Integrated Fisheries Management Plan

Lobster in the Southern Gulf of St. Lawrence

Lobster Fishing Areas 23, 24, 25, 26A, 26B

Gulf Region
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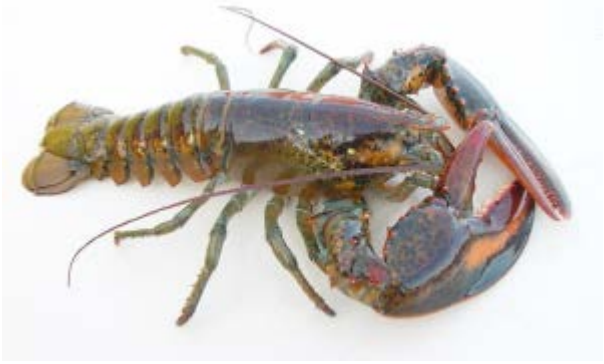

North American lobster

(Homarus americanus)

FOREWORD

The purpose of this Integrated Fisheries Management Plan (IFMP) is to document the main objectives for the lobster fishery in the Southern Gulf of St. Lawrence as well as the management measures that will be used to achieve these objectives. This document also serves to communicate some basic information about the fishery and its management.

Where Fisheries and Oceans Canada (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 will prevail to the extent of the inconsistency.

The Gulf Region comprises all the waters of the Gulf of St. Lawrence adjacent to the eastern coast of New Brunswick, the Northumberland Strait coast of Nova Scotia and Western Cape Breton Island, as well as the whole of Prince Edward Island. These waters, which represent about 1 per cent of Canada's exclusive economic zone, account for approximately 15 per cent of the total catch of Canadian fisheries, and constitute one of the country's most productive marine areas.

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*.

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OVERVIEW OF THE FISHERY

History

With an estimated annual landed value approaching $200 million and about 7,100 people involved annually in harvesting, the lobster fishery is the mainstay of the fishing industry in the Gulf Region.

Archeological investigation indicates that aboriginal people harvested lobsters for centuries with a variety of fishing gears before contact with Europeans who also took advantage of the resource upon their arrival. The fishery grew in the mid-19th century when American operators set up canneries to compensate for declining catches in the USA. After an initial increase, landings in the southern Gulf of St. Lawrence underwent a long decline apparently as the pristine unexploited populations were fished down significantly from the 1920s to mid-1970s. Beginning in the mid-1970s, annual landings underwent a remarkable and continuous increase peaking around 1991 followed by a decline. Since 2005, landings have been increasing and have reached similar levels to the early 1990s.

The lobster fishery has one of the longest histories of fisheries regulation in Canada. Until the late 1800s, the fishery was unregulated: there were no restrictions on who could fish and how much they could catch. In 1873, an Order in Council was signed prohibiting the capture of soft-shelled lobsters, egg-bearing females and lobsters less than 1 ½ pounds. Many of the management measures in place today were introduced during the following decades including measures such as fishing seasons and minimum carapace size limits. Once the change from manual harvesting and harpooning was made in the late 1800s, gear and harvesting practices (baited traps) changed relatively little for several decades. However, recent changes in the efficiency of gear (faster and bigger vessels, technology such as GPS, larger and more efficient traps) have increased fishing pressure significantly. Beginning in 1967 and 1968, the limited entry licensing was implemented to cap the number of licence holders and in 1976, three classes of licences were introduced to exclude those who earned their living elsewhere or at other professions. In 1977 and 1978, the Department undertook a program to reduce the number of fishing enterprises and 600 licences were retired from the Gulf-based fishery.

In 1982 the “bonafide” policy was implemented throughout the Gulf Region fishery. Those who met the criteria and thus became bonafide fish harvesters were subject to a policy that allowed them greater flexibility in managing their activities: a fish harvester could have his/her licence reissued to another fish harvester and could participate in a particular fishery or not. The bonafide policy also established restrictions that were aimed toward concentrating as many licences as possible in the hands of bonafide fish harvesters, thus creating multi-species enterprises which would be more able to sustain fluctuations in individual species abundance or value. In 1995, the concept of “core” fish harvesters was introduced in Atlantic Canada and served to reinforce the bonafide policy by establishing restrictions on the number of multi-species enterprises.

In 1990, the Supreme Court of Canada released its decision in R. v. Sparrow. In this landmark decision, the Court provided meaning and context to the Constitution Act, 1982, section 35(1) and held that, after conservation and other “valid legislative objectives”, Aboriginal rights to fish for food, social and ceremonial purposes have priority over all other

uses of the fishery. Through the Aboriginal Fisheries Strategy (AFS) Fisheries and Oceans Canada (DFO) provides a framework for the management of fishing by Aboriginal peoples for food, social and ceremonial purposes. Agreements are negotiated and the Minister or delegate issues a communal licence to reflect the agreement reached, or when an agreement is not reached, the Minister issues a communal fishing licence consistent with the provisions of Sparrow and subsequent Supreme Court of Canada decisions.

In 1995 the Fisheries Resource Conservation Council (FRCC) produced a report on the status of the lobster stocks in Atlantic Canada. In short, they stated that “we are taking too much and leaving too little and the risk of recruitment failure is unacceptably high.” This led to a series of multi-year lobster management plans throughout Atlantic Canada aimed at increasing egg production. In the Gulf Region fishery, the focus was on increasing the minimum legal carapace size gradually in each LFA. However, the fishery throughout Atlantic Canada continued to show signs of distress and ten years after the initial 1995 FRCC report, the minister of the day asked the FRCC to review once again the status of the lobster stocks. Their 2007 report “Sustainability Framework for Atlantic Lobster” focused mainly on reaching a conservation target, reducing fishing effort and the need for fish harvesters to provide comprehensive data about their fishing activities and landings. In response to the second FRCC report and industry interest, DFO announced the $50 million Atlantic Lobster Sustainability Measures (ALSM) program in 2009 which essentially provided funding to the lobster industry to improve its economic prosperity and long term sustainability. The ALSM program resulted in the removal of over 24,000 lobster traps and the retirement of 280 lobster fishing licences in the Gulf region.

