HMAP Dataset 12
North-west Scotland Fisheries

Supporting Documentation

1. Summary

Dataset Title:	North-west Scotland Fisheries
Large Marine Ecosystem:	24: Celtic-Biscay Shelf
Subject:	Catch data, herring, haddock, Norway lobster, 1893-2005, West Scotland, 1893-2005
Data Provider:	Graham Pierce & Cristina Pita School of Biological Sciences/Business School University of Aberdeen Scotland, UK
Data Editor:	David J Starkey, MHSC, University of Hull d.j.starkey@hull.ac.uk
Extent:	277 records
Keywords:	Historical statistics; HMAP Datapages; Scottish fisheries; Celtic-Biscay Shelf

Citation

(a) The dataset: please cite as follows: C. Pita & G. Pierce, 'North-west Scotland Fisheries', in D.J. Starkey & J.H. Nicholls (comp.) *HMAP Data Pages* (www.hull.ac.uk/hmap)

(b) Supporting documentation: please cite as follows: C. Pita & G. Pierce, 'INCOFISH Dataset 52: North-west Scotland Fisheries, Supporting Documentation', D.J. Starkey & J.H. Nicholls (comp.) *HMAP Data Pages* (www.hull.ac.uk/hmap)

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2. Research Context & Objectives

For much of the twentieth century, the fortunes of the Scottish fishing industry were closely related to those of the herring fishery. As a consequence, total fish landings increased to unprecedented levels before 1914 due to the expansion in demand for herring products in northern Europe and the introduction of steam power into the herring fleet, a technological advance that greatly improved its catching capacity. However, the collapse of the German and Russian markets during and after the First World War depressed the herring fishery and it was not until the 1950s that landings began to increase appreciably once more, a trend that continued until the late 1970s when the herring fishery was closed for four years to enable the much-depleted stock to recover.

Against this national background, the study focuses on the fishing performance of the West Coast ports of Mallaig and Ullapool. With particular attention devoted to the fisheries for herring, haddock and Norway lobster over the 1893-2005 period, the objectives of the research are:

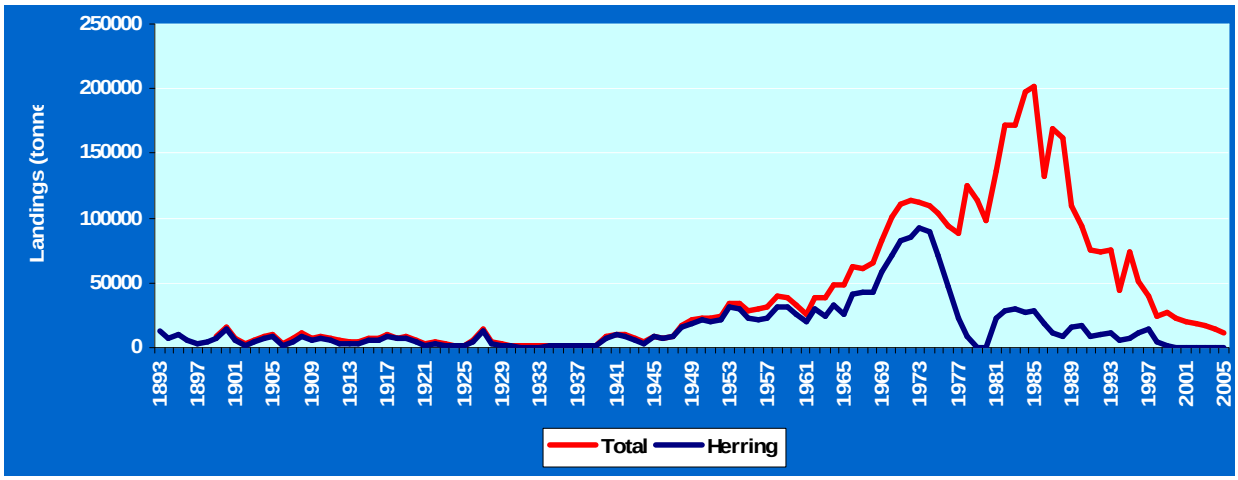
- to construct time series of catch and effort data;
- to identify and explain long-term trends in catch-per-unit-effort ratios;
- to assess the credibility of baselines predicated on a range of different variables – socio-economic, biological, environmental.

In a related study, predator-prey interactions over the long term are being assessed through analysis of the diets of top predators, notably seals and harbour porpoises, in Scottish coastal waters.

3. Primary Source Materials

The information presented in Dataset 52 was extracted and collated from two primary sources: the printed *Scottish Fisheries Tables,* 1893-2005; and Trawl Survey Reports assembled by Fishery Research Stations (FRS), in conjunction with ICES' Spawning Stock Biomass (SSB) from 1980 onwards.

The figure below indicates the pattern of fisheries activity conducted from Mallaig and Ullapool during the 1893-1905 period. Herring clearly dominates the overall level of catches until the mid-1970s, when landings of other species – notably Norway lobster – become much more significant in both relative and absolute terms.



4. Metadata: Explanation of Data Fields

The entries below are outlined as per the field headings of HMAP Dataset 51. An explanation is offered for each field in general terms, and also in dataset specific terms.

ID

ID is the unique, consecutive serial numbers for the complete HMAP database.

InstitutionCode

InstitutionCode is the name given to the overall project of which this Dataset forms a part (HMAP).

CollectionCode

CollectionCode is the specific HMAP project Dataset reference code (used for OBIS referencing purposes).

DateLastModified

This is the date when the data were last modified.

CASE_STUDY

CASE_STUDY is the location identifying description of the Dataset. In this instance: **Scotland, North-West coast**.

