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. You will be provided with guidelines for supervision once the project has been confirmed.

What's Next?

Please send your completed form to the MASTS Programme Coordinator, Dr Emma Defew (masts@st-andrews.ac.uk) before **16:00 on Monday 4th December 2017**.

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. It is expected that students will be assigned to projects before the end of February, although the projects themselves usually won't start until May or June.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Abertay University 40 Bell Street Dundee DD1 1HG
Name of the key contact in Organisation: Drs. Scott Cameron and Kimberley Bennett
Contact e-mail and phone number: s.cameron@abertay.ac.uk, 01382 308530
Title of proposed project: ***Screening for antimicrobial resistance genes in grey seal faeces/anal swabs***
Project outline and intended outcomes: Antimicrobial resistance (AMR) represents a potential healthcare crisis: immunocompromised patients or those infected with multi drug resistance bacteria are at great risk from the inability to treat infections. While screening of hospitals and waste water plants for AMR genes (AMRG) is receiving increasing attention, monitoring AMRG prevalence in wildlife has received less attention, but wildlife are exposed to AMRG from human waste and can act as reservoirs and long range vectors. The ability to monitor antimicrobial resistance gene prevalence and diversity in wild animals depends to some extent on the methods used to sample them. Typical methods used to identify resistance strains focus on specific bacteria or strains. However, AMRG may be carried by non-pathogenic or unusual strains that are not routinely screen for. UK grey seals utilise waters close to agricultural land, wastewater outflows and forage around fish farms, all of which are contaminated with antimicrobials and AMR containing bacteria; they breed on colonies shared with birds that can also carry AMR bacteria; and their offshore feeding behaviour provides potential extensive AMR dispersal. As top predators that are wide-ranging, benthic and forage in areas often inaccessible to humans or uneconomical to sample and monitor6, grey seals integrate information about the health of the marine ecosystem, which makes them ideal sentinels for AMRG in UK waters. Using faecal swabs and direct sampling we have recently shown that healthy seals can carry up to 11 different AMRG from over 25 genes screened in over 30 animals.

The proposed project will investigate:

1. Presence of an additional suite of AMRG in faecal and anal swab samples to determine detectability of the genes in different sample types
2. Compare east and west coast AMRG presence and prevalence
3. Investigate the transfer of AMRG from mother to pup during lactation on a typical grey seal colony

The data you generate will inform future sampling regimes for monitoring AMRG in the wild and will contribute to a briefing paper for the Special Committee on Seals, which advises government on issues related to the management of seal populations.

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?):

The samples for this work have been collected during previous sampling field.

This work is based in molecular microbiology, and will use microbiological (culture) and molecular biology (gDNA extraction, PCR, electrophoresis and DNA cleanup) methods. The work will involve statistical analysis comparing presence/ absence of a suite of genes between sample types and animals, and will include repeated measures analysis.

This work would take place at Abertay University, 40 Bell Street in Dundee city centre, to travel to the labs here Monday to Friday roughly 9-5 would be required.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation:

Plymouth Marine Laboratory

Prospect Place
West Hoe
Plymouth
Devon
PL1 3DH

Name of the key contact in Organisation:

Professor Steve Widdicombe

Contact e-mail and phone number:

swi@pml.ac.uk, 01752 633411

Title of proposed project:

Assessing the impact of dredge spoil dumping on the structure and biodiversity of a coastal benthic community.

Project outline and intended outcomes:

The dredging of sediment from harbours, ports and river channels has long been conducted in order to maintain ship access and maritime operations worldwide. However, the disposal of this dredged material has traditionally involved transporting it to designated offshore disposal sites and dumping the material onto the seabed. Many of the current disposal sites are long established and the initial impacts of this disposal on the seabed are, therefore, impossible to determine. All that can be determined from these areas is what the fauna is like now within an established disposal area.

