

# Pearl Mussel Project News

*Farming for nature in freshwater pearl mussel catchments*



Issue no.5 March 2022



PMP team members attending Small Stream Risk Score (SSRS) Training

## Project Update

- **Farmer Payments for 2021: €1.6 million with average farm payment of €3,500**
- Many farmers have been busy completing supporting actions such as fencing, water facilities, flow reduction measures and rhododendron clearance. Over €86k has been paid out to date on completed actions which have resulted in environmental improvements and increased payments to farmers.
- **We encourage farmers to complete approved actions before summer 2022 to ensure that any improvements are reflected in this year's scores and associated payments.**

- Native breeds costing added to PMP supporting actions.
- **IBC tank as a portable drinking facility option has been added at farmer's request.**
- Mobile sheep dipping will now be an option for rest of project, automatically added to plan for those farmers that have been approved to date.



Pearl Mussel Project hosting 1st year Wildlife Biology students from MTU



Articles about Pearl Mussel Project have been published in the Farmers Journal and Agriland

## Bundorragha Catchment Rhododendron Control Project



The Bundorragha Catchment Rhododendron Control Project is a community led project. Pearl Mussel Project are partners on the project which is being led by Leenane Development Association and funded by Dept of Housing via the Wild Atlantic Nature Project. The project aims to develop and demonstrate a rhododendron control programme for the entire Bundorragha river catchment, County Mayo.

Being community led, the project aims to build capacity in the local community to equip them to tackle this major threat to local biodiversity.

As part of this project the implementation of the programme will be tested within a sample area that can develop the most suitable control techniques across typical scenarios where rhododendron occurs, e.g. varying densities, habitats, and locations. This pilot study will help inform the approach to implementing a catchment wide plan.

For further information on the project, please visit:

<https://www.wetlandsurveys.ie/bundorragharhodo>

## Pearl Mussel Advisor Profile and Management Advice

Joanne Masterson, who works with many of our farmers in Co. Galway, is the Pearl Mussel Advisor featured in this edition.



Joanne Masterson PMP  
*approved farm advisor*

I graduated from University College Dublin in 2013 with a degree in Agricultural Science specialising in Animal Science. Over the past number of years, I have been involved as an advisor in the Pearl Mussel Project. The area that I cover for the scheme are the Owenriff and Dawros Catchments in Co. Galway. These catchments cover areas from Oughterard and surrounding townlands out to the Letterfrack area. During this time, I have learned about the lifecycle of the pearl mussel, what its ideal environment and habitat is and been educated on identifying plants and species in grassland, woodland and peatland habitats. This is the aspect of the scheme in which I have found to be the most rewarding, along with meeting farmers and discussing with them how and if they need to improve habitats on their farms.

### MANAGEMENT ADVICE

**Fertiliser** - As we enter the spring months, we have been hearing a lot about increased feed and fertiliser costs. It is important that farmers know the soil nutrient status on their farms by taking soil samples. This helps you to know what levels of P (Phosphorus) & K (Potassium) are in the soil along with the pH status. You can then target parcels that need extra nutrients or lime and parcels that are sufficient for P & K can be maintained by reduced fertiliser use.

**Biodiversity** - As we look forward to a new environmental scheme, which will open in the next year, there will be an increased focus on improving biodiversity. How can you improve biodiversity on your farm? There are habitats in every farm corner that contribute to biodiversity. Hedgerows, field margins, ponds, streams, native woodland, bogs and species rich meadows and pastures.

**Hedgerows** - Management of hedgerows is important, this is now the nesting season, therefore no cutting of hedgerows can be done from 1st March until 31st August, over trimming should be avoided to allow growth and cover for birds to nest.

**Leave a water buffer zone** - when applying fertiliser or slurry leave a minimum 2-metre buffer zone if your land is next to a water body. This prevents pollution and algal blooms, as unnatural levels of nutrients entering a water body can upset the water quality.

**Field margin habitats** - these are easy to manage strips of naturally growing vegetation found along the edge of fields. They are extremely valuable biodiversity habitats, which comprise of a variety of plants including naturally growing wildflowers and grasses that produce flowers and seeds.





## Co-benefits for biodiversity and hydrological integrity from a results-based agri-environment scheme

Poppy Overy is an IT Sligo postgraduate student working alongside the Pearl Mussel Project (PMP) to explore whether paying for high quality peatland and grassland not only benefits water quality and the Freshwater Pearl Mussel, but also other parts of the ecosystems.

### BACKGROUND TO STUDY

To explore potential benefits of the PMP for biodiversity and habitat hydrology we used ground beetles as indicators. Ground beetles are surface dwelling beetles that react to the condition of a habitat with individual species living in different areas based on their preferences, for example some prefer taller vegetation, wetter soil, trees, puddles, etc. This preference for particular conditions makes ground beetles ideal indicators of habitat health and land management. Along with this it also tells us that other wildlife are present, such as worms, slugs, snails, etc., as most ground beetles are carnivorous and prey upon other small animals. We were very interested in understanding the connection between ground beetle communities (groupings of species) and the PMP final score for grasslands and peatlands. So, for the summer of 2020 we placed pitfall traps in these the habitats across three of the PMP catchments, the Bundorragha, Dawros and Owenriff. A pitfall trap is a container placed in the ground, flush with the surface of the soil that will collect the ground beetles living in that area. To help us assess the connection between beetles and the PMP scores we grouped the land surveyed into three categories; low scoring (scored 3 or less), medium scoring (scores of between 4-7) and high scoring (scores between 8-10).

