

COLLABORATION

A way of life in the Gulf Region



Criteria to establish a multi-year management plan

- Increase egg production
- Reduction of the exploitation rate and effective fishing effort
- Protection of lobster habitat
- Data collection



1. Sea-Sampling in PEI (since 1999)

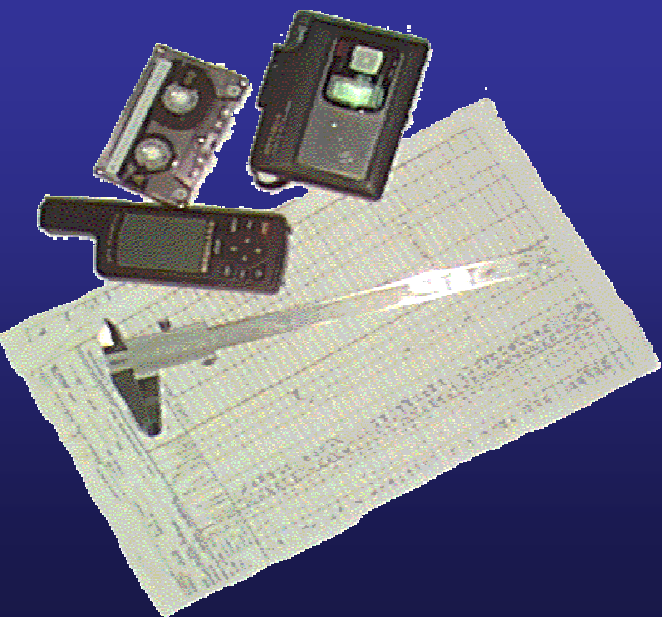
Carried out the monitoring of the lobster fishery in PEI. The sea-sampling in PEI is now funded and carried out by the PEI provincial government.

Sea-Sampling Info (1999-2005):

# of sea-sampling	1,040
Average number of port per year	9-10
# of lobster measured	365,367
# of trap sampled	193,537

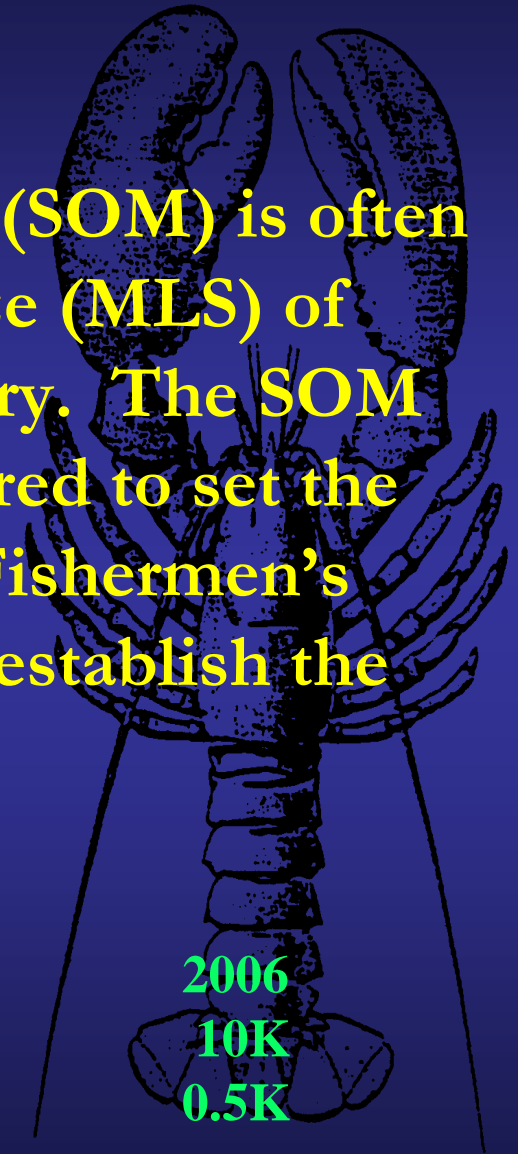
PEI provincial government (1999-2005)	250K
DFO	10K

- Gather information on the population structure
- Manage the recruitment index program (PEI)
- Carried out tagging project with PEIFA



2. Female Maturity Studies – 2004/5

The size at the onset of sexual maturity (SOM) is often used for defining the minimum legal size (MLS) of lobster retained in the commercial fishery. The SOM of 50% is the estimate normally considered to set the MLS. The Gulf Nova Scotia Bonafide Fishermen's Association decided to fund projects to establish the SOM in the St Georges Bay area.