In 2016 the Marine Management Organisation (MMO) licenced the creation of a new disposal site off the southern coast of Cornwall near to Plymouth. This site, now called “Plymouth Deep” was created in response to political pressure to close the existing disposal site off Rame Head, located several miles away from the new site. This was in an attempt to pacify local pressure groups who argued that sediment disposal at the Rame Head site was having a negative impact on benthic ecosystems in the Whitsand Bay area.

In response to this new disposal site the Plymouth Marine Laboratory collected a

series of benthic macrofauna samples from the newly designated disposal area prior to the dumping of any dredged material. Sediment was deposited at the site in May 2017 and subsequently this area has been resampled monthly to determine the short-term and immediate impact of this disposal on the resident benthic macrofauna community. The proposed project would involve the sorting and identification of these samples in order to document the impacts of dredge disposal on a previously unimpacted environment. I would be hoped that the data would provide information to the MMO on the consequences of offshore dredge spoil disposal as well as form the basis for a peer-reviewed publication.

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?):

This project would be based at Plymouth Marine Laboratory. The student would need to sort and identify marine invertebrates from box core samples. Training and support would be provided but prior knowledge of faunal identification would be a great advantage. The higher the degree of skill the student has in this area the more samples they will be able to analyse and the more powerful the dataset they will be able to generate. In addition the student would get the opportunity to participate in the on-going monitoring and sampling of the “Plymouth Deep” site on board PML’s research vessel Plymouth Quest. So an ability to work on ships would be useful as would a valid sea survival certificate. However, the viability of the project is not dependent on the student going to sea. Finally, sound knowledge of statistics, particularly multivariate statistics, would be useful. All data generated would belong to Plymouth Marine Laboratory and contribute to PML’s local database.

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Name and address of Organisation:

Plymouth Marine Laboratory

Prospect Place
West Hoe
Plymouth
Devon
PL1 3DH

Name of the key contact in Organisation:

Professor Steve Widdicombe

Contact e-mail and phone number:

swi@pml.ac.uk, 01752 633411

Title of proposed project:

Assessing long-term changes in the structure and biodiversity of a coastal benthic community.

Project outline and intended outcomes:

The Western Channel Observatory (WCO) is an oceanographic time-series and marine biodiversity reference site in the Western English Channel (see here for more details, http://www.westernchannelobservatory.org.uk/). The WCO measures several key parameters important to the functioning of the marine ecosystem such as light, temperature, salinity and nutrients. Station L4 has some of the longest time-series in the world for zooplankton and phytoplankton. These long series are complemented by hourly measurements made at our mooring situated at the site.

In 2008 the WCO initiated a benthic survey element to complement the suite of pelagic measurements. This benthic survey is an ongoing ecological time-series aimed at capturing the natural temporal and spatial variability of the marine ecosystem at Station L4. Sampling takes place every two months with the aim of resolving seasonal temporal patterns and help forecast future change due to climate drivers.

One element of the benthic survey is the study of large megafaunal invertebrates collected using a replicate deployments of a Naturalist dredge. These samples have been collected for the entire period of the benthic survey but as yet only 3 years'

worth (July 2008 – July 2011) of samples have been analysed. The proposed project aims to increase the number of samples analysed and to widen the temporal coverage of the data. Once generated these new data can be combined with the existing data and explored to identify seasonal and long-term changes in community structure and diversity. This analysis will also make use of the supporting environmental data collected as part of the regular L4 water column monitoring.

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?):

