Report - Biodiversity Burren FIV Trip to Republic of Ireland 26th – 28th July 2023

Advisors present

Kenneth Johnston (FIV Scheme Manager)

Henry Shaw (CAFRE AE Technologist)

Phelim Connolly (CAFRE AE Adviser and EBDG facilitator) (Report Author)

On Wednesday 26th July 2023 twenty-three farmers drawn from the six counties of Northern Ireland boarded a bus at CAFRE's Greenmount Campus to begin the Upland Biodiversity Farm Innovation Visit to the Republic of Ireland.

CAFRE was delighted to collaborate on this trip with the Nature Friendly Farmer Network Northern Ireland (NFFN), whose southern branch farmers (and their families) generously hosted our sizeable group.

We were also delighted that NFFN co-organiser Caolan McCaughan, (NI Farming Officer) and Dr. Michael Meharg (NFFN Chair) travelled with us.

Day one, Visit One- James Gilmartin, Manorhamilton, Co. Leitrim. Farming for Nature Ambassador

James Gilmartin is a suckler and sheep farmer with pasture fed hens, and some turkeys grown for the Christmas Market. James works off farm as an Agricultural Science teacher and is keen to retain a good work life balance blending his time with farming, sport and family life.

James is a participant in the newly form Breifne Acres project with much of his land scoring well in this scheme. James identifies his farming system as Low input with a regenerative agriculture focus. James discussed the difficulty for farmers to "put their head above the parapet" and try new ideas in farming, even when the system they are currently in, is not financially viable. To this end, James then brought us to his most recent farm innovation called Pasture fed hens. Pasture fed hens are kept outside for as long as possible during the year. They are housed at night in a "Hen Mobil". The hen mobile is easily moved used a tractor/jeep or gator and contains its own solar powered energy unit to close it in at night and also to operate a labour-saving egg collection system. The mobile is moved once a week in James's farming system. Hens are protected from predators with an electrified fence designed especially for hens, also powered by the solar unit. The manure which the hens leave behind fertilizes the ground and in doing so gives a cheap form of fertilizer. The hen mobile cost James 5500 euro with an additional 2500 euro for infrastructure costs. James sells the eggs produced through an honesty box located on the roadside. He estimates sales of 200 euro per week and 100-euro feed cost per week.

There were also free-range turkeys on the farm operating in a similar format to the pasture fed hens, however as there was no requirement to collect eggs they were contained in a simpler unit which allowed them to shelter and roost.

James then introduced the group to another innovation for the farm. Dexter cattle are fitted with no fence GPS collars and are being used to apply conservation grazing techniques on a local commonage which James has shares on. The collars have been funded through the NPWS (National Parks and wildlife service) Farm Plan scheme, and a PHD student is monitoring the cattle activity on the commonage. The cost of fencing the commonage in the traditional way would have been cost prohibitive. The data gathered from the use of the collars is the basis of a botanical survey. James monitors the movement of the cattle using his phone and can also set new boundaries and target areas where he wants more grazing to take place if desired.

James will host a climate camp later this year on his farm and hopes to discuss and promote the good work of local farmers.

Day one, Visit two – JJ O' Hara –Entrepreneur and founder of Future Cast. Sligo ATU (Atlantic Technological University

Future cast is an Innovation, Education and Research company for the construction and quarry industries based in Manorhamilton, Leitrim. Future cast have developed solar and wind energy solutions as well as collaborating on the first 3D concrete printer for house building projects in Ireland. JJ spoke of opportunities in the building industries to make better use of agricultural fibers such as sheep wool and hemp in building materials such as cement.

Day One, Evening Speakers – Dr Brendan Dunford and Dr James Moran

Introduction to the Burren programme and Burren Beo (Dr Brendan Dunford)

Innovating for sustainability

Burren/Boirean (rocky place)

Area: 72000ha across counties Clare/Galway

95% of the Burren is farmland

"Dry lie" exists because of farming.

