

## **Newport Research Facility – Catchment Research Cluster**

### **Call Information Day**

**Tuesday, 2<sup>nd</sup> August 2016**

**Marine Institute, Furnace, Newport, Co. Mayo**

#### **Morning Question and Answer Session**

- Q. Is the focus of this call more about use of existing data for the catchment rather than undertaking physical research/fieldwork?
- A. No, the proposal can include both. For example proposals could use data from other catchments as comparisons, or could add to existing data by incorporating into a new research study with a particular theme e.g. climate change.
- Q. What format is the historical data currently available?
- A. Mostly in Microsoft Excel and SQL Server, with some paper records also. There are old charts also dating back to 1955.
- Q. Are there tissue and physical samples available also?
- A. There are a good number of scale archives available, which are currently being used for existing research projects. A proportion of the salmon smolt run is sampled every year, and these samples are in the freezers. With respect to the trap data, this is available on a request basis as it requires explanation, in order to avoid misinterpretation of the data. Staff in Newport are looking at ways of providing this data in a more useful format.

- Q. How is research disseminated with respect to international indices?
- A. Currently on an ad-hoc basis via ICES (International Council for the Exploration of the Sea) conferences.
- Q. Besides salmon, what genetics are available for other species?
- A. We have some Eel otoliths, which have been processed on an ad-hoc basis since the late 1980'. Images of these otoliths are available, but the otoliths themselves are not suitable for further analysis, as they are permanently mounted. Trout samples are also available, but there are only small numbers in some years.
- Q. If I have any technical questions on the call, then who do I contact?
- A. Submit any technical questions by email to [funding@marine.ie](mailto:funding@marine.ie), and they will be acknowledged and replied to as quickly as possible.

### **Catchment Tour**

- Q. What is the situation with respect to eel numbers?
- A. For juvenile eels the data shows that in some cases the numbers are struggling, but in others numbers have increased, such as at Lough Erne.
- Q. When was the buoy on Lough Feeagh installed?
- A. The buoy was installed in 1996 to measure water quality. However, it was 2003 before a constant data stream was available. Data is transmitted every two minutes (see appendix 1 of the Terms of Reference for details of the available data). This data has been used within the GLEON community, and for various other research projects. This water quality monitoring station is one of the longest providing such data in Europe. It is technically challenging to maintain the station, and keep the data transmitting constantly.
- Q. What effects do adverse weather have on the catchment?
- A. In July 2009 there was a severe flood, which was a once in a 250-year event. This caused large-scale damage from landslides and erosion due to flash flooding. There

is a paper about to be published in relation to this erosion event. Storm Desmond in December 2015 also caused damage. The aim is to use the equipment, sensors and biological instruments in the catchment to measure key indices to track ecosystem change.

There is water temperature data available for Lough Feeagh from 1958. The Environmental Protection Agency has operated a lake level recorder on Lough Feeagh for several decades. This availability of data over a number of decades is vitally important for wider research in climate change.

The catchment is one of the wettest areas in Ireland, with rainfall measured in metres per annum. There is rain gauge information from 2002 onwards, with 15 rain gauges monitoring rainfall around the catchment including the mountain slopes and mountain tops. In 2015 average summer temperatures showed that it was the second coldest summer since 1970, but overall for 2015 the average temperature was one of the highest in the past 10 years. There was also a smaller than normal run of silver eels in 2015.

Q. Has a trend for increased temperatures and more extreme weather events been established?

A. There has been an increase in the overall average temperature in Lough although the trend is not significant as yet. The rise in average winter temperature (than summer temperature) is expected to have a more significant effect for fish migration. Episodic events are a hot topic. Research can examine the bounce back over time, and measure the resilience of the system in coping with these types of events, especially if these extreme weather events are more common.

Q. How much of the plankton data has been worked up?

A. A significant amount of the zooplankton data has been counted. However, this is not that case for phytoplankton data and this would make an interesting project for a PhD.