This project would be based at Plymouth Marine Laboratory. The student would need to sort and identify marine invertebrates from trawl samples. Training and support would be provided but prior knowledge of faunal identification would be an advantage. The higher the degree of skill the student has in this area the more samples they will be able to analyse and the more powerful the dataset they will be able to generate. In addition the student would get the opportunity to participate in the on-going benthic survey sampling on board PML's research vessel Plymouth Quest. So an ability to work on ships would be useful as would a valid sea survival certificate. However, the viability of the project is not dependent on the student going to sea. Finally, sound knowledge of statistics, particularly multivariate statistics, would be useful. All data generated would belong to Plymouth Marine Laboratory and contribute to the WCO database.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: The Firth of Forth Lobster Hatchery Limited – a small local conservation and education charity.
Name of the key contact in Organisation: **Jane McMinn** **Director – Firth of Forth Lobster Hatchery**
Contact e-mail and phone number: Msjanemcminn@hotmail.co.uk 07773476198
Title of proposed project: Lobster Stock Assessment in the Firth of Forth
Project outline and intended outcomes: Fish stocks all over the world are diminishing, and there is recognition of over fishing from Marine Scotland. North Berwick is one of the most popular fishing areas in the Firth of Forth and the Hatchery needs to assemble enough data to assess whether we are on the way to a local lobster fishery collapse. The recent hatchery seasons have shown that the size of the hens, the quality of eggs and resulting juveniles have deteriorated. Anecdotal evidence from Moray Firth and locally indicate fewer catchable sized lobsters about. Two pieces of work would help us (and we would take your guidance on whether this is two Masters projects or one):- (1) One project identifies a suitable lobster fishing area in the Firth of Forth near North Berwick as a base unit for stock assessment and works with the local fishermen to establish an analysis of the effort and nature of the catches. The hatchery already works with local fishermen and can provide initial liaison and support. Boat transport support can be provided locally as well. (2) The secondary part of the project would be the more detailed assessment of the berried hens caught and used as stock for the hatchery, and the resultant juvenile output. Anecdotal observation has shown a decrease in size of the females (possibly through their early maturity), fewer eggs and poorer quality larvae. A formalisation of a V notch programme in the are could be incorporated too.

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?):

A good knowledge of lobsters, their habitats, life cycle and health assessment would be an advantage and give the student a head-start. The Masters student should have good procedural discipline and be able to produce simple instructions for fishermen to follow for maximum data gathering.

Some knowledge of (or ideally access to) previous hydrographic surveys in the area around North Berwick coincident with the lobster fishing areas would assist. Travel and work on site at North Berwick is expected including boat travel initially to establish area of study and measurements required by fishermen. Subsequent boat travel can be arranged.

Samples of lobsters, eggs and juveniles can be analysed at University if required.

The student would be able to work at the hatchery site at North Berwick Harbour which is predominantly an outside environment, but has no laboratory provision.

No intellectual property/confidential issues are predicted as such. The Masters' findings and outcomes would be expected to be fully shared with the Hatchery to benefit hatchery operations in future.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Marine Management Organisation (Evidence Team) Lancaster House, Newcastle Business Park, Newcastle upon Tyne, NE4 7YH
Name of the key contact in Organisation: Dr Christopher Sweeting (Senior Evidence Specialist)
Contact e-mail and phone number: +44(0) 208 0265 148 evidence@marinemanagement.org.uk
Title of proposed project: Development and/or validation of new or existing MMO spatial models on marine activities or pressures to progress evidence requirements of a marine regulator across statutory functions including planning, licensing, conservation and fisheries.
Project outline and intended outcomes: The Marine Management Organisation (MMO) is responsible for regulating activities in the marine area and has invested substantial effort directly or in collaboration, to gather spatial evidence on where such activities occur or the pressures they generate occur. There are however a number of areas where existing data could be improved. This may be due to coverage, resolution or confidence. Until higher quality data is available the MMO has employed predictive models to address these gaps including for ambient underwater noise, essential fish habitat, recreational activity or potential sites for aquaculture. MMO publishes its evidence requirements on MMO evidence web pages. The MMO seeks to continually improve its predictive models and to validate the models are fit for purpose. Included below are the MMO requirements for which development of spatial models would be of most applicable and of immediate value. More detail on each evidence requirement is available in the requirement's linked delivery plan (hyperlinked below). Delivery plans also include MMO work to date. The MMO would welcome projects that develop or expand existing models, test alternative models or undertake validation work. Projects do not need to address all aspects of the requirement. Rather, a project should be a focused and coherent work that contributes to the

requirement within allowed time frames. Projects reports should be accompanied by technical annexes transparently describing methods employed eg R code or ArcGIS model Builder routines. Examples of preview commissioned reports are described in the requirement delivery plans.

