



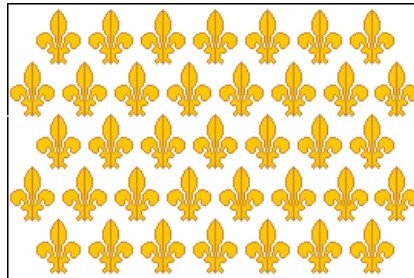
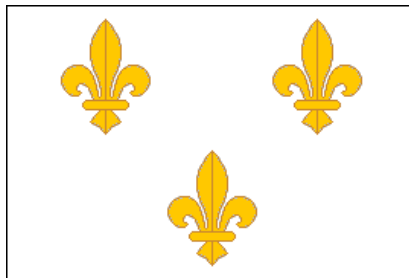
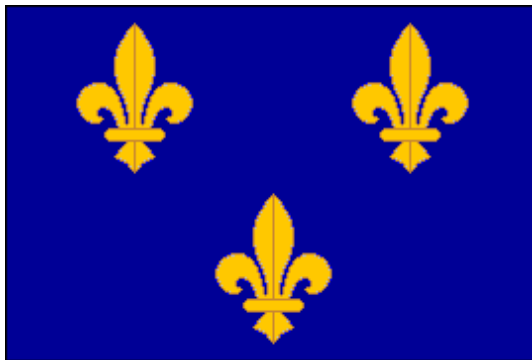
Norfish Dataset 13

French Newfoundland

Cod Fishery 1500–1790

Supporting Documentation

Bernard Allaire, John Nicholls



Banner of France (top) and variants of French Royal

Flags and Ensigns from the 16th century

(Gregg 2020.)



French Newfoundland Cod Fishery 1500–1790

Summary

Dataset Title: French Newfoundland Cod Fishery 1500-1790
Norfish Case Study: French Newfoundland Cod Fishery 1500-1790
Large Marine Ecosystem: 9: Labrador-Newfoundland
Subject: Catches, Newfoundland, North Atlantic, cod, 1500-1790

Author: Bernard Allaire, John Nicholls
Norfish Project
Centre for Environmental Humanities
Trinity College Dublin

Data Provider: Bernard Allaire, John Nicholls
Norfish Project
Centre for Environmental History
Trinity College Dublin

Data Editors: John Nicholls
Norfish Project
Centre for Environmental History
Trinity College Dublin

Extent: 291 records

Keywords: Atlantic cod catches, Newfoundland, French, 1500-1790

Citations:

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Sources and Chronology

The extent of French cod fishing effort in Newfoundland and along the Grand Banks provides a serious challenge in terms of enumerating the annual catches and landings. Through extensive archival and research work, records have been uncovered, transcribed and analysed that shed some light on the lacuna of quantitative assessment data.

“An estimate of the scale of the French cod fisheries in Newfoundland and Canada from the 17th century onward is not a straightforward task. Sources are hard to read, often in poor condition, but above all, are too numerous to be analyzed effectively with limited resources. These difficulties have discouraged most specialists who have studied this topic in the past.”

(Nicholls et al 2021)

For the French fishing effort in Newfoundland, an assessment has been made and detailed in the Capacity Trend Method paper (Ibid.). Primarily, notarial records and censuses of vessels sent to Newfoundland were used, and where possible, these sources were corroborated using incidental archived reports, correspondences, and state papers, as well as information from published materials.

The archival notarial records and censuses derive from the National Archives of France (Archives nationales de France - ANF), the French National Overseas Archives (Archives Nationales d'Outremer - ANOM) and the National Library of France (Bibliothèque Nationale de France – BNF). The published sources included a large range of works, including: Abreu-Ferreira (2004), Allaire (1999), Balcom (1984), Barrey (1917), Barrey and Bréard (1906), Beatty and Fougère (1957), Bernard (1984), Black (1960), Bois (1990), Bréard and Bréard (1889), Brière (1978, 1979, 2008, 1990), Brunsdon and Comber (2015) Candow (2009), Cell (1969), Collins (1984), Dardel (1941), Darsel (1967), Davies (1980), Delafosse (1962), Delobette (2001), Delumeau (1959), Dommergues (1982), Froger (1976), Giraud (1989), Gautier (1988), Gosselin (1876), Graham (1948), Harvey and Todd (1983), Harvut (1873), Hersart de la Villemarqué (1995), Hillmer and Tiao (1982), Hutchings and Myers (1995), Innis (1956, 1978), Kupp (1974), Kydland and Prescott (1990), La Morandière (1962), La Roncière (1910), Lamigueiro (2014), Le Corre (1958), Léon (1903), Lespagnol (1997), Lounsbury (1934), Matthews (1968), Mauduech (1978), McLeod (1993), Mercer (2002), Michon (1999, 2010), Mollat du Jourdin (1952), Musset (1892), Peret (2010), Pfister-Laganay (1985), Richard (1976), Rin (1938), Robinson et al. (2009), Sierra Nava (1998), Thibodeau