Types of Fishery

The fishery is conducted mainly on a commercial basis, and some Aboriginal communities also conduct fisheries for food, social and ceremonial (FSC) purposes. There is no recreational fishery for lobsters in Atlantic Canada.

Aboriginal communal food, social and ceremonial fishing is a cultural and sustenance activity and DFO negotiates agreements for Aboriginal fishing for FSC purposes. Through these agreements, licences are issued outlining the locations, methods, gear types, timeframes and other pertinent conditions. The resources caught under an FSC communal licence are used to provide food for community members, and support the traditional social and ceremonial activities of the First Nations community or Aboriginal groups.

Participants

In 2012, the lobster fishing industry in the Gulf Region consisted of 2,966 commercial lobster licence holders which included 215 communal commercial licences held by 18 Aboriginal organizations. Each of these commercial enterprises employs a number of crew members bringing the total to about 7,100 individuals involved in the harvesting sector. In addition, there were nine Aboriginal organizations which received communal lobster fishing licences for food, social and ceremonial purposes.

In 1992, DFO launched the Aboriginal Fisheries Strategy (AFS) in response to the Sparrow decision of the Supreme Court. The AFS provides access and allocation of lobster resources

to Aboriginal people for their food, social and ceremonial purposes. Under AFS, some communal commercial licences were also issued. Starting in 1999, in response to the Supreme Court decision in R. v. Marshall, increased access to the commercial fishery was provided to First Nation communities. Detailed information on the numbers of lobster licences of the various categories can be found in Appendix A.

Location of the Fishery

The lobster fishery in the Gulf Region is managed in five Lobster Fishing Areas (LFAs) some of which have been divided into smaller management zones some with more restrictive management measures (i.e.sub-LFAs). Lobster Fishing Areas do not correspond to biological units of the lobster population; rather they were developed over a long period of time and corresponded to a large degree to clusters of fish harvesters from different fishing communities.

Fishery Characteristics

Lobster is harvested using baited traps set on the sea bed. The lobster fishery is an input fishery (as opposed to an output fishery which has quotas) characterized by limiting, amongst other elements, the number of licences, the number and size of traps, the length of the season, the minimum carapace size, the configuration of fishing gear, no retention of egg-bearing females, etc. More information on management measures is found later in this document.

Governance

In addition to conservation and harvesting plans specific to management areas, the fishery is governed by a suite of legislation, policy and regulations including but not limited to those noted below:

- *Fisheries Act*
- *Coastal Fisheries Protection Act, 1985*
- *Oceans Act, 1996*
- *Species at Risk Act, 2002*
- *Atlantic Fishery Regulations (AFR), 1985*
- *Fishery (General) Regulations, 1993*
- *Aboriginal Communal Fishing Licences Regulations, 1993*
- Commercial Fisheries Licensing Policy for the Gulf Region
- A Policy Framework for the Management of Fisheries on Canada's Atlantic Coast
- Sustainable Fisheries Framework: Conservation and Sustainable Use Elements
    - Precautionary Approach policy
    - Foraging Species policy
    - Sensitive Benthic Areas policy
    - By-catch policy

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The Southern Gulf Lobster Advisory Committee provides the forum for consultation on matters related to the overall management of the Lobster fishery in the southern Gulf. The Committee is comprised of representatives from First Nations, fish harvesters from each LFA, processors and provincial governments. The advisory committee is chaired by a DFO official from the Gulf Region, supported by regional and area officials in resource management, science and economics and enforcement. Historically, the advisory committee meets on a three year frequency. DFO is expanding its use of the multi-year approach by coordinating multi-year stock assessments and advice with multi-year fisheries management planning. This influences the frequency of meeting of the advisory committees. From time to time, ad-hoc working groups may be established by the committee to address specific issues. In addition, there are LFA-specific committees to discuss management measures and conservation and harvesting plans.

Approval Process

Generally, decisions concerning major conservation and management matters are made by the Minister of Fisheries and Oceans. Other elements related to the regular ongoing management of the fishery are made by the Regional Director General for the Gulf Region.

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STOCK ASSESSMENT, SCIENCE AND TRADITIONAL KNOWLEDGE

Biological Synopsis

The North American lobster (*Homarus americanus*) is widely distributed in coastal waters from southern Labrador to New Jersey, USA, with the major fisheries concentrated in the Gulf of St. Lawrence and the Gulf of Maine. Lobsters are also found in deeper waters (to 750m) in the Gulf of Maine and along the outer edge of the continental shelf from Sable Island to off North Carolina.

Lobsters live in temperate waters requiring cold water in winter and sufficiently high summer temperatures to grow, produce and hatch their eggs. Juvenile and adult lobsters can tolerate waters from less than 0°C to approximately 25°C. Larval lobsters occur in surface waters between 6°C and 25°C, though a minimum temperature of approximately 10-12°C appears to be required for successful bottom settlement phase (stage IV). Larval development is temperature dependent and takes just 10 days at 22-24°C but over 2 months at 10°C.

The life history of the lobster can be divided into a planktonic and benthic phase. The planktonic phase follows the hatching of the eggs in July and August. The larvae go through the free-swimming period that lasts from 3 to 10 weeks depending on environmental conditions, mostly water temperature. The planktonic phase ends at stage IV when the larvae settle on the bottom.

Juvenile and adult lobsters can tolerate a wide range of salinities from 15 to 32 ppt (parts per thousand) but can be affected by low salinities associated with spring melts or heavy runoffs in shallow estuaries. Larval lobsters are sensitive to salinities below 20 ppt, and alter their depth by actively swimming to avoid low-salinity surface waters. Lobsters are crustacean and grow by periodic shedding of their carapace called molting. Molting lobsters are less resistant to low salinities than are hard-shelled lobsters due to the osmotic permeability of their carapace.

