

AN SLIOGÁN DUBH - FRESH WATER PEARL MUSSEL

PROJECT NEWSLETTER – SPRING 2013

Donegal County Council, in partnership with Northern Ireland Environment Agency (NIEA) - grant aided under the European Union's INTERREG IVA Programme, as part of the Environment strand, under Priority 2.2

Project Update

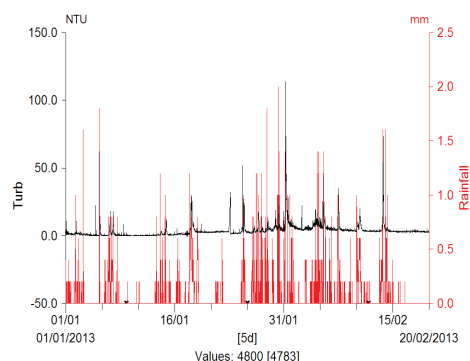
It has been a busy winter and spring for the project. We have now assembled an impressive amount of data in our trial catchments and are busy analysing and making sense of it all. Our recording stations take a series of water quality readings every fifteen minutes and we have eight stations in operation. So over the past year we have now assembled almost 3 million records! Of course we're also taking other samples as well to measure different catchment features of interest. Such background information will give us a unique insight into the function of our pearl mussel rivers.

We have seen from the sediment boxes we have deployed that soil losses from land to the river could be as high as 3.5 tonnes of dry sediment per square kilometre each year in our catchment. Using sediment traps to prevent this amount of material reaching the river would be extremely difficult. We are looking at where the soil mostly comes from and what makes it erode. Models of the catchments showing the areas that are most likely to be at risk of erosion have been developed and might allow actions to be focussed on the areas of highest risk to try and minimise soil disturbance and the amount of soil that is lost.

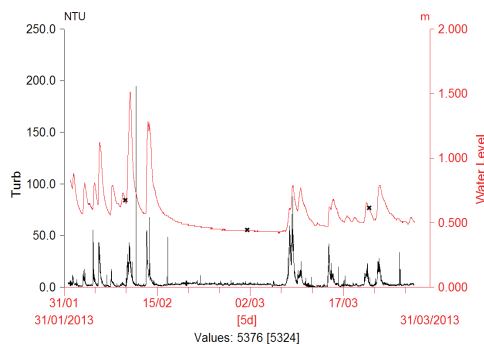
We have prepared detailed drainage maps of one of our forest stands. Scheduled felling of that stand is now imminent and we are taking actions to safeguard the river against potential pollution during the operation. We will make detailed measurements to see how effective those actions are.

We had a good response to our household survey with over 40% of households participating. It showed us that the level of awareness of the pearl mussel is very low, even in a catchment with mussels on the doorstep! Clearly we have a lot more to do! But people are concerned for their local environment and are keen to ensure it is protected. Many people surveyed use dishwashers and washing machines on a daily basis, but like many of us, they know little about their waste water systems. Some of these systems are fifty years old.

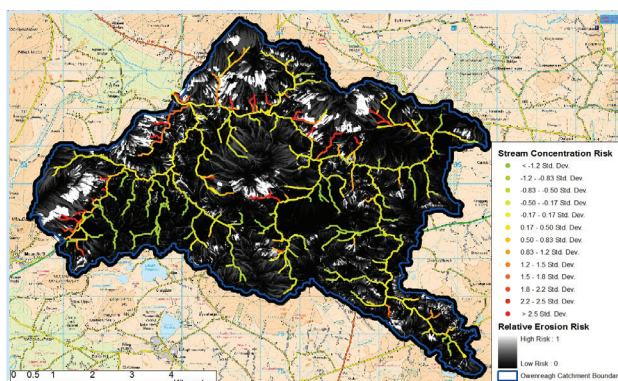
*Leannan - Site 4/Turb
*Leannan - Site 4/Rainfall



*Owenreagh DS/Water Level



Sample plots of water quality measurements



Model of risk of erosion in a river catchment

2 Meeting of International Experts

During St Valentine's week in February of this year our FPM Project hosted a pearl mussel love-in!

