

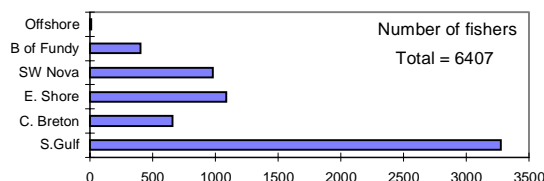
1998 Overview of Lobster in the Maritimes Region

Summary

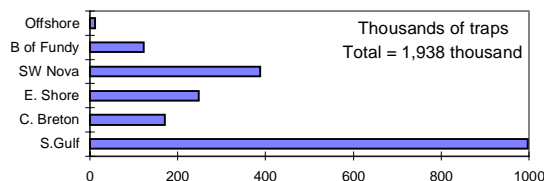
- Catches and abundance appear to have declined in most lobster fishing areas with the exceptions of the north coast of Prince Edward Island (LFA 24) and Southwest Nova Scotia (LFA 34) where catches remain high and in the Bay of Fundy (LFAs 35-38) where catches have increased.
- A new assessment method indicates that exploitation rates are high in most areas. The new estimates are nevertheless about 20% lower than previous values.
- The new conservation measures to be implemented in 1998 to 2001 are a positive step to allow more eggs to be produced in Maritime Canada.
- An increase in egg production was seen as necessary for all stocks of Maritimes lobsters.

The Fishery

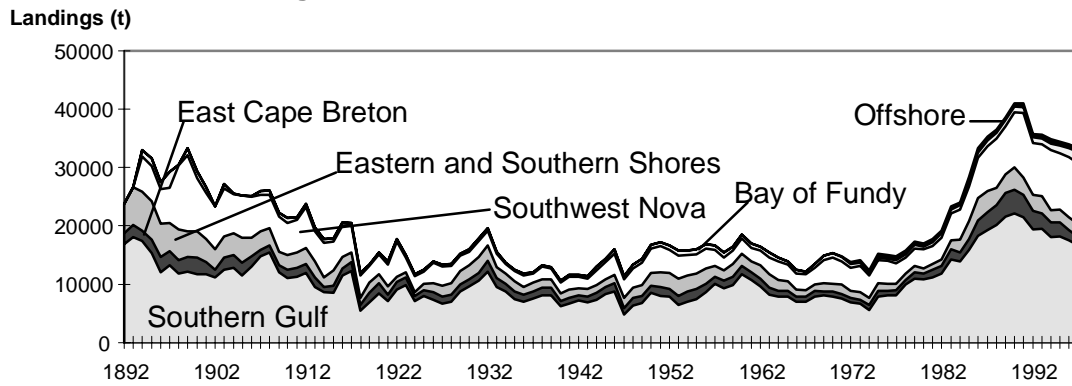
There are over 6,400 **licensed lobster fishers** in the Maritimes; over half of them are located in the Southern Gulf of St. Lawrence (LFAs 23-26 in map above).



There are about two million legal **lobster traps** in the fishery; again, over half are found in the Southern Gulf.



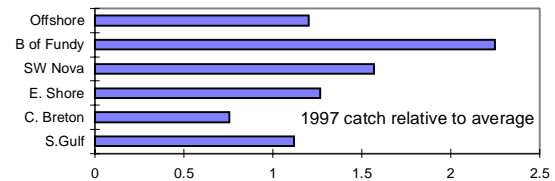
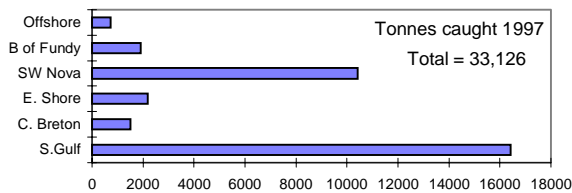
Landings of lobster from six coastal areas of the Maritimes



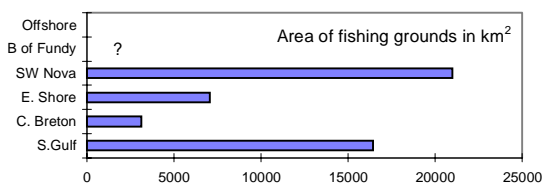
Peak landings were 41,000 t in 1991. About 80% of current landings are from the Southern Gulf and Southwest Nova Scotia (LFA 34), the two most important lobster fishing grounds in eastern Canada. See light grey and white bands in figure above. The smallest fraction of landings, about 2%, comes from the Offshore (LFA 41).