Lobsters are found on many different bottom types from mud and sand to cobble and boulders. Young lobsters require shelter to avoid predators so are more restricted in their habitat than larger lobsters. Newly settled and juvenile lobsters are most common in complex habitats such as cobble or gravel bottoms, As they grow they are increasingly mobile and can be observed in all types of habitats but in higher densities in complex rocky habitats.

Female lobsters reach maturity at different sizes over their geographic range, and this is thought to be controlled principally by water temperatures, maturing at smaller sizes in regions with high summer temperatures (Gulf of St. Lawrence, Southern New England) and at larger sizes in regions with low summer water temperatures (Bay of Fundy). The maturity indicator used for management purposes is the size at 50% maturity, which is the size at which half of the animals are capable of reproducing for the first time. Male maturity occurs at a smaller size under similar conditions. For successful mating the male needs to be similar in size or larger than the females. Males can mate with numerous females but in other lobster species it has been shown that there are consequences of having too few males resulting in small egg masses.

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Female lobsters will reach the size at 50% maturity at 72 mm of carapace length in most areas of the southern Gulf and 75 mm in western Cape Breton and part of St. Georges Bay. Mating occurs between July and September. Generally, female lobsters extrude eggs one year after mating and carry the eggs, attached under the abdomen/tail, for nearly another year.

Ecosystem Interactions

Environmental conditions, such as water temperature, can influence the distribution of lobster as well as their catches. Over most of the southern Gulf of St. Lawrence the bottom temperatures are typically less than 3°C, which is not considered favorable thermal habitat for lobster. This constrains the distribution of lobster to the coastal water (i.e., < 30 m) where bottom temperature can reach over 20°C (e.g. central Northumberland Strait) during the summer. Overall, environmental conditions have been warming in the southern Gulf over the last decade. In particular, sea surface temperatures have been rising in all lobster fishing areas. The volume of the cold intermediate layer has decreased and its core temperature has increased since the late 1990s. This may favour an expansion of the lobster distribution. In terms of larval drift and survival, current observations and models suggest that the Northumberland Strait is essentially an isolated system (relying on itself for recruitment) unlike the rest of the southern Gulf.

Lobster is largely omnivorous and mainly feeds on decapods species (57%-84% of prey biomass), with rock crab being the single most important one (45%-78%). Lobster cannibalism has been observed but a substantial portion (39%-79%) of the lobster remains found in other lobster stomachs consisted of discarded carapaces from molting activities. The only demersal fish known to consume large amounts of live lobster is the shorthorn sculpin.

Stock Assessment

Introduction

Lobster assessments are conducted periodically and peer-reviewed through the Regional Assessment Process (RAP) coordinated by the Canadian Science Advisory Secretariat (CSAS). The process includes participation by industry stakeholders so that their knowledge about the fishery is taken into account. The target frequency for full assessments for each LFA is about every five years. The conclusions and management advice are available to the public through Stock Advisory Reports (SAR), Research Documents and meeting proceedings published on the web at the Canadian Science Advisory Secretariat (CSAS) website.

Stock Assessment

The stock status of lobster in the five LFAs located in the Gulf Region is assessed using indicators primarily based on a fishery-independent trawl survey in LFA 25 and part of LFA 26A and SCUBA surveys in LFAs 23, 25, 26A, and fishery-dependent data from DFO official

catch statistics, at-sea sampling (annually in P.E.I), and voluntary recruitment-index logbooks (annually in P.E.I).

In the absence of direct estimates of population abundance or biomass, stock status of lobster is based on a number of indicators including landings, catch per unit of effort, fishery-independent trawl and SCUBA surveys, fishing effort, exploitation rates, size frequencies, sex ratios, levels of pre-recruits, and proportion of egg-bearing females in the catch.

Stock Scenarios

There is no predictive tool for the lobster fishery to describe stock prospects or population trends. However, a retrospective analysis indicates that lobsters in the southern Gulf as a whole continue to be in high abundance with landings above the long-term median except in the Northumberland Strait. The lobster fishery in the southern Gulf continues to have high exploitation rates and to be dependent on new recruits making it vulnerable to recruitment fluctuations. The increase in the percentage of empty traps during the fishery in several areas also corroborates the interpretation that the fishing pressure on the lobster stock is high.

Recent multiyear management plans aimed at increasing egg production seem to have had a positive effect on lobster production in the southern Gulf as a whole. The only area that systematically shows negative indicators is the central Northumberland Strait. One possible cause is that the timing of the opening of the fishing season in LFA 25 (mid-August) is detrimental to the reproductive potential of the stock (i.e., egg production).

Research

The broad objectives of research studies are to increase our knowledge on the lobster biology and the coastal habitat in order to support decision-making on conservation issues for lobster stocks.

Recent and current studies include:

- Collectors to evaluate lobster settlement and the biodiversity of species settling in the coastal habitat
- Effect of exposure to environmental contaminants on juvenile lobster
- Lobster landing and effort monitoring project using an electronic data logger
- Ecosystem processes in Northumberland Strait
- Impact of scallop harvesting activities on coastal habitats and associated species
- Study on lobster benthic stages and habitat mapping
- Internal organ pathology associated to lobster shell disease
- Variability in trap catches from at-sea sampling during a spring fishery
- Protecting window-size female lobster to increase egg production
- Lobster thermal habitat in the southern Gulf of St. Lawrence in relation to climate changes

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Aboriginal Traditional Knowledge

Aboriginal Traditional Knowledge (ATK) is recognized in this fishery as a source of information. Where aboriginal organizations are able to share ATK, DFO will consider it within the context of the management frameworks.

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ECONOMIC, SOCIAL AND CULTURAL IMPORTANCE OF THE FISHERY

Socio-economic Profile

Canada and the United States (US) share the world landings for American lobster. In 2011, Canada landed 66,500 tonnes of lobster[1], compared with 57,255 tonnes for the United States[2].

