MRes Project: Marine Monitoring Methods & Marine Strategy
Framework Directive Indicators

**Supervisors:** Dr Ashleigh Tinlin-Mackenzie, Dr Clare Fitzsimmons, Dr Heather Sugden

**Framework:** Induction for the MRes is in the week of 23 September, the first semester October-December inclusive is largely taken up with taught modules, preparation for the project (MST8025) will be completed in January-February (including formal proposal for summative assessment), data gathering and analysis will be in the period March-June, with July to mid-September devoted to writing up. The main outputs are a research paper, a literature review and oral presentation due by mid-September. The research paper is assessed by External and Internal Examiners who are not involved in project supervision.

**Duration of Research Project:** Intensive work during January-September 2020.

**The Project:** The MRes will contribute to a larger research project investigating and testing indicators of environmental status in the marine environment. The larger project uses a variety of traditional and innovative monitoring methods to investigate the effectiveness of new and existing indicators to detect impacts of anthropogenic activities along the North-East England coast, in particular potting on rocky reefs and trawling on mud. The project includes significant engagement with project partners, Natural England and Northumberland Inshore Fisheries and Conservation Authority.

Specific topics for the MRes research could include:
- Novel image analysis techniques for Sediment Profile Imagery (SPI)
- Biological Traits Analysis (BTA) of infaunal and epifaunal datasets
- Developing custom indices for infaunal analysis
- Indicator species detection from infaunal and epifaunal datasets
- Analysis and interpretation of meiofauna eDNA datasets
- Underwater video analysis

**Eligibility:** You need at least an upper 2:1 BSc degree in a relevant subject, an understanding of marine monitoring and policy, computer literate with a wide range of software experience (preferably R and ArcMap), and an independent worker with good organisational skills.

**To Apply:** Admission to the MRes in Marine Ecosystems & Governance is via [https://www.ncl.ac.uk/postgraduate/courses/degrees/marine-ecosystems-governance-mres/#profile](https://www.ncl.ac.uk/postgraduate/courses/degrees/marine-ecosystems-governance-mres/#profile) with a personal statement of your career aspirations and skills you would bring to the work, CV and a proposal (including scientific rationale, objectives, methodology, outline budget, any health, safety or ethical [e.g. animal or human subject analyses] issues and timetable). The proposal needs to be discussed first with the supervisors (email, [ashleigh.tinlin@ncl.ac.uk](mailto:ashleigh.tinlin@ncl.ac.uk), [clare.fitzsimmons@ncl.ac.uk](mailto:clare.fitzsimmons@ncl.ac.uk), [heather.sugden@ncl.ac.uk](mailto:heather.sugden@ncl.ac.uk)).