



Norfish Dataset 03

**English Herring Fishery**

**1520 – 1790**

*Supporting Documentation*

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*English fishergirls gutting herring.*  
*Detail from the Harker memorial windows, St Peter Church, Blofield, Norfolk*  
*by Reginald Bell, 1936 (Knott 2020)*



# English Herring Fishery 1520–1790

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## Summary

<b>Dataset Title:</b>	English Herring Fishery 1520-1790
<b>Norfish Case Study:</b>	English Herring Fishery 1520-1790
<b>Large Marine Ecosystem:</b>	22: North Sea
<b>Subject:</b>	Herring catches, North Sea, English Herring Fishery 1520-1790
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<b>Extent:</b>	271 records
<b>Keywords:</b>	Herring catches, Norfish, English, North Sea, Lowestoft, Great Yarmouth
<b>Citations:</b>	<ol style="list-style-type: none"><li><b>The dataset:</b> please cite as follows: Ivinson, J., Nicholls, J. and Holm, P. 2020. Norfish: English Herring Fishery 1520-1790. Dublin: TCD</li><li><b>Supporting documentation:</b> please cite as follows: Ivinson, J., Nicholls, J. and Holm, P. 2020. Norfish Supporting Documentation: English Herring Fishery 1520-1790. Dublin: TCD</li></ol>



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## Sources and Chronology

The English herring fishery was active as an industry since at least medieval times and likely even earlier (Galloway 2017). The abundance of the annual herring migration from North to South along the East of England coast led to many fleets carrying out their fishing efforts in these productive waters during the herring season, including local English fishers. However, despite the clear engagement in the industry, there is very little archival evidence of actual statistical data that indicates specific catches, landings and import/export figures. Also, there is little indication of the level of domestic consumption for England. This lacuna makes any reasonable evaluation of the magnitude of the herring catch particularly difficult.

As Heath points out:

“... a major impediment to the study is the very frugal and random nature of the sources: no medieval English fisherman or fishmonger has left any letters or accounts which begin to compare with those of the wool-trading Cely family; the ownership of fishing boats is very seldom recorded in wills and we have no description and no certain pictures of the boats used; no extant document locates the fishing grounds with any precision and the fish aroused the curiosity of no medieval naturalist, if there were such a man; and few groups of merchants have been so neglected by economic – as distinct from political – historians as the Fishmongers Company...” (Heath 1968)

We are aware of large-scale English fishing activity in the North Sea in the 14th century from reports made to the French King:

“In 1336 Philip VI of France was advised to attack the Yarmouth herring industry at the time of the autumn fishing. He was informed that there would be 6,000 small fishing vessels there; over a thousand of these would be English; each might have a crew of fifteen. Spies exaggerate; but the Valois agents were not too wildly off the mark.” (Campbell 2002, p.5)

Furthermore, according to Campbell, a conservative estimate of some 600 English vessels were involved in the fishing industry in the 14th century. The most prolific season was that of 1336 to 1337: over 5000 tons (approx. 5000 metric tonnes) of herring was recorded, while in several seasons between 1331 and 1368 records indicate catches exceeding 2000 tons. (Campbell 2002, p.6)

By the 16th century, the English herring fishery was either in a state of stagnation or of decay. Herring was typically imported from the Netherlands and any local fishing would have supplemented the requirements for domestic consumption (Lansdowne MS 100 No.25 f187v).