In 2012, the Gulf Region accounted for approximately 35% of the Canadian volume of lobster landings with nearly 23,500 tonnes of lobster landed.

Lobster is landed at some 140 ports of the Gulf Region and represents a key species in terms of fishing revenue for coastal communities. It is the main source of income and employment for nearly 3,000 fishing enterprises and directly employs about 7,100 fish harvesters. The vast majority of lobster licence holders are multispecies enterprises that also hold licences for other species such as herring, mackerel or tuna. However, the lobster fishery is the main source of fishing revenue for most of these enterprises with the value of lobster catches accounting on average for 90% of the value of their total landings.

It is estimated that since 2005, 75% to 85% of Canadian lobster production is being exported. In 2012, total Canadian seafood export value was over $4.1 billion of which 27% ($1.1 billion) consisted of lobster exports. The United States is by far the dominant market, accounting, since the early 2000s, for about 80% of the total value of lobster exports. From 2008 to 2012, processed lobster and live lobster exports accounted for an average of approximately 60% and 40% respectively of the value of Canadian lobster exports.

The US is not only a large consumer of lobster, but also a major producer. The value of US lobster exports was US$511.8 million in 2012, with 62% of the volume of lobster going to Canada[3]. The US exports lobster for processing to Canada, mainly New Brunswick. Once processed, this US caught lobster is again exported, back to the US, and its value is therefore included in the value of Canadian processed lobster exports.

In the Gulf Region, the landed value of the lobster fishery, $209.4 million, accounted for 59% of the total value of regional landings in 2012. Two size categories (or grades) of lobsters are landed in the Gulf Region: “markets” (carapace size of 81 mm or more) and “canners” (carapace size smaller than 81 mm). Canners weigh between 250 and 375 grams and are unique to the Gulf Region; they get their name from being used in the past for canning. “Market” lobsters weigh more than a pound and are the preferred category for restaurants. The proportion of canner landings is gradually decreasing over the years and accounted for approximately 50% of the total volume of lobster landings in the Gulf Region in 2012.

[1] Commercial Fisheries Landings

[2] National Oceanic and Atmospheric Administration - Annual Commercial Landing Statistics

[3] National Oceanic and Atmospheric Administration - Annual Trade Data by Product, Country/Association

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A significant price decrease occurred in the 2008-2009 lobster season due to the global economic and financial crisis at the time which presented two key challenges for the lobster fishery in Quebec and Atlantic Canada. First, there was lower demand from the US and European food service markets for a product that is commonly perceived as a luxury item. Second, harvesters and buyers (i.e. processors in Canada and importers in the US and Europe) were having difficulty securing working capital to finance inventories and thus slowed their purchase rate[4].

In 2011, 240 licensed primary processing plants had lobster as a species endorsement in the provinces of Nova Scotia (180), New Brunswick (41) and Prince Edward Island (19). Approximately 170 of these processing plants were actively processing lobster in 2011.

[4] Atlantic Lobster Sustainability Measures – Terms and Conditions for Contribution Program

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MANAGEMENT ISSUES

Fisheries Issues

Fishing Effort

The present landings are high compared to long-term historical levels. It is likely that the high landings are due in part to an increase in biomass and increased fishing power (large vessels, large engines, better technology, etc.). Given the importance of this fishery and that it is dependent on lobsters just reaching legal size (a recruitment fishery), the resource and the fishery are vulnerable. While fishing effort (e.g. number of fish harvesters, number of traps, number of fishing days, etc.) has been reduced recently, more needs to be done to avoid a possible decline in the resource due to a recruitment failure.

Concentration/Movement of Fishing Effort

Because the fishery is undertaken on a competitive basis, fish harvesters are very sensitive and possessive of established historical fishing areas within an LFA. As new fish harvesters enter the fishery, combined with voluntary licence retirement programs which permanently remove individuals from the fishery, there are increased demands that DFO implement measures to define on smaller spatial scales where fish harvesters can fish within an LFA.

Fisheries Data

Landings data are currently provided by the commercial buyers of the resource and do not include key information such as private sales by fish harvesters, level of fishing effort and distribution of effort. The lobster fishery is the only key fishery where fish harvesters do not provide this type of information nor is it monitored by an independent dockside monitoring program. However, it is anticipated that a comprehensive electronic data collection system for reporting landings and fishing effort will be in place in the near future.

Localized Decreases in Landings

In the central Northumberland Strait (southern portion of LFA25 and western portion of LFA26A), landings have decreased dramatically compared to other areas and the economic viability of many fishing enterprises is seriously threatened.

Enforcement

Although C&P places a very high priority on monitoring the lobster fishery, industry stakeholder representatives frequently state that there are not enough resources dedicated by DFO to monitor the fishery and ensure enforcement of the management measures thereby raising concerns for the ongoing conservation and protection of the resource.

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Impacts of Rock Crab Harvesting

Rock crab is a significant prey of lobster. Concern has been expressed about the impact of the directed rock crab fishery and the by-catch fishery operating during the lobster fishery of this important food source for lobster.

Availability of Bait

The lobster fishery depends upon access to large amounts of bait. The spring lobster fishery also competes for bait needed for the snow crab fishery. The higher cost of bait associated with declines in the availability from traditional sources (herring and mackerel) has resulted in fishing pressure on other species including silverside, cunners, sticklebacks, small flatfish and rock crab.

Depleted Species Concerns

Species at Risk Act (SARA)

Canada developed the Species at Risk Act (SARA) and a number of complementary programs to promote recovery and protection of species considered to be extirpated, endangered, threatened, or of special concern. The protection and recovery of species at risk involves the development and implementation of species-specific recovery strategies, action plans and management plans. Lobster has not been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and is not considered to be at risk by DFO.