At the beginning of the week twenty five of the foremost European pearl mussel experts came to Belfast to discuss standards for mussel conservation throughout Europe. Afterwards we provided transport to take them from Belfast to Donegal to see some of our trial sites. We began in Glenveagh National Park where NPWS vehicles took us through the Glaskeelan and upper Leannan catchments. At our trial site in Coillte's Derryveagh forest, the Project's expert forester explained the work being done. Stops at the Glaskeelan and Leannan telemetry stations allowed project scientists to give an outline of the data being collected. Although a biting February day, some of the hardy Scandinavian experts took the opportunity to snorkel in the Leannan to view some Irish pearl mussels. Note that they had received licences to do so in advance. The field trip ended with a visit to one of our sediment

box sites and a chance for a chat with the local farmer. All were then safely delivered to lodgings in Letterkenny.

At dinner that evening we were joined by many delegates arriving to attend the Project's Pearl Mussel Meeting the following day. The evening provided a unique opportunity for lively pan-European discussions and exchange of experiences. Notwithstanding the evening 'discussions', registration for the FPM meeting commenced at 8:30am the following morning. One hundred and twenty delegates attended the event. They came from Northern Ireland, Scotland, England, Wales, Ireland, Norway, Finland, Sweden, France, Germany, Spain, Portugal and Luxemburg – just about anywhere there are pearl mussels in Europe!

Presentations and discussions continued during four sessions until the meeting closed at 5pm. The meeting programme can be seen on our website and the abstracts of the meeting will also be published on the site shortly. The meeting was a resounding success. It provided valuable lessons in practical mussel conservation, the successes and the failures. Perhaps more importantly it helped to forge relationships between all those working to save mussels, relationships that we will continue to build and exploit to the benefit of our threatened pearl mussels.



Catchment Snapshot – Leannan

In keeping with our regular format we are providing a brief description of yet another one of our valuable pearl mussel catchments. In this edition we describe the Leannan River Catchment.

The Leannan freshwater pearl mussel catchment lies in North West Donegal in the North Western International River Basin District (see map). It is one of the largest pearl mussel catchments in Ireland at nearly 240 km². At its western edge lies Cloghernagore Bog and Glenveagh National Park SAC. There are three main lakes in the catchment; Loughs Akibbon and Gartan in the upper catchment, and Lough Fern in its lower reaches. The Leannan River flows from Gartan Lough in a north-easterly direction, through Lough Fern, and then onwards in an easterly direction through the town of Kilmacrennan, eventually entering Lough Swilly at Rathmelton, a distance of about 25km. There are a number of significant tributaries forming part of the Leannan catchment, including the Glashagh River and Lurgy River.

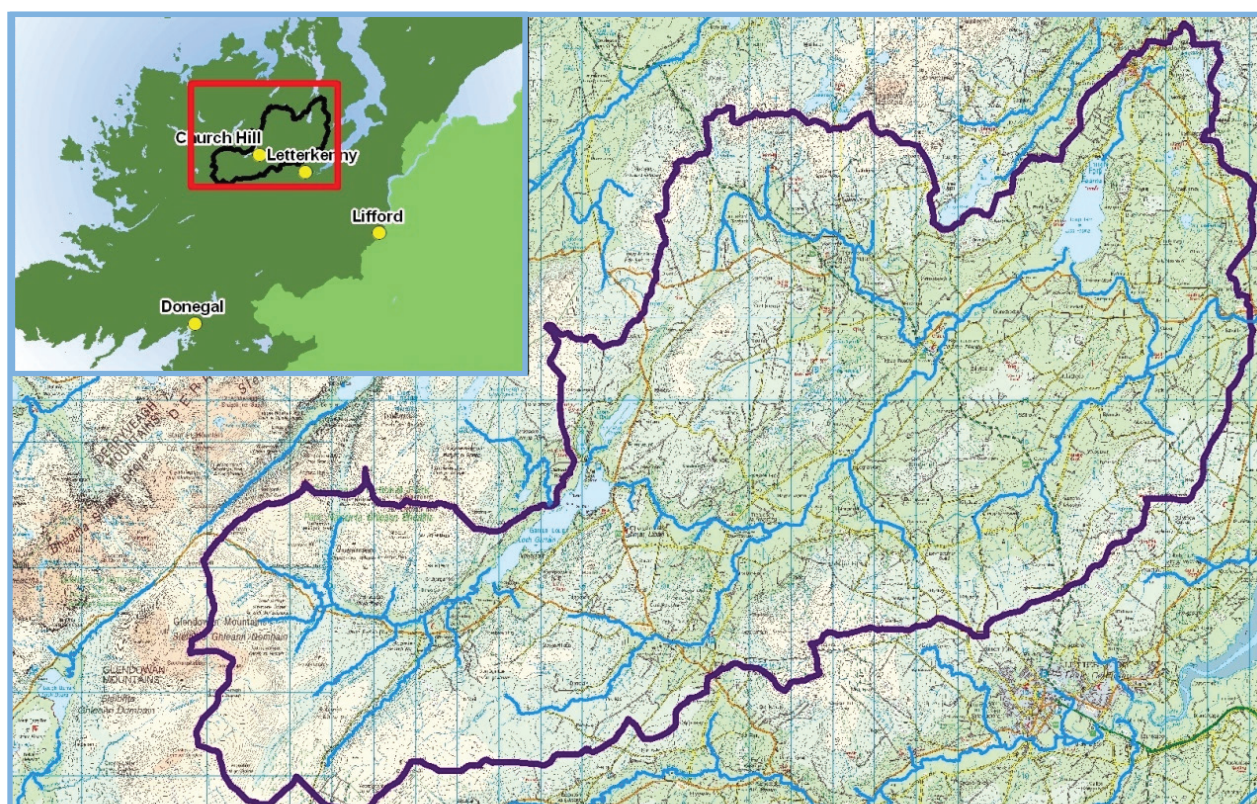
The freshwater pearl mussel population within the Leannan catchment is estimated to be between 50,000 – 100,000 individuals. The main population of mussels is in the upper reaches of the catchment, immediately downstream of Gartan Lough where 20,000 mussels are estimated to be present, and where there is still a large amount of potentially good habitat for adult and juvenile mussels. Indeed such is the production of larval mussels (also

