



PROJECT PROPOSAL FORM

Making the Most of Masters aims to improve collaboration between employers and universities by providing opportunities for masters students to undertake work based projects as an alternative to a traditional university dissertation. Projects should address a real need within the host organisation and be beneficial to both host and student.

The Marine Alliance for Science and Technology for Scotland (MASTS), pools the majority of Scotland's marine research capacity. MASTS members provide Masters courses in a range of marine related disciplines and many of their students are keen to undertake applied projects outside of academia.

Notes on Topic Selection

A relevant academic will work with your organisation to refine your proposed topic and ensure it meets both your needs and the academic requirements of the student. Projects should typically be achievable within a 12–16 week timeframe (including writing the final report).

Your proposed project could be:

- A specific project title or topic for the student to deliver;
- A general idea of a business need which requires further development;
- A core research theme to be developed by the student into a bespoke project;
- An intended outcome for the organisation.

The level of detail you provide will determine the extent to which further discussion may be required with the relevant programme director to ensure suitability.

2020 Covid implications – given the global pandemic situation, we are particularly looking for desk-based/data studies that will easily facilitate remote working and remote supervision.

What's Next?

Please send your completed form to the MASTS Programme Coordinator & Deputy Dean of Grad School, Dr Emma Defew (masts@st-andrews.ac.uk) before **16:00 on Friday 30th October 2020**.

Following submission of the form, it will be channeled to the leaders of the various Masters programmes that operate within the MASTS community and a representative from the most relevant programme or department will get in touch to discuss the project scope, delivery and the selection of an appropriate student. If more than one student expresses an interest in your project, discussions will take place to ensure the most suitable student is matched with your project. The projects themselves usually won't start until May or June.



Making the Most of Masters

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation:

NatureScot

Name of the key contact in Organisation:

Chris Eastham (Martha Thomson / Karen Hall / Glen Tyler as NatureScot advisor)

Contact e-mail and phone number:

MARINECOASTALVOLUNTEER@nature.scot.

Title of proposed project:

Fair Isle Demonstration and Research Marine Protected Area (D&R MPA)

Project outline and intended outcomes:

There are two projects within the Fair Isle D&R MPA:

1. Changes in fishing activity: Comparing present day and historic fishing activities using remote sensing data and archive fishing diaries.

Using open access remote sensing data to monitor present-day fishery activity and use archive fishing diaries to build a picture of historic fishing activity.

Monitoring current fishing activity

Remote sensing data is becoming more and more available and can be used to support fisheries monitoring, control and surveillance.

- Two satellites can be used for monitoring purposes. Sentinel 1 (low-res but weather independent) and Sentinel 2 (high-res, can infer vessel activity, but can only be used during the day and on clear days). These two satellites can be used to complement each other and provide information on vessels operating in the local area.
- Satellite data can be accessed through 'Copernicus' and other open access sites. Data can then be analysed using SNAP and/or Qgis. This can be used to detect vessels and their coordinates and can provide information in fishing activity.
- Vessel tracking data, such as AIS, can be used to complement the remote sensing data ie. vessel type and routes.

Analysing historic fishing activity

The diaries of Andrew Eunson provide an account of maritime activity between 1913-1953. Information provided in these diaries include:

- Records of the weather of each day.
- Vessels that were passing or working around the island and the activity of each of the vessel (fishing, cargo or passenger).
- Fishing trips undertaken from the Fair Isle community.
- Species and quantity of fish caught, the time of year and the location of the fishing grounds.

2. Analysis of night-time bird migration data.

Data for the project will be collected on the Fair Isle, but could then be sent to a student for analysis. In theory, this could be sent as night-time sound files and the daily census counts. Depending on Covid restrictions, it may be possible to undertake some ground-truthing of the nocturnal recordings with simultaneous human logging.

Any additional comments e.g. details of specific disciplines required, methods to be used, travel involved, where the work would take place (i.e. at the host site or at the University), whether you foresee any Intellectual Property or confidentiality issues (and if so, what form might these take?):

Re. Fair Isle projects – due the current Covid-19 restrictions, and uncertainty about the situation in 2021, work will be carried out at the university and may not include travel to the Fair Isle.

A relevant NatureScot staff advisor would help with the scope of the project, and ensure outcomes are relevant to our work as well as being beneficial to the university and student.

Please note that NatureScot hope to provide basic funds for travel and fieldwork expenses relating to 2-3 MSc projects for summer 2021. This is dependent on agreeing appropriate and relevant students and supervisors, and agreeing the level of financial support for the particular project and circumstances.