Key features of the scheme

- Paid to improve habitat quality.
- Scorecard used 1-10 based on habitat condition. The higher the score the higher the payment

- Funding available to put in place infrastructure to aid grazing:
    - Drinking troughs
    - Access roads/lanes
    - Paths through scrub
    - Wall repair
    - New gates

27 million euro generated locally on the back of schemes.

Burren Beo (pronounced bueo) Trust is a community-based trust focused on education within schools. Monthly walks during summer and monthly talks during winter. Aims to change the negative talk about farming. The trust strives to engage with local and visiting groups to generate an informed pride in the Burren heritage and landscape. To develop and share knowledge of best practice in active community stewardship, place based and community learning.

Dr James Moran introduced the group to some of the other schemes we would see on our trip, notably the hen harrier project etc.

James introduced the group to the concept of ecosystem services, asking what does society want? He discussed the other benefits of these schemes to society such as grazing management for reduced fire risk, improved water quality and in the case of the Pearl Mussel project andimproved floodplain management.

In summary James discussed the need for;

Under wider policy context,

Systems change needed (evolution of schemes rather than revolution)

Capacity and trust building

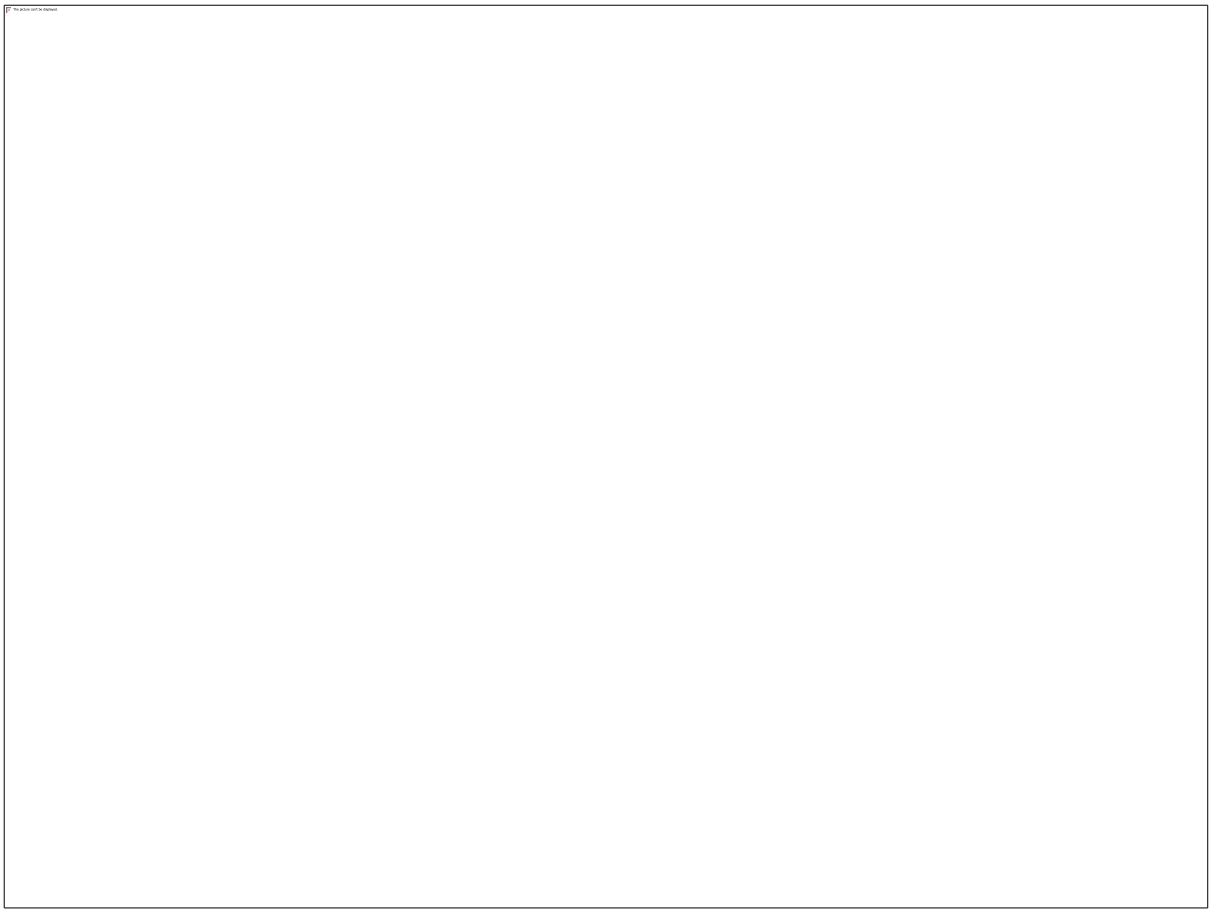
Solutions

Spatial targeting for ecosystem services

Empowering through Knowledge sharing

Promoting and raising awareness.

Day 2 – Visit 1. Slieve Aughty Hen harrier project. Dr Caroline Sullivan, local farmer participant Rory O'Reilly (Lough Mountain Farm)