GNSBFA (2004-2005)
DFO

2004-2005
20K
1K

2006
10K
0.5K

3. Window size female monitoring

A collaborative study between GNSBFA, PEIFA, Northumberland Strait Fishermen Association the PEI provincial government was carried out in part of LFA 26A to estimate the efficiency of protecting large size female (window size) as a conservation measure to increase egg production. This study started in 2004 and will be carried out for the next 5 years.



DFO

5K

Fishermen

+++ in-kind

4. Bar Clam Study - 2005

Estimate lobster abundance, and detect physical changes in the lobster habitat where the bar clam harvesting activity is taken place on the north side of PEI (LFA24).



PEIFA (2005)
DFO



40K
1K

5. Homarus Inc.

Collaboration between (1) DFO, (2) Maritime Fishermen Union, (3) centre de recherche sur les zones côtières, (4) centre marin à Shippagan, (5) Eel River Bar First Nation, (6) N.B. Provincial Government, (7) Orion Seafood, (8) Blanchard Ready-mix, (9) the Caraquet Port Authority, and (10) Gulf Nova Scotia Fishermen Coalition.

Mission Statement

1. Increase lobster stocks and achieve the sustainability for the lobster fishery.
2. Introduce innovative and practical approaches to enhance the lobster habitat and landings.
3. Increase scientific knowledge in terms of lobster biology, coastal habitats and the ecosystem.
4. Introduce educational tools to better explain ecological processes to the fishing industry.



6. Artificial Reef

Projects initiated in 1998 by the industry to explore the possibility of using artificial reef to enhance the habitat. Projects were mainly done in Caraquet, NB.

**New Brunswick provincial government
Maritime Fishermen Union (MFU)
DFO**

**60K
50K (in-kind)
10K**

- **Increase knowledge of lobster habitat**
- **Estimate density of juvenile lobster**
- **Test the efficiency of different type of structure**



7. Fisheries Science Collaborative Program (FSCP – 2003/2006)

1. Ultra-sonic tagging of lobster to quantify seasonal movements in West-Central Northumberland Strait (LFA 25)
2. Assessing the post-season abundance of lobster in LFA 25 and the impact of commercial fishing on the population structure: a quantitative approach
3. Lobster fishing gear efficiency and selectivity study in St Georges Bay, Nova Scotia
4. Lobster habitat and juvenile ecology



Ultra-sonic tagging of lobster in Northumberland Strait (LFA 25)

Proponents:

PEIFA and Homarus Inc. (MFU)

The main goal of this project was to establish whether in LFA 25 are resident or whether there is substantial migration or movement between adjacent LFAs (e.g., LFA 23 and 24).

A total of 119 lobsters were tagged in Northumberland Strait, with an additional 20 in both Miminegash and Tignish (LFA 24). The last two locations were funded by PEIFA.

Contribution

PEIFA and MFU: 50K + 100K(in-kind)

FSCP: 160K

Collaborator: Dalhousie University



Assessing lobster abundance in Northumberland Strait

Proponents:

PEIFA and Homarus Inc. (MFU)

The main objectives are:

1. Assess the impact of the fishery by comparing lobster abundance, size structure and distribution before and after the summer fishery (LFA 25)
2. Calculate the exploitation level of the lobster fishery in LFA 25
3. Lobster's ecological role in Northumberland Strait

The survey in Northumberland Strait was carried out each year and was extended to cover part of LFA 26A. Additional parameters were collected in 2005 to gather more oceanographical information.

Contribution

PEIFA and MFU: 15K + 44K(in-kind)
FSCP: 80K



Lobster fishing gear efficiency and selectivity study in St Georges Bay, NS

Proponent:
GNSBFA

The broad objective was to increase our knowledge on fishing effort needed to support decision-making on conservation issues for lobster stocks.

1. Trap efficiency based on both trap size and trap design***
2. Trap catchability using traps with different entrances
3. Selectivity curves for escape mechanism
4. Lobster behavior around traps

Results from the escape mechanism and the trap entrance studies were presented to the managers and were used to modify conservation measures.