Gulf Region waters are at the southern extent of the distribution of wolfish species presently listed under the SARA. The potential for interaction of the lobster fishery and wolfish is considered negligible to none. The distribution of leatherback sea turtles sometimes overlaps with areas of fishing activity, with turtles occasionally becoming entangled with anchor lines of fixed gear but there have been no reports of sea turtle mortality as a result of the inshore lobster fishery. Current levels of impact from the inshore lobster fishery on these SARA-listed species are not thought to jeopardize survival or recovery for these species.

All lobster licence holders are required, through conditions of licence, to respect protection measures for species at risk and to submit to DFO a SARA logbook at the end of each fishing season for all their fishing trips. The logbook requires harvesters to report various information should they encounter species at risk. More information regarding aquatic species at risk can be found at the Aquatic Species at Risk website.

Oceans and Habitat Considerations

Work continues to develop a network of Marine Protected Areas (MPAs) as a tool to support the ecosystem approach and to support sustainable fisheries. MPAs are not necessarily “no take” zones; rather they are developed and implemented to support sustainable fisheries

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management. The first step in developing new MPAs requires the identification of Areas of Interest (AOI) which are identified by their ecological and biological importance and are deemed to be under some level of threat from human activity.

The lobster traps used in the southern Gulf of St. Lawrence lobster fishery are not believed to have any significant detrimental impact on the fish habitat.

The use of mobile bottom gear may have a detrimental impact on some types of lobster habitat. Consequently, several “no-dragging” buffer zones have been implemented in the scallop fishery.

Gear Impacts

There is no known impact of lobster gear on habitat. Mortality of by-catch of other species in traps is minimal to nil. Ghost fishing can occur when gear is lost at sea and not retrieved but is limited by the use of biodegradable panels on traps. Salvage operations in some areas are undertaken annually to retrieve lost and illegal traps remaining after the fishing season.

International Issues

The European Union (EU) has introduced regulations effective January 2010 that require Canadian fish and seafood products to have a government validated catch certificate attesting that the product is not from an Illegal, Unreported, and Unregulated (IUU) fishery. More information can be found on the Fisheries Renewal website under Tracking & Traceability.

There are growing legal and market driven demands in key fish importing countries for assurances that fisheries are managed sustainably and in environmentally responsible ways. The Marine Stewardship Council (MSC) has developed standards for sustainable fishing and seafood traceability that are recognized globally. As of 2013, the lobster fisheries in Iles de la Madeleine and Maine are MSC certified. Several areas in the Southern Gulf of Saint Lawrence are preparing for MSC certification.

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OBJECTIVES

There are a number of overarching objectives that guide fisheries management planning for all species. The objectives are guided by the principle that the fishery is a common property resource to be managed for the benefit of all Canadians, consistent with conservation objectives, the constitutional protection afforded Aboriginal and treaty rights, and the relative contributions that various uses of the resource make to Canadian society, including socio-economic benefits.

The conservation objectives require consideration of the impact of the fishery not only on the target species but also on non-target species and habitat. The social, cultural and economic objectives reflect Aboriginal rights and recognize the economic contribution that the fishing industry makes to the prosperity of Canadian businesses and many coastal communities. The Department is committed to managing the fisheries in a manner that helps industry stakeholders and First Nations to be economically successful while using the ocean's resources in an environmentally sustainable manner.

The following objectives have been defined for the lobster fishery in the southern Gulf.

Stock Conservation

- The short term objective is to implement a data collection program that includes information on amount and distribution of fishing effort.
- The medium term objective is to reduce exploitation rates to reduce the risk of recruitment overfishing currently posed by high dependence of the fishery on new recruits.
- The long term objective is to ensure the reproductive potential of the stock is preserved by implementing all of the elements of the Precautionary approach. Initially, the focus will be on establishing biological reference points to define various states of the stock.

Ecosystem

- The short term objective is to minimize incidental catches by ensuring that trap configuration allows for the escape of undersized lobster and includes an effective biodegradable escape mechanism.
- The medium term objective is to complete coastal mapping which would include the identification of types of lobster habitat.
- The long term objective is to ensure that any potential collateral effects the fishery has on other species is mediated;

Stewardship

- The short term objective is to continue to hold Southern Gulf Lobster Advisory Committee meetings at predetermined frequencies which allows stakeholders to

share their perspectives and for the Department to consult on management of the fishery
- The long term objective is to continue to have an open and transparent working relationship with industry stakeholders and to build a collaborative approach between and among stakeholders.

Socio-economic

- The short term objectives are to:
  - promote a high-quality product including the continued implementation of management measures that promote the harvesting of a high quality product;
  - promote a fishery that operates in an efficient and orderly manner.
- The medium term objectives are:
  - to stabilize access to the resource over longer periods to allow industry stakeholders to develop long-term business plans;
  - work with those fleets interested to facilitate fleet restructuring.
- The long term objective is to provide stability, transparency and predictability in the management of the fishery.

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ACCESS AND ALLOCATION

In 1990, the Supreme Court of Canada ruled that members of the Musqueam band had an Aboriginal right to fish for food, social and ceremonial purposes. As a response to that decision, DFO launched the Aboriginal Fisheries Strategy, which provided members of Aboriginal groups access to fisheries resources for food, social and ceremonial purposes. DFO recognizes this food, social and ceremonial access to fishery resources has priority over other allocations, provided conservation of the stock is not an issue. Within this principle, DFO provides regulated access to lobster for Aboriginal people to provide for some of their food, social and ceremonial needs.

Principles respecting the management of Atlantic Canadian fisheries including the priority of access to fishery resources can be found in the "Policy Framework for the Management of Fisheries on Canada's Atlantic Coast".

In response to the Supreme Court of Canada in the *Sparrow* (1990) and *Marshall* (1999) decisions, licences are issued to Aboriginal organizations authorizing harvesting for food, social and ceremonial purposes, and communal commercial licences are issued to Aboriginal organizations and they designate the fish harvesters and vessels to be used in the fishery.