The group visited the farm of Nia O'Malley (not present due to work commitments). Rory grazes the commonage for Mia. Caroline discussed the different scorecards used to assess both the suitability of forage and nesting habitats under agreement. Rory explained that for the purposes of the scheme a 'field' could be a land parcel containing multiple fields similar to a management unit in EFS Higher. Max payment annually within the scheme is 10,500 euros. The area although upland, is predominantly sucker cow territory. Caroline explained there are 6 breeding pairs of hen harrier within the area, and that coniferous forest was a problem for the birds. She also explained the use of a bonus payment of between 600-1200 euro held to coincide with the start of the breeding season of the hen harrier. They talked of a positive association between payment and harrier nesting season to try and reduce incidence of persecution from angered farmers. They said the peer pressure from other participating farmers worked in this regard.

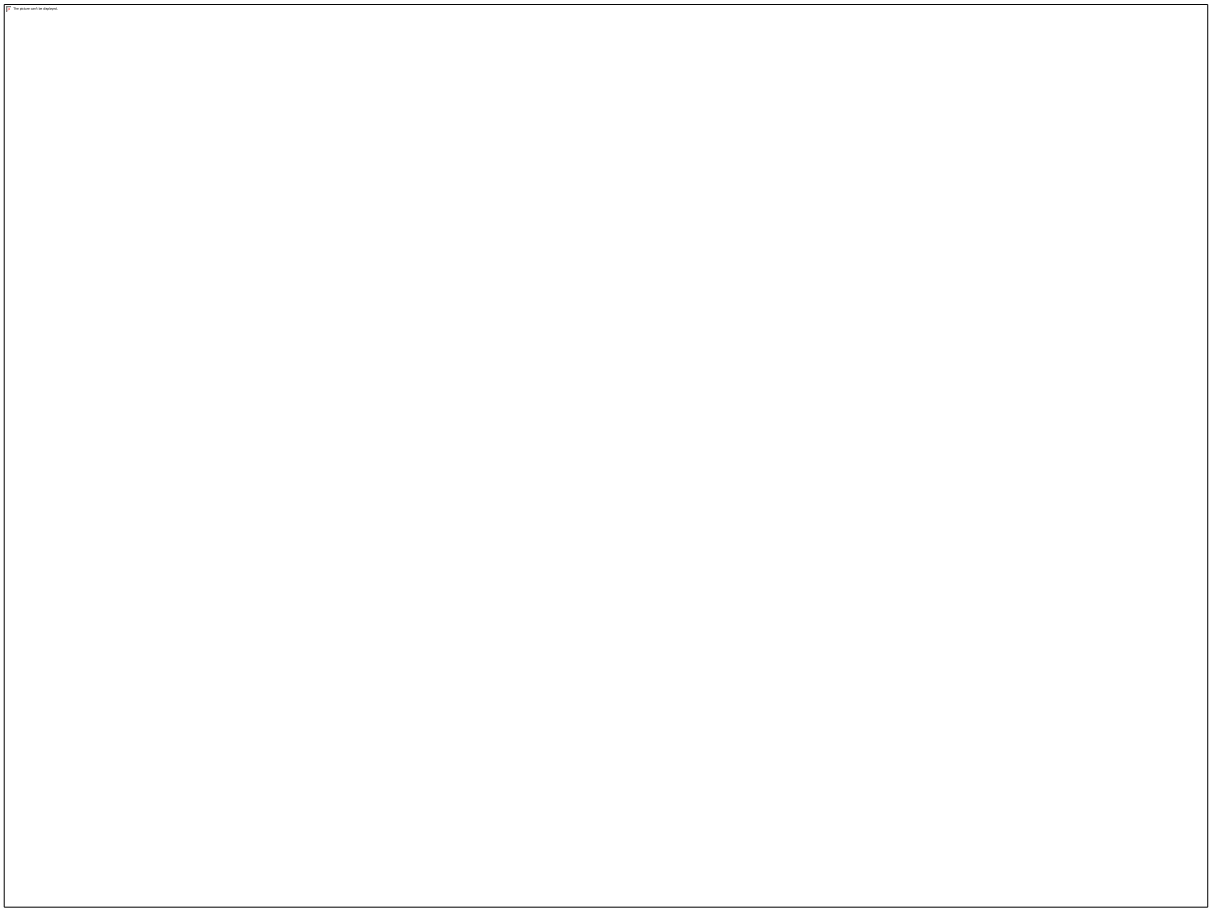
Caroline also discussed an innovation initiative between the hen harrier project and Devenish nutrition, designing a specific mineral block to address any mineral deficiencies in the area which may have made farmers more reluctant to graze difficult to manage areas. They also discussed evidence that older animals were more able to thrive on this land type than younger stock. The use of grazing animals reduced the amount of Molinia vegetation (purple moorgrass) that was a fire risk. There was no specific breed of cattle used on the land. Also talked of the concept of grazing uplands to rest lowland areas effectively when required.