Q. What about research topics relating to food web, fish and feeding and changes to the ecosystem, can this be included?

A. Yes absolutely. This is a huge area. There has been some limited research in this area undertaken at Newport, for example a study is currently ongoing which is examining the diet of salmon smolts on the day before they are released. There also was some previous research undertaken by University College Cork on the feeding regimes of juvenile salmon.

Q. What about other research areas?

A. There have been a number of projects such as: **CLIME** Climate and Lake Impacts in Europe (funded by the EU from 2003-2005) and *Quantification of Erosion and Phosphorus Release from a Peat Soil Forest Catchment* (funded by the EPA – STRIVE report published 2008). NUI Galway have also been involved with research projects funded by COFORD (Council for Forest Research and Development), such as **SANIFAC** Assessment and mitigation of soil and nutrient losses from acid-sensitive catchments (research on phosphate management by Michael Rodgers in NUIG).

Q. What research has been carried out on the Shrahrevagh “rough” river?

A. Since the 1990s this river system has been used for genetics monitoring using tagging. This river provides many advantages in that it a completely wild habitat, but is a very manageable size for undertaking research. The data collected can be used to identify the genes that are important for growth and survival for species such as salmon and brown trout. Research at the salmon and trout traps is very labour intensive at run times. The monitoring station on this river was also damaged in the 2009 flood.

Q. Where does the area owned by Coillte start from?

A. It starts north of the Srharevagh river, and extends over the north half of the catchment.

Q. Are Coillte expanding the area for planting forestry?

- A. They are replanting any areas that mature for harvest, but the overall size of the forestry remains at 23% of the land area of catchment approximately. Collite are only replanting areas as these are felled.
- Q. The terrain seems to change on the upper catchment?
- A. The western side of the catchment is more acidic. Water chemistry is different due to the underlying rocks of sandstone and limestone. On the Nephin Beg Mountain upper catchment there is a change in chemistry due to the glacial till terrain.
- Q. Is there sufficient computing facilities available to work up these large scale data streams generated?
- A. MI computing facilities have proved sufficient for current work, so it hasn't been a problem to date. EU projects undertaken by MI which involve numerically intensive modelling work tend to use distributed networks (outside the MI computing facilities).

#### **Afternoon Question and Answer Session**

- Q. Can the Marine Institute be a partner and receive funding?
- A. No. The applicants will work closely with the Marine Institute staff in Newport, and the proposal should outline how this relationship would work in practice. The idea is to foster research collaborations making the best use of the equipment and infrastructure at the Newport Research Facility. However, the budget should not include any staff or other costs for the Marine Institute.
- Q. Do you list the Marine Institute as a partner?
- A. The Marine Institute should not be listed as a partner on the application, or in RIMS as an organisations involved with the project.
- Q. Can Marine Institute staff co-supervise PhD students included in proposals?

- A. Marine Institute staff can co-supervise students included in proposals, and such co-supervision is encouraged in proposals as a means of actioning collaboration between the funded research under this call and the core activities carried out at the NRF. However the nomination of any PhD project in a funded proposal is not a guarantee that the student will be co-supervised by NRF staff.
- Q. Do the staff included in the proposal budget need to be based full-time at Newport?
- A. It will depend on the research proposal, but it is anticipated that staff would need to spend either part or a significant amount of time based in Newport. For example, there may be a block of fieldwork at Newport followed by laboratory analysis at the applicant's organisation.
- Q. Is the evaluation a two-stage process?
- A. All proposals will be evaluated by a panel of national/international experts based on the published evaluation criteria. Proposals are then ranked, with the top two or three proposals (depending on available funding) invited for interview. For this reason the interview date of 6<sup>th</sup> October 2016 had already been flagged in the call documentation. The purpose of the interview is to discuss the proposed work programme in more detail with the Marine Institute staff.
- Q. Is it possible to include administrative staff costs in the proposal, especially for tasks such as setting up a website?
- A. Absolutely. Costs for a Project Manager Post can be included, and this post can involve part scientific duties and part administration duties. Overseeing the establishment of a website would be an important part of this role.
- Q. Can you explain the rationale for the three funding instruments?
- A. The aim is to get the best value for money. Having three instruments allows more flexibility for funding the best research. It also provides a wider scope for applicants, as some applicants may only wish to submit a single-partner proposal with two staff focusing on a discrete area of research, whereas another consortium with two/three

partners may wish to submit a multi-disciplinary proposal with four to six researchers.