Access to the lobster fishery is limited and granted through licences issued under the discretion of the Minister of Fisheries and Oceans under section 7 of the *Fisheries Act*. The policies governing the issuance of these licences including licence reissuance, licence splits, partnering, vessel replacement, fish harvester and vessel registrations, general policy guidelines, etc., are included in the "Commercial Fisheries Licensing Policy for the Gulf Region".

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GENERAL MANAGEMENT MEASURES

This section provides an overview of some of the key management measures for information purposes only. Full details are found in various regulations, schedules and in conditions of licences. Information relating to the major management measures is available at Decisions for Atlantic Canada, Quebec and the Arctic.

Fishing Areas/Seasons

The scheduled lobster fishing season for LFAs 23, 24, 26A and 26B is from 6:00 a.m. April 30th and closes on July 1. The fishing season in a portion of LFA 26A (between Point Prim and Victoria in P.E.I.) opens on May 7 and closes on July 8. The scheduled season for LFA 25 is 6:00 am August 9 to October 10. However, it is common practice for the actual opening dates to be varied due to ice or weather conditions.

Authorized fishing times for Aboriginal organizations fishing under food, social or ceremonial licences may vary from those of the commercial fishery.

Control and Monitoring of Removals

Management measures related to removals from the fishery include minimum carapace size limits, the immediate return of female lobsters within a size window and of all egg-bearing lobsters to the water. There are also measures that prohibit possession of body parts separated from the thorax as well as the removal of eggs from lobsters. In some LFAs, there is a minimum number of traps per line as well as limits on the maximum sizes of entry hoops authorized for use in the traps.

Management measures also limit numbers of licences, authorize the use of baited traps (only) and include restrictions on the size and numbers of traps, the use of rectangular escape vents and the use of biodegradable panels.

Precautionary Approach

In general, the precautionary approach in fisheries management is about being cautious when scientific knowledge is uncertain, and not using the absence of adequate scientific information as a reason to postpone action or failure to take action to avoid serious harm to fish stocks or their ecosystem. This approach is widely accepted as an essential part of sustainable fisheries management. Applying the precautionary approach to fisheries management decisions entails establishing a harvest strategy that:

- identifies three stock status zones – healthy, cautious, and critical;
- sets the removal rate at which fish may be harvested within each stock status zone;
- adjusts the removal rate according to fish stock status variations (i.e., spawning stock biomass or another index/metric relevant to population productivity), based on harvest control rules.

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Harvest strategies incorporating the precautionary approach are developed for all key harvested stocks managed by Fisheries and Oceans Canada using its policy; A Fishery Decision-Making Framework Incorporating the Precautionary Approach

Biological reference points that conform to the Precautionary Approach are being developed for the southern Gulf Lobster stock. Harvest decision rules will be developed with the participation of stakeholders and First Nations and will take into account the status of the stock and the biological reference points. In the absence of harvest decision rules, the fishery will continue to be managed with caution.

Licensing

Anyone fishing lobster must have a valid licence and conditions of licence with the exception of communal commercial licences held by Aboriginal organizations, vessels must be registered and display vessel registration numbers. Crew members must also be registered as commercial fish harvesters. For communal commercial licences held by Aboriginal organizations, vessels and crews must be designated to fish.

In order to avoid migrations or concentrations of fishing effort within LFAs, freezes have been introduced on the reissuance of licences and on partnerships between various geographic areas within some LFAs. Additionally, in some LFAs, fish harvesters are required to land their catches at specific ports within specified geographic areas.

A number of policies are in place to promote independent core harvesters, the owner/operator policy, the fleet separation policy, etc. More information about these and other policies are found in the "Commercial Fisheries Licensing Policy for the Gulf Region". Policies governing aboriginal fishing are presently in development.

Habitat Protection Measures

Several areas are closed to scallop dragging to protect key lobster habitat from the potential negative impacts of scallop dragging.

Shared Stewardship Arrangements

(There are no formal shared stewardship arrangements in the lobster fishery.)

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COMPLIANCE PLAN

Program Description

The Conservation and Protection program promotes and maintains compliance with legislation, regulations and management measures implemented to achieve the conservation and sustainable use of Canada's aquatic resources, and the protection of species at risk, fish habitat and oceans.

The program is delivered through a balanced regulatory management and enforcement approach including:

- promotion of compliance through education and shared stewardship;
- monitoring, control and surveillance activities;
- management of major cases / special investigations in relation to complex compliance issues; and
- compliance and enforcement program capacity.

Program Delivery

Compliance in the lobster fishery is achieved through the application of the various acts and regulations including amongst others the *Fisheries Act*, the *Fishery (General) Regulations* and the *Atlantic Fishery Regulations* by Fishery Officers, as well as any variation orders made pursuant to the regulations.

The following offers a general description of compliance activities carried out by the Conservation & Protection (C&P) division of DFO in the lobster fishery.

- Land-based Fishery Officers conduct:
  - inspection of catches to ensure compliance
  - inspection of fishing gear
  - licence checks
  - overt and covert patrols to ensure compliance during both open and closed seasons
- During sea patrols, Fishery Officers conduct vessel inspections to check lobster gear and catch. Fishery officers also do licence verifications during sea patrols.
- C&P Detachment Supervisors prepare a work plan each year in which they allocate human, material and fiscal resources and establish priorities for the lobster fishery (note: enforcement of the lobster fishery is one of the priorities in the areas where this fishery is concentrated).
- C&P employees assist in making recommendations and/or proposing solutions to issues that arise during the fishing season.
- Routine aerial patrols are conducted in the areas covered by this plan. This is a valuable means of ensuring compliance with seasonal and area closures as well as investigating reports of illegal activity

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Consultation

Shared stewardship and education are encouraged through emphasis on the importance of C&P communication with the community at large including:

- Presentations to client/stakeholder groups, Aboriginal organizations, including school visits or community programs.
- Informal interactions with all parties involved in the fishery on the wharf, during patrols or in the community to promote conservation.
- Participation of C&P Supervisors in enforcement advisory meetings with industry to determine expectations in relation to monitoring, control and surveillance activities. Fishery Officers try to match these expectations with available resources and incorporate this in their yearly planning profile.
- Participation of C&P personnel in Enforcement Round Tables in order to establish an ongoing relationship and partnership with stakeholder representatives from all sectors of the communities through out the Gulf Region interested in the conservation and protection of the marine resources and habitat.
- Engagement of C&P in internal DFO consultation with the Resource Management division and other DFO branches through post season analysis and other committees to assess the effectiveness of enforcement activities and to develop recommendations for the upcoming season.
- Informal interactions with Aboriginal groups on the wharfs, during patrols or in the community to promote conservation.
- Participation of C&P personnel (liaison officer) during consultations and annual meetings organized by the Aboriginal Fisheries division and/or the Area Aboriginal Coordinators with Aboriginal Organizations.

