

Scientists work to save Strangford horse mussels

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Queen's University Belfast is working on a three-year study to conserve and restore endangered horse mussel reefs in Strangford Lough.

Marine biologists based at the University's marine research and outreach centre in Portaferry in County Down, which is part of the School of Biological Sciences, will provide scientific and technological research to map and monitor the species and undertake trials to restore it.

Horse mussel reefs are important to the marine environment because they are 'biological engineers' which improve water quality through filtering it when they feed and also because many other species depend on them for survival.

Funded by the Department of Agriculture and the Rural Development and the Department of the Environment, the project follows a multi-agency report in 2004 which said that the beds were in serious decline.

DARD, supported by DOE, imposed a temporary ban on fishing in the Lough with mobile gear, from December 2003, which still remains in place.

As horse mussels were one of the features used in the conservation designation of Strangford Lough the UK government is obliged to protect them under European directives.

Although the horse mussel reef communities in Strangford Lough were

once very rich they have declined at an alarming rate in some areas.

They are usually found in the central and northern part of the Lough, with their hard shells part buried in the soft mud sediment.

Horse mussels are important because they provide a hard surface for other species to grow on, in otherwise soft muddy areas. Other organisms also hide and shelter in the crevices and niches of clumps of horse mussels. They create a habitat for around 100 other species.

Dr David Roberts, from Queen's, who is Principal Investigator on the study entitled Modiolus Restoration Research, said it was the first of its kind for the species.

He said: "Queen's has expertise in the restoration of the European native oyster, freshwater pearl mussels and a long history of marine research. The University is therefore ideally positioned to undertake research to develop techniques and recommendations for the restoration of horse mussel reefs in Strangford Lough.

"One year into the study we have found that horse mussel reefs are not as widely distributed as they were in the 1970s and that some beds have extremely poor mussel density - less than 25% of what we would consider a good density.

"In terms of intervention we have started to culture the animals in the lab at Portaferry.

"Mussels are very important to the marine environment as they act as biological 'engineers' in both freshwater and marine ecosystems. When they feed they filter vast quantities of water thereby improving water quality. A frequently cited example is that of a population of blue mussels which were capable of filtering the entire contents of the Albert

Dock in Liverpool in two days.

"Horse mussels work in the same way; they also provide habitat for over a hundred other species, serving as a nursery ground for species of commercial importance."

Source: Queen's University Belfast

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