DATASET

DATASET is the HMAP project unique Dataset reference.

PERIOD

The Historical Period covered.

ID_NUMBERS

This field contains the range of record numbers shown in the ***ID*** field.

REFERENCE

REFERENCE refers to the source of records employed in the research.

publication_date

This is the date when the Dataset was published.

GENERAL_DESCRIPTION

This is a brief description of the Dataset.

Citation

Citation is the field where the formal attribution is shown for users of the HMAP Datasets to cite; it credits the researchers and editors of a Dataset together with its database compilers. This citation must be quoted whenever records are referenced or employed for any purpose.

- Please quote the relevant citation when using extracts or details from this Dataset: C. Pita & G. Pierce, 'North-west Scotland Fisheries', in D.J. Starkey & J.H. Nicholls (comp.) *HMAP Data* (www.hull.ac.uk/hmap)

BasisOfRecord

BasisOfRecord is the abbreviation applied that indicates whether the record is based on observations (O), living organisms (L), specimens (S), germplasm/seeds (G), photos (P), or from literature with original basis unknown (D); the HMAP value is generally 'O'.

OCEAN_REGION

This field indicates the specific Ocean Region where the Dataset research has been carried out. If this field shows 'None', then the research reflects activities carried out in non-seaward locations (e.g. in rivers, weir fishing, etc.). In this Dataset, the ***North Atlantic*** region was researched.

LME

This field indicates the name of the Ecosystem where the record event occurred. To find out more about LMEs (which are confined to continental shelf regions) browse the Large Marine Ecosystem site (http://www.edc.uri.edu/lme/) where LME GIS data may be downloaded. In this Dataset, the ***Celtic-Biscay Shelf*** region was researched.

LME_NUMBER

This field indicates the number of the LME that is shown in the previous field. In this Dataset, the LME number is ***24***.

REGION

This field indicates the specific region of the Dataset.

GROUND

The GROUND is the fishing ground(s) of dataset.

LATITUDE

The LATITUDE refers to a mean value of the species distribution from surveys and should be cross referenced with the LONGITUDE field for specific location determination.

LAT_PRECISION

This gives the actual precision of the calculated LATITUDE field. The available options are:

- Approx — Approximate position
- Estimated — Estimated position
- Exact — Exact position
- Ground Centre — Notional centre of the relevant fishing ground
- Unknown — Position not known

LONGITUDE

The LONGITUDE refers to a mean value of the species distribution from surveys and should be cross referenced with the LATITUDE field for specific location determination.

LON_PRECISION

This gives the actual precision of the calculated LONGITUDE field. The available options are:

- Approx — Approximate position
- Estimated — Estimated position
- Exact — Exact position
- Ground Centre — Notional centre of the relevant fishing ground
- Unknown — Position not known

ST_YEAR

This field refers to the ***start year*** of the beginning of the sampling.

EN_YEAR

This field refers to the ***end year*** of the end of the sampling. Unless the sampling spanned an extensive period, this value is usually the same as the ST_YEAR field entry.

ScientificName

This field indicates the scientific name of the species under investigation which is linked to the INCOFISH related FISH BASE database containing detailed information about the species that were sampled.

…*SPECIES FIELDS*…

The following fields are included to add detail to the Species data:

- Subspecies
- GENUS
- SPECIES
- FAMILY
- ORDER
- CLASS
- PHYLUM
- KINGDOM
- AUTHOR

HOME_PORT

This is the home port of the fleet employed in the sampling.

NATION

The Nationality of the Fishing operation is indicated here.

OPERATOR

The name of the operator is indicated.

EFFORT

This field shows the EFORT taken by the fishery and is measured according to the number of trips undertaken. The EFFORT is calculated effort based on the specific Effort_Unit employed.

EFFORT_UNIT

This is the Unit of Effort employed.

POWER

Where known, the type of effort employed is indicated.

METHOD

The METHOD is an indicator of the primary gear used in the fishery; it indicates the means by which samples were extracted. This is typically the actual method of fishing, such as "Bottom Trawl".

CATCH_MT

This field shows the retained catch weight in metric tonnes.

ObservedWeight

This field indicates the observed mass of the sample in Kilograms. Where this data is not available, a value of "unknown" is entered.

CONVERSION_FROM

This field describes the ***Formula*** used in conversion from original units to Metric tonnes, litres, and/or kilograms.

UNIT_ORIGIN

This field indicates the Conversion Units used.

FORMULA

This field contains the actual Conversion formula that is used to calculate the Catch in Metric Tonnes (CATCH_MT).

CATCH_N

This is the number of specimens sampled for a particular record. Where this data is not available, a value of "unknown" is entered.

GENDER

This field indicates the Gender of the species in the sample. The values available are shown as follows:

- 'M' male
- 'F' female
- 'U' unknown
- 'B' both male and female
- 'H' hermaphrodite

PRICE

The sale price of the catch is indicated (in Skilling).

PRICE_UNIT_CATCH_N

This field shows the calculated Price to Catch number.

PROCESS

This is a description of the process applied to the original unit.

CPUE

The CPUE field (***C***atch ***P***er ***U***nit ***E***ffort) is expressed as: CATCH_MT / EFFORT (number of fishing units employed).

NOTES

The NOTES field gives detailed information specific to a particular record. The details are provided to clarify specific entries and where further explanation is required than is generally provided in this METADATA file. For complete and academically verifiable explanations, refer to the published research materials that are indicated in the REFERENCE field.

Enquiries regarding the information contained in this document and the accompanying dataset should be directed to David J Starkey (d.j.starkey@hull.ac.uk) or John Nicholls (j.nicholls@hull.ac.uk).