Compliance Performance

In addition to other tasks, Fishery Officers are responsible for enforcing many commercial, recreational and Aboriginal fisheries. For the years 2000 to 2011, enforcement of the lobster fishery in the Gulf Region accounted for an average of approximately 25% of Fishery Officers' time, which is the equivalent of an average of approximately 22,500 hours/year. However, during the lobster fishing seasons, the vast majority of a Fishery Officer's day is spent on various activities related to monitoring this fishery. C&P may not always be able to sustain this effort in the face of conservation risks elsewhere.

The compliance performance may be measured by a number of indicators, including:

- Total Fishery Officers hours
- Total hours of patrols
- Number of vessels checked
- Number of vehicles checked
- Number of persons checked
- Number of gear checked
- Number of sites checked
- Number of violations / warnings

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- Number of resulting charges
- Compliance with prohibitions
- Compliance with licence conditions

Current Compliance Issues

Although some C&P statistics indicate relatively frequent infractions and convictions with high fine levels, this is not consistent throughout the Region and it is not an adequate deterrent. While C&P is prepared to seek higher impact penalties through targeted enforcement, court action is still costly in terms of officer time and money. Industry participants in this fishery have a huge role to play in achieving better compliance through closer cooperation with C&P as part of an effort to lower the tolerance of illegal activity.

Compliance Strategy

C&P has developed a Compliance and Enforcement Strategy that will provide front line Fishery Officers with the necessary guidance and direction. It will also serve as a reference in establishing operational priorities in the lobster fishery.

Priorities will be to focus on management measures that are conservation-related. Efforts and energies will includes activities such as: conducting at sea and dockside inspections, inspection of processing plants, inspections of vehicles transporting lobsters from province to province, vehicles transporting lobsters outside the country. Other compliance and enforcement activities will include grappling operations, overt and covert operations in support of detecting illegal activities associated with berried lobsters, undersize lobsters, window lobsters, illegal fishing gear, fishing in closed areas, escape mechanisms, hoop size, etc.

In support of further developing an intelligence-based approach, efforts will be maintained towards increasing intelligence gathering and information sharing capacity. A close watch will also be maintained on the development of new technology; new approaches in order to provide front line Fishery Officers the opportunity to broaden their knowledge and increase their skills. This approach will also provide an opportunity to expand the inventory of specialized tools.

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PERFORMANCE REVIEW

The Southern Gulf Lobster Advisory Committee meetings allow for an open venue for discussing the management and performance of the fishery. The following indicators will be used to determine if the plan objectives are met as outlined in Section 5

Management Objectives Evaluation Criteria

Stock Conservation

- Harvest control rules are developed that clearly define what actions are taken for a given status of the stock.
- Measurable reductions in exploitation rate such that the fishery becomes less dependent on new recruits.
- Number of licences retired, percentage of unfished lobsters reaching maturity, data about level and distribution of effort is collected, analyzed and used in management of the fishery.

Ecosystem

- Catches and mortality of non-targeted species is low to nil.
- Effectiveness of the biodegradable panel through observation.

Stewardship

- Industry creates an integrated governance structure which includes fish harvesters and processors.
- Frequency and type of discussions that take place with and between stakeholders.
- Level of participation by stakeholders in the consultative process.

Socio-economic

- Prices paid to harvesters.
- A high quality product is landed and processed.
- Gluts on the market and in the processing plants are avoided.
- Number of harvesters does not increase.

SAFETY AT SEA

Caution is exercised relative to the timing of the opening of the southern Gulf lobster fisheries by delaying the commencement of fishing until the risks posed by ice and weather is minimal. Comprehensive guidelines for opening/closing dates is in place including clearly defined inclement weather triggers that would warrant a delay in the expected season opening date. These guidelines include consultation with various industry sectors. Season openings may be delayed until the risks posed by ice or weather are minimal and these decisions are taken in consultation with industry representatives.

REFERENCES

Refer: DFO. 2012.

A Brief History of the Lobster Fishery in the Southern Gulf of St. Lawrence

Refer: DFO. 2010.

Potential Impacts of Fishing Gears (Excluding Mobile Bottom-Contacting Gears) on Marine Habitats and Communities (Canadian Science Advisory Secretariat – Science Advisory Report 2010/03)

Refer: DFO. 2009.

A fishery decision-making framework incorporating the Precautionary Approach.

Refer: FRCC. 2007.

Sustainability Framework for Atlantic Lobster 2007.

Refer: DFO. 2006.

Impacts of Trawl Gears and Scallop Dredges on Benthic Habitats, Populations and Communities (Canadian Science Advisory Secretariat – Science Advisory Report 2006/25).

Refer: FRCC. 1995

A Conservation Framework for Atlantic Lobster.

GLOSSARY

Aboriginal Traditional Knowledge (ATK): Knowledge that is held by, and unique to Aboriginal peoples. It is a living body of knowledge that is cumulative and dynamic and adapted over time to reflect changes in the social, economic, environmental, spiritual and political spheres of the Aboriginal knowledge holders. It often includes knowledge about the land and its resources, spiritual beliefs, language, mythology, culture, laws, customs and medicines.