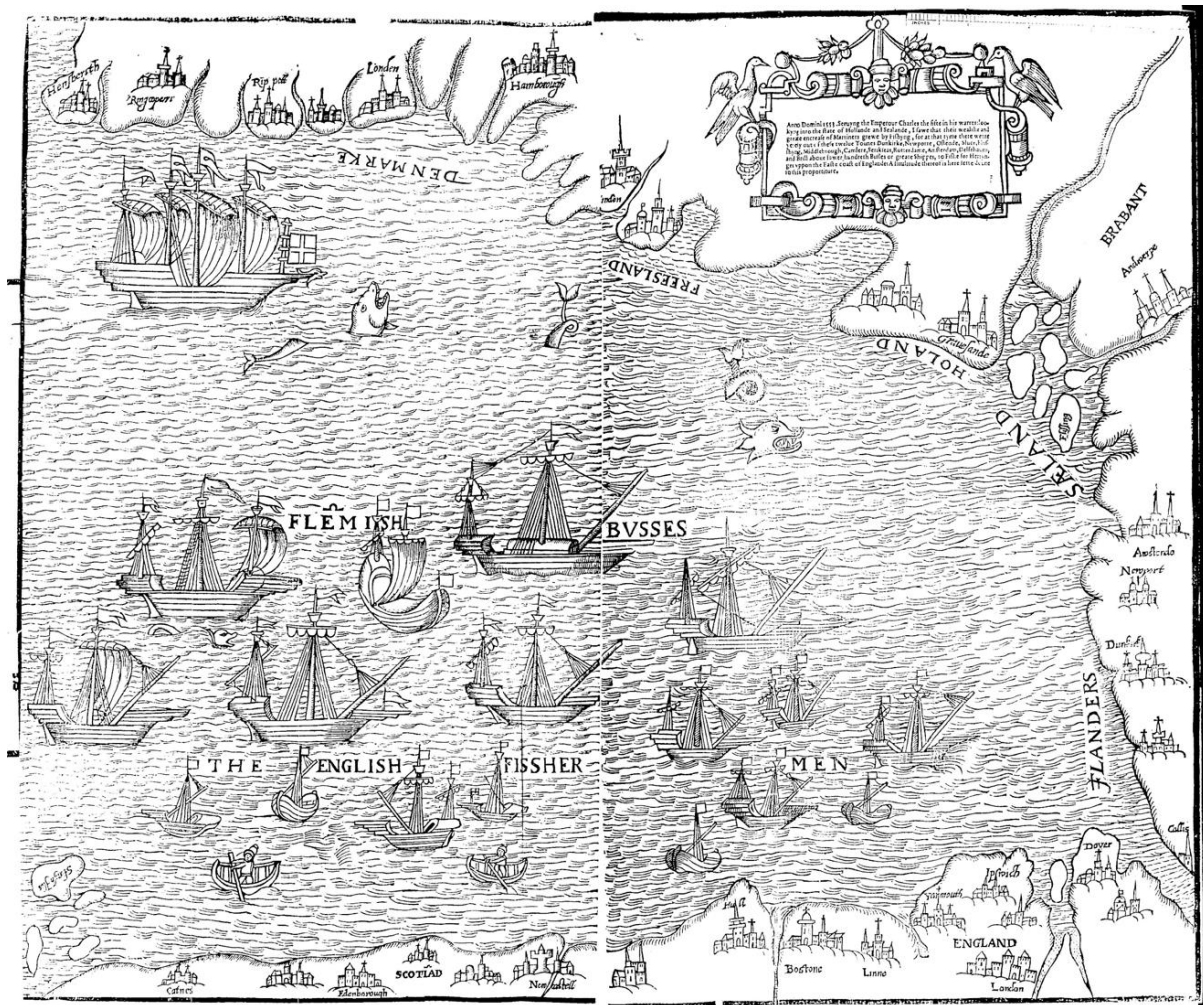


Figure 1: *A Politique Platt for the Honour of the Prince, the greate profite of the Publique State, reliefe of the Poore, preservation of the Rich, reformation of Roges and Idle Persons, and the wealthe of thousands that knowes not howe to live.* (Hitchcock 1580)

The image in Figure 1 depicts activity in the North Sea that highlights the comparative sizes of vessels from the Flemish (Dutch) fishery with those of the English fishery. Dutch Busses were large “factory” vessels that caught much larger quantities than their English counterparts:

“Our five men boats and cobbes adventuring in a calme to launch out amongst the Holland Busses not far from Robbinlunds Bay returned to Whitby full fraught with herring & reportedly they saw some of those Busses take 10, 20, Or 24 lasts”. (Harley MS 4626 No.4 f.57v)

Arguably the most accurate and reliable figures that have endured for the period of study date from the local harbour fisheries at Great Yarmouth and Lowestoft on the East Anglia coast in Norfolk. These two ports provide the basis of the data used to compile this dataset.

