NRN Case Study:

The NRN recently met with Joe and Paul Molloy who in partnership run a dairy enterprise on the fringes of the Boora Bog which is a cutaway peat bog situated in County Offaly. Peat was harvested for fuel from the bog from the early 1950's to be used in Cloghan Power Station, Derrinlough Brickette Factory and west Offaly Power in Shannonbridge. Some areas of the bog were planted with commercial forestry and developed as farmland in the 1980s and 1990s with some areas rewetted and allowed to develop into mosaics of wetland scrub and woodland. Drained peat grasslands in Ireland emit up to 8 million tonnes of carbon dioxide per annum while also being a source of water pollution. This has led to the funding of a Farm Carbon EIP in Ireland funded by EIP-AGRI with the aim to incorporate alternative farming methods on high carbon soils through use of a results based payment model (RBP) in an attempt to quantify the effectiveness of measures implemented on farm on biodiversity, greenhouse gas emissions (GHG's) and water quality.

The farm itself milking 140 cows and is broken down into two main blocks of land. The main grazing platform is 85 acres and surrounds the farmyard which is in direct proximity to the bog. However, Joe noted that this 75 acre out block is situated on peatland, reclaimed for agricultural production in the 1990's. The reclamation of this land resulted in considerable drainage works to leave it in a condition suitable for farming. Joe explained the maintenance required to ensure soil health and subsequently maintaining environmental sustainability in this high carbon area.

Key Tasks while farming this high carbon soil:

- Maintenance of drainage works
- Regular soil testing
    - Ensuring correct soil fertility in terms of pH and key elements such as phosphorus and potassium is essential to protect soil health.
- Land treated with lime when deemed necessary based on soil test results.
- More regular reseeding
    - Our high carbon soils are reseeded every 5-6 years on this farm compared to 7-10 years on the main grazing block.
- Land stocked at a reduced stocking rate compared to main grazing block to avoid poaching.
    - Further stocking rate reduction considered at times of poor weather as land does not have the same trafficability as conventional grassland.

To aid in their workload on the farm Joe and Paul have availed of the TAMS II capital investment scheme. In 2017, they upgraded the farm facilities with a new parlour. The Molloy's have found the

new parlour saves them considerable time and has allowed them to focus on other aspects of the enterprise like animal performance, soil health and grass production.

One of the key investments under the scheme which has aided the Molloy's' in improving the sustainability of their dairy enterprise was in 2018 when they purchased a low emission slurry spreader (LESS), This has helped improve nutrient uptake in the soil and reduce emission and nutrient loss. Low emissions slurry spreading improves soil fertility and has a lower greenhouse gas emission output than that of the conventional splash plate spreading method. Organic fertilisers, such as slurry and soiled water from farmyard livestock, can be a valuable source of nutrients for grassland production. To compliment the more environmentally friendly LESS system, the Molloy's take extra precautions to protect water quality where possible through action such ensuring an extended buffer zones is observed at all times.

Joe explained how they have built a new slatted tank at their own expense to increase the farm's slurry capacity, "The extra storage capacity is vital for us considering the peat soils and the highwater tables in the area. We have to be far more selective on when we spread slurry and ensure that conditions are appropriate. The extra storage helps us protect water quality in this regard while also ensuring we can target applications to allow maximum uptake of nutrients from the organic manures."

Boora Bog is home to an array of biodiversity and has seen some conservation success stories as a result of by in from the local community. The last remaining Irish population of grey partridge, a ground nesting bird of red conservation status is in Boora. A conservation project funded by the National Parks and Wildlife Service (NPWS) and subsequent GLAS actions has seen positive growth in species numbers. Joe and Paul's land is part of the original NPWS conservation project and as a result they entered GLAS in 2015. One of the main actions chosen as part of their plan was the grey partridge action. As part of this action Joe explained that extended field margins are maintained and sown with a three meter grass margin and nine meters of a grey partridge mixture. He commented, "It's great to see this bird thriving in the area again and this was only made possible by the trials done and the subsequent GLAS scheme which incentivised farmers in the area to get involved to protect this species."

In July 2021, Joe and Paul set up Boora Bainne which allows the public to purchase locally produced fresh pasteurised milk straight from the farm gate. Joe highlighted that, "It's great to see people of all ages and backgrounds come and enjoy this experience."

The NRN would like to thank Joe and Paul for taking time out of their busy schedule around calving to demonstrate what can achieved while farming these high carbon areas.