Project UK Fisheries Improvements- UK Western Channel and Celtic Sea crustacean pot fishery: Brown crab (Cancer pagurus) and Lobster (Homarus gammarus)

Masters projects 2017/2018

Association of Inshore Fisheries and Conservation Authorities (IFCAs) staff responsible for part-supervision of the project:
Sarah Clark- Devon and Severn IFCA

MSC contacts:
Chloe North/Claire Pescod/Rhiannon Holden

These projects will require a part-supervisor at your University

Proposed research theme title:

A data comparison of the non-target species caught across the UK Western Channel and Celtic Sea crustacean pot fisheries.

Context of the research project:

The onset of the European-wide landing obligation with full implementation destined for 2019, there is a strong demand to quantify the level of by-catch nationally across the UK fishing sector. Undertaking a data comparison on the composition of non-target species from two separate areas, this data could potentially be used as a preliminary extrapolation exercise to determine if there are any statistical differences spatially between the stock areas and bridge knowledge gaps. Varying management and governance structures may play a role in controlling the nature of species caught in static gears which would require sufficient exploration.

The Crustacean pot fishery is engaged in a multi-stakeholder driven Fishery Improvement Project aimed at improving the fishery to a level where it could pass an MSC assessment in 5 years. Secondary species status, management and information was identified as being an area to improve as part of this project. Information on the species and the quantities caught will help inform the scale of the impact that the fishery may or may not be having on these bycatch species. This includes all discarded fish, and fish used for bait.

The student will be assisting in necessary research with direct application to sustainable fisheries management. The output of this analysis could potentially be used to inform management policy and define some important methods for harmonising the priorities of the fishing industry and of the conservation sector.

How will the student address/contribute to addressing the problem?

Objective:
The student will investigate the relationship between the fishery and the non-target species caught in static gears. This will involve establishing any statistical differences across the two stocks and extracting variables that could explain the results such as temporal, spatial and management variations. The level of bycatch could also be explored in terms of contrasting mitigation measures (Minimum Landing Size (MLS) restrictions and adoption of escape gaps in gears) in the two separate areas to inform if there are significant data gaps and fisheries management strategy.

Scope:
The scope of the analysis will take into account the data available from the Inshore Potting Agreement area in South Devon, and research from the Isle of Man.

Approach:

Conduct a multi-variable analysis and deliver a data comparison report. This could involve:

- A review of relevant literature to identify appropriate methodologies for the study
- Analysis of all relevant data found
- Reporting findings.
- Provide conclusions and recommendations

Timing:
The project will extend over summer 2018 (months defined by your university specifications). The project will mainly be based at the home university, with 1 month spent at the Devon and Severn IFCA. There will also potentially be an opportunity to visit the MSC offices in London to learn about MSC standard, certification procedure, Fisheries Improvement Projects and their application.

Any external collaborations/partners?
External collaboration with the IFCA and other scientific researchers from Bangor University to obtain data. There may be the opportunity to present the findings to the fishing industry and to the FIP Steering Group.

Alignment to FIP action plan:
There is an action plan for this fishery that has been agreed by a steering group made up of fishing industry, government and other relevant stakeholders. This action plan includes specific actions and milestones. The action this research will be applied to is:

- Information available on secondary species caught by the fisheries quantified and made available to managers. This would form a more coherent, coordinated approach to monitoring of bycatch by the IFCAs.

And the milestone this research will be directly addressing is:

- Yr 1: Gap Analysis: Further data collection on the composition of non-target species to establish which specific areas require more research.

The FIP action plan is based on the MSC principles and criteria for sustainable and well managed fisheries. The research should be carried out with this standard in mind.

Feasibility and skills required: The data may be available in different forms therefore the student should have a good knowledge of various statistical techniques for analysing data and managing large datasets. Modelling experience (could be excel based) or use of statistical software packages could prove to be advantageous in the analysis stages but is not essential.
Any confidentiality issues? FIPs are required to be transparent therefore the report will be published on the FIP website.
How to apply: Pease contact Prof Martin Attrill University of Plymouth Martin Attrill M.Attrill@plymouth.ac.uk and Sarah Clark s.clark@devonandsevernifca.gov.uk to discuss the project further