(1959, 1960, 1962a, 1962b), Trocmé and Delafosse (1952), Turgeon (1986, 1997, 1985, 2009), Wallace (1949), and Zysberg (1999).

A chronological assessment provides the data in tranches that generally match periodic events and eras pertinent to the French fishing effort around Newfoundland during the early modern period. The data were collated based on French ports that reported vessels fitted and departing for Newfoundland to engage in the cod fishery. Typically, these records indicate vessel names, tonnages, owner details and crew complements. The earliest records found were from 1508 and by 1541, most of the ports surveyed and providing data had begun to record activity in terms of numbers of vessels.

The variable starting years for these French ports indicates that the period reflects the commencement of the French fishery in the Newfoundland region. Sporadic start-ups led to regular annual fishing efforts, and as the numbers of fishers and vessels swelled in ports that had taken up the challenge of crossing the North Atlantic for perceived rich fishing grounds, so other ports were enticed and followed suit. The starting years indicated here provide an indication of probable first fishing efforts per port, but it is likely that fishing took place prior to these dates and that records are no longer available or have not yet been identified.

Ports were identified as Primary and Secondary depending on the availability and continuity of data. As described in the capacity Trend Method paper (Nicholls et al 2021), the identified Primary ports provide a trend that enables the Secondary ports with numerous blank entries to be filled with an informed series reflecting the actual annual fluctuations in activity. *Table 1* indicates the ports and their status as well as the start dates from when data are available.

French Port(s)	Commence- ment	Analysis Status	Notes
Bordeaux	1526	Primary	Reasonably continuous series of data
La Rochelle	1523	Primary	Reasonably continuous series of data
Sables D'Olonne	1543	Primary	Reasonably continuous series of data
Saint Malo	1508	Primary	Reasonably continuous series of data
Granville	1572	Primary	Reasonably continuous series of data
Honfleur	1520	Primary	Reasonably continuous series of data
Le Havre	1514	Primary	Reasonably continuous series of data
Bayonne	1512	Secondary	Less complete data series
Saint-Jean-de-Luz and Ciboure	1526	Secondary	Less complete data series
Seudre and Gironde	1640	Secondary	It is likely that there was activity before this date, but no earlier records were found; Less complete data series

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Other SW Atlantic	1541	Secondary	Less complete data series
Nantes	1664	Secondary	It is likely that there was activity before this date, but no earlier records were found; Less complete data series
South Brittany Pornic to Brest and Conquet	1517	Secondary	Less complete data series
Saint Brieuc	1510	Secondary	Less complete data series
Other North Brittany Lanildut to Cancale	1508	Secondary	Less complete data series
Rouen	1508	Secondary	Less complete data series
Fecamp	1520	Secondary	Less complete data series
Dieppe	1508	Secondary	Less complete data series
Other Normandy	1509	Secondary	Less complete data series
Dunkirk	1678	Secondary	Dunkirk changed hands between Flemish, Spanish, English and, finally, French control in 1662; by 1678, Dieppe and the surrounding area became part of France; Less complete data series
Boulogne and other Picardy	1737	Secondary	Boulogne and Picardy came late to the cod fishing venture in Newfoundland recording only single vessels per annum; Less complete data series

Table 1: French ports reporting vessels bound for the Newfoundland cod fishery.

1500 to 1540

Despite the impact of the ongoing conflicts between France and Spain (Franco-Spanish Wars of 1508-1513, 1515-1516, 1521-1525, 1527-1529 and 1535-1538), French fishers ventured to Newfoundland and the Grand Banks where the promise of plentiful catches awaited them.