R	Title	Description	Suggested work areas
R002	Predicting the future location and potential value of sites of aquaculture development	To improve identification of potential aquaculture development sites nationally and assess potential for economic values of aquaculture at each site. Valuation techniques should incorporate emerging products and culture techniques	Further existing models based on recommendations from previous projects and NERC Knowledge exchange fellows, expand the model to new areas, test single species approaches.
R020	Environmental carrying capacities	To understand how marine activities affect the environmental carrying capacity of a marine environment. Consideration is required to allow effective prioritisation of marine licensing projects within limited capacity.	This should focus on a case study area and attempt to model the activities taking place including any likely increase or decrease in activity which will influence the pressure they put on the environment's carrying capacity and any associated thresholds.
R046	Impact of external pressures on fisheries in Western Waters (area 7)	Understanding what factors affect Scallop effort days at sea in Western Waters. This will aid in deciding the quarterly allocations for fishing vessels.	Trial modelling techniques, collect stakeholder views on use of modelled data.
R070	Mapping noise across English waters	There is significant work underway mapping noise in the marine environment. This includes impulsive and ambient noise; however the current work on ambient noise does not deliver to a range/scale required for marine planning. Research developing an ambient	Expand the spatial extent of the model, seek model computational efficiencies, undertake validation activity, add infrastructure data layers
R088	Spatial identification and categorisation of areas of particular importance to fish populations	Identify habitats important to fishers and develop methods to provide an improved, robust mechanism to ensure appropriate proportionate protection	Trial alternative modelling techniques, expand spatial extent of existing models, collect stakeholder views on use of modelled data.

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?):

This work would be desk based and is not restricted to a specific location. There are no intellectual property or confidentiality issues expected. The MMO has published its models and

reports under Open Government License. Where GIS is required the MMO would seek to ensure formats are comparable with ArcGIS10.2 and provide guidance on file management.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Marine Management Organisation (Evidence Team) Lancaster House, Newcastle Business Park, Newcastle upon Tyne, NE4 7YH
Name of the key contact in Organisation: Dr Christopher Sweeting (Senior Evidence Specialist)
Contact e-mail and phone number: +44(0) 208 0265 148 evidence@marinemanagement.org.uk
Title of proposed project: Novel research to progress evidence requirements of a marine regulator across statutory functions including planning, licensing, conservation and fisheries.
Project outline and intended outcomes: The Marine Management Organisation (MMO) is responsible for regulating activities in the marine area and has identified a number of evidence requirements that would support its decision making ability. More details about evidence activities can be found on MMO evidence web pages. The MMO seeks to continually improve its evidence base and therefore any novel research that can advance the understanding in any of the areas identified as evidence requirements would support effective management of the marine environment. More detail on each requirement is available in the requirement's linked delivery plans. Delivery plans also include MMO work to date and some of the work from others that the MMO is aware of to assist in clarifying gaps. The MMO would welcome projects that develop or expand the current knowledge base and would be willing to discuss any proposals in more detail.

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?):

The nature of the work will be dependent on the evidence requirement being addressed. However, there are no intellectual property or confidentiality issues expected. Whilst unlikely to be necessary, should the student wish to spend some time based at the MMO offices in Newcastle-upon-Tyne, this could probably be accommodated.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Marine Management Organisation (Evidence Team) Lancaster House, Newcastle Business Park, Newcastle upon Tyne, NE4 7YH
Name of the key contact in Organisation: Dr Christopher Sweeting (Senior Evidence Specialist)
Contact e-mail and phone number: +44(0) 208 0265 148 evidence@marinemanagement.org.uk
Title of proposed project: Rapid Evidence Assessment to progress evidence requirements of a marine regulator across statutory functions including planning, licensing, conservation and fisheries
Project outline and intended outcomes: A Rapid Evidence Assessment (REA) is a tool for getting on top of the available research evidence on a policy issue, as comprehensively as possible, within the constraints of a given timetable. REAs are used to; • gain an overview of the density and quality of evidence on a particular issue • support decisions by providing evidence on key topics • support the commissioning of further research by identifying evidence gaps • underpin statistically based meta-analyses to generate new insight REA is a valuable skill for those seeking careers in consultancy, policy development or advisory roles as well and those focusing on academia. The Marine Management Organisation (MMO) publishes its evidence requirements on MMO evidence web pages. Many of these requirements can be progressed through REA. Included below are a subset of the MMO requirements for which an REA would likely be most applicable and of immediate value although there would be value in an REA associated with any of the MMO evidence requirements. More detail on each requirement is through links in requirement titles below, Outputs should include a report synthesising the REA findings, an annex listing sources considered included/excluded etc. An annex of appropriate datasets, data set descriptions and