Abundance: Number of individuals or total weight of animals in a stock or a population.

Age Composition: Proportion of individuals of different ages in a stock or in the catches.

Biodegradable Panel: A portion of a lobster trap affixed by a material which will degrade over a relatively short period of time in order to allow lobsters and other fish to escape from lobster traps that have been lost.

Biomass: total weight of all individuals in a stock or a population.

By-catch: The unintentional catch of one species when the target is another.

Catch per Unit Effort (CPUE): The amount caught for a given fishing effort.

Carapace size: The distance from the rear of the eye socket to the end of the carapace shell. Size limits for lobsters which may be retained are based on carapace size.

Communal Commercial Licence: Licence issued to Aboriginal organizations pursuant to the *Aboriginal Communal Fishing Licences Regulations* for participation in the general commercial fishery.

Ecosystem Factors: The ecosystem is a complex web of interdependencies where changes in one constituent can have implications for other constituents. Examples of ecosystem factors include: the effect of one species exploitation on another, the impacts of habitat alteration on the mix of organisms the altered habitat can support.

Fishing Effort: Quantity of effort using a given fishing gear over a given period of time.

Food, Social and Ceremonial (FSC) Fishery: A fishery conducted by Aboriginal groups for food, social and ceremonial purposes under rights affirmed by the Supreme Court of Canada in the *Sparrow* decision (1990).[5]

[5] In 1990, the Supreme Court of Canada issued a landmark ruling in the Sparrow decision. This decision found that the Musqueam First Nation has an Aboriginal right to fish for food, social and ceremonial purposes. The Supreme Court found that where an Aboriginal group has a right to fish for food, social and ceremonial purposes, it takes priority, after

Ghost Fishing: The situation where lost fishing gear continues to catch and kill fish.

Limited Entry: A fishery management policy in place where no new licences are issued so as to limit fishing effort and to support economic viability of enterprises.

Lobster Fishing Area (LFA): A management zone established in regulation for the purposes of supporting the management of the lobster resource within a given geographic area.

Marshall Response Initiative: In response to the Supreme Court of Canada decision in the *Marshall* (1999) case on the commercial aspects of Aboriginal fishing rights, the Department of Fisheries and Oceans introduced a series of initiatives to support the participation by First Nations in commercial fisheries.[6]

Mobile Bottom Trawling Gear: A fishing gear where a funnel-shaped net is dragged along the bottom and fish are corralled into a mesh bag ("cod end") at the end of the gear.

Precautionary Approach: Set of measures and actions, including future courses of action, which ensures prudent foresight, reduces or avoids risk to the resource, the environment, and the people, to the extent possible, taking explicitly into account existing uncertainties and the potential consequences of being wrong.

Recruitment: Amount or weight of individuals becoming part of the exploitable stock that can be legally caught and retained in a fishery.

Research Survey: Survey at sea, on a research vessel, allowing scientists to obtain information on the abundance and distribution of various species and/or collect oceanographic data. Ex: bottom trawl survey, plankton survey, hydro-acoustic survey, etc

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conservation, over other uses of the resource. The Supreme Court also indicated the importance of consulting with Aboriginal groups when their fishing rights might be affected. In response to this decision, and to provide stable fishery management, Fisheries and Oceans Canada (DFO) launched the Aboriginal Fisheries Strategy (AFS) in 1992. The AFS is applicable where DFO manages the fishery and where land claims settlements have not already put a fisheries management regime in place.

[6] Since the Supreme Court of Canada's 1999 Marshall decision that affirmed a treaty right to hunt, fish and gather in pursuit of a "moderate livelihood" arising out of Peace and Friendship Treaties of 1760 and 1761, Fisheries and Oceans Canada (DFO) has implemented a number of programs to provide direction and assistance to facilitate the integration of First Nations communities affected by the decision into Atlantic Canadian fisheries. The Marshall decision affected 34 Mi'kmaq and Maliseet First Nations located in New Brunswick, Nova Scotia, Prince Edward Island and the Gaspé area of Québec. The Court reaffirmed that the federal government has the authority and responsibility for regulating the fishery, with conservation as the key consideration.

Scallop Dragging: A fishing method where rectangular “buckets” fabricated with steel bars and interconnected steel rings are dragged along the bottom to capture scallops.

Shared Stewardship: An approach to fisheries management whereby participants are effectively involved in fisheries management decision-making processes at appropriate levels, contribute specialized knowledge and experience, and share in accountability for outcomes.

Size at the Onset of Maturity: The size of an animal when reaching sexual maturity and has the capacity to reproduce (measured in carapace length in lobsters).

Stock: Describes a population of individuals of one species found in a particular area.

Stock Assessment: Scientific evaluation of the status of a species belonging to a same stock within a particular area in a given time period.

Tonne (t): Metric tonne, which is 1000kg or 2204.6lbs.

Integrated Fisheries Management Plan

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APPENDIX A

Information on Lobster Fishing Licences Issued (2012)

Licences	LFA 23 New Brunswick	LFA 24 Prince Edward Island	LFA 25 New Brunswick	LFA 25 Nova Scotia	LFA 25 Prince Edward Island	LFA 26A Nova Scotia	LFA 26A Prince Edward Island	LFA 26B Nova Scotia	Total all LFA's
COMMERCIAL - CLASS A	578	602	382	16	223	310	373	218	**2,702**
COMMUNAL COMMERCIAL	63	33	83	1	3	22	4	6	**215**
CLASS B	33	2	5	1	0	4	1	3	**49**
Grand Total	**674**	**637**	**470**	**18**	**226**	**336**	**378**	**227**	**2,966**

Notes:

- Class A licences can fish the maximum number of traps permitted in the LFA.

- Class B licences can fish 30% of the maximum number of traps permitted in the LFA and are non-re-issuable.

- Partnerships can be formed annually between two licence holders using one vessel with both licence holders on board using 150% of the maximum number of traps permitted in the LFA.