Caroline talked about a new mindset. She described how High Nature Value farmland had been underinvested in, in the past. She stated that at no time have any of these farmers been told that their land "has a worth" in the past and to this end the ecosystem services concept is much more integrated within the scheme, with water quality, flood management and management of land to

reduce fire risk very important. The land was being farmed to bring more nature back to the area. The project is much bigger than the headline of hen harrier preservation.

Access and water infrastructure were again very evident on this site. Rory stated that five drinkers had been placed strategically around the site, with individual shut offs on each drinker to enable control of water and with that, the ability to control grazing within different areas of the site, with the cattle grazing closer to the drinking supply.

There is also a local action fund associated with the project enabling the community to benefit from the scheme. For example, Rory has a boxed beef initiative on farm, selling direct to the public. The hen harrier local action fund supported part of Rory's website creation for the business. Hen Harrier sculptures have also been developed for local parks.



Participants discuss management of hen harrier sites in close proximity to commercial forestry with Caroline Sullivan and Rory O'Reilly

In summary the Hen Harrier project consists of a 3 layered payment system

1. Payment for habitat quality for improvements in suitable breeding and feeding habitat. Ecosystem services- flood/fire/biodiversity/pollinators (the Aughtys protect villages and land downstream from flooding).
2. Actions to enable improved scores.
   Infrastructure improvements
3. Bonus payment to reduce irradicate persecution.

Day 2 visit 2 – John Hynes Burren farmer and Burren Acres participant and Dr Brendan Dunford Burren Program Manager

FIVS participants looking at one of many ant hills on site with Dr Brendan Dunford Burren program manager.

The group met Dr Brendan Dunford and John Hynes (farmer) at lands that were managed within the Burren Program for several years. John described how the land was 18 miles from his home farm and he sends cattle to it during the period Nov- March each winter, and takes cows home at the point of calving. The system is described as low-cost wintering. The format allows wildflowers to grow and set seed during summer months and in winter the cattle graze the grass and wildflowers back.