data holders may be relevant. If desired the MMO would provide a student version of our contractor packs providing style template and guidance etc to emulate REA type commissions we undertake.

R	Title	Description	Potential work areas
R005	Marine species migration pathways	Improved information on migratory pathways, for species of conservation importance, particularly fishes, to inform balanced evaluation of the cost and benefits of protecting those pathways. .	Generating new data in this area may be challenging it may be possible eg by working on tracking data or other indicator techniques eg parasites, stable isotopes etc
R020	Environmental carrying capacities	To understand how marine activities affect the environmental carrying capacity of a marine environment. Consideration is required to allow effective prioritisation of marine licensing projects within limited capacity.	Investigating how these factors are considered by authorities and how capacities are determined.
R042	The social and economic benefit of recreational fishing	The social and economic context, benefit and impacts of recreational fishing activity	A focus on recreational fishing and in English waters but can draw on more general information from other countries
R046	Impact of external pressures on fisheries in Western Waters (area 7)	Understanding what factors affect Scallop effort days at sea in Western Waters. This will aid in deciding the quarterly allocations for fishing vessels.	Investigating what factors affect the frequency and location of scallop fishing vessel effort.
R064	Environmental impacts of marine litter	Understanding of types of litter that occur and their associated, sources and impacts.	Again while this is a commission I do not see issue with further activity. Our ideas do not currently include 1) Original experimental work exploring sensitivities or animals to marine litter, 2) New distribution data through survey and analysis of (preferably) English beach litter using standard methodologies.
R071	Acclimation of birds to disturbance from marine activities	The MMO seek evidence on whether, or to what extent, acclimatisation occurs, whether acclimation is species dependant and the conditions under which acclimation occurs such as in interaction with other pressures.	Consider using the MMO public register of marine licenses to explore how applicants deal with acclimation and evidence they have used eg peer literature, applicants own study, etc
R100	The contribution of shipping to the English economy	Clarification of the economic contribution of the ports and shipping sectors. Eg through identifying datasets, or report synthesis to gain a fuller picture.	As the remit of the MMO is in England, it would be necessary to restrict the analysis to this area.

R113	Seasonal risks of marine activities	Investigating the balance between the benefits of marine activities with the risks in a seasonal context e.g. tourism, wildlife	Identifying the types of marine development and their associated risks and benefits, then describing the effect of seasonality on the risks and benefits.
R127	Evaluation of MPA management approaches	Inform development effective and proportionate protection measures, particularly for ephemeral and mobile species drawing on successful measures from comparable situations around the world and identifying areas of best practice.	To review current measures against alternative measures elsewhere to identify and implement opportunities to improve effectiveness and proportionality of management approaches or measures.

