by the licence holder /vessel operator from a supplier identified in a valid tagging plan approved by the Department of Fisheries and Oceans (DFO).
d) A replacement tag is valid if:
(i) the color is the same as the original tag it replaces;
(ii) it has a locking device that renders the tag tamperproof;
(iii) it bears a clear legible and unique sequential number;
(iv) it bears the name or logo of the supplier; and
(v) the licence holder / vessel operator obtained the tag from the supplier authorized under the same valid tagging plan as the original tags.
e) While fishing under this licence, the licence holder / vessel operator shall only use tags that have been obtained from a single tag supplier.
f) Prior to leaving for a fishing expedition, to setting trap and at all times while fishing under the present licence, the licence holder / vessel operator shall have on board the vessel the complete, legible and up to date record QC-HOMARD-22-2013 including the following information:
(i) the first and the last sequential number of all the original tags attached to the traps held on board the vessel or utilized under the present licence;
(ii) the name of the supplier from whom the tags were obtained;
(iii) the identification number of all replacement tags;
(iv) the date at which the replacement tags were set on the traps;
(v) the identification number of the original or replacement tag it replaces.
g) The licence holder / vessel operator shall produce the record on demand of a fishery officer, a fishery guardian or an at sea observer.
h) An original or replacement tag identified on the record as having been replaced is not longer valid.
i) Where fishing is conducted under an arrangement (partnership, buddy-up) approved by DFO, the records of tag numbers associated with all the licences being fished under shall be kept on board the vessel.
j) All replacement tags represented in the registry must be carried on board the vessel unless they have been attached to a trap being utilized under the present licence. The licence holder / vessel operator shall produce these tags on demand of a fishery officer, a fishery guardian or an at sea observer.

(6) Other
The trap used may not have any piece of rope or line that is fastened to the trap, anywhere outside or inside the trap.

6. HAIL PRIOR TO DEPARTURE

Not applicable.

7. AT SEA OBSERVER

Not applicable.

8. DOCKSIDE MONITORING

Not applicable.

9. COMBINED FORM

Not applicable.

10. VESSEL MONITORING SYSTEM (VMS)

Not applicable.

11. INCIDENTAL CATCHES

Not applicable.

12. OTHER CONDITION(S)

(1) Hauling of traps
The licence holder / vessel operator is not authorized to haul his traps from sea:
a) more than once per day;
b) during the period between 05:00 h and midnight on the lobster fishing opening day.

(2) Fishing timetable
a) With exception for the last two days prior to the closure of the area 22 lobster fishery (the last Friday and the last Saturday), the licence holder / vessel operator is not authorized to haul his traps from sea during the period between 21:30 h and 5:00 h, from Monday to Saturday inclusive.
b) For the entire duration of the fishing season, the licence holder / vessel operator is not authorized to remove lobster from his traps or to bait traps already set on Sundays, between 00:01 h and midnight.

(3) Simultaneous fishery
Pursuant to the present conditions, the licence holder / vessel operator is not authorized to fish simultaneously lobster and one or more of the following species during a same fishing expedition:
a) Whelk;
b) rock crab;
c) toad crab (hyas species);
d) Flounder (yellowtail flounder, winter flounder, sand flounder and American Plaice).

(4) Assistance for embarking and disembarking:
Where a fishery officer, a fishery guardian or an observer designated pursuant to subsection 39.(1) of the *Fishery (General) Regulations*, has to climb up or down more than 1.2 metre to embark or disembark from the fishing vessel, the licence holder / vessel operator, shall provide the fishery officer, the fishery guardian or the observer a pilot ladder or other equipment that provides equally safe and convenient access to and egress from the ship.

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FISHING GEAR TAG REGISTRY

QC-LOBSTER-22-2013

Identification of the licence holder / vessel operator: «NOM_INTERVE»

FIN: «NIP_INTERVE» Licence Number:

Tag supplier:

ORIGINAL TAG IDENTIFICATION NUMBERS (276 tags)

Identification number on the first tag:

Identification number on the last tag:

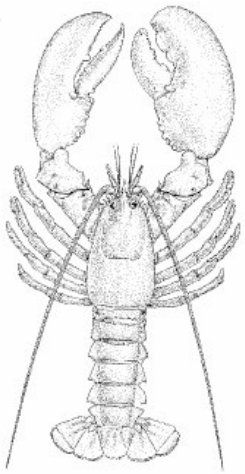
REPLACEMENT TAG NUMBERS

(use a separate line for each replacement tag)

Identification number of replacement tags (**new tag**)	**Date** at which the replacement tags were set on the trap (dd/mm/yyyy)	Identification number of the tags replaced (**cancels**)

APPENDIX 5: ASSESSMENT OF LOBSTER STOCKS OF THE MAGDALEN ISLANDS

ASSESSMENT OF LOBSTER STOCKS OF THE MAGDALEN ISLANDS (LFA 22) IN 2008



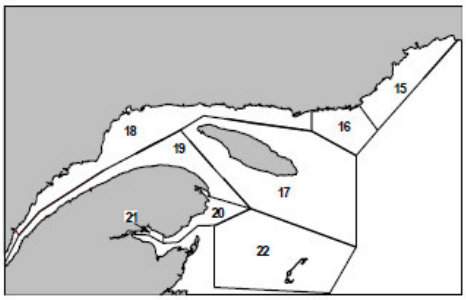


Figure 1. Map showing the lobster fishing areas (LFAs) in Quebec (LFAs 15 to 18: North Shore and Anticosti; LFAs 19 to 21: Gaspé Peninsula; and LFA 22: Magdalen Islands).

Context

Lobster fishing is practiced in the Magdalen Islands (LFA 22, Figure 1) by 325 fishing enterprises. Approximately two thirds of the fleet is active along the southern side of the Islands (Old Harry to Havre-Aubert) and one third along the northern side (Grosse Isle to Millerand) (Figure 2). The lobster fishery is managed by controlling the fishing effort (number of permits, number and size of traps, season and daily fishing schedule, organisation of the fishing lines) and by escapement measures: release of berried females and minimum legal size. The management strategies introduced over the last decade were developed based on the recommendations from the Fisheries Resource Conservation Council (FRCC).

The resource status assessment was done on an annual basis until 2005, which helped to closely monitor the impacts of the increase in minimum legal size on the lobster populations. Assessments are now conducted every three years. This advice describes the situation in 2008 and the changes observed over the 2006-2008 period.

SUMMARY

- The **abundance indicators** remained generally high from 2006 to 2008. Landings have increased from 2,341 t in 2005 to 2,492 t in 2008. In 2008, they were 20% higher than the average over the last 25 years (2,082 t). The mean catch per unit effort (CPUE) for commercial lobsters was relatively stable from 2006 to 2008, at 0.7 lobster/trap and 0.4 kg/trap, but dropped by about 7% compared to 2005. In 2008, even though the CPUE in numbers was 12% lower than the 1985-2007 series average, it was about 4% higher in weight.

May 2009

Canada

- The **demographic indicators** showed that the average size of lobster caught has been stable since 2003 at a level about 6-7 mm larger (carapace length, CL) than the mean size recorded prior to the increase of the minimum legal size, and a mean weight of about 25% higher. From 2005-2008, the sex-ratio remained in favour of males overall and seems appropriate for reproduction. Size structures were truncated and consequently, the proportion of jumbo size lobster (≥ 127 mm CL) remained low (< 1%), but slightly increased nevertheless from 2005-2008.

- The **fishing pressure indicators** revealed that the estimated exploitation rates for 2005 to 2007 varied between 71 and 77% in the south and between 69 and 71% in the north, compared with 74% in 2004. However, fishing mortality for the portion of the population ≥ 76 mm CL dropped as a result of the increase in the minimum legal size.

- The stock **productivity indicators** remained positive from 2006 to 2008. The abundance of berried females has remained higher than prior to the increase of the minimum legal size, despite a drop in their CPUE in 2008. As in 2005, egg production estimates for 2006-2008 were higher by a factor of around two compared to those prior to the increase of the minimum legal size. In 2008, the number of multiparous females was slightly higher than in 2005 and their relative contribution to the total egg production was also higher. Recruitment indices recorded in 2008 suggest that the 2009 landings could remain high. The juvenile abundance indices also suggest there could be a good recruitment to the fishery in the medium term.

- Despite the efforts and positive signs, some improvements to the size structure of the stocks appear necessary. This will help reduce the dependence of the fishery on the annual recruitment and will also help increase the proportion of multiparous females in the population and ensure their reproductive success by maintaining suitable sex-ratios, according to the recommendations by the FRCC (2007). Thus, it is important to continue the program for reducing the fishing effort introduced in 2006. In a long term outlook, it is important to identify some biological reference points in developing a formal precautionary approach for this fishery.

INTRODUCTION

Biology

American lobster (*Homarus americanus*) occurs along the west coast of the Atlantic Ocean, from Labrador to Cape Hatteras. Adult lobsters prefer rocky substrates where they can find shelter, but can also live on sandy and even muddy bottoms. Commercial concentrations are generally found at depths of less than 35 m. Females reach sexual maturity at around 79 mm (carapace length) on the southern side of the archipelago and 84 mm on the northern side. Males reach sexual maturity at a smaller size. Females generally have a two-year reproductive cycle, spawning one year and moulting the next. Females spawning for the first time can produce nearly 8,000 eggs, while large females measuring 127 mm (jumbo size) can lay up to 35,000 eggs. In addition to being more fertile, certain large females could spawn two consecutive years before moulting. Once released, the eggs remain attached to the females' swimmerets for 9 to 12 months, until the planktonic larvae hatch the following summer. Spawning and hatching can occur earlier in the season for multiparous females (females spawning for the second time at least) than for primiparous females. It was also noticed that larvae at the time of release could be larger for multiparous females than primiparous females.

The larvae's planktonic phase lasts from 3 to 10 weeks, depending on the temperature of the water. Following metamorphosis, postlarval lobsters (stage IV), which now resemble adult lobsters, drift down from the surface layer to settle on the sea floor. The survival of lobster from their larval stage to their benthic cryptic stages is impacted by predation as well as by hydrodynamic factors that cause advection or retain the larvae near the areas that are favourable for benthic settlement. During the first few years of benthic life or until they reach approximately 40 mm, lobsters lead a cryptic existence, i.e. they live hidden in habitat providing many shelters. Lobsters are estimated to reach the minimum legal size (83 mm) around 8 years of age, after having moulted approximately 16 times since their benthic settlement.

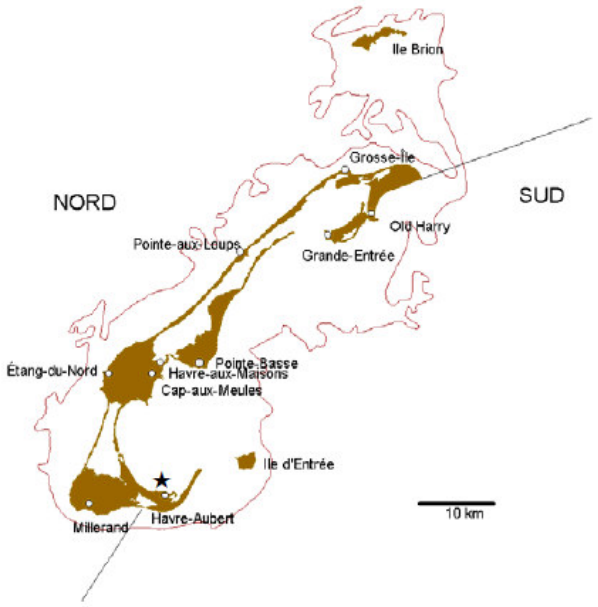


Figure 2. Map of the Magdalen Islands showing the boundaries of the southern (SUD) and northern (NORD) parts and the Les Demoiselles site (star).