This period is characterised by sparse and sporadic levels of available data. Several ports record no activity at all while others are only sketchily filled with many gaps. The period before 1508 shows no activity at all with St Malo, Rouen, Dieppe and the minor North Brittany ports between Lanildut to Cancale being the first to record 3, 4, 1 and 2 respectively.

By 1509, the minor Normandy ports reflect 1 vessel, and by 1510, Saint Brieuc records a single vessel as well. In 1512, Bayonne reports it's first vessel, and similarly, Le Havre indicates a single vessel for 1514. In 1517, the South Brittany ports from Pornic to Brest and Conquet begin to record a single vessel per year, while 1520 sees Honfleur and Fecamp each report their first single vessels. 1523 sees the start of records at La Rochelle with 5 vessels, while Bordeaux reports 2 vessels in 1526. The other surveyed ports do not report activity during this period.

1541 to 1598

During this period, wars with Spain (1552-1558 and 1594-1598), and war against both Spain and England (1542-1545) and England will have influenced the fishing effort. However, the destabilising effect of the rapid succession of French Civil Wars of Religion (see Table 2) also had an impact. The protracted Eighth War of Religion concluded the series of Civil conflicts in 1593, but this was immediately followed by another war with Spain (1594 to 1598). With the 1598 Peace of Vervins treaty, a period of relative peace ensued.

Period	Warfare	Notes
1562 to 1563	First War of Religion	Rouen and Le Havre are besieged and occupied, return to normal in March 1563
1567 to 1568	Second War of Religion	
1569 to 1570	Third War of Religion	Siege of La Rochelle
1572 to 1573	Fourth War of Religion	La Rochelle besieged again
1574 to 1576	Fifth War of Religion	Commerce of La Rochelle affected adversely
1577	Sixth War of Religion	
1580	Seventh War of Religion	
1585 to 1593	Eighth War of Religion	1585-1587 Nantes occupied; prolonged and final War of Religion.

Table 2: Civil Wars in France (Wars of Religion) affect fishing and trade.

Data from previously stipulated archival sources provide a good spread of points for the various ports, indicating numbers of vessels that departed from ports headed for Newfoundland for cod fishing. However, the first records from Saint-Jean-de-Luz and Ciboure only appear from 1556 with a single vessel undertaking the Newfoundland voyage, while the other smaller Southwest Atlantic ports begin reporting from 1541 for the first time, indicating that the uptake was expanding and the lesser ports were beginning to engage in the fishery as well.

1599 to 1674

This period marks relative calm and growth until 1635 when a prolonged conflict with Spain (1635 to 1659) impacted France. Likely as at least some level of consequence from this war,

Spain was driven from Newfoundland and their North West Atlantic fishery effectively ended. This resulted in open access to French fisheries as they continued to dominate, but the growing English fishery was able to take advantage as well. A further conflict with Spain (Franco-Spanish War of Devolution of 1667 to 1669) was largely a land-based struggle and had very little impact on French fishing. Warfare continued with the Franco-Dutch War (1672 to 1679) ushering in a few unsettled years.

Notably for the period, an incomplete census in 1664 (BNF Cinq Cents Colbert 1) indicates 352 vessels bound for Newfoundland. This figure excludes many ports and serves as a level of corroboration with the figure of 466 active vessels determined from combinations of archival records and trended information using the Capacity Trend Method.

An estimate of 200 to 250 French vessels in Newfoundland (Denys 1908, pp.142-144) is outside the bounds of the 413 vessels determined from archives and calculations for 1669 but does highlight that a significant presence was felt on an industrial scale.

1675-1790

The growth of the English cod fishing industry in this period is paramount to understanding the fortunes of the French effort. As French fortunes waned, the English fleets took up the gauntlet and expanded. Initially, the French fleet was active around Newfoundland, on the Grand Banks along the Scotian Shelf into the Gulf of St Lawrence. By 1713, with the Treaty of Utrecht, the French ceded Newfoundland to the English and withdrew (Briere 1985). They maintained a strong presence through most of the 18th century as the data shows but were not able to emulate the rise of the English fishing effort.