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?):

This work would be desk based and is not restricted to a specific location. There are no intellectual property or confidentiality issues expected. Projects do not need to address all aspects of the requirement. Rather, a project should be a focused and coherent work that contributes to the requirement within allowed time frames.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Royal Yachting Association Scotland
Name of the key contact in Organisation: Graham Russell
Contact e-mail and phone number: consultations@ryascotland.org.uk
Title of proposed project: Identifying ports of call for recreational sailors
Project outline and intended outcomes: The RYA has produced an atlas showing the density of recreational marine traffic in UK waters based on AIS (Automatic Identification System) transmissions. This data layer can be seen on NMPi. About a quarter of recreational boats on passage transmit these signals. However, this does not provide any information about which ports or harbours a vessel visits and how long they stay there. This information would be useful in considering the impacts of marine developments as well as in the development of the Scottish Marine Tourism Strategy (http://scottishtourismalliance.co.uk/page/marine/). The project will involve: Using the Marine Traffic website (https://www.marinetraffic.com/en/ais/) to identify recreational vessels in the coastal waters from Newcastle-upon Tyne to Wick; Carry out quality assurance to remove vessels that are actually fishing boats, tourist boats, sail training vessels or superyachts, or vessels that are only day sailing from their home base; Tabulate the position of each vessel once a day over at least a four week period; Try to assess whether sailing vessels are under power or sailing; Note details of each vessel including its length and nationality; Use the database to answer questions such as: how many AIS transmitting vessels were in the area, which countries were they registered in, which harbours, marinas, and anchorages were used, what proportion of vessels sailed through the night and which ones only sailed during the day, how long did individual vessels remain in each harbour, what were the most popular routes and ports of call etc? Note that AIS transmissions may not be made all the time and that signals may not always be picked up so vessels can seem to disappear. Some marinas compile information about visiting boats and it might be appropriate to obtain such information and compare that data with the AIS data. An initial stage might be to elucidate from potential users of the results what questions are key.

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?):

This project would take place at the University or at home. It would suit someone who is unable to travel. There may be scope for working with other stakeholders. A key part of the work will be planning the exact questions to be answered.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Royal Yachting Association Scotland
Name of the key contact in Organisation: Graham Russell
Contact e-mail and phone number: consultations@ryascotland.org.uk
Title of proposed project: Communicating navigational risks to recreational sailors
Project outline and intended outcomes: Information about new and altered navigational hazards has traditionally been disseminated through Notices to Mariners. However, many more of these, some only temporary, are being issued, for example in connection with marine renewable developments and it is unrealistic to expect recreational sailors, who may be coming from continental Europe, to find and read them all. Fishermen have the Kingfisher service (http://www.seafish.org/industry-support/kingfisher-information-services) that puts together all the relevant information. It is proposed to take the east coast of Scotland from the border to Duncansby Head as a case study and to: Review systems for promulgating safety information to marine stakeholders Identify organisations that produce Notices to Mariners; Find out what information is required by recreational sailors; Develop a typology of notices relevant to recreational users; Draw up a specification for a statutory scheme whereby developers and others would submit sufficient information to a central location so it could be disseminated to recreational sailors; Possibly develop a prototype system with information that might be downloaded to a chart plotter or presented on a chart like the Traffic Scotland one for roadworks and incidents (https://trafficscotland.org/map/index.aspx?type=1,2,35). The Irish Department of Transport, Recreation and Sport produces a list of Notices to Mariners (http://www.dttas.ie/maritime/maritimesafetydirectorate/marinenotices/marine-notices#overlay-context=maritime) but these are not easy to search through.

This project might be of interest to Marine Scotland

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?):

This project would take place at the University. No travel need be involved although face to face interviews might well play a part. The project could be of interest to a candidate with experience of GIS or knowledge engineering, or to someone who is interested in communication.

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Atkins, 200 Broomielaw, Glasgow G1 4RU
Name of the key contact in Organisation: Dr Richard Wakefield
Contact e-mail and phone number: Richard.Wakefield@atkinsglobal.com
Title of proposed project: Floating offshore wind sediment samples
Project outline and intended outcomes: This project would allow students to develop a project of their own choosing. Samples are available from a floating offshore wind farm site for a student to analyse. Samples could be analysed for grain size, macrofauna and other physical properties, with the opportunity to access other data from the project for comparison and to validate hypotheses.
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?): This would be an opportunity to work on a live project and use real project data. The samples are currently in cold storage in Aberdeen.