



SEAFISH INSHORE FISHERIES PROJECT

WP4. Pilot study to define the footprint and activities of Scottish inshore fisheries by identifying target fisheries, habitats and associated fish stocks

Name of contractor: SAMS Research Services Limited



Start date of project: 30th June 2014

End date of project: 31st July 2015

Aims and objectives:

This project was focused on two pilot study areas: The Firth of Clyde and the Moray Firth. Its aims and objectives in these two areas were as follows:

- To work with Inshore Fisheries Groups (IFGs) to explore the types of data required to deliver local fisheries management
- Characterise the data types available (physical, oceanographic and biological)
- Summarise the patterns of historic fishing
- Evaluate the scientific knowledge on spawning, nursery and brood-stocks
- Provide examples of how relevant data can be visualised over the internet and produce a pilot 'Inshore-Fisheries Data Explorer'
- Assess how the Inshore-Fisheries Data Explorer could link to the National Marine Plan Interactive portal (NMPI)

Approaches:

The Clyde and Moray Firth were selected as pilot areas due to the fact that they have both been relatively well studied, have existing inshore management plans and are contrasting. The contractors (SRSL) met with the Clyde and Moray Firth IFG Executive Committees, as well as IFG advisory bodies such as Marine Scotland, SNH, Crown Estate, Harbor Authorities and other relevant stakeholders (e.g. members of Clyde Forum and Moray Firth Partnership). These stakeholders were asked the question 'What data do you think is needed to deliver local fisheries management, and what is the best way to visualise this?'

The intention of this work package was not to collate all the available data which might be relevant to inshore fisheries management, but to select examples in order to illustrate how such data might be handled and visualised. Utilising feedback from the IFGs and advisory bodies, the datasets were ranked in terms of their potential utility to different levels of inshore fisheries management.

A demonstration internet-based data visualisation tool (the Inshore-Fisheries Data Explorer) was developed. A video tutorial was also created to showcase the project aims and describe how to use the Data Explorer. The Clyde and Moray Firth IFGs as well as the wider planning groups were invited to watch the video and review the Data Explorer on-line in order to stimulate thinking about inshore fisheries management, and an online-survey was then circulated to obtain feedback regarding the utility of the Fisheries Data Explorer.

Examples below of data types available for inclusion in the Data Explorer:



Bathymetric survey data

Scotmap data

Vessel location from WP1
AIS data & tracking sites
(e.g. Marine Traffic)



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Contact details

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www.seafish.org/research-economics/evidence-gathering-in-support-of-sustainable-scottish-inshore-fisheries

Funders and partners



EUROPEAN FISHERIES FUND

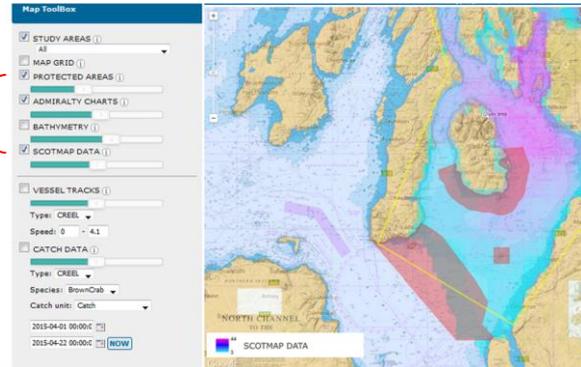


Results / key conclusions and recommendation:

Development of the Inshore Fisheries Data Explorer:

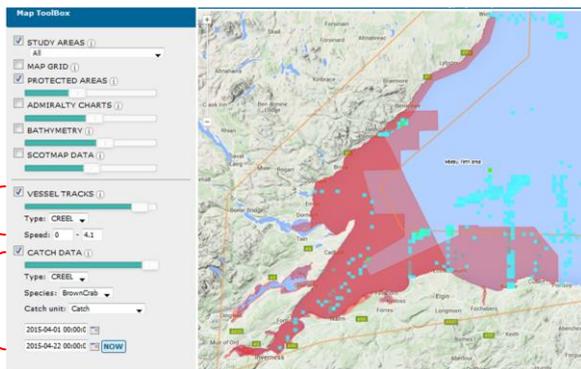
The data explorer was made publically available online for users to test. Demonstration datasets included: 'static layers'– such as protected area boundaries, admiralty charts, bathymetry & Scotmap data, and; 'dynamic layers' - vessel tracks and catch data. Two 'screen shots' from the Inshore Fisheries Data Explorer are shown below, and illustrate how a user may select multiple layers, adjust opacity and filter vessel track and catch data.

Users can select multiple layers, and adjust opacity of each layer to allow blending



Link to YouTube video tutorial:
<http://youtu.be/vFoSySbCCik>

Vessel tracks can be filtered by 'type' (e.g. creel, trawl) and vessel speed. Catch data can be filtered by type (creel, trawl), species, catch unit and date



Feedback from potential users:

- A wide range of potential users with experience in fisheries management tested the Data Explorer; including fishermen, academics and representatives from government agencies.
- Over 50% of respondents felt that the following layers were 'essential' to fisheries management:
 - Protected areas,
 - Total catch,
 - Vessel tracks,
 - Catch per unit effort (CPUE), and
 - Admiralty charts.
- Other developments that users would most like to see added to the Data Explorer included:
 - Graphs of how fish catch vary over time,
 - Maps of seabed habitats (e.g. rocky reefs, mud etc),
 - Maps of sensitive habitats (e.g. seagrass beds maerl beds etc),
- The majority (approx. 80%) of testers regarded the capability to change the opacity of layers to allow blending and filter dynamic layers (e.g. type of catch, and vessel tracks by speed) as essential or useful.
- The issue of data sharing and confidentiality generated significant discussion. Around two-thirds of respondents felt that summary data should be publically available but that viewing access to the underlying individual vessel data should be restricted. However, around 20% of respondents felt that even summary data should only be visible to restricted groups, such as IFGs.
- There is still a degree of uncertainty from 'users' about the types of data required for fisheries management, which stems largely from the lack of certainty on how Scottish fisheries will be managed in the future.