Fishery Management

The lobster fishery is managed by controlling fishing effort by restricting the number of licences, the number and size of traps, and the duration of the fishing season. The lobster fishery is a spring activity that lasts 9 weeks in the Magdalen Islands. There is no trap hauling on Sundays. In 2005, 325 commercial licences were issued with a limitation of 300 traps each. In 2006, a program was introduced for reducing the fishing effort by 3 traps per fishermen per year over 10 years. In 2015, the nominal fishing effort will have been reduced by 10%. In addition, the number of traps per fishing line was set at seven and the length of the lines was limited to 56 fathoms. In 2007, fishing schedules were also introduced (05h00 to 21h30) in line with the prohibition of hauling the traps more than once a day. These measures are aimed at reducing the effective fishing effort. In addition to the size of the traps, which is currently limited to 81 cm in length, 61 cm in width and 50 cm in height, the presence of escape vents on traps has been mandatory since 1994, and the size of their vertical opening went from 43 mm to 47 mm in 2003, to comply with the introduction of the new minimum legal size of 83 mm. In the medium

term, the vertical height should be reduced to 42 cm for rectangular traps so that their volume does not exceed that of the traditional hemi-cylindrical traps.

Fishery management also includes escapement measures. Along with a minimum legal size (carapace length), berried females must be released. The minimum legal size was increased starting in 1997 by 1 mm per year, over seven years. It reached 83 mm in 2003 and was 76 mm in 1957 and 1996. The objective of increasing the minimum legal size was to double the 1996 level of egg production per recruit.

ASSESSMENT

Source of data

The stock status assessment is based on indicators of abundance, demographics, fishing pressure and stock productivity. Abundance indicators include landings recorded on processing plant purchase slips, catch rates of commercial-size lobsters obtained from at-sea samplings and from logbooks kept on a voluntary basis since 1992 by a variable number of index fishermen. In 2008, index-fishermen took part in a pilot-project for implementing an electronic logbook (ELB). The demographic indicators were taken from the lobster size structures and include mean size and weight, jumbo (≥ 127 mm) abundance and sex-ratios. The fishing pressure index (exploitation rate) is derived from a measurement of the ratio between the number of individuals (males) from the first moult class recruited to the fishery in a given year and that of the second moult class recruited to the fishery one year later (modal analysis). A fishing mortality index for the portion of the population ≥ 76 mm is also calculated and is based on the change-in-ratio method (CIR). Productivity indicators are based on abundance of berried females and on egg production (reproduction), and the abundance of pre-recruits, one year before the fishery, and on the strength of the cohort at the time of benthic settlement (recruitment). At-sea sampling has been conducted annually since 1985 on the fishing grounds of the southern and northern parts of the archipelago. A trawl survey has also been carried out on the southern part of the archipelago since 1995. The survey data is used to validate indices obtained from the fishery and make short-term predictions about recruitment to the fishery. Benthic settlement in the Les Demoiselles sector (Plaisance Bay) has been monitored annually since 1995. For each indicator, data from the three previous years are examined and the 2008 data are compared to the averages from the existing data series, prior to 2008.

Abundance Indicators

Landings

Landings recorded in the Magdalen Islands have increased since 2005, reaching 2,487 tons in 2008 (preliminary data), from 2,341 tons in 2005 (Figure 3). They remained stable and high from 2004 to 2007, between 2,340 tons and 2,370 tons. In 2008, they were 20% higher than the average of the last 25 years (2,082 tons). The 2008 landings represented the highest level observed since the 1991-1993 peak (2,600-2,800 tons). Compared with 2005, landings increased in both the southern and northern parts, reaching 1,717 tons and 770 tons in 2008, compared with 1,595 and 741 tons in 2005, respectively. In 2008, 69% of the total landings were made in the southern part and 31% in the northern part of the archipelago. In 2008, lobster landings in the Magdalen Islands accounted for 73% of total landings in Quebec.

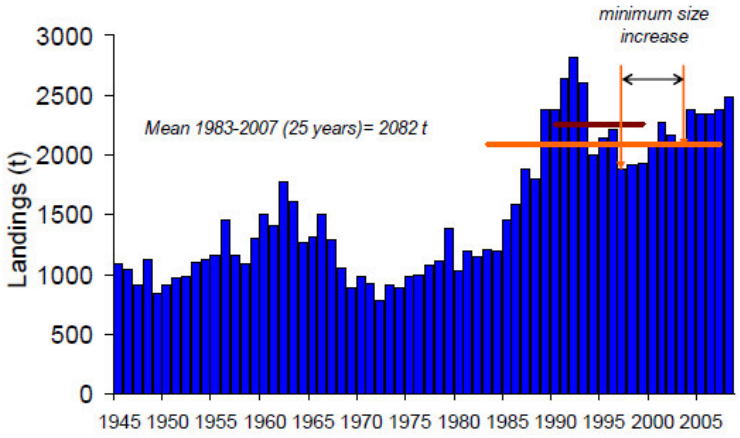


Figure 3. Lobster landings in the Magdalen Islands, 1945-2008.

Prevailing weather conditions in 2008 during the fishing season were favourable and the temperatures recorded on the bottom were average based on the last 14 years (1994-2007), which favoured lobster catchability. The number of recorded trips in 2008 totalled 16,387, which is 2.5% higher than the 1994-2007 average and corresponds to 93.4% of the maximum allowed (325 fishermen x 9 weeks x 6 days = 17,550 trips). Each trip consists of one daily outing per fisherman for which a purchase slip is produced. The number of traps hauled (number of trips x number of authorized traps) reached 4.77 million in 2008, which corresponds to the 1990-2007 average. In 2008, fishermen were only allowed 291 traps, compared to 300 up to 2006.

Catch rates for commercial-size lobsters

Catch rates correspond to the catches per unit of effort (CPUEs) expressed in number or weight of lobster per trap. Since 1985, in LFA 22, average annual CPUEs of commercial-size lobsters derived from at-sea sampling of commercial captures ranged from 0.5 to 1.1 lobster per trap (l/t) (Figure 4A). For the same period, the CPUE in weight ranged between 0.27 and 0.53 kg/trap (kg/t) (Figure 4B). The average CPUE was relatively stable from 2006 to 2008, measuring around 0.68 l/t and 0.42 kg/t, but dropped by about 7% compared to 2005. In 2008, although the CPUE was 12% lower than the 1985-2007 series average, it was almost 4% higher in weight.

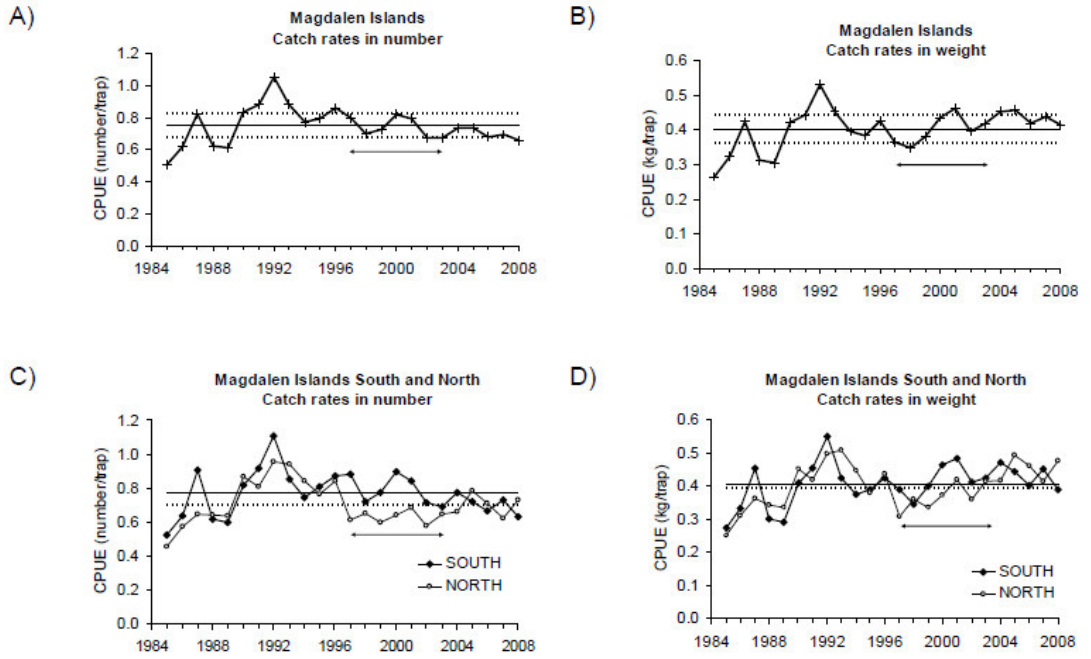


Figure 4. Catch rates (CPUEs) of commercial-size lobsters in the Magdalen Islands from 1985 to 2008 A) in number and B) in weight per trap; 1985-2007 mean (solid line) ± 10% (dotted line). CPUE values for the southern and northern Magdalen Islands C) in number and D) in weight. The solid line represents the 1985-2007 mean for the southern part and the dotted line represents the mean for the northern part for the same period. The horizontal arrow indicates the period (1997-2003) when the minimum legal size was increased by 1 mm per year, from 76 to 83 mm CL.

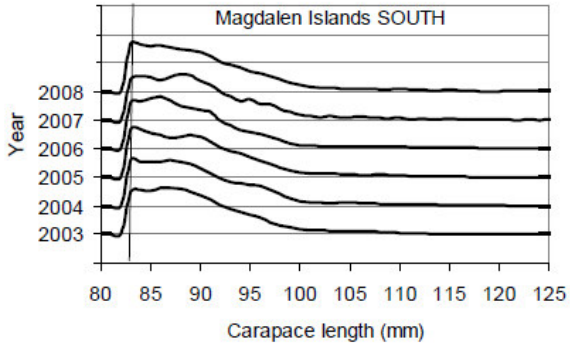
In the southern part, CPUE in number has shown a downward trend since 1997 (Figure 4C). Up to 2003, this drop could be associated to the increase in the minimum catch size as lobsters remain on the bottom an extra year before being harvested, and they are subjected to an estimated natural mortality of approximately 10-15%. The 2008 CPUE mean number was 0.63 l/t, which was lower than 2003 and 18% below the series average (1985-2007) (0.77 l/t). The larger size of lobsters landed somewhat compensates for the drop in numbers. The CPUE in weight in 2008 (0.39 kg/t) was only 5% lower than the series average (0.41 kg/t) (Figure 4D). Higher catch rates (0.74 l/t and 0.47 kg/t) were nevertheless recorded in another project conducted in 2008 in the southern part of the Islands, based on the same regular sampling protocol, which is closer to the time series average.