## Lowestoft

As early as 1526 records show 20 herring boats and 200 men engaged in the industry at Lowestoft, with 15 further boats catching mackerel (Butcher 2000 pp.58, 60). There is also reporting that Lowestoft occupied a larger share of the herring catch than Great Yarmouth in the mid-16th century because the Great Yarmouth harbour was silted and in disrepair (Dean 1990 pp.42-43, 48).

Further statistics arise for 1661 when 450 lasts of herring were cured by 16 merchants, for 1663 this rose to 668 lasts by 17 merchants, reaching 700 lasts by 21 merchants in 1674 (Butcher 2008, p.168).

The longest contiguous series of data available for Lowestoft encompasses the period 1750 to 1789 set out in a table by Edmund Gillingwater (Cushing 1968, p.325 Table 1). From this graph, figures were extracted with reasonable accuracy. Gillingwater's (1790) original work may be cited as well as it contains the various documented elements that Cushing combined into his table; with an edited additional chapter including "more recent events" the volume provides various insights into Lowestoft's early modern period development (Murton, AE. 2016).

## Great Yarmouth

Great Yarmouth was the largest of the English east coast North Sea fisheries. As for other ports of East Anglia and the wider east coast, statistical information is rare and only a few annual data points are available apart from an extended series between 1581 and 1714 (Michell 1977, pp.144-146). This series provides numbers of herring boats active from Great Yarmouth during the period, but also has a few notable gaps.

State Paper inventories provide some statistical data as well: in 1565 there were 81 boats engaged in the herring fishery. Of these, 4 boats were of 24 tons, 7 boats of 18 tons, 20 boats of 14 tons, and 50 boats of 10 tons; this was complemented by 7 Iceland cod vessels averaging 107 tons, and 23 merchant trade vessels. In total, Great Yarmouth had 150 mariners and 250 fishermen (SP 12-38 f17v-18r Yarmouth fishing fleet, 1565).

While exports were a rare occurrence, in 1573 some 200 lasts of herring were given a licence to be exported to Italy, but this appears to be the only herring exported that year (APC8 pp.159-60, 165, 167).

Around the start of the 17th century, in a non-specifically dated document, estimates are provided to indicate the proportional differences between the English and the Dutch fisheries; the English are shown to have exported 100 lasts in a year worth some £2000 - all to Rohan in Brittany, France - while the Dutch exported 90,500 lasts worth £1.765 million to all of Europe. The Dutch catch is cited as being from "the coasts of England, Scotland and Ireland". (Harley MS 6838, p.217)

In 1633, according to local customs books, 18,000 lasts of herring were landed and transported from Yarmouth to the south, presumably for domestic consumption (SP 16/252 f.82).



## Other ports

Perhaps the overarching reason for the lacunae of data from ports other than Lowestoft and Great Yarmouth (which are sparse in any event) is that the English herring fisheries appear to have been untaxed and therefore free from the levels of scrutiny that could lead to accurate recording of catches, landings and port activity.

As a typical example, the early fishery of the port of Hull is noted in the archived Jettage and Ballast Accounts 1693-1705 (C WB/10), the Water Bailiff Records 1724-1751 (C WB/822) and the Foreign Dues of Ships 1752-1757 (C WB/11a) in terms of imports, exports, landings, and related activities. These archival documents include vessel names, and skipper and crew names on occasion. Goods are listed according to their share of taxes levied, and vessels (together with their crews) are “ransomed” in the port and held against payment of monies reported as harbour fees before they are again released. In all of this active recording, there is no mention of fish of any kind; the catching, landing and processing of fish did not appear to attract any formal taxation and was therefore not reported. There may be some consolation in the fact that the vessels that are indicated for trade are rarely shown as full which may indicate that the extra cargo space was indeed fish, but this is speculation. In any case, the overall import and export figures are relatively small and any fisheries activity would have been on a very minor scale when compared with the ports of Lowestoft and Great Yarmouth.



