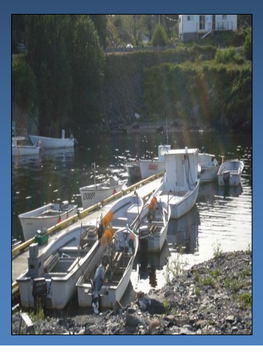
Closed-areas as a conservation tool: the effect on size of American lobster (*Homarus americanus*) in Newfoundland



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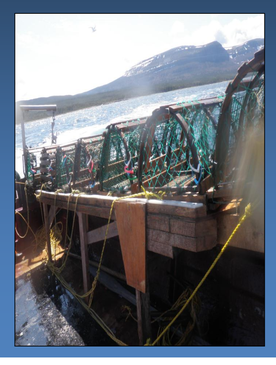

The Lobster Fishery in Newfoundland

Lobster is an important source of income for many fishermen in rural Newfoundland

- 4th most valuable fishery: 2981mt landed in 2008 worth ~$28 million
- 2900 licenses (~1700 active)
- Small, open-boat fishery; 8-10 week spring season; trap limits range from 100-350

*Source: DFO. 2009. Assessment of American lobster in Newfoundland. DFO Can. Sci. Advis. Sec. Sci. Advis. Rep. 2009/026.

Conservation Measures

In addition to management regulations that attempt to control effort (seasons, trap limits, min/max size limits, etc.), **industry-initiated conservations measures include:**

- Closed areas
  - *Lobster fishing is prohibited; 11 throughout Nfld*
- V-notching
  - *A v-shaped notch is cut into the tail of ovigerous females; retained through 2-3 molts; voluntary conservation measure*

Are these conservation measures working to sustain lobster populations?

Data Collection

Information on sex, size, presence of eggs and/or v-notch collected at 6 closed areas in Nfld: Shoal Point, Trout River, Duck Islands, Round Island, Summerford & Gander Bay

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Study Objective

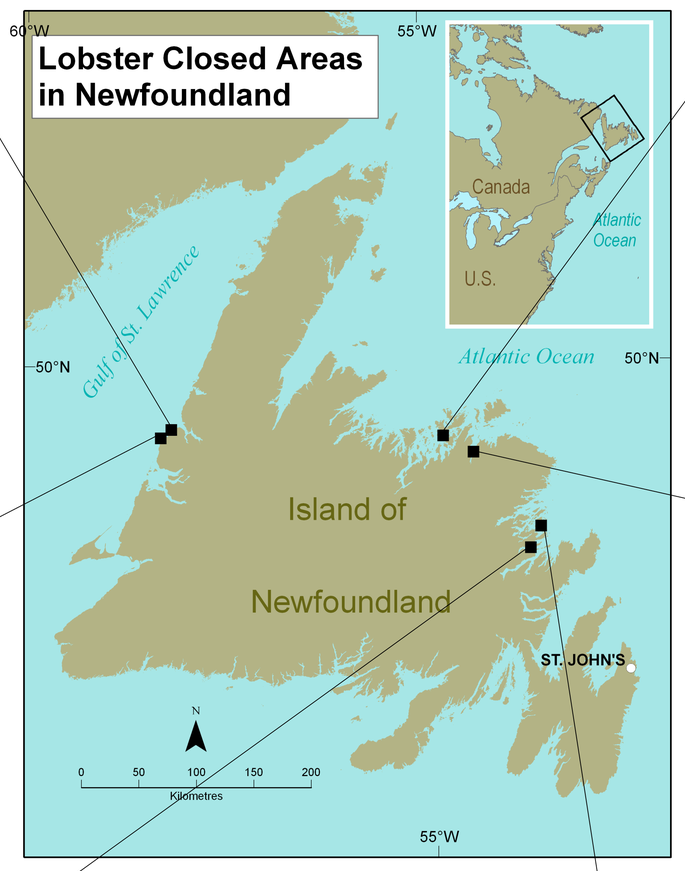
Compare lobster size inside closed areas to that in adjacent fished waters

Results

- Establishment of a closed area does not necessarily result in larger lobsters inside the closed area.
- Longer time since closure does not result in larger lobsters.

Trout River
(closed 2002)
Area = nd
Males: no sig diff
Females: no sig diff

Shoal Point
(closed 2002)
Area = .57 km^2
Males: no sig diff
Females: no sig diff



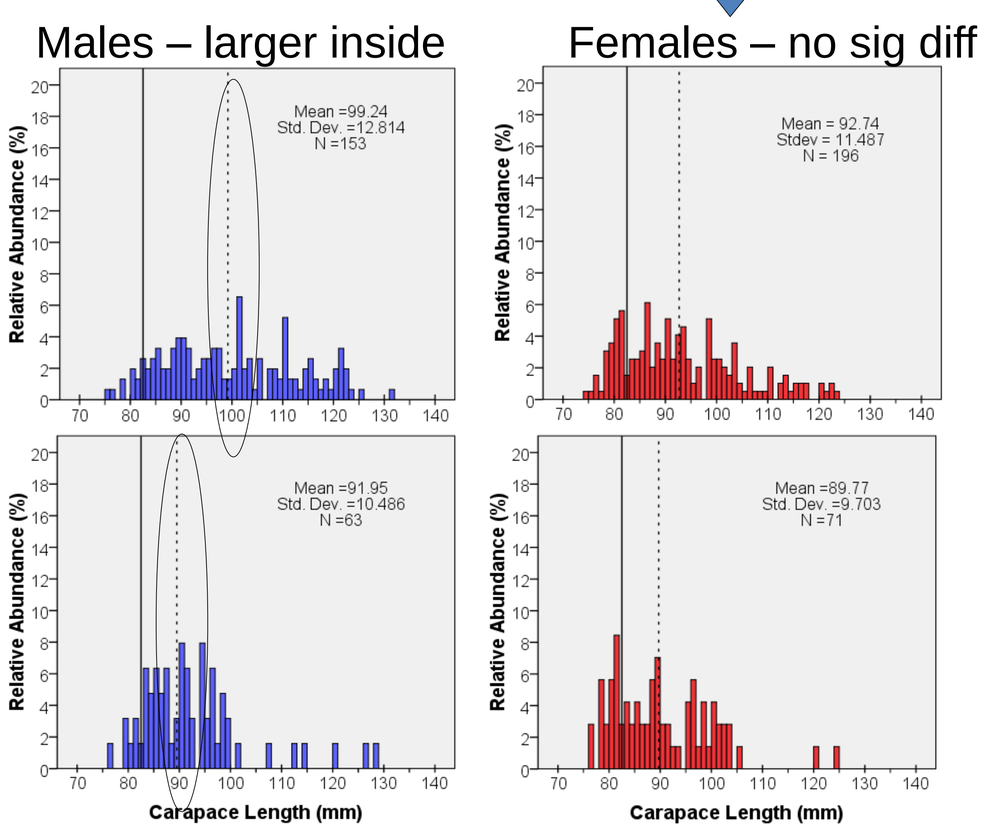
Summerford
(closed 2003)
Area = .41 km^2
Males: larger inside
Females: larger inside

Gander Bay
(closed 2003)
Area = 77.57 km^2
Males: larger inside
Females: larger inside

Round Island
(closed 1997)
Area = .47 km^2
Males: larger inside
Females: no sig diff

Duck Island
(closed 1997)
Area = 1.96 km^2
Males: larger inside
Females: no sig diff

Here's an example:



Conclusions

- Establishment of a closed area is not sufficient to ensure an increase lobster size.
- Other factors such as size of closed area, lobster density, and lobster movement should be investigated more closely.