In the northern part, CPUE in number dropped in 1997 and remained stable until 2004 at levels relatively lower than what had been recorded in the 1990s, ranging between 0.60 and 0.68 l/t (Figure 4C). Since 2005, values have generally been higher. In 2008, it reached 0.73 l/t, which was 4% higher than the 1985-2007 series average. Between 1997 and 2004, CPUE in weight was higher, reflecting the increase in the mean size of lobsters in the catch. It increased from 0.31 to 0.42 kg/t (Figure 4D). In 2008, CPUE in weight reached 0.47 kg/t, which is 21.5% higher than the 1985-2004 series average.

Demographic indicators

There has been no noticeable changes in the size structures of lobster from the commercial portion over the last three years and they have remained similar to those observed since the end of the minimum legal size increase in 2003 (Figures 5AB). Size structures have a truncated appearance. They present a strong mode corresponding to the recruits of the year. A second less significant mode can be noticed at around 96 mm, which would correspond to recruits from the previous year.

A)



B)

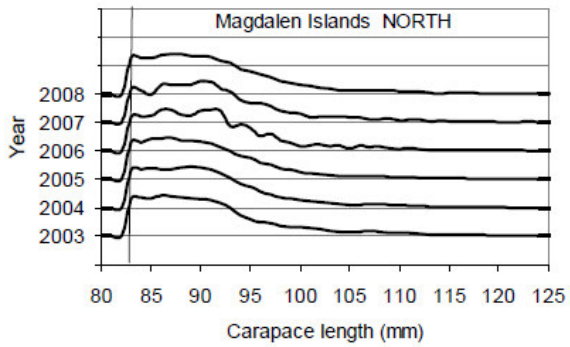


Figure 5. Size frequency distributions of harvested lobsters (commercial portion) from 2003 to 2008 for A) the southern part and B) the northern part of the Magdalen Islands.

In 2008, in the southern part, the average size of harvested lobsters was 90.9 mm and their mean weight was 640 g. In the northern part, the average size was 91.7 mm and their mean weight was 650 g. In the southern part of the Islands, the mean size and weight increased by 8 and 34% respectively compared to 1996, before the minimum legal size increase. In the northern part, the increase was 7% in size and 26% in weight. The data from the trawl survey in the southern part of the Islands revealed the same trends.

Marked differences were also observed between male and female size structures. Female size distributions were more truncated toward smaller sizes than those of males, which reflect a decrease in female growth as they reach sexual maturity.

The proportion of large-size lobsters (jumbo, CL ≥ 127 mm) observed during at-sea samplings remains relatively low. In 2005, it represented about 0.3%. However, it has since increased, in the southern part, to reach 0.7% in 2008. The proportion reached 0.4 and 0.5% in the northern part in 2006 and 2007, and 0.3% in 2008.

Fishing pressure

Truncated size structures are indicative of high exploitation rates. Exploitation rates calculated for the commercial-size males in LFA 22 (modal analysis) remained high from 2005 to 2007, both in the north and south. It ranged between 71 and 77% in the south and between 69 and 71% in the north (Figures 6AB). Rates were higher than the 1985-2006 period average; 67% in the south and 59% in the north. The exploitation rates calculated for the 1996-2007 period derived from the trawl survey were on average around 65%. For 2008, the estimated rate was slightly lower at 60% (Figure 6A). The male ≥ 76 mm CL mortality rate index (CIR) reveals that since 2003, when the minimum legal size of 83 mm was reached, the mortality rate of this portion of the population has been around 50%.

Overall, female mortality is not as high because they are protected when they are berried. Consequently, the sex-ratio of lobsters left on the sea floor could favour females, especially when exploitation rates are high. For the time being, the sex-ratio (number of males/number of non-berried females) seems to be suitable for mating. It is usually around one for all commercial-size lobsters and around two for sizes ≥ 90 mm.

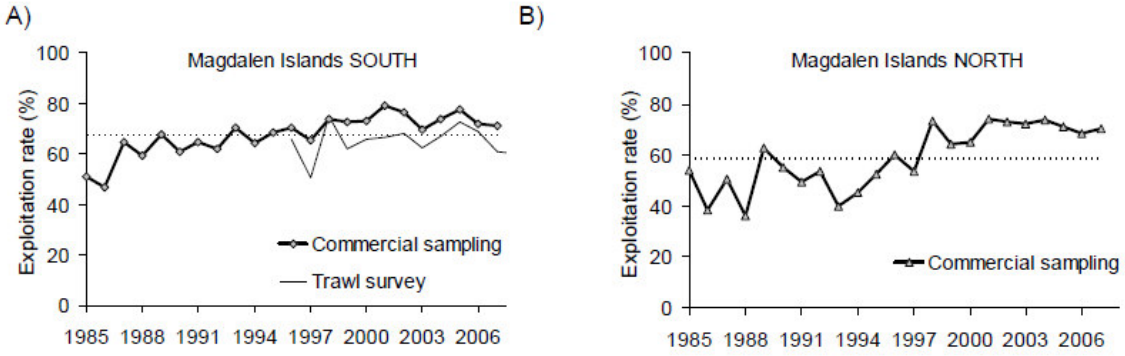


Figure 6. Exploitation rate indices for commercial-size males estimated by modal analysis based on data from commercial sampling and from the trawl survey for A) the southern part and B) the northern part of the Magdalen Islands from 1985 to 2008. Dotted lines represent the mean for the 1985-2006 period.

Productivity indicators

Berried females and egg production

Data from at-sea sampling showed an increase in the abundance of berried females beginning in 1996 in the southern part of the Magdalen Islands, and beginning in 2000 in the northern part. This increase occurred during a period when the abundance of commercial-size lobster varied only slightly (Figures 7AB). The drop in abundance recorded in 2003 was the result of the increase in the size of escape vents from 43 to 47 mm, which allowed a larger proportion of berried females under the legal size to escape. Nonetheless, the number of berried females has remained relatively abundant over recent years despite the drop recorded in 2008 in both parts of the Islands. These low values could be influenced by the sampling area and period. It is also possible that these values reflect changes in the fishing spatial pattern which may be aimed at avoiding as much as possible berried female concentrations.

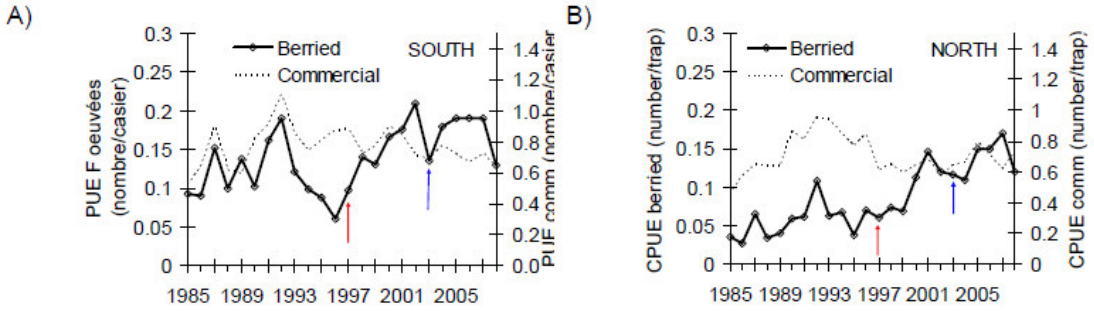


Figure 7. Catch rates (CPUEs) of berried females for A) the southern part and B) the northern part of the Magdalen Islands from 1985 to 2008. The first arrow indicates the start of the increases in minimum legal size and the second arrow indicates the year when the height of the escape vent was increased from 43 mm to 47 mm. The dotted line represents CPUE trends for commercial-size lobster during the same period.

The examination of the size structures and abundance of berried females suggests that egg production doubled since 1996 (Figures 8AB). The egg production index is obtained by multiplying the abundance index of berried females for each 1-mm size class by the size-specific fecundity. The abundance index of berried females is obtained by weighting size frequency distributions by abundance indices (average annual CPUEs). In 2008, the mean size of berried females was 81.5 mm in the south and 85.7 mm in the north. The larger size of berried females in the north is largely the result of a larger size at sexual maturity. In 2008, the proportion of multiparous females (that spawn at least for the second time) was 17% in the south and 23% in the north, contributing for 23% in the south and 32% in the north of the total egg production. It represents a slight increase since 2004.

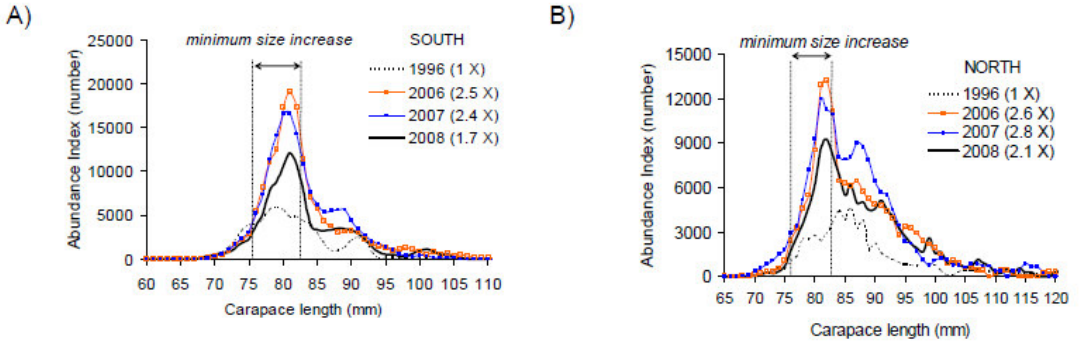


Figure 8. Egg production index calculated for A) the southern part and B) the northern part of the Magdalen Islands in 1996 and from 2006 to 2008. Egg production relative to that in 1996 is indicated in parenthesis.

Mating success

Since 2004, in the trawl survey, postmoult females larger than 80 mm have been examined to see whether they had a sperm plug at the entrance to their seminal receptacle. Presence of a sperm plug indicates that the female has mated and that her seminal receptacle contains sperm. Between 985 and 2,268 females have been examined every year (Figure 9).

The percentage of females larger than 80 mm with a sperm plug varied between 71 and 79%. It varied between 72 and 84% for females larger than 95 mm. Over the five observation years, there has been no trend detected. Annual fluctuations could be the result of variations in the moulting and mating period in relation to when the survey is conducted. This indicator will continue to be monitored in the coming years to detect any problem in mating success that could result from overly intense fishing pressure on males creating an unbalanced sex-ratio in favour of females.

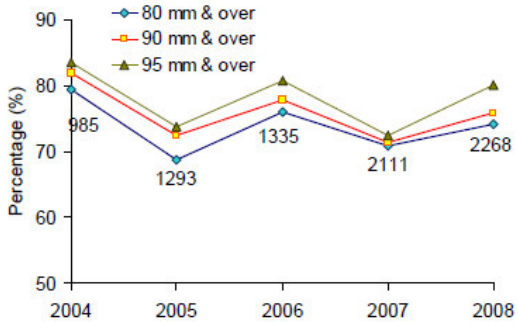


Figure 9. Percentage of postmoult females with a sperm plug. Trawl survey. The numbers represent the number of females examined.