- Q. Has there been any research on invasive species, and would this be a relevant topic for a proposal?
- A. There has been no dedicated research on invasive species. However, overall the lakes in the catchment have few problems with invasive species. The main issues are with rhododendrons and Japanese knotweed. The eel parasite *Anguillicoides* has yet to become established in the freshwater portion of the catchment. Invasive species issues are kept to a minimum through preventative management and policy implementation. There could be research undertaken as a comparison with other lakes and catchments. Research on invasive species could be a work package in a larger study, or combined with climate change research.
- Q. Do comparisons have to be in Ireland only?
- A. The research should have a national focus, but comparison sites from other countries can be used.
- Q. Can Marine Institute staff be named partners with the successful applicants on future applications for funding e.g. EU Horizon 2020 applications?
- A. Yes absolutely. The primary aims of the cluster is to add value to existing data and research, to bring in new areas of science and to leverage other funding to grow the research base.
- Q. Is the ambition for Newport be a LTER (long term ecological research) site?
- A. The intention is to increase the international reputation of the Newport Research Facility through recognition as a LTER site in the EU and internationally. The Marine Institute are currently applying to join the EMBRC (European Marine Biological Resource Centre), which would provide a valuable access tool for researchers. We are also working on raising the research profile (e.g. better dissemination and citation of publications), with the long-term aim to develop critical mass. The catchment has countless research possibilities for new areas of science using the

time series data to investigate long term catchment trends. Newport is a valuable indices station.

- Q. Is there an aquaculture focus to the call?
- A. It is not specifically focused on aquaculture, but it could be an element of a multi-disciplinary research proposal.

### **Other General Queries**

- Q. What type of organisation would the 50% funding rate apply to?
- A. This would be Multi-National Corporations. Small and Medium-Sized Enterprises (SMEs) would be funded at 75%.
- Q. If a company is a partner, can their contribution be “in kind”?
- A. Typically the SME (Small and medium-sized enterprise) contribution would be staff costs (i.e. a percentage of a researcher’s time). For audit purposes, this would entail checking timesheets and staff costs claimed against a sample of payslips. SMEs can also contribute raw materials or consumables to the project, as part of their contribution. For example, the SMEs current business may have a marine waste by-product that has potential for development of a nutritional supplement. A value can be determined by taking the original cost of the raw materials, and then taking the waste element as a percentage i.e. 5% of total cost.
- Q. Can an organisation from Northern Ireland participate?
- A. Yes, organisations from Northern Ireland can be a partner in the consortium?
- Q. Does the proposal have to include more than one applicant?
- A. Ideally we would like the consortium to include up to three partners that would bring their mix of knowledge and skills together to maximise the impact of the scientific research. However it is not mandatory, as within the same organisation there may be experts from various disciplines who can also work together.

Q. How are projects ranked?

A. Projects are ranked following review by a panel of national and international experts in the field of the submitted research topic. The consortium should submit the best project proposal that fits well with the focus of the call, has a good mix of partners and expertise, and includes a clear project plan.

Q. What assistance and help is available?

A. The Marine Institute can provide guidance on budgets, clarifications on the rules and help with any other queries.

Please send your requests by email to [funding@marine.ie](mailto:funding@marine.ie).

Applications must be submitted via the Marine Institute's Research Information Management System (RIMS) at <https://marine.smartsimple.ie/>.

The closing date is 6<sup>th</sup> September 2016 (16:00).