### GROUND BEETLES IN IRELAND

There are just over 200 ground beetle species in Ireland, and we recorded 51 of these within the three PMP catchments. These species included *Carabus clatratus* which is one of the rarer ground beetles, currently thought to be in decline across western Europe, and *Elaphrus uliginosus* which is more commonly found in county Kerry (Most of the beetles only have Latin names, which shows how little attention we pay to them!). We found that there was a clear difference in the beetle communities of grassland

compared to peatland highlighting the importance of maintaining both habitats in the catchments. We also noted that the beetle communities changed for each score category. For example, high scoring peatland supported three of the larger ground beetle species (see the photographs below) but low scoring peatland only supported one of these beetles. These larger beetles can be over 2cm in length, with some capable of diving underwater to catch food, while other species can be smaller than 3mm in size.



Three large ground beetle species all indicators of high scoring peatland (left to right *Carabus clatratus*, *Carabus problematicus* and *Carabus granulatus*)

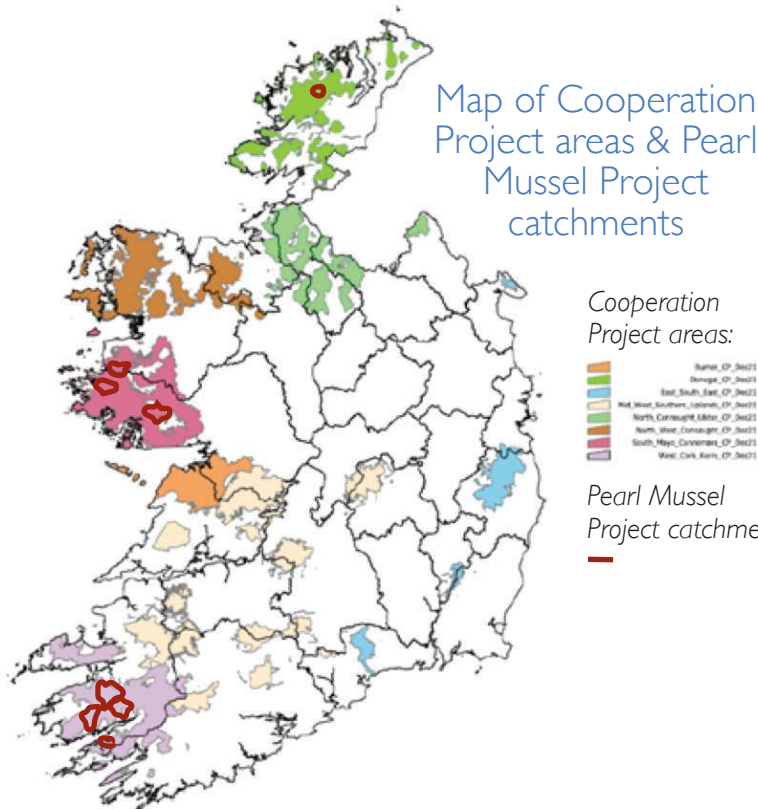
### HABITAT HYDROLOGY

To this point we have seen that aiming for land in good condition for the FPM can positively affect other biodiversity but what about the habitat hydrology? Well, as we all know the west of Ireland is notorious for being particularly wet but luckily for us some ground beetles and plants thrive in these conditions. Other studies across Ireland, UK and Europe have matched ground beetles and plants to their preferences for wetter or drier conditions. We used this information to check if the beetle species found in the three PMP score categories could also indicate the wetness of the peatland or grassland. What we found was that beetle species known to be moisture loving were more abundant on the high scoring land, whilst the medium and low scoring land had more species that preferred drier ground. This shows us that working towards higher scoring land can also benefit the habitat hydrology with potential knock-on effects like reducing flood risks, improving water quality and much more.

Another aspect of Poppy's work has been investigating the connection between the PMP scoring systems and the small streams running through the Bundorragha, Dawros and Owenriff catchments and we will explain more about this work in future newsletters.

## PMP and the new CAP

**New Agri Environment Climate Measure (AECM) January 2023.** PMP Continues until the end of 2023 with farmers receiving two more years of PMP payments. The new Cooperation Projects overlap with PMP areas. It is important that transition is managed for farmers and the project team will be working with DAFM to ensure farmers are kept up to date on what will happen in the project areas.



## Education

PMP have launched the third in their series of education resource packs for primary school children ([bit.ly/pmpeducationpack3](http://bit.ly/pmpeducationpack3))

This new education pack is focused on the Pearl Mussel Project, providing children with an insight into the aims of the project and how it works.



This new education pack includes an online story map, where children can learn more about what the Pearl Mussel Project is, how it works, and how the project is helping to protect the Freshwater Pearl Mussel.

The story map is complimented by an activity pack containing a series of activity sheets which teachers or students can download from the resources section on our website, [www.PearlMusselProject.ie](http://www.PearlMusselProject.ie).

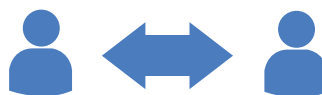
The Pearl Mussel Project are hoping to carry out some school visits this spring/summer. Contact us if your school would be interested!

## Keep in touch!

Don't forget to check our project website ([www.pearlmusselproject.ie](http://www.pearlmusselproject.ie)) for news and updates. We also have active Facebook ([@pearlmusselproject](https://www.facebook.com/pearlmusselproject)) and Twitter ([@pearl\\_mussel](https://twitter.com/pearl_mussel)) accounts where we post regular updates, so follow us there if you don't already.

On our website you will also find a range of videos that we have created which may be of interest to you or someone you know.

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