Water Bailiff Record Book from 1728 detailing goods imported into the port of Hull (Hull History Centre C WB/10)

Further evidence would require an extensive trawl of local archives of the east coast ports of Northern England, East Anglia, and the South of England. While the port of London may well have been active in the herring fishery, there is little evidence for any actual data that may exist. Ports such as Whitby, Scarborough, Bridlington, Beverley, Hull, Grimsby, King's Lynn, Cromer, Wells, Blakeney, Dunwich, Sizewell, Aldeburgh, Walbersick, Blythburgh, Southwold, Orford, Goseford, Orwell, Bawdsey, Felixstowe, Ipswich, Harwich, Walton, Brightingsea, Winterton and Wivenhoe were most likely engaged to some extent, but it is just as likely that nearly every coastal settlement would have participated to some minor degree. Nevertheless, without evidence to the contrary, it may be reasonably assumed that apart from Lowestoft and Great Yarmouth, all other fishing was on a comparatively minor scale.

## Numbers of Vessels

Figures available for the calculation of the numbers of vessels engaged in the industry may be based on reports from the 18th century. Butcher (2008 p.179) cites figures for Lowestoft for the years 1748 to 1789 where an average catch of 665 lasts amounted to a fleet of about 35 vessels. This amounts to around 19 lasts per vessel.

For Great Yarmouth, in 1790 the figure is shown as much lower at about 9.5 lasts per vessel (Cushing 1968 p.324: Table 1).

Assuming a rough average of between 9.5 and 19 lasts per vessel, and recognising that vessel sizes varied massively, it would be reasonable to accept an average for the period of about 14 lasts per vessel. This equates to 28 metric tonnes per vessel. From this figure, conversions to metric tonnes of herring could be applied.

## Calculations and conversions

All figures are recorded in metric tonnes of freshly caught herring wherever possible. The basic conversions and calculations used amount to the following:

1 last = 1.9764 metric tonnes

1 vessel = 28 metric tonnes (of caught fish)

To determine a continuous series between 1520 and 1790, the primary data sources for Lowestoft and Great Yarmouth were plotted (Cushing 1968, p.325; Michell 1977, pp.144-46). It is reasonable to assume that the missing periods of the series (1520-1525; 1527-1564; 1566-1580; 1582-1583; 1585-1591; 1627; 1657-1658; 1662; 1664-1665; 1681; 1715-1724; 1726-1749; 1790) can be filled through extrapolation. However, any simple straight-line between two points approach could lead to misinterpretation, especially for the longer period gaps. Against a backdrop of the Dutch herring fishery which dominated the North Sea herring fishing industry during the period, and which is accurately recorded trended value could be



calculated based on the Capacity Trend Method (Nicholls et al. 2020). This adapted extrapolation provides a relative comparison of probable activity for the English herring fishery.

It is clear that an overall understanding of the entire North Sea fishery is only attainable if all ports (other than the given Lowestoft and Great Yarmouth figures) are also included. Indications are that Great Yarmouth was typically twice the size of Lowestoft in terms of herring landings, and all other ports combined may be assumed, at a very conservative estimate, as being equal to that of Lowestoft. These factors were calculated into the final figures to attain an overall English North Sea herring fishery series from 1520 to 1790.

## Other Processes

The Capacity Trend Method was used to calculate values for years where no data was available. This process entails a trending process where a trend of annual data is applied between available points in order to determine a series that reflects general trends rather than a simple straight line (Nicholls, Allaire, Holm 2020)

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
<b>occurrenceID</b>	A globally unique “per record” identifier based upon the concatenated <code>institutionCode</code> , <code>collectionCode</code> , <code>catlogNumber</code> and <code>ID</code> fields. (TCD_Norfish_EnglviNicHolHer_1)
<b>type</b>	Description of data series type. (Dataset)
<b>modified</b>	Most recent date the data was modified; ISO 8601 metric date/time standards apply. (2020-12-29)
<b>license</b>	Data licensing conditions that apply. ( <a href="http://creativecommons.org/licenses/by/4.0/legalcode">http://creativecommons.org/licenses/by/4.0/legalcode</a> )
<b>bibliographicCitation</b>	Author citation for the dataset. (Ivinson, J., Nicholls, J. and Holm, P. 2020. Norfish: English Herring Fishery 1520-1790. Dublin: TCD)
<b>references</b>	Denotes the link where more detailed information about the dataset is held. ( <a href="http://www.vliz.be/imis?module=project&amp;proid=5064">http://www.vliz.be/imis?module=project&amp;proid=5064</a> )
<b>institutionCode</b>	Identifies the institution which owns the data - Trinity College Dublin. (TCD)
<b>collectionCode</b>	Code of the project or research group. (Norfish)
<b>datasetName</b>	Name of the dataset. (English Herring Fishery 1520-1790)
<b>basisOfRecord</b>	Specifies the nature of the observed or researched specimens or data. (Human Observation)
<b>dataGeneralizations</b>	Source data that informs the provenance of the data. (Sources: Butcher (2008 pp.58, 60, 179))
<b>catalogNumber</b>	Identifier of the data within the institution and project – “Eng” refers to English, “Ivi” refers to Ivinson, “Nic” refers to Nicholls, “Hol” refers to Holm, “Her” refers to Herring. (EnglviNicHolHer)
<b>occurrenceRemarks</b>	Comments about the occurrence record. (NA)
<b>recordedBy</b>	Researchers who recorded the data. (Josh Ivinson   John Nicholls)

