



Centre for Environment
Fisheries & Aquaculture
Science



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MEDIN – Data Legacy Rescue

Fisheries Science Partnership

Mary Brown
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Cefas Document Control

Submitted to:	Clare Postlethwaite (MEDIN)
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Project Manager:	Mary Brown
Report compiled by:	Mary Brown
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Introduction

Following from similar initiatives worldwide, the UK's Fisheries Science Partnership (FSP) was established in 2003 to provide the fishing industry with opportunities to propose and participate in scientific studies in collaboration with fishery scientists. Key concepts were that most of the available funding would support industry participation, that industry, not scientists, would originate the ideas for large-scale experiments of interest to industry. Commercial fishing vessels and fishing methods were used to address specific concerns of the fishing industry in a scientifically controlled manner. Over 100 projects have been commissioned since 2003, with funding of £11 million, covering annual time-series surveys of fish stocks supporting international scientific assessments underpinning management under the CFP, and many one-off projects on, for example, fishing gear selectivity, discard survival, tagging and migration studies and development of new fisheries, all supporting policy areas considered important by Defra. These projects have covered a wide geographical area around the British Isles, both inshore and offshore, and on a range of different species. The FSP programme has been described in the primary scientific literature (*Journal of Fish Biology* (2013) 83, 974–996), and the following table (from that paper) lists projects done up to 2011.

Data from these and more recent projects represent a substantial resource that has only been partially utilised. For example, FSP time-series surveys have been analysed to provide abundance indices for only a few key species, but contain extremely valuable data on distribution, abundance and size composition of all other species caught, which is of relevance for ecosystem studies or assessments of many data-poor fish stocks. The many gear-selectivity studies carried out have data that could be re-analysed using more recent statistical models, or be a valuable resource for meta-analyses or as resources for University teaching, or other training courses, and to address new arising policy related issues. Studies on survival of discarded fish are currently high profile, due to the current discard bans – data from the FSP studies as well as other recent projects on this topic should be made freely available to support those. The use of these data sets is currently inhibited by poor awareness of their existence outside of Cefas and Defra and difficulties of accessibility. There are also some quality assurance issues to be addressed, especially for earlier FSP projects and surveys.

Addressing some of the issues of data visibility and accessibility, this project has enabled Cefas to make publically available a consolidated and fully described metadata for 113 projects from 2003 - 2015. Each of the published metadata records contains a link to the survey report, which includes detailed analytic results.

Metadata creation

Metadata was created for 113 of the Fisheries Science Partnership (FSP) surveys which took place from 2003 to 2016. As a quality check on the metadata, a report of these holdings and their fields was generated and the metadata then corrected to ensure all fields were consistently filled. The associated survey reports were then attached to the metadata for external publication on the Cefas Data Hub. These reports hold aggregated survey data which could be useful to external stakeholders and industry.

Data Quality

Data was extracted for all the FSP surveys held on the Fishing Survey System (an internal SQL database which holds the main research and charter vessel fishing surveys data) using SAS software and exported as a csv file. Data held in the FSS database contains boat names and survey dates – this information was used to create a link to the FSP surveys using lookup tables within Excel. A series of queries were applied as QA checks, i.e. distance between shot and haul position and tow duration was calculated to give a tow speed. Any tows with speed greater than 10 knots were highlighted and investigated by going back to the raw data and compared with the input data.

This large file was then split into each of the FSP surveys and a link to each file was pasted into the metadata.

Data was checked for 36 of these surveys for four of the main time series. Station positions were checked using ArcGIS. Catch and length data were examined for anomalies. Any issues that were highlighted were corrected both in the database and the csv file.

Permanent data storage

Thirty-six datasets were uploaded to the Cefas Data Repository (CDR) The data is now published on the Cefas Data Hub (Cefas external data portal) and will be accessible through MEDIN.

<http://data.cefas.co.uk/#/Search/1/FSP>

Future surveys

This project has enabled Cefas to establish a robust system to publish FSP metadata, reports and data. The FSP project manager now has a clear and consistent method which will be used for future work.

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



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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

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

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- 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.



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