

The Canso Causeway and its Effects on its Surrounding Areas

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Source: Canso Causeway Diver Supplies, www.medianetcom.com/causeway/

One of the Major Incidences for the Chedabucto Bay Area was the building of Canso Causeway.

One hundred years ago canoes, rowboats and the ferry, made its appearance in the Strait of Canso. But these services are limited. As the years passed the importance of the mainland to Cape Breton and Cape Breton to the mainland was realized. The idea of a permanent bridge gained momentum.

A tunnel was rejected because the cost was too high and in 1949 a low-level bridge was suggested but this too, had limitations.

Passenger services and the coal miners of Cape Breton wanted to transport coal to the mainland by train, and a bridge would not serve this purpose. In addition, Allister Fraser, a local politician was willing to sell the massive Cape Porcupine Mountain on the mainland for over one million dollars to fill in the Strait with rock. At last, the Canso Causeway was given life on October 9, 1951.

The Canso Causeway was opened on August 13th, 1955. The Causeway joined the mainland of Nova Scotia to Cape Breton Island and it has completely closed off the Strait of Canso. The Causeway deserved immediate attention because it was the major transportation center of the region.

On that historic day, the largest crowd in Nova Scotia's history gathered to attend the opening of the Causeway. More than 40,000 people gathered to witness a "dream

of the former premier of Nova Scotia, Angus L. MacDonald" (Scotia Sun, 1995) who had passed away a few months before this exciting event.

FACTS: "The Rock which was used to create the Causeway was blasted from quarries at Cape Porcupine on the mainland. The average charge at Canso usually dislodged some 125,000 tons and the largest blast set off used a total of 3200 cases of dynamite, ten million, ninety-two thousand, sixty-nine tons of rock fill were required to close the Strait of Canso.

The Causeway is 20 feet above low water and 14 feet above the high water mark. The water reached a maximum depth of 218 feet at low tide. The actual length of the Causeway from shore to shore is 4300 feet. The width at the top is 80 feet to provide room for a 24 foot highway section, single tract railway, 6 foot sidewalk, and lights and railings separating each section." (The Reporter, 1995)

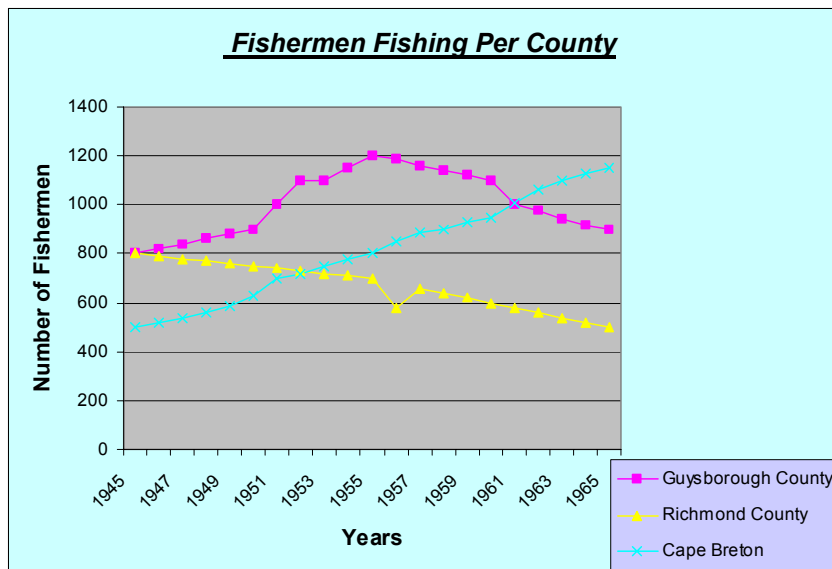
This makes the Canso Causeway the deepest causeway in the world. It is a deep-water, year round, ice-free harbor. Because the south side of the causeway, Chedabucto Bay, became completely ice free, it allowed for the industrialization of the Strait of Canso. The ice free, deep-water port allowed for large supertankers to dock in the Strait of Canso. Being completely ice free was a great benefit because it allowed the tankers to go to the oil refinery without worrying about navigating around the ice or worrying about being held up for days.

Today the Strait is known as one of the three locations on the North American Atlantic coast that is capable of accommodating even the largest anticipated super tankers. (Government of Canada, 1979)

The Causeway has had some negative outcomes. The industrialized Cape Breton, for example the coal miners and CN Rail, wanted to construct the causeway because they wanted to transport passengers and freight such as coal and steel products over the causeway. The fishermen were not consulted on how the causeway may effect their livelihood and the greater communities.

Some fishermen believe that the causeway disturbed the route of the migrating herring. They believe that the herring "used to migrate through the Strait of Canso and St. George's Bay, and then down the Northumberland Strait. Now, the herring go around Cape Breton Island and north of Prince Edward Island to spawn near Escuminac, New Brunswick." (F.D. McCracken, 1979) It is also documented that a number of fishermen from the Magdalene Islands actually quit after 1954 because catches were so poor. The numbers of fishermen in Richmond and Guysborough counties, as well as Cape Breton Island are referred to in Table 1.

Table 1: The approximate number of fishermen fishing in Guysborough and Richmond counties and Cape Breton Island from 1945 to 1965.



Source: Government of Canada. 1979. Fisheries and Marine Service Technical Report 834. *Canso marine Environment Workshop Part 3 of 4 Fishery Impacts*. St. Andrews, NB: Department of fisheries and Oceans, p. 120.

Although there is no proof of a change in the migration pattern, it is important to not rule out the possibility that the change in the time of the arrival in some regions after 1954 might be due to the causeway.