Recruitment

The recruitment index obtained from the trawl survey suggests that landings in 2009 could remain high, similar to what has been observed over the last five years. The correlation between the abundance of commercial-size lobsters in a given year estimated from the trawl survey and landings made the following year is positive and significant (Figure 10). The relationship improved after adding the data from the last three years. Abundance indices for prerecruits and juveniles remain high, suggesting that recruitment could be maintained in the medium term.

Benthic settlement in the Les Demoiselles site (see map, Figure 2) has been higher since 2002 compared to the average observed between 1996 and 2001. High values recorded in recent years coincide with the increase in egg production. Benthic settlement is also influenced by the strength and direction of winds during the larval period. Over the last three years, from 2006 to 2008, benthic settlement has been high, particularly in 2008, which was the highest value in the series (since 1995). In 2005, in the Les Demoiselles site, no benthic settlement (2005 cohort) was recorded. The 2006 observations confirmed the low abundance of this cohort in the Les Demoiselles site. However, scuba-diving surveys conducted a little further offshore found individuals from this cohort, suggesting a settlement or the survival of this cohort in an area a few meters deeper.

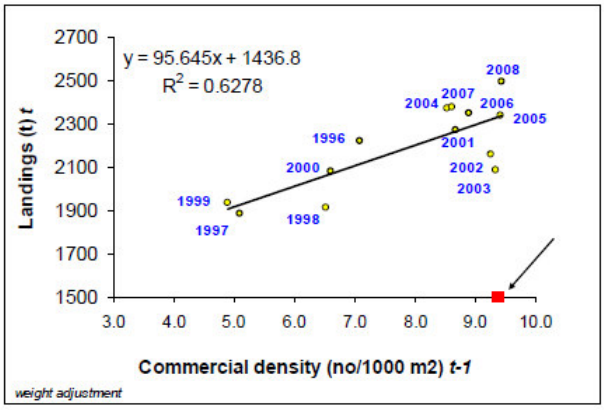


Figure 10. Relationship between the abundance index of commercial-size lobsters obtained from the trawl survey and landings recorded one year later. Abundance indices were adjusted by the mean weight of lobsters. The square on the X-axis (arrow) indicates the density observed during the 2008 survey.

Sources of uncertainty

The landing data presented correspond to the landings recorded on processing plant purchase slips. There are uncertainties as for the non-recorded lobster captures, which correspond among other things to the quantities set aside for personal consumption and to the quantities poached. A bipartite group composed of industry and DFO representatives is currently working on developing and validating a model to assess non-recorded lobster landings.

The lack of logbooks prevents the calculation of precise abundance indices for each fishing sectors of the archipelago. Abundance indices are derived from at-sea sampling of commercial catches that covers 0.14% of all fishing activities and from data gathered by index-fishermen,

which represent between 2-3% of all fishermen. The work carried out by index-fishermen is done strictly on a volunteer basis and in some years, for different reasons, they may not collect the data. The low sampling effort creates uncertainty on the representativeness of the estimates.

Although it is considered that catch rates reflect the abundance of lobster on the seafloor, they can also be affected by both intra and inter-annual variations in lobster catchability. Cold temperatures, winds and currents are factors that have a negative impact on catchability. These effects are difficult to quantify and introduce uncertainty into the interpretation of catch rates. In addition, fishing patterns can also have an impact on the abundance index of berried females if, for instance, fishermen avoid the sectors where they concentrate. Changes in catchability can also create uncertainty in the calculation of exploitation rate indices.

Short-term forecasting appears possible based on the results obtained from the trawl survey since 1995. Longer term forecasting is however more difficult given the difficulty in sampling early benthic stages, the uncertainty and variability of the age at recruitment and the absence of knowledge on the factors influencing lobster survival between settlement and their entry in the fishery (8-10 years later). There is also uncertainty in the representativeness of observations made on a small spatial scale for the population as a whole.

CONCLUSION AND ADVICE

In 2008, in the Magdalen Islands, abundance indicators were high and productivity indices were all positive. Despite the efforts and positive signs, some improvements to the size structure of the stocks appear necessary. This will help reduce the dependence of the fishery on the annual recruitment and will also help increase the proportion of multiparous females in the population and ensure their reproductive success by maintaining suitable sex-ratios, according to the recommendations by the FRCC (2007). Thus, it is important to continue the program for reducing the fishing effort introduced in 2006 and to monitor the changes to the fishing gear or practices that could be used to counterbalance fishing effort reductions. In a long term outlook, it is important to identify some biological reference points in developing a formal precautionary approach for this fishery.

SOURCES OF INFORMATION

FRCC. 1995. A Conservation framework for Atlantic Lobster. Report to the Minister of Fisheries and Oceans. November 1995. 49 p. + appendices.

FRCC. 2007. Sustainability framework for Atlantic Lobster 2007. Report to the Minister of Fisheries and Oceans. July 2007. 54 p. + appendices.

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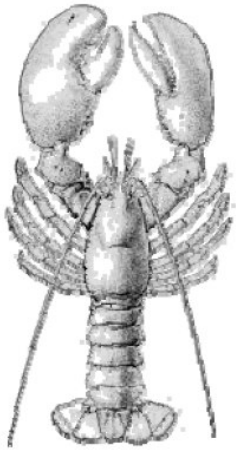
Science Advisory Report 2012/012

ASSESSMENT OF LOBSTER STOCKS OF THE MAGDALEN ISLANDS (LFA 22), QUEBEC IN 2011



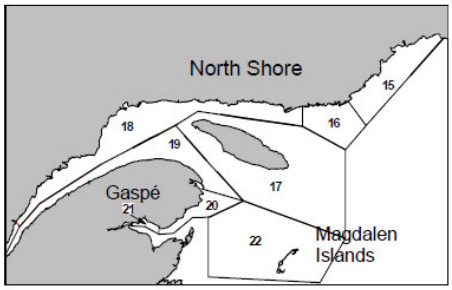


Figure 1: Map showing the lobster fishing areas (LFAs) in Quebec (LFAs 15 to 18: North Shore and Anticosti, LFAs 19 to 21: Gaspé Peninsula and LFA 22: Magdalen Islands).

Context

Lobster fishing in the Magdalen Islands (LFA 22, Figure 1) is practiced by 325 enterprises (a skipper-owner and one or more fishers' helpers). About two-thirds of the fleet is on the south side (Old Harry to Havre-Aubert) and one-third is on the north side (Grosse-Île to Millerand) (Figure 2). The fishery is managed by controlling the fishing effort (number of licences, number and size of traps, fishing season and daily fishing schedule, organization of trap lines) and by escapement measures (release of berried females and minimum legal size). The management and conservation measures introduced over the past 15 years follow the recommendations of the Fisheries Resource Conservation Council (FRCC). In 2011, a precautionary approach was suggested for LFA 22. It will guide future management decisions. The resource status is assessed every three years. This report describes the situation in 2011 and the changes observed since the last stock status assessment in 2008.

SUMMARY

- The **abundance indicators** were quite high in 2011. A total of 2 648 t were landed, which is higher than in 2008 and 18% above the average of the past 25 years (2 251 t). Landings reached a historic high of 3 033 t in 2010. Catches per unit effort (CPUEs) in number and weight of commercial lobsters and the commercial density and biomass from the trawl survey were also higher than they were in 2008 and above the series average.
- With regard to the **demographic indicators**, the average size of commercial lobsters has remained rather stable since 2008 and since the minimum legal size was increased in 2003. The sex ratio is still stable and balanced. The size structures are still truncated, but the proportion of jumbo lobsters (≥ 127 mm in carapace length, CL) has increased slightly since 2008.

May 2012

Canada

- The **fishing pressure indicators** show that exploitation rates are still high. However, since 2003, fishing mortality for the portion of the population ≥ 76 mm CL dropped as a result of the increase in the minimum legal size.
- The **productivity indicators** remained high**.** With regard to **reproduction,** the abundance of berried females and egg production were higher in 2011 than in 2008. The contribution of multiparous females to this production also increased. **Recruitment** indices suggest that landings in 2012 and 2013 will remain high. Juvenile abundance indices show excellent potential for maintaining good recruitment to the fishery in the longer term (8–10 years).
- It can be concluded that with its high abundance and productivity, the lobster stock in the Magdalen Islands is in good shape and that under the present environmental conditions, current exploitation levels do not compromise its sustainability. However, a decrease in exploitation rates could theoretically improve the size structure.
- A **precautionary approach** was suggested for LFA 22 and reference points were determined in order to define the three stock status zones (healthy, cautious and critical). Lobster stocks in the Islands are currently in the **healthy zone.**

INTRODUCTION

Biology

American lobster (*Homarus americanus*) occurs along the west coast of the Atlantic Ocean, from Labrador to Cape Hatteras. Adult lobsters prefer rocky substrates where they can find shelter, but can also live on sandy and even muddy bottoms. Commercial concentrations are generally found at depths of less than 35 m. In the Magdalen Islands, females reach sexual maturity at around 79 mm carapace length, CL on the south side and around 84 mm CL on the north side. Males reach sexual maturity at a smaller size. Females generally have a two-year reproductive cycle, spawning one year and moulting the next. Females spawning for the first time can produce nearly 8 000 eggs while large females measuring 127 mm CL (jumbo size) can lay up to 35 000 eggs. In addition to being more fertile, certain large females could spawn for two consecutive years before moulting. Once released, the eggs remain attached to the females' swimmerets for 9 to 12 months, until the planktonic larvae hatch the following summer. Spawning and hatching can occur earlier in the season for multiparous females (females spawning for the second time at least) than for primiparous females. It was also noticed that larvae at the time of release could be larger for multiparous females than for primiparous females. The larvae's planktonic phase lasts from 3 to 10 weeks, depending on the temperature of the water. Following metamorphosis, postlarval lobsters (stage IV), which now resemble adult lobsters, drift down from the surface layer to settle on the sea floor. The survival of lobster from their larval stage to their initial benthic stages is impacted by predation as well as by hydrodynamic factors that cause advection or retain the larvae near the areas that are favourable for benthic settlement. During the first few years of benthic life, until they reach approximately 40 mm, lobsters lead a cryptic existence; i.e. they live hidden in habitat providing many shelters. Lobsters are estimated to reach the MLS (83 mm) at around eight or nine years of age after having moulted approximately 16 times since their benthic settlement.

Figure 2. Map of the Magdalen Islands showing the boundaries of the southern (SUD) and northern (NORD) areas and the Les Demoiselles site (indicated by a star).

Description of the fishery

The lobster fishery is managed by controlling fishing effort that restricts the number of licences, the number and size of traps and the duration of the fishing season. In the Magdalen Islands, the lobster fishery is a spring activity that lasts nine weeks. Traps are not hauled on Sundays. In 2005, 325 commercial licences were issued with an allocation of 300 traps each. An effort reduction program (three traps per fisher per year) was implemented in 2006. This program will continue until 2014. In 2011, 282 traps were authorized. The minimum number of traps per fishing line was set at seven and the length of the trap lines was limited to 56 fathoms. In addition, fishing hours (5:00 a.m. to 9:30 p.m.) were implemented in 2007, in keeping with the ban on hauling more than one trap per day. These measures will allow actual effort to be controlled or even reduced. In addition to the size of the traps, which is limited to 81 cm in length, 61 cm in width and 50 cm in height, the presence of escape vents has been mandatory since 1994 and the size of their vertical opening went from 43 mm to 47 mm in 2003 to comply with the new minimum legal size (MLS) of 83 mm.