While a complete assessment of the chronology and sources for this period may be found in Nicholls, Allaire & Holm (2021), it is important to note that French activity, coupled with that of the English, dominated the exploitation of the cod fishing effort to the point that at its peak in 1788 over 610,000 t was extracted in the West Atlantic. However, by this time the French influence had waned with their contribution at just over 191,000 t, a share of 27%. The overall figure highlights the levels of extraction by the English and the relative decline of the French fishery. In the following years, French activity collapsed and ceased altogether during the Napoleonic conflicts. A relative recovery occurred during the 18th century following the collapse of the Empire in 1812.

Calculations

To obtain the total catch in metric tonnes, the given numbers of vessels in conjunction with their weights were used to assess annual average load weights. These average weights were calculated over 50-year tranches and indicate a small but steady increase over time that accounts for technology creep and the deployment of ever larger vessels (Table 3).

Period		Average Tonnage
1500	1549	87
1550	1599	106
1600	1649	111
1650	1699	128
1700	1749	133
1750	1790	139

Table 3: Average tonnage in metric tonnes over 50-year periods of French fishing vessels in Newfoundland. Each period tonnage value is based on individual average vessel tonnages within that period, accounting for technology creep due to improved methods and actual vessel size (tonnage) increases.

The given vessel numbers and known annual average tonnage enabled a total tonnage of carried fish to be calculated. However, a large proportion of the carried fish were first dried in Newfoundland and is assessed to have been in the order of 60% of the total catch. 40% would have been carried as “wet” or “green” fish cleaned and lightly salted and/or kept in brine. The conversion factor for rehydration is 1:4.7 (Nicholls et al 2021).

Nicholls, Allaire and Holm (2021) argue that the formula used to calculate the French catch in metric tonnes is:

$$(n*f*x1*w)+(n*f*x2)$$

n = Number of vessels

f = factored weight of fish per vessel (see Table 3)

x1 = 60% (conversion factor: dry fish)

x2 = 40% (conversion factor: fresh fish)

w = 4.7 (conversion factor: dry to fresh fish ratio)

Conversion Factors

- Vessels varied in size and weight, but typically carried around between 50 and 150 metric tonnes of fish on average. Table 1 indicates averaged values per vessel over 50 year periods with increases due to larger vessels being deployed and accounting for technology creep.
- Average live weight to dried cod ratio = 1:4.7

Other Processes

The marine species information that informs the dataset is obtained from the World Register of Marine Species (WoRMS 2020) which validates common species names, scientific names and sources.

The metadata system underpinning the dataset is based on Darwin Core (OBIS 2017; 2020) which provides static formulations of all data fields as outlined in the Data Fields section of this document.

Data Fields

Darwin Core Field Name	Description
occurrenceID	A globally unique “per record” identifier based upon the concatenated institutionCode, collectionCode, catlogNumber and ID fields (TCD_Norfish_FreNewAllNicCod_1)
type	Description of data series type. (Dataset)
modified	Most recent date the data was modified; ISO 8601 metric date/time standards apply. (2021-04-25)
license	Data licensing conditions that apply. (http://creativecommons.org/licenses/by/4.0/legalcode)
bibliographicCitation	Author citation for the dataset. (Allaire, B. and Nicholls, J. 2021. Norfish: French Newfoundland Cod Fishery 1500-1790. Dublin: TCD)
references	Denotes the link where more detailed information about the dataset is held. (http://www.vliz.be/imis?module=project&proid=5064)
institutionCode	Identifies the institution which owns the data - Trinity College Dublin. (TCD)
collectionCode	Code of the project or research group. (Norfish)
datasetName	Name of the dataset. (French Newfoundland Cod Fishery 1520-1790)
basisOfRecord	Specifies the nature of the observed or researched specimens or data. (HumanObservation)
dataGeneralizations	Source data that informs the provenance of the data. (Sources: Nicholls, John., Allaire, Bernard and Holm, Poul. 2021. The Capacity Trend Method: A new approach for enumerating the Newfoundland cod