Resource Status

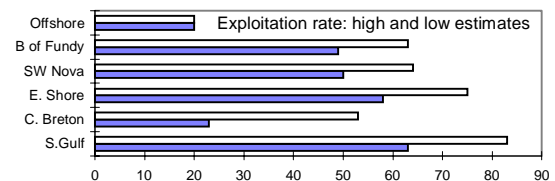
Over the past decade, catches have been declining in all areas except for LFA 24 in the Southern Gulf, Southwest Nova Scotia (LFA 34) and the Bay of Fundy (LFAs 35-38). The 1997 catch was about equal to the 1974 to 1996 average for most of Maritime waters but was well above average for this period in Southwest Nova Scotia and Bay of Fundy.



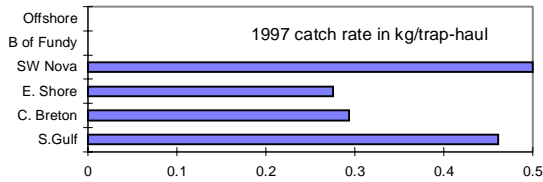
Recognizing that there is no consistent method for measuring the size of lobster fishing grounds, those in Southwest Nova Scotia appear to be the largest. The smallest fishing grounds are found off the east coast of Cape Breton (LFAs 27-30).



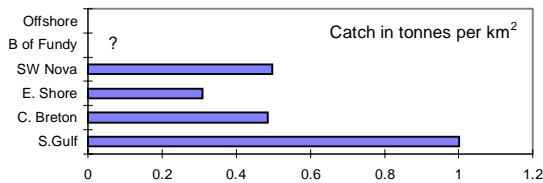
Exploitation rates were estimated using a new method in some assessments. The new estimates are considered to be preliminary and lower than previous values. The range of current estimates of exploitation rate, given in the graph below (shaded bars are lower estimates, open bars are upper estimates), are still considered to be high.



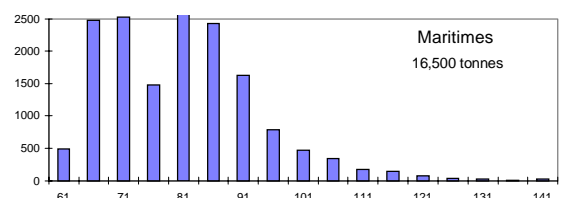
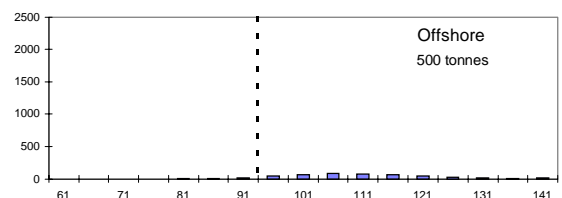
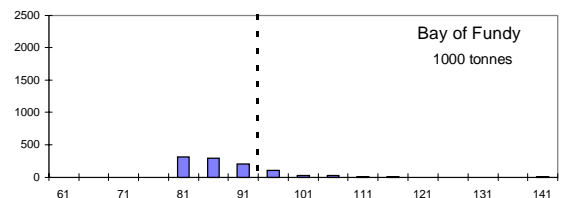
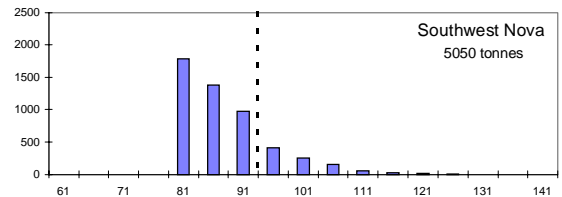
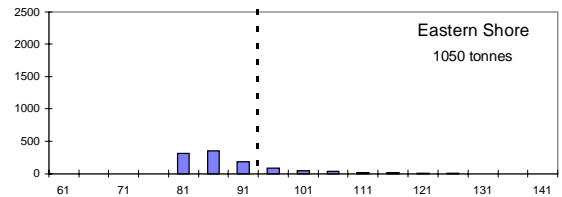
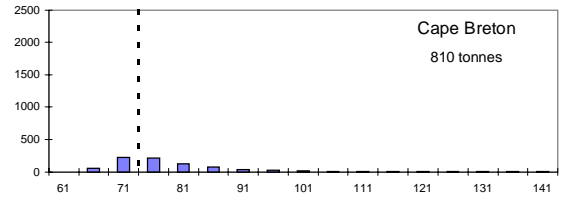
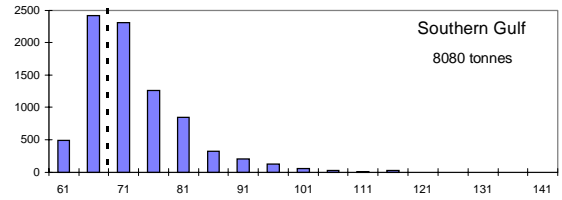
Catch rates in 1997 were similar in Southwest Nova Scotia and the Southern Gulf, and lowest in East Cape Breton and the Eastern and Southern Shores of Nova Scotia (LFAs 31-33).



