



Centre for Environment  
Fisheries & Aquaculture  
Science



**C7010**

# **MEDIN – Data Legacy Rescue**

**Sea Angling**

---

Mary Brown, Richard Ayers, Kieran Hyder, Mike Armstrong  
10 March 2016

## Cefas Document Control

Submitted to:	Clare Postlethwaite (MEDIN)
Date submitted:	11 March 2016
Project Manager:	Mary Brown
Report compiled by:	Mary Brown
Quality control by:	Richard Ayers
Approved by and date:	Janette Lee 11 March 2016
Version:	1.1

Version Control History			
Author	Date	Comment	Version
<b>Mary Brown</b>	10 March 2016	First Draft	
<b>Richard Ayers</b>	11 March 2016	QA	

## Introduction

The Centre for Environment, Fisheries and Aquaculture Science (Cefas) is a world leader in marine science and technology, providing innovative solutions for the aquatic environment, biodiversity and food security. We are the UK's most diverse centre for applied marine and freshwater science and research, covering an unrivalled breadth of specialist areas to provide a fully integrated, multi-disciplinary approach to all our customers' needs.

Cefas needs to make publically available a recent large data set on sea angling. Approximately one million people participate in recreational sea angling in the UK, but historically there are very few data sets on how much fish is caught around the coast of any of the UK countries. This lack of data has proved a major impediment to evaluating the conservation status of fish stocks such as seabass (which are a major target for anglers), and to managing the fisheries for these species. The European Commission has recognised this data deficiency and has made the collection of data on recreational sea fishing mandatory under the EU Data Collection Framework for defined stocks and regions. In 2012, to help meet the European data reporting requirements, Defra and the Marine Management Organisation (MMO) funded *Sea Angling 2012*, the largest ever survey of sea angling in the UK, covering the whole of England for a full year (see

<http://webarchive.nationalarchives.gov.uk/20140108121958/http://www.marinemangement.org.uk/seaangling/finalreport.htm>).

This work included a number of discrete surveys including: the use of a GB-wide Office of National Statistics (ONS) survey to collect information about sea angling participation; a survey in which charter boat skippers kept monthly activity and catch diaries; a survey in which anglers fishing from the shore or their own boats were interviewed on site to record catches and expenditure; and two on-line surveys to collect data on catches, expenditure and social benefits of sea angling. Data were collected from over 11,000 sea anglers in England. Cefas managed the shore and private boat survey, and the online surveys, using funding from Defra; while the MMO funded the ONS survey add-ons and the charter boat survey.

*Sea Angling 2012* generated considerable interest amongst stakeholders and fishery managers, leading to requests for data and information. The datasets are of significant value to the whole angling community, and should be freely available to scientists, government and the angling community. The total catches of cod, bass and sharks have been reported to Europe, but it was not possible to release the full dataset within the scope of the project due to significant additional challenges in providing a single, high-quality, anonymised and traceable dataset. The data are currently stored in a variety of formats depending on the survey type. For example, there are nine separate Access data bases, one completed by each mainland Inshore Fishery and Conservation Authority (IFCA) carrying out interviews in their district under contract to Cefas. In addition, a series of spreadsheets of varying complexity contain data for the other surveys carried out by Cefas and by a contracted private company. While useful to support analysis and publication of the individual data sets to estimate catches and total spend, these different formats required further processing and needed to be anonymised or aggregated to a suitable scale prior to being made available for public access.

## Approach

### Economic and Social Benefits Survey

The results of an online survey to collect angler details e.g. gender, age, home location, income bracket, frequency of fishing, boat ownership etc., and detailed information on expenditure on different categories such as consumables, travel, capital items, charter or other fees etc. The on-site case studies for the economic survey recorded trip expenditure directly from anglers and documented additional information about the sites and businesses involved in sea angling. This survey also includes some site visits as case studies.

This dataset was anonymised using UK Information Commissioner's Office ("ICO") "Anonymisation: Managing Data Protection Risk Code of Practice" recommendations and then converted to a flat file .csv format. Some free text comments were removed as they were considered contentious.

### Online catch survey

This online survey collected additional catch details by quarter and generated flat data files. The catch survey included details of the responding angler, and details of numbers of fishing trips and catches made in the previous three months in each of a defined set of UK regions, by type of fishing (shore, private boat, charter boat).

This dataset was anonymised using UK Information Commissioner's Office ("ICO") "Anonymisation: Managing Data Protection Risk Code of Practice" recommendations. Fields containing personal details were removed and free text fields were checked for identifiable and abusive content. The data were then converted to a flat file .csv format.