<b>organismQuantity</b>	Quantity of fish represented in the record shown in Kg live weight. (8285162)
<b>organismQuantityType</b>	organismQuantity unit of measurement. (biomass in kilograms (kg))
<b>occurrenceStatus</b>	Stipulates the physical presence or absence of animals relating to the record. (present)
<b>eventDate</b>	Actual date and time at which an occurrence was recorded. ISO 8601 metric date/time standards apply. (1520)
<b>year</b>	Year taken from the eventDate field. (1520)
<b>locationID</b>	Location identifier. ( <a href="http://marineregions.org/mrgid/8542">http://marineregions.org/mrgid/8542</a> )
<b>locality</b>	Overall location or region. (English East Coast and North Sea)
<b>locationAccordingTo</b>	MRGID identifier based on the marineregions.org/mrgid system. (MRGID)
<b>locationRemarks</b>	Stipulation of the system deployed for locationAccordingTo field. (English East Coast (East Anglia) and North Sea)
<b>decimalLatitude</b>	Latitude shown in decimal notation based on the WGS 84 (EPSG:4326) geodetic datum standard. (57.37568)
<b>decimalLongitude</b>	Latitude shown in decimal notation based on the WGS 84 (EPSG:4326) geodetic datum standard. (2.72626)
<b>coordinateUncertaintyInMeters</b>	The smallest circle (radius) in metres from the ground zero point depicted by the decimalLatitude and decimalLongitude fields. In this instance, "827925" depicts a radius of 827.925 Km.
<b>georeferenceRemarks</b>	Location information – NOAA LME system used. (22: North Sea)
<b>scientificNameID</b>	The WoRMS LSID associated with the scientificName, based on the Marine Species database. ( <a href="http://urn:lsid:marinespecies.org:taxname:126417">urn:lsid:marinespecies.org:taxname:126417</a> )
<b>scientificName</b>	Scientific name of the animal based upon the commonName. (Clupea harengus)

<b>kingdom</b>	Together with <b>taxonRank</b> assists in determining broader animal characteristics for darwinCore search engines. (Animalia)
<b>taxonRank</b>	Together with “kingdom” assists in determining broader animal characteristics for darwinCore search engines. (species)
<b>scientificNameAuthorship</b>	Based on the <b>scientificNameID</b> field and discoverable through the WoRMS database. (Linnaeus, 1758 )
<b>vernacularName</b>	Literal common name applied to the animal involved. In this case, all values are “herring” – the English common name for herring.
<b>identificationRemarks</b>	Explanatory notes to inform the data. (Local English name for North Sea herring used)
<b>conversion</b>	Conversion rates used to calculate the <b>catchMT</b> where relevant. (1 last = 1.9764 metric tonnes; 1 vessel carries 14 lasts)
<b>numberOfVessels</b>	Number of vessels engaged in the fishery. (108)
<b>catchMT</b>	Derived metric tonnes value based on the calculated fields as shown in the conversion field. (20000)
<b>trafficLight</b>	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.
<b>codes</b>	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	Given values with minimal conversion
amber	Calculated values based on given values
red	Calculated values capacity trended from Dutch herring fishery annual export figures

## Appendix 2

### Codes

Codes	Explanation
a	Calculated catchMT values based on supplied number of vessels
b	Calculated numberofVessels values based on supplied catch figures
c	Calculated values based on Capacity Trended figures from the Dutch herring fishery