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	fisheries (1675–1790). Historical Methods: A Journal of Quantitative and Interdisciplinary History. DOI: 10.1080/01615440.2020.1853643
catalogNumber	Identifier of the data within the institution and project – “Fre” refers to French, “New” refers to Newfoundland, “All” refers to Allaire, “Nic” refers to Nicholls, “Cod” refers to cod. (FreNewAllNicCod)
occurrenceRemarks	Comments about the occurrence record. (Franco-Spanish war)
recordedBy	Researchers who recorded the data. (Bernard Allaire John Nicholls)
organismQuantity	Quantity of fish represented in the record shown in Kg live weight. (2801400)
organismQuantityType	organismQuantity unit of measurement. (biomass in kilograms (kg))
occurrenceStatus	Stipulates the physical presence or absence of animals relating to the record. (present)
eventDate	Actual date and time at which an occurrence was recorded. ISO 8601 metric date/time standards apply. (1520)
year	Year taken from the eventDate field. (1520)
locationID	Marine Region unique identifier. (http://marineregions.org/mrgid/8544)
locality	Local name for the overall location or region. (Newfoundland and Grand Banks)
locationAccordingTo	MRGID location identifier based on the marineregions.org/mrgid system. (MRGID)
locationRemarks	Description of location identifier. (NOAA described Large Marine Ecosystem)



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decimalLatitude	Latitude shown in decimal notation based on the WGS 84 (EPSG:4326) geodetic datum standard. (50.13898)
decimalLongitude	Latitude shown in decimal notation based on the WGS 84 (EPSG:4326) geodetic datum standard. (-54.93281)
coordinateUncertaintyInMeters	The smallest circle (radius) in metres from the ground zero point depicted by the decimalLatitude and decimalLongitude fields. In this instance, “1351881” depicts a radius of c. 1,352 Km.
georeferenceRemarks	Remarks indicating the geographic area identified – Large Marine Ecosystems are used. (9: Labrador-Newfoundland)
scientificNameID	The WoRMS LSID associated with the scientificName, based on the Marine Species database. (urn:lsid:marinespecies.org:taxname:126436)
scientificName	Scientific name of the animal based upon the vernacularName. (Gadus morhua)
kingdom	Together with taxonRank assists in determining broader animal characteristics for darwinCore search engines. (Animalia)
taxonRank	Together with kingdom assists in determining broader animal characteristics for darwinCore search engines. (species)
scientificNameAuthorship	Based on the scientificNameID field and discoverable through the WoRMS database. (Linnaeus, 1758)
vernacularName	Literal common name applied to the animal involved. In this case, all values are cod
identificationRemarks	Details that assist in identifying the animal. (Common names used were was morus, morue franche, morue, cabillaud de l'Atlantique, cabillaud)



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conversion	Conversion factor applied to derive catchMT. (Vessels varied in size and weight, but typically carried around 50 metric tonnes of fish on average; Average weight per vessel (mean tonnage) = 50 metric tonnes; Average crew per vessel = 20 to 30 fishers; Average live weight to dried cod ratio = 1:4.7)
numberOfVessels	Number of vessels engaged in the fishing effort. (10)
averageTonnage	Average tonnage per vessel engaged in the fishing effort in live weight of cod in metric tonnes. (87)
TotalVesselTonnage	Total tonnage of vessels (870)
weightDryCod	Weight of dried cod carried in metric tonnes (60% of total). (522)
weightFreshCod	Weight of Fresh (wet or green) cod carried in metric tonnes (40% of total). (348)
catchMT	Derived metric tonnes value based on the calculated fields as shown in the conversion field, or as shown in the codes field.
trafficLight	Traffic Light coding system denotes level of certainty, and/or level of accuracy that can be described for each record; see Appendix 1 for details.
codes	Explanation codes that highlight the process for each record; see Appendix 2 for details.

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Appendix 1

Traffic Light System

Traffic Light	Explanation
green	Values provided from sources with minimal conversion required
amber	Values given as numbers of vessels with conversions to metric tonnes; requires some values to be calculated using the Capacity Trend Method
red	Values not available, estimates determined based on the Capacity Trend Method using last known and next available values for primary ports

Appendix 2

Codes

Codes	Explanation
a	Detailed information provided, converted from number of vessels to catch weight in metric tonnes
b	Number of vessels given or calculated using the capacity Trend Method; converted from number of vessels to catch weight in metric tonnes; in some instances, zero values are reasonably assumed due to known external factors (e.g. warfare)
c	Values not available, estimates determined based on the Capacity Trend Method using last known and next available values for primary ports