Brendan described when the initiative began, that they needed to give farmers an alternative to reseeding and land improvement which could be noted in other areas of the Burren. He discussed how he felt many farmers did not want to lose the habitat but they felt modern practices and advice required them to do so to make a reasonable income. The founders of the Burren project realised that they needed to be able offer farmers an alternative through reward for good practices and cooperation.

Farmers are given the freedom to adapt their system to suit the end target. A scorecard assessment method is used with a farm walk over completed every year to award a score. Brendan described how when designing the scorecard that they wanted to keep it simple so the farmers could use it themselves and understand how the score was awarded. From the outset it is the farmers decision if they want to try and improve the score awarded. The higher the score the better the payment. Maximum payment per ha is 315 euro.

To aid the farmers to make better use of the lands in winter, research was undertaken to analyse blood samples, dung samples, & soil nutrients over an 18 month period. There were only two months of the year when the lands were nutrient deficient (Jan/Feb). In association with a feed mill a

tailored ‘Burren ration’ was developed 15 years ago. The ration is slightly more expensive than standard rations but John states the cattle do very well on it and it is his preferred choice.

There were issues with bracken and blackthorn on site, with Brendan not ruling out the use of targeted herbicide management. Also an increase in Molinia grass may be managed by light summer grazing, something that the group assumed would be out of bounds, however such is the level of trust between farmer and advisor and the flexibility within the scheme this was not deemed an issue.

John had been “co-funded” to remove encroaching hazel scrub, to build cattle handling facilities, to provide water to the site by installing a new well and solar pump and drinkers, and to restore walls and gates. Brendan’s view was that John co-funded with them. He described the idea that if the site was owned by government, it would cost much more to bring the site into favourable condition.

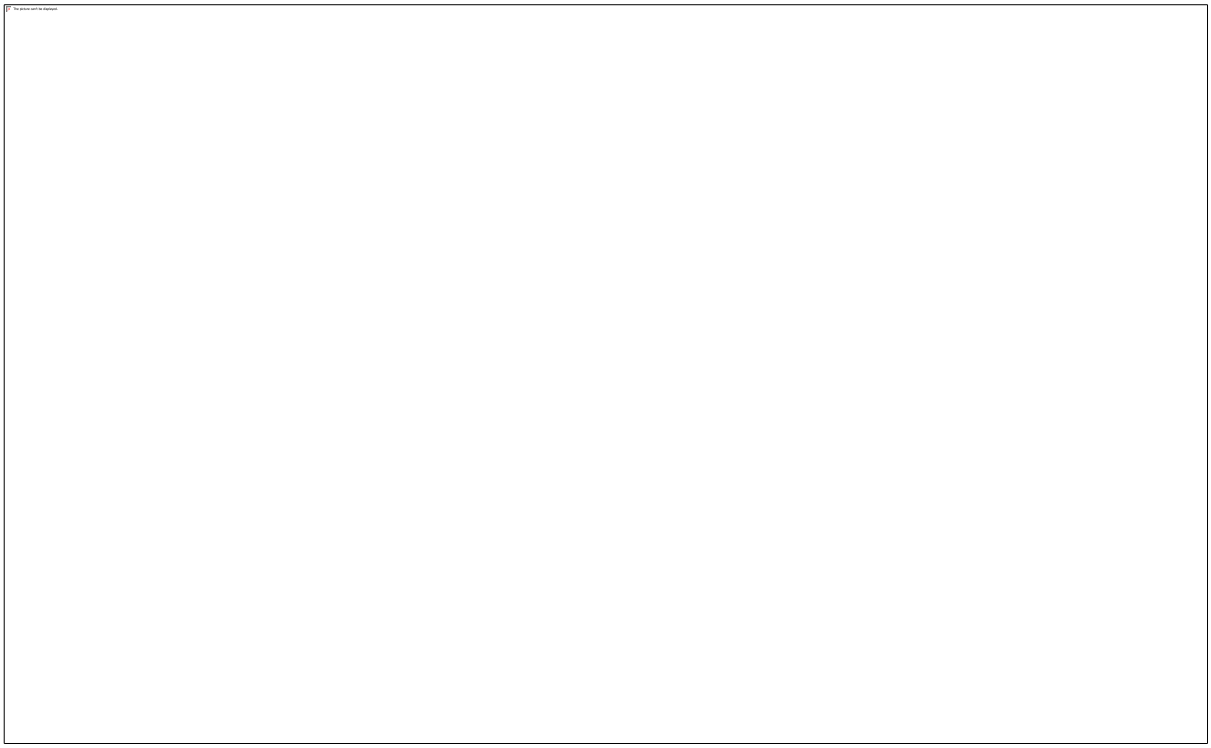
FIVS participants with John Hynes farmer (far left) and Dr Brendan Dunford (front right) with the high Burren in the background.

