

## FOUR-HUNDRED YEARS OF FRENCH COD (*GADUS MORHUA*) FISHERY IN NEWFOUNDLAND (1550-1950)

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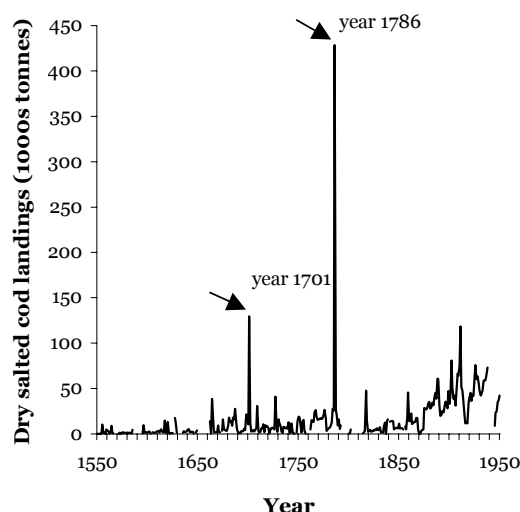
### ABSTRACT

We present a summary of the historical French cod fishery off the coast of Newfoundland, based mainly on landings and vessel data from a study by Hersart de la Villemarqué published by IFREMER in 1995. Cod landings and the number of boats increased periodically from 1550-1914. The onset of the First World War resulted in a dramatic reduction in the number of boats in the fleet, which never recovered. However, an increase in the average landings per boat, resulting from an increase in the average vessel tonnage, compensated for the decrease in number of boats so that landings remained high until the Second World War.

### DATA SOURCES AND CORRECTIONS

Hersart de la Villemarqué (1995) has compiled a set of cod landings data and fleet information for the French cod fishery in Newfoundland from 1550-1950. The author indicated that the data from the 16<sup>th</sup> century were incomplete, as some archives have been destroyed. Furthermore, many historic data sources were not exhaustive. Although Newfoundland had rich fishing grounds several centuries before the period considered here, the beginning of the traditional French cod fishery was considered to be in the 16<sup>th</sup> century (Hersart de la Villemarqué, 1995).

The author estimated the weight of dried and salted cod landed in French ports until 1799 in 'quintaux', an ancient unit in use until the 18<sup>th</sup> century, and converted it to metric tonnes (1 quintal = 48.5 kg). Since 1800, the data were given only in tonnes. After compiling the data from different tables (Tables 3-7 in Hersart de la Villemarqué, 1995) and constructing the graph for years 1550-1950, we noted that the catch was inexplicably high for some years, notably in 1786 (Figure 1).



**Figure 1.** French landings of dry salted cod caught in Canadian waters from 1550-1950, after Hersart de la Villemarqué (1995).

In order to detect a possible cause for the presence of these 'outliers', we recalculated the landings in metric tonnes and compared them with those given in Hersart de la Villemarqué (1995). The differences were generally small (less than 0.1%), and likely due to rounding errors. When differences were greater (generally an order of magnitude), they were likely due to typing errors in the original tables. When the landings measures in tonnes and 'quintaux' for a given year were not equivalent, determining the incorrect measure was straightforward, simply by comparing both measures to the landings of the few years before and after the year in question. For example, measures in tonnes for the years 1701, 1709 and 1786 were ten times greater than those of neighbouring years. Similarly, the landing weights in 'quintaux' for the years 1788 and 1789 and the weight in tonnes for 1558 were ten times lower than the surrounding years. In total, the landing weights in tonnes from Figure 1 were corrected for outliers for the years 1558, 1649, 1701, 1709 and 1786. It was not possible to do the same verification after 1799 even if a year (such as 1817, 1859, and 1911) looked like an outlier, as the catch was only given directly in metric tonnes.

### EVOLUTION OF THE FRENCH COD FISHERY IN LANDINGS AND VESSELS, 1550-1950

From 1550 to 1950 there seems to be much year to year variability in French cod landings (Figure 2). Over the longer timescale of these four hundred years, however, landings increased, especially after 1815, which marked the end of

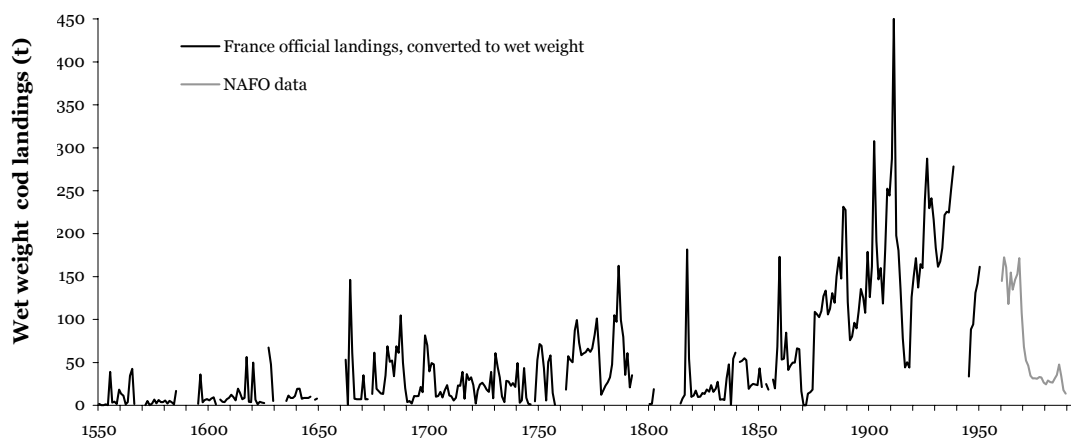


## THE NEXT 50 YEARS

Following WW II, several French ports did not take up cod fishing again, and the fishery never regained its earlier presence off Newfoundland as a result of a decrease in the demand for cod (Hersart de la Villemarqué, 1995). French cod landings data from NAFO for the second half of the 20<sup>th</sup> century provides a continuation of the Hersart de la Villemarqué (1995) data set. As NAFO provides landings estimates in wet weight, we converted the dry salted cod landings from Hersart de la Villemarqué (1995) into wet weight using the conversion factor of 1 kg of dried and

salted cod equals 3.8 kg of wet weight (Hutchings and Myers, 1995), an average of 2.7 for heavily salted (green) cod and 4.9 for lightly salted dry cod. French cod landings in the 1960s were lower than what they had been prior to WW II, and they have decreased substantially since the late 1960s (Figure 4).

Hutchings and Myers (1995) continue this story by presenting an overview of the Atlantic cod fishery in Newfoundland since the 16<sup>th</sup> century, with particular focus on the stock declines and subsequent collapse during the later part of the 20<sup>th</sup> century.



**Figure 4.** Dry salted cod landings converted to wet weight (1550-1950) and NAFO data (1960-1996) of French cod landings in Canadian waters. A conversion factor of 1 kg dry salted cod : 3.8 kg wet weight was used (Hutchings and Myers, 1995).

## REFERENCES

- Hersart de la Villemarqué, J. 1995. *La pêche morutière française de 1550 à 1950*. IFREMER, Nantes, France. 134 pp.
- Hutchings, J. A. and R. A. Myers. 1995. The biological collapse of Atlantic cod off Newfoundland and Labrador: an exploration of historical changes in exploration, harvesting technology, and management. In *The North Atlantic Fisheries: Successes, Failures, and Challenges*, pp. 37-93. Ed. by R. Arnason and L. Felt. Vol. 3 of *An Island Living Series*. Ed. by B. Bartmann. The Institute of Island studies, Charlottetown. 317 pp.