Contribution

GNSBFA : 13K + 4K(in-kind***)
FSCP: 55K



Lobster Habitat and Juvenile Ecology

Proponent:

Homarus Inc. (MFU)

The goal of this project is to introduce innovative, applied and successful approaches to enhance lobster habitat and lobster stocks.

Two other related and equally important goals are:

1. increase the scientific knowledge of lobster biology, ecology and habitat, and as a result, better understand the regional ecosystem in which lobster evolves;
2. provide through the implementation of this project an important educational tool to raise awareness among all stakeholders.

In five years, a total of 300 SCUBA dives and over 60 100-m transects were done. In addition, over 75,000 stage IV larvae were released and 750 concrete structures were deployed to create artificial reefs in Caraquet. An additional 110,000 stage IV were released in other locations in the sGSL.

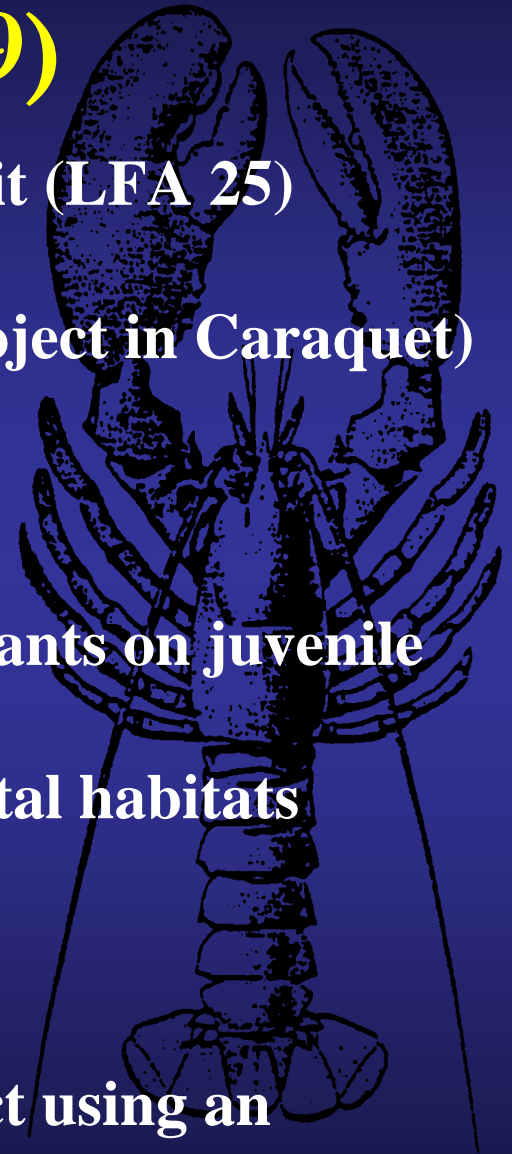
Contribution

Homarus Inc. (2002-2005):	565K + 60K(in-kind)
FSCP (2002-2005):	200K + 175K(in-kind)



Fisheries Science Collaborative Program (FSCP – 2006/2009)

- 1. Ecosystem processes in Northumberland Strait (LFA 25)**
- 2. Juvenile lobster monitoring (enhancement project in Caraquet)**
- 3. Lobster fishing gear efficiency and selectivity**
- 4. Effect of exposure to environmental contaminants on juvenile**
- 5. Impact of scallop harvesting activities on coastal habitats**
- 6. Lobster shell disease**
- 7. Lobster landings and effort monitoring project using an electronic data logger**



Fisheries Science Collaborative Program (FSCP – 2006/2009)

Proponents

- 1. Maritime Fishermen Union (MFU)**
- 2. Homarus Inc. (MFU)**
- 3. Pecten Group (MFU)**
- 4. PEI Fishermen Association (PEIFA)**
- 5. Western Gulf Fishermen Association (PEIFA)**
- 6. Gulf Nova Scotia Fishermen Coalition**
- 7. North of Smokey/Inverness South Fishermen Association**



Fisheries Science Collaborative Program (FSCP – 2006/2009)

Collaborators

- 1. University of New Brunswick (UNB) St John**
- 2. University of Prince Edward Island**
- 3. Université de Moncton**
- 4. Lobster Science Centre at Atlantic Veterinary College**
- 5. Environment Canada**
- 6. Institut de Recherche Médicale Beauséjour**
- 7. Nova Scotia Fisheries and Aquaculture Services**
- 8. All collaborators from Homarus Inc.**



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