Wildflower species identified on site.

- Field scabious
- Wild carrot
- Wild pine
- Wood sedge
- Kidney vetch
- Seed plantain
- Oxe eye daisy
- Harebell

- Golden rod
- Yellow rattle
- Lesser knapweed
- Fairy flax

When asked had the scheme changed John's perception of the area, John described a learning and pride which developed as the years went on. He identified it as an income equivalent to 7/8 cows. He also pointed out that the initiatives to improve the site also created lots of employment and income to the local community through secondary spending.



FIVs participants discussing infrastructure improvements to aid grazing of Burren Limestone pavement.

Day 3

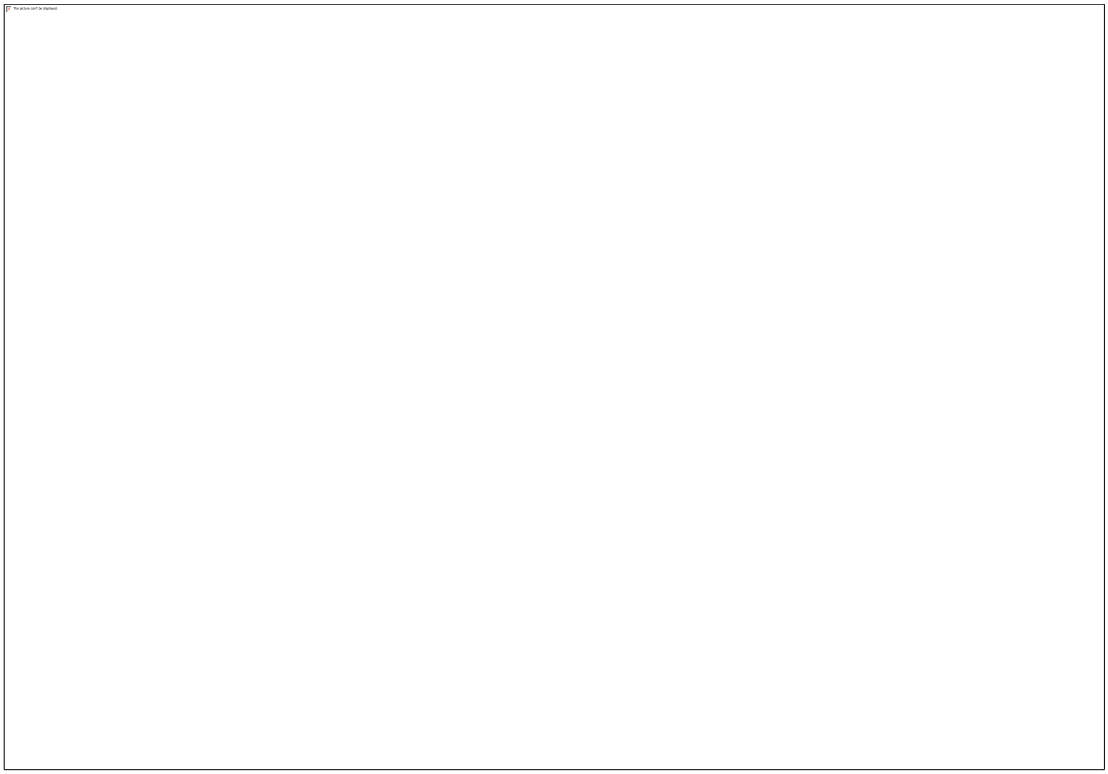
Farm visit – Michael McManus FFN ambassador 2021, Organic farmer and Breiffne Acres participant, entrepreneur -Spa Cottage Organic Cosmetics with Sulphur. John Brennan manager of Leitrim Organic Farmers co-op.