called spat or glochidia) in this section, that a local smolt producing facility needs to seasonally filter its intake waters to prevent heavy infestation of farm fish with mussel spat. However, survival of juvenile mussels is poor in the river at present, and no significant recruitment of young mussels has occurred in recent years.

The Leannan is a renowned salmon fishery and one of the few in Donegal that opens on 1st January. The largest recorded salmon is 33lb, but in addition to spring fish, the river also has a good run of grilse later in the year. Like many rivers, the Leannan stocks have been declining in recent years.

Land use within the Leannan catchment is predominantly agriculture, with some intensively managed areas of land throughout the catchment. However, there is also widespread settlement with a number of water and wastewater treatment plants operating in the catchment and discharging to the river and its tributaries.

There is a significant deterioration in river habitat quality downstream of the town of Kilmacrennan and the confluence with the Glashagh River. As a result the FPM Project is focussing on the upper river stretches below Gartan Lough, where numbers of mussels are still relatively high. Measures are being trialled in relation to agriculture in this area. The Leannan and the upstream Glaskeelan catchment are ranked highly amongst the pearl mussel catchments of this island and have great potential for recovery of favourable conservation status.



Leannan River Catchment, County Donegal

FURTHER INFORMATION / CONTACT DETAILS

The FPM project is being promoted by Donegal County Council (www.donegalcoco.ie) in partnership with NIEA (www.doeni.gov.uk/niea/), and delivery of the project is through a full time project coordinator and consultancy services provided by RPS (www.rpsgroup.com/). Further information is available through our website www.freshwaterpearlmussel.com where you may also wish to leave a comment or request information.

You can also contact the Project Coordinator:

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The Special EU Programmes Body is a North/South Implementation Body and is responsible for managing the INTERREG IV programme under which the FPM Project is funded. For more information on the SEUPB please visit www.seupb.eu

MAGGIE my story

In an effort to make information more accessible to younger environmentalists (the conservationists of the future), we have produced some material for young readers.

The project has published a beautifully written and illustrated book that tells the story of the life and times of one particular mussel, Maggie the Mussel. The reader can see what a mussel looks like inside that black shell and, through the story, learn about its life cycle. The story also illustrates the enormous changes that have happened in the river over a period of two hundred years. We read of idyllic days of pristine waters, gradual changes of landscape and dark days when mussels died in abundance, until finally attitudes are changing and efforts to save the mussels and their river are at hand.

Maggie the Mussel is accompanied by an activity book. It contains pictures to colour, crosswords, games, quizzes and puzzles, all with an environmental theme.

Both Maggie the Mussel and the Pearl Mussel Activity Book are available in hard copy (while stocks last!) and electronically through the project website.