Fishery management also includes escapement measures. In addition to having an MLS (carapace length), berried females must be released. Starting in 1997, the MLS was increased by one millimetre every year for seven years. It reached 83 mm in 2003 but was 76 mm from 1957 to 1996. Increasing the MLS enabled the objective of doubling 1996 egg production levels per recruit to be met.

STOCK STATUS ASSESSMENT

Source of data

The stock status assessment is based on indicators of abundance, demographics, fishing pressure and stock productivity. Abundance indicators include landings recorded on processing plant purchase slips and catch rates of commercial-size lobsters obtained from samplings. The demographic indicators are taken from the lobster size structures and include mean size and weight, jumbo (≥ 127 mm) abundance, and sex ratios. The fishing pressure index (exploitation rate) is derived from a measurement of the ratio between the number of individuals (males) from the first moult class recruited to the fishery in a given year and that of the second moult class recruited to the fishery one year later (tracking cohort strength). Productivity indicators are based on abundance of berried females and on egg production (reproduction), abundance of

pre-recruits (one year before the fishery), and cohort strength at the time of benthic settlement (recruitment). The indicators are compiled mainly from two sources of data: at-sea sampling, which has been conducted on board fishing vessels since 1985 and covers sea floors on the south and north sides of the Islands; and a trawl survey, which has been conducted on the south side of the Islands since 1995. The latter is a source of fishery-independent data. In addition, divers have studied the benthic settlement of lobster in the Les Demoiselles area (Baie de Plaisance) since 1995. For each indicator, data from the three previous years are examined and the 2011 data are compared to the averages from the existing data series before that year.

Abundance indicators

Landings

Landings for the Magdalen Islands reached 2 648 t in 2011 (preliminary data) (Figure 3). They increased by 6.5% compared to 2008 (2 487 t). In 2011, they were more than 17.6% of the average of the past 25 years (1986–2010) (2 252 t). In 2010, they reached a historic high of 3 033 t, breaking the record observed in 1992. In 2011, they were higher than in 2008 on the south and north sides. The south side accounted for 69% of the total landings on the Islands (1 804 t); the north side accounted for the other 31% (818 t). In 2011, lobster landings from the Magdalen Islands accounted for 71.3% of the total landings in Quebec (3 716 t).

Catch rates for commercial-size lobsters (≥ 83 mm CL)

Catch rates correspond to the catches per unit of effort (CPUEs) expressed in number or weight of lobster per trap. In 2011, for all of the Islands, the CPUE for commercial-size lobsters was 0.84 per trap, which corresponds to a weight of 0.56 kg/trap (Figures 4A and 4B). The CPUE in number in 2011 was 6.3% higher than that in 2008 and 10.5% above the series average (1985 to 2010) (0.73 lobster/trap [l/t]). The CPUE in weight was 27% higher than that in 2008 and 33% above the series average (0.42 kg/trap).

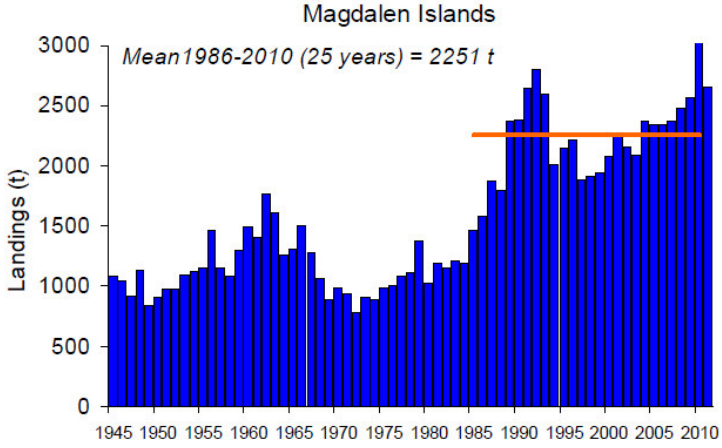


Figure 3. Lobster landings in the Magdalen Islands from 1945 to 2011.

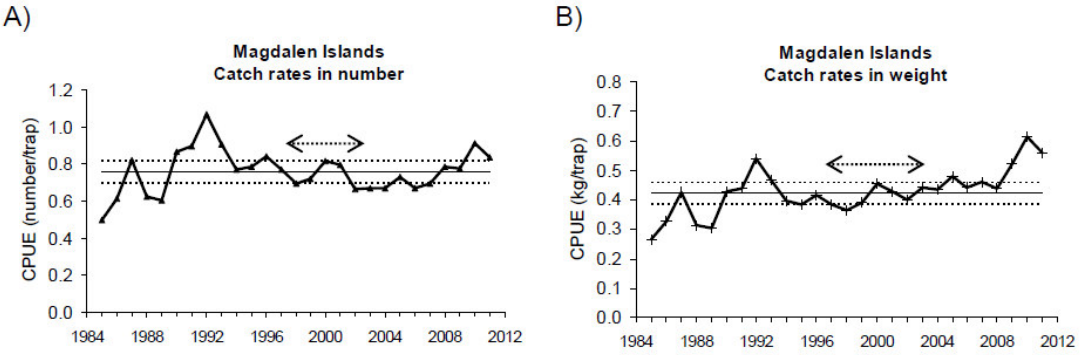


Figure 4. Catch rates (CPUE) of commercial-size lobsters for the Magdalen Islands from 1985 to 2011 in A) number and B) in weight per trap. 1985–2010 mean (solid line) ± 0.5 standard deviation (dotted lines). The horizontal arrow indicates the period (1997 to 2003) when the MLS was increased by 1 mm per year, from 76 to 83 mm.

Number and biomass of commercial lobster (trawl)

The lobster population sampled in the fall of one year during the trawl survey represents the population to be available to the fishery in the spring of the following year. The commercial lobster density observed in the 2010 trawl survey was 7.8 lobster/1 000 m^2 (Figure 5A). The corresponding biomass was 6.1 kg/1 000 m^2 (Figure 5B). The values observed in 2010 were respectively 33.7% and 25.3% higher than those observed during the 2007 trawl survey. The 2010 values were above the 1995–2009 series average.

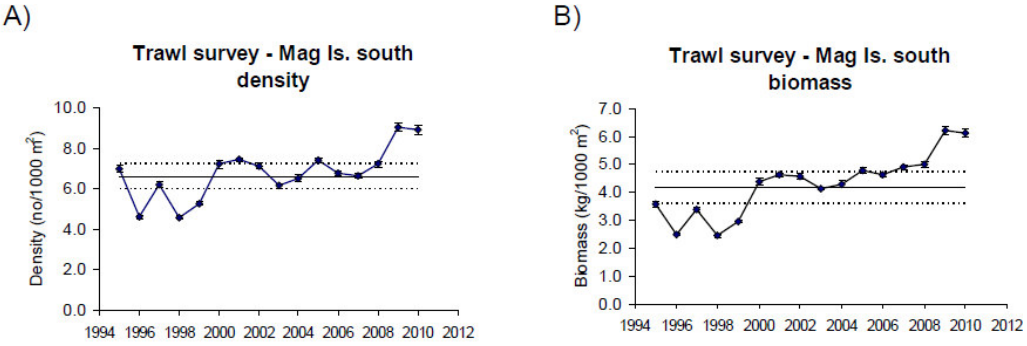


Figure 5. Commercial-size lobster A) density and B) biomass (kg) per 1 000 m2 (mean ± 95% c.i.) observed during the September trawl survey conducted on the south side of the Magdalen Islands between 1995 and 2010. 1995–2009 mean (solid line) ± 0.5 standard deviation (dotted lines).

All of the abundance indicators have increased since 2008. Landings and CPUEs in weight from commercial sampling are significantly correlated ($p < 0.01$) to the biomass from the previous year's trawl survey for the period of 1995 to 2010 ($r = 0.85$ and 0.82, respectively).

Demographic indicators and fishing pressure

There was no notable change in commercial-size lobster size structures (≥ 83 mm) since 2008 (Figures 6A and 6B) or since the MLS was increased in 2003. The size structures have a truncated appearance and are dominated by a moult class of 83–94 mm for males and 83-90 mm for females corresponding to the year's recruits. Female size distributions are more truncated toward small sizes than male size distributions are. This reflects a decrease in female growth as they reach sexual maturity.

The mean size and weight of landed lobsters has remained stable since 2008 (around 91 mm CL and 640 g in the south and around 92 mm and 660 g in the north). The stability in the mean size and weight of commercial-size lobsters was also observed in the trawl survey. The proportion of jumbo lobsters (≥ 127 mm) observed during at-sea sampling is generally less than 1%. It was 0.4% in 2011 on the south side of the Islands compared to 0.7% in 2008. In the trawl survey conducted in the fall of 2010, the proportion of jumbos was 1.1% compared to 0.6% in the fall of 2007. The proportion on the north side reached 0.7% in 2011 compared to 0.3% in 2008.

Truncated size structures are indicative of high exploitation rates. Exploitation rates calculated for commercial-size males were 75% in the south and 68% in the north in 2010. There was not much variation in these values since 2003 but they are above the 1985–2009 series average (68% in the south and 60% in the north). The exploitation rate calculated from the trawl survey data has also shown some stability since 2003 (66.3 ± 1.7%) (mean ± standard error). The exploitation rate index for males ≥ 76 mm has decreased by about 50% since the MLS of 83 mm was reached.