### IFCA interview results

The most complex sea angling data set was derived from direct interviews carried out by the IFCAs at a large number of coastal locations throughout 2012. Each IFCA defined a list of

shore angling and private boat launching sites that were visited at random to interview anglers. Data were collected at several levels in a hierarchical design:

- i) data about the site (e.g. date, location, time of visit, numbers of anglers or boats, name of surveyor);
- ii) information about the individual anglers interviewed (e.g. gender, age, residential post code, type of angling, gear and bait, frequency of angling, club membership);
- iii) numbers and sizes of fish caught by each angler interviewed;
- iv) expenditure on the trip by the angler.

These data were provided as linked tables in nine separate Access databases.

The database structure was evaluated and an appropriate method of data presentation was designed. All of the data were collated within a single, normalised, SQL Express database.

Site names were checked for spelling errors and some data fields were restructured and renamed to facilitate ease of understanding. None of the original data were lost by this process. The economic data were separated to avoid confusion between 'per annum' and 'one off' values recorded in the original databases. A variety of errors and miscellaneous anomalies were corrected in consultation with the Sea Angling 2012 project managers.

A series of QA tasks were performed to compare the original data with the new collated dataset. This included the checking of column totals and record counts. Two site visits per IFCA were randomly selected and cross checked against the original database. These QA processes were undertaken for each of the data tables.

Data tables were then exported as .csv files.

An IFCA Table Definition file was created containing SQL scripts for re-creating the database. This file will be published with the data tables. These scripts may require modification to suit the target database, but sufficient information is provided for the tables to be created manually if necessary. A diagram of the data relationships has been included in the metadata which will allow the user to recreate the database links.

This dataset was anonymised using UK Information Commissioner's Office ("ICO") "Anonymisation: Managing Data Protection Risk Code of Practice" recommendations. Postcodes and club names have been removed (to prevent cross checking with external documents to identify respondents).

## Permanent data storage

The three final datasets were uploaded to the Cefas Data Repository (CDR) with associated metadata files being created and loaded into the Cefas Metadata Repository (MDR). The data will be published on the Cefas Data Hub (external data portal) and will be accessible through MEDIN.

## Acknowledgements

Cefas would like to thank MEDIN for the funding to enable Cefas to provide quality-assured data for use in further scientific studies.



# Centre for Environment Fisheries & Aquaculture Science



## About us

The Centre for Environment, Fisheries and Aquaculture Science is the UK's leading and most diverse centre for applied marine and freshwater science.

We advise UK government and private sector customers on the environmental impact of their policies, programmes and activities through our scientific evidence and impartial expert advice.

Our environmental monitoring and assessment programmes are fundamental to the sustainable development of marine and freshwater industries.

Through the application of our science and technology, we play a major role in growing the marine and freshwater economy, creating jobs, and safeguarding public health and the health of our seas and aquatic resources

### Head office

Centre for Environment, Fisheries & Aquaculture  
Science  
Pakefield Road  
Lowestoft  
Suffolk  
NR33 0HT  
Tel: +44 (0) 1502 56 2244  
Fax: +44 (0) 1502 51 3865

### Weymouth office

Barrack Road  
The Nothe  
Weymouth  
DT4 8UB

Tel: +44 (0) 1305 206600  
Fax: +44 (0) 1305 206601

## Customer focus

We offer a range of multidisciplinary bespoke scientific programmes covering a range of sectors, both public and private. Our broad capability covers shelf sea dynamics, climate effects on the aquatic environment, ecosystems and food security. We are growing our business in overseas markets, with a particular emphasis on Kuwait and the Middle East.

Our customer base and partnerships are broad, spanning Government, public and private sectors, academia, non-governmental organisations (NGOs), at home and internationally.

We work with:

- a wide range of UK Government departments and agencies, including Department for the Environment Food and Rural Affairs (Defra) and Department for Energy and Climate and Change (DECC), Natural Resources Wales, Scotland, Northern Ireland and governments overseas.
- industries across a range of sectors including offshore renewable energy, oil and gas emergency response, marine surveying, fishing and aquaculture.
- other scientists from research councils, universities and EU research programmes.
- NGOs interested in marine and freshwater.
- local communities and voluntary groups, active in protecting the coastal, marine and freshwater environments.



[www.cefas.co.uk](http://www.cefas.co.uk)