The waters of the Southern Gulf produce more tonnes of lobster per unit of area than other parts of the Maritimes. The area of fishing grounds in the Bay of Fundy has not been estimated. It should be noted that this measure does not account for habitat quality.

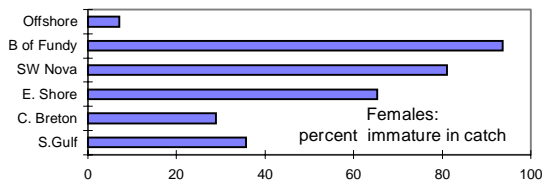


The **size distributions** of female lobster caught in the 1997 fishery are presented in the following figure. The figure shows the number of tonnes by size category and allows us to compare areas. Most of the catch comes from the Southern Gulf and Southwest Nova Scotia. About 90% of the catch from the Southern Gulf is smaller than 81mm. By contrast, all of the catch from Southwest Nova Scotia is larger than 81mm. The picture for all Maritimes indicates that almost an equal number of tonnes is caught for each 5mm size category between 66mm and 91mm.



The dotted vertical lines indicate the size at which 50% of females are mature.

In the graph below it is clear that most of the female lobsters harvested in Southwest Nova Scotia and the Bay of Fundy are caught before they have reproduced. It should be noted, however, that even lobsters above the size at 50% maturity may not have reproduced if they are caught before egg extrusion. For example, in East Cape Breton, although the graph below indicates that only 30% of the female catch is immature, about 70% of the lobsters in the catch have not spawned prior to capture.



Water temperature is known to influence lobster catch rates. The 1997 **sea surface temperatures** during months and in areas with active lobster fisheries are compared to long-term averages (1980-1996) in the table below. It can be seen that temperatures in the winter fisheries were above normal, while those in the May to June fisheries were generally below normal.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Southern Gulf					b	b		a	a	N		
East Cape Breton					bb	b	b					
Eastern Shore	aa	aa	a	N	bb	b	b					
South-west Nova	aa	aa	N	N	b							aa
Bay of Fundy	a	a	N	a	N	N					N	a
Offshore	aa	aa	b	N	b	N	a	b	a	b	N	N

N is normal
 b is slightly below normal
 bb is well below normal
 a is slightly above normal
 aa is well above normal

Outlook

There are declines in catches in all areas except for the north coast of PEI (LFA 24), Southwest Nova Scotia and the Bay of Fundy. Although we are unable to predict recruitment, catches during the past decade were well above the 1884-1994 average of 19,500 t and it is likely that they will decline in most areas. The new conservation measures to be implemented 1998-2001 are a positive move to allow more eggs to be produced in Maritime Canada. There are no parts of the Maritimes where an increase in egg production was not seen as necessary.

Management Considerations

The FRCC (1995) advised that there was a risk of recruitment failure in the lobster fishery unless measures were taken to increase egg production, specifically to increase egg per recruit. Despite general agreement by industry for the need to change, there was no agreement on the FRCC target and as a result doubling of egg per recruit was selected as a step to increase egg production pending further discussion of appropriate conservation targets. There is no indication from the recent assessments that this advice should be changed. Although landings have remained high in some areas and actually increased in the Bay of Fundy, there have been no indications of a decrease in fishing intensity since the FRCC report, and landings may not be a good indicator of stock status.

There are concerns throughout the region that the stock assessments have been unable to capture important changes in the level and distribution of fishing effort. Recent information indicates that the fishing grounds may be expanding, particularly in Southwest

Nova Scotia. A number of new initiatives are being developed to improve the accuracy and credibility of the biological advice.

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This report is available from the:

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