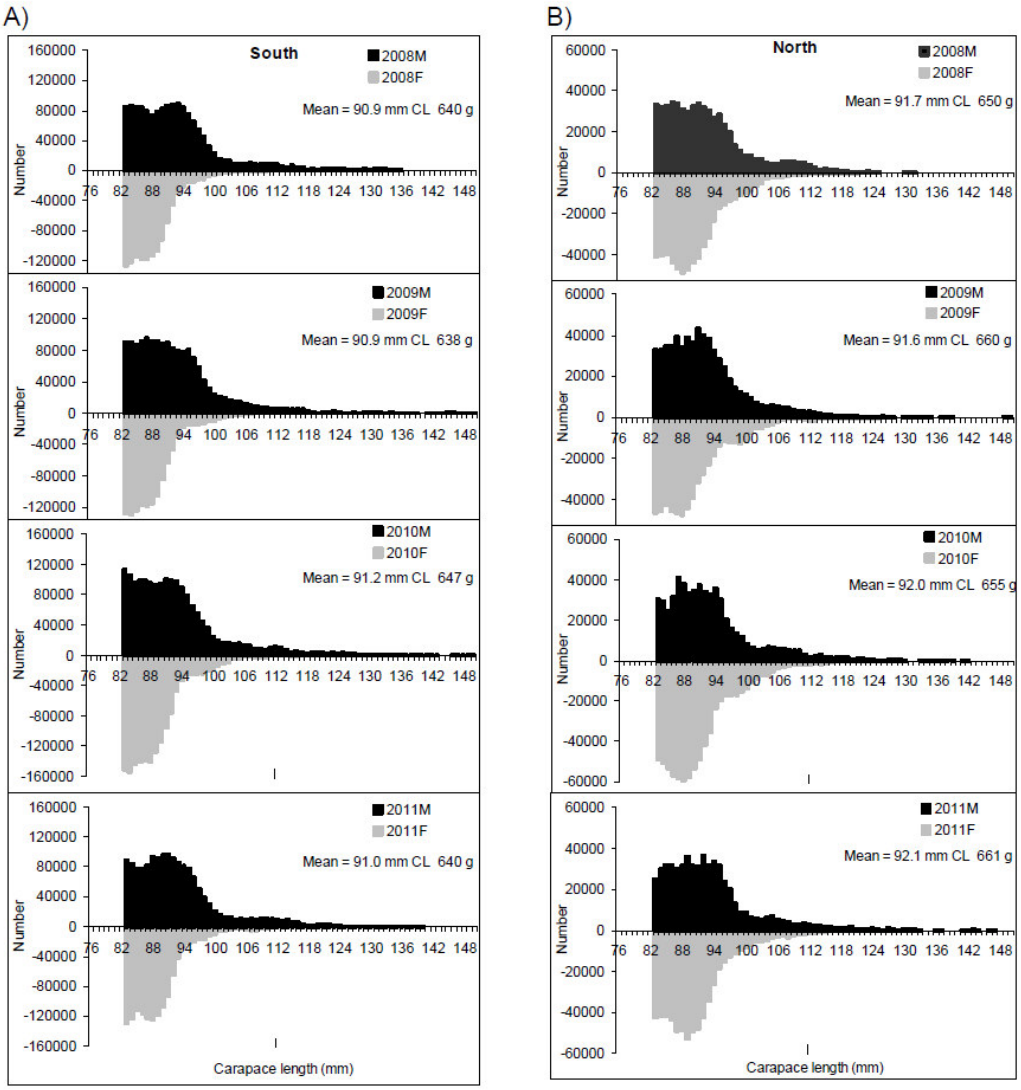


Figure 6. Size frequency distribution of male lobsters (black) and female lobsters (grey) (commercial portion) from 2008 to 2011 for A) the south side and B) the north side of the Magdalen Islands. The frequencies are weighted by landings.

Productivity indicators

Berried females and egg production

In 2011, for all of the Islands, the CPUE of female lobsters was 0.23 l/t. The average CPUE since the MLS was increased to 83 mm (2003 to 2010) was 0.18 l/t compared to 0.09 l/t for 1985 to 1996 when the MLS was 76 mm CL (Figure 7). The 2011 CPUE was higher than in 2008 (0.13 l/t). An abundance index for mature females (≥ 79 mm) calculated from data in the trawl survey also shows an increase from 1995 to 2010. The density of mature females was less than 3 lobsters/1 000 m^2 before 1997 and reached 5 lobsters/1 000 m^2 in the fall of 2010.

The examination of the size structure of berried females shows a strong mode under the MLS on the south and north sides (Figures 8A and 8B). On the south side, 62% of berried females are under the MLS whereas on the north side, 30% are below it. Before the MLS was increased, most of these females did not contribute to egg production. In 2011, the average size of berried females was 81.5 mm in the south and 87.1 mm in the north. The largest size of berried females on the north side is mainly explained by a larger size at sexual maturity. Berried female size structures from the trawl survey are similar to those from at-sea sampling on the south side of the Islands. In 2011, multiparous females (those that spawn for the second time at least) represented 21% and 27% of berried females in the south and the north, respectively, compared to 17% and 23% in 2008. An egg production index was obtained by multiplying the abundance index of berried females for each 1-mm size class by the size-specific fecundity. In 2011, the egg production index for the Magdalen Islands was 3.4 times higher than that calculated for 1994 to 1996, before the MLS was increased. Also that year, multiparous females contributed to 32% of total egg production.

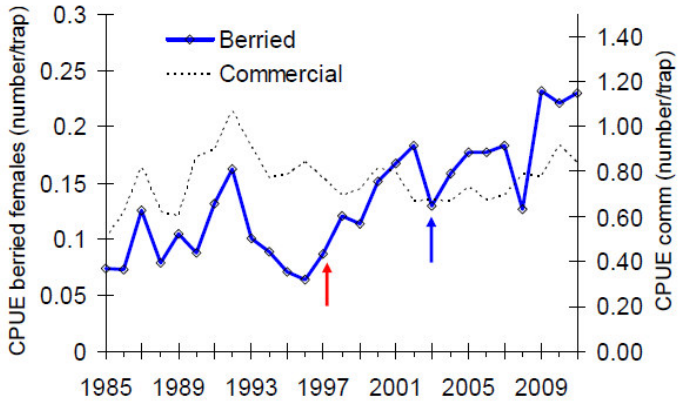


Figure 7. Catch rates (CPUE) of berried females for the Magdalen Islands from 1985 to 2011. The first arrow indicates the start of the increases in MLS and the second arrow indicates the year when the height of the escape vents was increased from 43 mm to 47 mm. The dotted line indicates CPUEs of commercial-size lobsters during the same period.

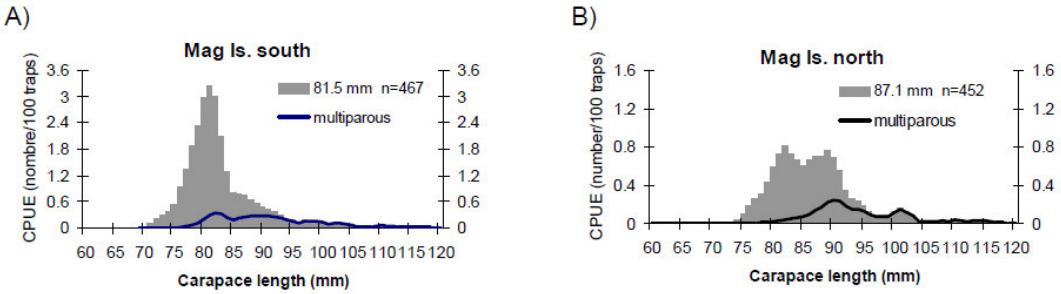


Figure 8. Size distribution frequencies of berried females on A) the south side and B) the north side of the Magdalen Islands in 2011. The black line represents multiparous females. The distributions are weighted by the abundance indices (annual CPUE). The average size and total number of berried females measured are indicated.

Since 2004, at the time of the trawl survey, females ≥ 80 mm and in recent postmoult have been examined to see if they have a sperm plug in the entrance of the seminal receptacle. The presence of a sperm plug indicates that the female has mated and that there is sperm in the seminal receptacle. The purpose of this type of observation is to detect any anomalies in mating

success that could be consistent with too strong fishing pressure on males and with a sex ratio imbalance. In 2011, about 69% of females had a plug compared to 81% in 2008. Percentages were lower over the past three years (67 to 69%). Between 2004 and 2007, rates fluctuated between 70 and 79% without showing a trend. The recent decrease in rates is still no cause for concern, but the situation must be monitored. A partial explanation for these low rates is that sampling could have been done before the end of the reproduction season.

Recruitment

Commercial-size lobster biomass estimated during the trawl survey in a given year gives a fairly good prediction of total landings in the Islands the following year (Figure 9). The biomass index from the 2011 trawl survey (5.4 kg/1 000 m^2) was lower than that of the past two years (6.2 and 6.1 kg/1 000 m^2 in 2009 and 2010, respectively), but it still suggests high landings for 2012 (similar to the past five years, excluding the very high number in 2010). The abundance indices observed in the trawl survey for pre-recruits and juveniles remain high, which suggests that good recruitment to the fishery will be maintained in the medium term.

The benthic settlement on the Les Demoiselles site (Figure 2) has been higher on average since 2002 compared to what was observed between 1996 and 2001. The high values in recent years coincide with the increase in egg production. However, benthic deposition is also influenced by wind strength and direction during the larval period. Benthic deposition observed in 2010 and 2011 was exceptional, with a density of young-of-the-year reaching 5 and 3 lobsters/m^2, respectively. These values are three to five times higher than that observed in 2008, which was described as excellent all the same. The survival of these young lobsters until they reach commercial size is still uncertain. However, it is possible that the high number of landings in 2010 is related to the strong deposition observed in 2002 (1 lobster/m^2). The 2002 cohort was the strongest observed between 1995 and 2007.

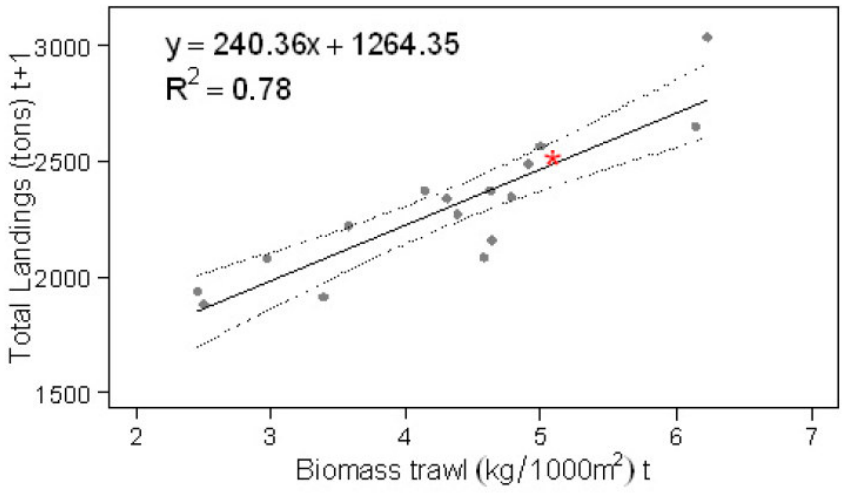


Figure 9. Relationship between the commercial-size lobster biomass index from the trawl survey in a given year (t) and the total lobster landings in the Magdalen Islands one year later (t+1). The dotted lines show a confidence interval of 95% around the regression line. The star shows the biomass value observed in 2011 and the prediction for 2012.

Precautionary approach

A precautionary approach (PA) based on an empirical method was suggested for the lobster fishery in the Magdalen Islands. The limit and upper reference points (LRP and URP) and the stock status zones (healthy, cautious and critical) were defined from a stock biomass indicator and in compliance with the DFO operational policy framework (DFO 2009). According to the definition in the framework, a stock is considered to be in the critical zone if its biomass is less than or equal to 40% of the biomass corresponding to the maximum sustainable yield (B_{MSY}). The level of 40% of B_{MSY} corresponds to the LRP. The stock is in the healthy zone if its biomass is higher than 80% of B_{MSY} (the level corresponding to the URP). The stock is in the cautious zone if its biomass is between the LRP and the URP. In the absence of estimates of a stock's biomass from an explicit model, the framework states that provisional estimates of B_{MSY} can be used. Since there are no biomass estimates for lobster stocks in the Magdalen Islands, a provisional estimate of B_{MSY} was taken by using landings from a productive period. In the case of the Islands, landings are considered as an indicator that is reasonably representative of the biomass. Average landings from 1985 to 2009 were used as an approximation of B_{MSY}. These 25 years correspond to a productive period for lobster during which at least two generations of them were produced in large numbers. Average landings from 1985 to 2009 were 2 188 t. The LRP (40% x average) is 875 t and the URP (80% x average) is 1 750 t. The LRP of 875 t corresponds to the landings observed in the early 1970s, which were among the lowest recorded in 60 years. At that time, the stock was considered overexploited. We cannot state with certainty that it is a limit below which stock productivity would be compromised. However, it is a point from which it is presumed that the stock would be likely to rebound as long as environmental conditions remain favourable for lobster. The stock is considered stronger today than it was in 1970 because the spawning biomass is now higher following the increase in the MLS. In 2011, with landings of 2 648 t, the stock is considered in the healthy zone.