"In 1973, the reorganized Environment Marine Geology Subdivision, of the Atlantic Geoscience Center did a multidisciplinary project to assess the environment of the Strait of Canso area 1973. The main objectives of this project were to:

- To determine the impact of the causeway construction on the environment marine geology of the Canso Strait.
- To determine the effects of historical changes and trends on the marine ecological environment.
- To determine the degree of recovery of the coastal and marine environment from the effects of the oil spill in Chedabucto Bay.
- To measure the engineering properties of marine sediments as determined by in situ tests and lab analysis." (Buckley. 1977)

The marine sediment samples were taken over a large area from Black Duck Cove to the Center of St. George's Bay. Based on the sediment samples, this study states that the Canso Causeway has had minimal effects on the marine environment, both to the north and to the south of the causeway. The exact effect on the marine environment can not be determined because of inadequate technical and survey results. (Et.al)

Some effects are very clear, for example, south of the causeway is now a fjord environment. Fjords are narrow submarine depressions that are the extension of glaciated valleys that are presently submerged beneath the sea. (Murphy, 1998) Also, the water current is directly effected by tides. The tides are weak due to the causeway because there is no two-way tidal flow between the Gulf and the Atlantic.

Another evident effect is the passing of ice from the Gulf to the Southern part of the Strait of Canso. Because the south side of the causeway became completely ice free, it has had a social/economic impact because it affected shipping into other industries. The transport vessels would enter the Strait of Canso with their supplies rather than other ports or harbors due to the chance of a confrontation with ice in these other areas.

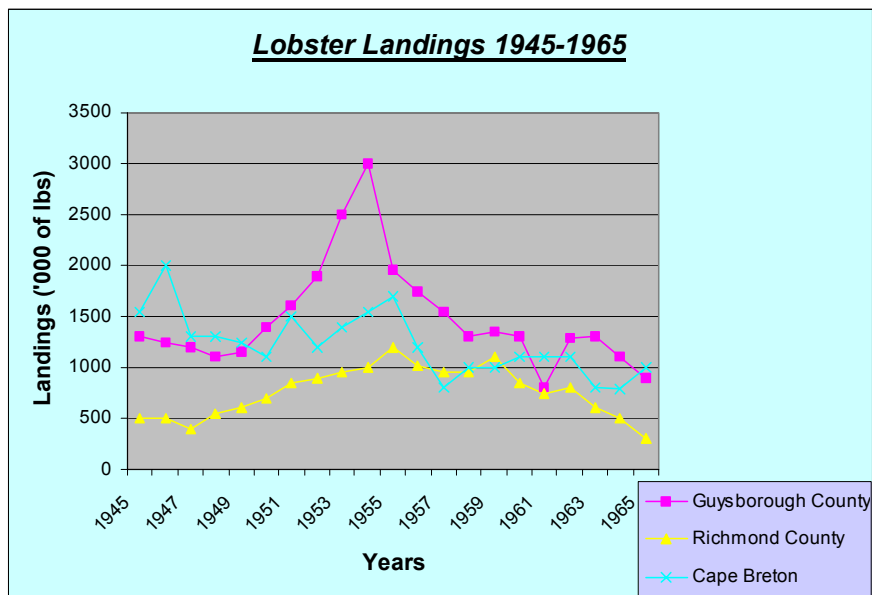
Lobster landings in Chedabucto Bay have been declining but they have been recorded as declining gradually as far back as 1892. The most drastic declines were after the causeway was built. Actually, peak landings of lobster and the construction of the causeway were in concurrence. This is true, but currently the lobster landings are the lowest they have ever been in the history of the lobster fishery.

Another effect that is obvious, due to the causeway, is that lobster larvae travel with the currents and in the summer of 1955 there were no currents. Before the causeway closed the Strait, the larvae were concentrated along the Eastern Shore and drifted in a clockwise manner.

"It was calculated that ten million lobster larvae should have passed through the Strait in 1975 if the causeway had not been built. But, it is likely, however, their estimate is too low, since larval abundance was based on post-causeway surveys and the numbers found were considerably less than those reported by other studies in Northumberland Strait and elsewhere." (F.D. McCracken, 1979)

"The decline in lobster cannot be accredited to one incident. For example, local pollution, because the ARROW oil spill never exceeded sublethal limits; OR General Environmental Perturbation because although the temperature has been lowered by 20% it is not enough to have been responsible for an 80% decline in lobster between 1962-1967" (F.D. McCracken, 1979). The lobster landings in Richmond and Guysborough Counties, as well as Cape Breton Island are referred to in Table 2.

TABLE 2: *Lobster Landings from 1945-1965 ('000lbs).*



Source: Government of Canada. 1979. Fisheries and Marine Service Technical Report 834. *Canso marine Environment Workshop Part 3 of 4 Fishery Impacts*. St. Andrews, NB: Department of fisheries and Oceans, p. 120.

With a combination of the causeway, recruitment overfishing, and non-causeway environmental and marine climate effects, the lobster landings have been seriously affected.

Many fishermen left the fishing industry to get involved in the industrialized Cape Breton such as the Oil Refinery, Pulp and Paper Mill, Coal Mines and the actual Construction of the Causeway. After the causeway was built fishermen considered reentering the fishery but due to poor lobster landings they did not return.

"The Canso Causeway ranks high among the construction feats of this century and stands as a lasting testimonial to the skill, enterprise and determination of Canadians of this generation." (Government of Canada, 1955) But this will also stand as a lasting testimony to the exclusion of fishermen in the decision-making processes that may effect their livelihood.

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