Ecosystem considerations

Although lobster traps can be very selective, some non-targeted species that enter them are brought to the surface and returned to the water. A bycatch inventory was taken during the 2011 lobster season. There were 54 fishing trips where all of the bycatch species were identified, counted and weighed. A total of 19 species were listed. Bycatches during the 2011 lobster season were estimated at 93 t, which represents about 3.5% of lobster landings. Rock Crab, Longhorn Sculpin, Green Sea Urchin, Sea Raven, whelk and Ocean Pout made up more than 90% of the catches (in weight). On the whole, bycatches were considered negligible. For most (except maybe Rock Crab, which can be landed), bycatches were returned to the water alive. One American eel and 20 Atlantic cod, two species listed by COSEWIC as of special concern in the first case and endangered in the second case, were observed in the catches.

Sources of uncertainty

Coverage of at-sea sampling is poor (0.14% of fishing trips), which brings about uncertainties in the representativeness of the estimates. Although it is considered that catch rates reflect lobster abundance on the sea floors, they can also be affected by catchability variations that bring about uncertainty in their interpretation. Changes in catchability can also create uncertainty in the calculation of exploitation rate indices. Spatial fishing patterns can affect the abundance index of berried females if, for example, fishers avoid areas where these females can gather. Predictions for recruitment to the fishery from data on benthic deposition are not very accurate because of the variability of age at recruitment and uncertainty as to the survival of lobsters between the time of their benthic settlement and their entry into the fishery 8 to 10 years later. There is also uncertainty as to the representativeness of small-scale observations for the entire population.

CONCLUSION

It can be concluded that with its high abundance and productivity, the lobster stock in the the Magdalen Islands is in good shape and that in the present environmental conditions, current exploitation levels do not compromise its sustainability. However, a decrease in exploitation rates could theoretically improve the size structure.

A precautionary approach was suggested and two reference points (limit and upper) were determined in order to define the three stock status zones (healthy, cautious and critical). Lobster stocks in the Islands are currently in the healthy zone. Decision rules and management for each stock status zone were established with the industry and will guide management decisions as of now.

SOURCES OF INFORMATION

This Science Advisory Report is from the February 1–2, 2012 regional peer review on the Assessment of the lobster in the Quebec's inshore waters. Additional publications from this process will be posted as they become available on the Fisheries and Oceans Canada Science Advisory Schedule at: http://www.dfo-mpo.gc.ca/csas-sccs/index-eng.htm.

DFO.2009. A Fishery Decision-Making Framework Incorporating the Precautionary Approach. http://www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/precaution-eng.htm

Gendron, L. and G. Savard. 2012. Lobster stock status in the coastal waters of Québec (LFAs 15 to 22) in 2011 and determination of reference points for the implementation of a precautionary approach in the Magdalen Islands (LFA 22). DFO Can. Sci. Advis. Sec. Res. Doc. 2012/010.

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DFO. 2012. Assessment of Lobster Stocks of the Magdalen Islands (LFA 22), Quebec in 2011. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2012/012.

APPENDIX 6: TERMS OF REFERENCE, OPENING DATE ANALYSIS COMMITTEE

Until 2012 inclusive, the opening date for the lobster fishery in area 22 is set to the Monday nearest to May 6. Nevertheless, a committee on the opening date may meet when one of the two following situations occur:

Data from the Canadian Hydrographic Service on the water temperature around the Magdalen Islands at the end of March indicate that the water is warmer than observed during the recent past years;
There is ice around the Magdalen Islands.

1. Committee members

The committee is composed of 10 fish harvesters representing the diverse landing ports of the Magdalen Islands, of the DFO area director and managers from the Department. Upon request, a representative of the Canadian Hydrographic Service and/or the biologist in charge may also participate in the meetings.

The fish harvesters representation is divided as follows:
Grande-Entrée : 2 representatives
Grosse-Ile : 1 representative
Pointe-aux-Loups : 1 representative
Havre-aux-Maisons and Pointe-Basse : 1 representative
Cap-aux-Meules and Cap Vert : 1 representative
Étang-du-Nord : 1 representative
Millerand: 1 representative
Havre-Aubert: 1 representative
Entry Island : 1 representative

2. Committee mandate

The only mandate of the committee is to make recommendations with regards to the modification of the lobster fishery opening date.

3. Committee rules

To set an earlier opening date :
Upon receipt of data from the Canadian Hydrographic Service to the effect that the water temperature around the Magdalen Islands at the end of March is above the average of the past recent years (or, in other terms, similar to the end of March 1998 and 2006), the Committee meets and analyses the opportunity to open the fishery one week earlier.

The committee makes his recommendations to DFO who keeps the right to set the opening date. DFO will take into account elements such as the advice of the biologist in charge, of the Canadian Hydrographic Service and of the majority of committee members.

To postpone the opening date, the procedure is as follows:

The first meeting will be held on the last week prior to the opening date (on Wednesday). If, at this first meeting, at least one fish harvester representative recommends to postpone the

opening date because of the presence of ice in a given fishing area, DFO will automatically postpone the opening by one week.

If a second meeting is required, a consensus is required to postpone the opening date for a second time. If at least one of the fish harvesters' representatives recommends the opening of the lobster fishing season, DFO will open the fishery. If there is a consensus among the committee, DFO will accept the recommendation of the committee. This recommendation could be to postpone the opening date for a period inferior to a full week.

APPENDIX 7: WEATHER CONDITION MONITORING PROTOCOL

Environment Canada's marine forecast for northeastern and northwestern halves of Gulf –Magdalen (if both are available) will be used. Basically, DFO will use the "worst" conditions, whether for the northeast or northwest of Gulf – Magdalen (if both are available). This forecast is released at 10:00 h and 15:30 h.

THURSDAY 10:00 H

Less than 25 knots	Actions	OR	25 knots or more	Actions
The forecast for Saturday morning is less than 25 knots and there is no indication to the effect that it could be windy.	The Variation order is prepared and released, the fishery will open on Saturday at 5:00 h, as usual.		The forecast for Saturday morning is 25 knots or more.	The monitoring protocol is activated by DFO and the steps described below are followed.

↓

THURSDAY 15:30 H

1.	The forecast for Saturday morning is less than 25 knots. →	No immediate action, on hold until the forecast from Friday at 15:30 h is available to confirm the opening.
2.	The forecast for Saturday morning is still 25 knots or more. →	Notice to fishers (CFIM) to the effect that there's a possibility that the opening be delayed.

↓

FRIDAY 15:30 H

1.	The forecast for Saturday morning is less than 25 knots. →	Preparation and release of the Variation order, notice to fishers (CFIM) to confirm the opening on Saturday morning at 5:00 h, as planned.
2.	The forecast for Saturday morning is still 25 knots or more. →	Notice to fishers (CFIM) that the setting of traps is delayed, information on the new departure time (if it is possible to determine such a time) or information on the process that will be followed, including the manner in which fishers will be advised.

At this point and time, if it has not been possible to determine, on Friday at 15:30 h, when the lobster fishery will open, DFO will follow the marine forecast (released twice a day) until it becomes possible to establish an opening date and time which will nevertheless not be set any later than at noon for a given day.

APPENDIX 8: PERFORMANCE INDICATOR FOLLOW-UP

Updated on March 9, 2013

Issue	Objective	Indicator	Result
5.1 Stock productivity	5.1.1 Continue to reduce the fishing effort: reduce the number of authorized traps per fish harvester by three until 2014.	Number of traps authorized for each year of the plan.	2010: 285 traps 2011: 282 traps 2012: 279 traps
	5.1.2 Begin the consultations needed to put into place the additional management measures needed to improve the size structure.	Work and initiatives connected to improvements in the size structure that have been accomplished.	N/A, from the DFO Science's advice, it is not an imperative requirement for the short term.
	5.1.3 Develop, in collaboration with the industry, a precautionary approach (PA) for the lobster stock in Area 22.	Work and initiatives connected to the precautionary approach for the Area 22 lobster stock that has been accomplished.	2011: PA developed, in collaboration with the industry. 2012: PA in place.
	5.1.4 Adjust the management measures to take into account the stock status report that will be published in winter 2012.	Modifications made to the 2010-2014 IFMP.	N/A for 2010 and 2011. 2012: Development of decisions rules which will guide management decisions in the future.
5.2 Importance of lobster for the Magdalen Islands community	5.2.1 Maintain the current situation in terms of the number of lobster fishing enterprises in Area 22 at 325.	Stability in the number of lobster fishing enterprises in area 22: 325.	2010: 325 2011: 325 2012: 325
	5.2.2 When making decisions, take into account the potential increase in operating costs associated with lobster management and thus, keep them as low as possible.	Impact of new initiatives associated with lobster fishery management on the operating costs of lobster harvesters.	2010, 2011 and 2012: No new management measure put in place. Progressive implementation of electronic logbooks.

Issue	Objective	Indicator	Result
5.3 Monitoring commercial fishing activities and controlling poaching	5.3.1 Put into place a monitoring plan that addresses the critical management measures.	Number of dockside and at-sea verifications during the current year and compared to preceding years.	Dockside: 2010: 445 2011: 482 2012: 447 At sea: 2010: 41 2011: 41 2012: 28
		Percentage of Fishery Officer hours allocated to lobster during the current year and compared to preceding years.	2010: 44% for 3,365 hours 2011: 42% for 2,993 hours 2012: 33% for 2,785 hours
		Degree of compliance with legislation and management measures (number of offences in relation to verifications).	2010: 4 offences 33 warnings 2011: 13 offences 21 warnings 2012: 7 offences 13 warnings
	5.3.2 Maintain the Poaching Alert program.	Number of offences connected to lobster poaching for the current year and compared to preceding years.	2010: 1 2011: 3 2012: 2
	5.3.3 Continue awareness-raising visits to schools.	Number of information meetings at schools (% of the targeted clientele that was in fact met).	2010: Met 33% of the targeted clientele. 2011: Met 17% of the targeted clientele. 2012: Met 60% of the targeted clientele.
	5.3.4 Ensure prompt and thorough follow-up of complaints received.	Number of complaints received for the current year and compared to preceding years.	2010: 35 2011: 25 2012: 15
	5.3.5 Meet with individuals entering the commercial fishery to raise their awareness as to the	Percentage of lobster harvesters met by Fishery Officers during the current	2010 and 2011: N/A, meetings every 4 year. 2012:

Issue	Objective	Indicator	Result
	importance of the management measures in place.	year.	175 fish harvesters met (54% of the lobster fleet).
5.4 Market access	5.4.1 Within the limits of DFO's mandate, support initiatives by the industry in such areas as traceability, eco-certification or other marketing strategies.	Advancement of work connected to traceability, eco-certification or other marketing strategies. Work accomplished by DFO in response to industry demand.	2010: 2010-2014 IFMP put in place. 2011: Development of a precautionary approach. 2012: Precautionary approach in place. 2011: Work on incidental catches by lobster harvesters. 2012: Publication of the work on incidental catches. 2010 and 2011: Several meetings relating to the eco-certification pre-assessment process. 2012: Participation in the eco-certification assessment process.
5.5 Habitat and ecosystems	5.5.1 Identify the habitats that are of importance to the lobster at each stage of its development. 5.5.2 Identify the activities that have an impact on critical lobster habitat.	Advancement of work being done on the identification of important habitats for the lobster and on the activities having an impact on these habitats.	2010 and 2011: Multi-beam survey in Grosse-Ile (closure of sensitive areas). 2011 and 2012: Work in Baie de Plaisance. 2010, 2011 and 2012: Collaboration in the artificial reefs

Issue	Objective	Indicator	Result
			projects.
	5.5.3 Document the incidental catches that occur in the inshore fisheries.	Advancement of work being done on inshore fisheries to identify the incidental catches in the lobster fishery and the lobster incidental catches in the other fisheries.	2011: Joint project DFO-industry to identify the incidental catches in the lobster fishery. 2012: Publication of the results. 2010, 2011 and 2012: Data collection on lobster incidental catches in the flounder fishery.
	5.5.4 Document and assess the impact of lobster traps lost at sea.	Advancement of work on the impact of lobster traps lost at sea.	2010-2011: not achieved. 2012: review of literacy (DFO internal reports).
	5.5.5 Continue to raise awareness amongst the fish harvesters regarding the importance of having escape panels in their traps, as is required by legislation. In addition, pursue efforts to put in place a third option consisting of using cotton twine to hold the mesh together, like in crab traps.	Advancement of work on regulatory amendments in order to offer fish harvesters a third option in terms of the mandatory escape panels on lobster traps.	2011: Regulatory amendment requested. 2012: Decision to offer the third option (cotton twine) by way of conditions of licence starting in 2013.
		Number of lobster harvesters per year that have equipped their traps with escape panels.	N/A for 2010, 2011 and 2012.

APPENDIX 9: RESOURCES

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APPENDIX 10: MAP OF LOBSTER FISHING AREAS

Pêches et Océans Canada
Région du Québec
Gestion des pêches
Conservation et Protection

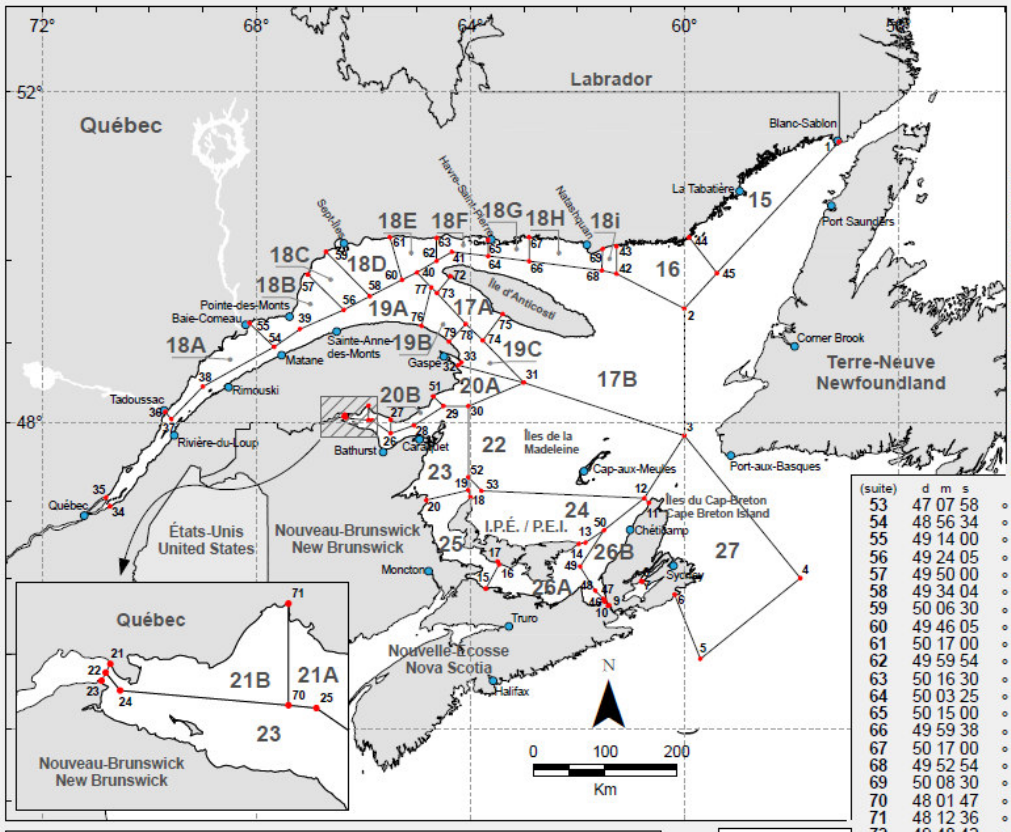
Fisheries and Oceans Canada
Quebec Region
Fisheries Management
Conservation and Protection

SECTEUR SECTOR

Régions du Québec et du Golfe — Quebec and Gulf Regions

CARTE DES ZONES DE PÊCHE POUR / FISHING AREAS FOR :

HOMARD / LOBSTER



Dernière mise à jour / last update : 29/03/2011
Réalisation : Sighap / Realization : Fharris

Point	LATITUDE NORD / NORTH d m s		LONGITUDE OUEST / WEST d m s
1	51 25 00	°	57 06 45
2	49 25 00	°	60 00 00
3	47 50 00	°	60 00 00
4	46 00 00	°	57 50 00
5	44 56 00	°	59 42 00
6	45 47 00	°	60 11 00
7	45 57 25	°	60 47 32
8	45 57 32	°	60 48 32
9	45 38 30	°	61 24 15
10	45 38 10	°	61 25 45
11	46 58 42	°	60 40 00
12	47 02 18	°	60 45 00
13	46 27 52	°	61 51 06
14	46 26 55	°	61 58 25
15	45 51 45	°	63 42 42
16	46 10 35	°	63 28 03
17	46 12 58	°	63 29 26
18	47 03 27.7	°	63 59 48.8
19	47 08 25	°	64 02 10
20	47 00 48	°	64 49 40
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27	48 02 00	°	65 29 10
28	47 57 45	°	65 03 30
29	48 12 15	°	64 30 00
30	48 12 15	°	64 02 10
31	48 30 00	°	63 00 00
32	48 43 00	°	64 13 30
33	48 44 55	°	64 09 51
34	46 56 06	°	70 44 11
35	47 02 57	°	70 48 40
36	48 08 06	°	69 42 03
37	48 02 30	°	69 35 30
38	48 27 00	°	69 00 00
39	49 09 45	°	67 11 00
40	49 51 30	°	65 00 00
41	50 06 30	°	64 20 30
42	49 50 30	°	61 16 00
43	50 10 25	°	61 16 00
44	50 16 55	°	59 54 40
45	49 51 00	°	59 23 30
46	45 41 30	°	61 29 20
47	45 43 42	°	61 30 42
48	45 50 00	°	61 40 00
49	46 09 00	°	61 57 00
50	46 37 30	°	61 30 15
51	48 19 36	°	64 41 36
52	47 18 25	°	64 02 10

(suite)	d m s		d m s
53	47 07 58	°	63 47 30
54	48 56 34	°	67 40 09
55	49 14 00	°	68 07 40
56	49 24 05	°	66 22 00
57	49 50 00	°	67 02 10
58	49 34 04	°	65 52 39
59	50 06 30	°	66 42 00
60	49 46 05	°	65 16 33
61	50 17 00	°	65 30 10
62	49 59 54	°	64 38 00
63	50 16 30	°	64 38 00
64	50 03 25	°	63 40 00
65	50 15 00	°	63 40 00
66	49 59 38	°	62 54 00
67	50 17 00	°	62 54 00
68	49 52 54	°	61 32 42
69	50 08 30	°	61 31 42
70	48 01 47	°	65 54 10
71	48 12 36	°	65 54 10
72	49 48 42	°	64 22 00
73	49 36 30	°	64 37 30
74	49 01 30	°	63 46 00
75	49 21 00	°	63 24 00
76	49 12 00	°	64 55 00
77	49 40 30	°	64 44 00
78	49 13 30	°	64 05 00
79	49 00 32	°	64 24 00

d : degré / degree
m : minute
s : seconde / second

IMPORTANT

Cette carte n'a aucune valeur officielle. Avant de l'utiliser, veuillez lire l'avertissement sur le site de Pêches et Océans de la région du Québec.

This map has no official sanction. Please read the warning on the Fisheries and Oceans Web site of the Quebec Region before using it.

APPENDIX 11: TERMS OF REFERENCE OF THE COMMITTEE

TERMS OF REFERENCE OF THE AREA 22 LOBSTER ADVISORY COMMITTEE

Approved at the February 12, 2013 Committee meeting

PRESIDENT

DFO Area Director – Magdalen Islands

MEMBERS

Association des pêcheurs propriétaires des Îles-de-la-Madeleine (APPIM).[2]

Association québécoise de l'industrie de la pêche (AQIP).

Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ).

DFO – Québec Region

MANDATE

The Area 22 Lobster Advisory Committee is the body responsible for processing issues related to the management and the development of the lobster fishery in the Magdalen Islands; it provides advices and makes recommendations to the Department of Fisheries and Oceans.

SCOPE

The Committee makes recommendations related to several aspects of the lobster fishery including, without being limited to, the following items:

- Orientations and management objectives of the fleet;
- Management measures (seasons, size limits, fishing gear restrictions, monitoring of the fishery);
- Measures related to conservation and the enforcement of regulations;
- Choice of the supplier and of the process for controlling gear tags;
- Licensing policy.

MEMBERSHIP

The Committee members are the following:

[2] The APPIM also represents the Association of Inshore Fishermen from the Magdalen Islands.

- Eight fish harvesters representatives from the Magdalen Islands local communities (Grande-Entrée, Grosse-Ile, Ile d'Entrée, Havre-Aubert, Étang-du-Nord, Millerand, Pointe-Basse et Pointe-aux-Loups);
- Two representatives from the AQIP;
- One representative from MAPAQ;
- Resource-persons from Fisheries and Oceans Canada and from the APPIM.

In addition to the members of the Committee, representatives from other departments and agencies (Transport Canada, Parks Canada, Merinov), from the industry and from non-governmental organisations may participate to the Committee meetings when they are asked for their opinion on diverse topics related to their field of competency.

GOVERNANCE

Recommendations submitted to the Department are consensus-based rather than the result of a vote.

The Committee meets at least once every year, generally in February. The Committee may recommend holding additional meeting(s). The president is responsible for informing the members of any meeting to be held two weeks in advance, unless in the case of an emergency meeting.

After having consulted the Committee members, the president will finalise the meeting agenda which will be adopted at the beginning of the meeting.

The Committee may recommend putting in place working groups to study specific questions. In such cases, the working groups will present their conclusions to the Committee.

If a member cannot attend a meeting of the Committee, the organisation he (she) represents may appoint a substitute by informing the president as soon as possible.

Non-members and media may attend the Committee meetings as observers, unless otherwise decided by the Committee members prior to the beginning of the meeting.

ADMINISTRATION

The minutes of each meeting are written in both official languages (French and English) and released by the Department of Fisheries and Oceans three weeks after a meeting is held, at the latest.