Michael is an organic beef producer on the outskirts of Carrick-on-Shannon. Michael historically farmed more intensively however the difficulties and poor returns from managing 200 acres of marginal land, led Michael to the realization that his land does not have the capacity to be farmed intensively and has such reduced his stock numbers to around 20 suckler cows and their calves. Michael sells his calves in the local Organic farmers market at Drumshambo. Michael showed us a Species rich meadow which he will cut for hay or haylage weather permitting. John Brennan outlined the strategy of Leitrim Organic Farmers Co-op, their contracts to supply Slaney meats Wexford, with finished beef and lamb monthly, and the sales strategy for local organic farmers aiming to sell stock as light weanlings to be finished in more productive areas of the country. He also outlined the significant influx of new organic sheep and beef producers in recent months to organics on the back of EU and government support for more organic farming in Europe. A maximum payment of 20,000 euro per annum during conversion is available to these farmers. John also discussed the mindset shift required to move to organics, however he and Michael both outlined the

benefits of a reduced stocking rate and chemical inputs in terms of water quality and ecosystem services. It was also evident that there was no differential made in terms of the land type entering into the scheme, therefore there was no difference in payment awarded to improved or semi natural land, indicating a move away from income forgone style monetary payments. Michael is also a participant in the new Breifne ACRES scheme and John showed the group the scorecard used to assess lands within the scheme. He demonstrated the assessment process and identified that many local farms were scoring highly due to the diversity of their lands.

John Brennan of Leitrim Organic Farmers coop discussing management of species rich meadow within breifne acres scheme.

Michael then went on to show the group an ancient sulphur water well first recorded in the 1700's on the farm and outlined the tradition within the area of people using its water to treat skin conditions. Michael outlined how he secured Leader funding in 2020 and has invested in R&D to develop a range of skincare products based on the sulphur water bubbling up from beneath the rock. He hired the services of a water diviner to bore a new well on the farm. Michael outsources the process of making the cream but takes charge of sourcing and testing the water before sending for processing. The business is now selling online and is advertised with the use of influencers. Michael is shipping to countries such as Canada, Australia and America as well as locally.



Farmers tasting water from Michael McManus' sulphur water well which creates the cosmetic creams for his new business venture.

As part of the learnings from the trip we asked participants to work in groups to develop 10 key take home messages from what they had seen or heard on the trip.

Here are the responses of all participants categorized under specific headings

Scheme management

- Give farmers the flexibility to make decisions around site management and timing of grazing on important sites, rather than farming by dates and restrictions. Brendan Dunford spoke of this on the Burren programme.
- More farmer control/input into scheme management
- Farmer control
- Site specific plans must be realistic.
- Capping of schemes acts as a disincentive to improve habitat condition.
- The concept that marginal land has more importance than just food production.
- Better to be paid for outcomes rather than a set payment where the farmer has no awareness of what it's for.
- One size doesn't fit all. All farms different. Regionally set AE scheme prescriptions are not suitable.
- Payments to be linked to inflation to accurately reflect the cost of works.

Advisor/farmer relationship

- Teamwork/openness between advisor and farmer was evident throughout.
- Dedicated local officers to disseminate information and guidance.
- Targeted local advice support.
- Evidence of high levels of support, which empowered farmers to learn and participate.
- Removing barriers between official and farmers. Respect.
- Local solutions to local problems

Scheme administration

- Non bureaucratic forms (Brendan spoke of an administrative team put in place to take care of the paper-work around schemes)
- "Farmers are willing" if the scheme design is encouraging.
- Farmers want a transparent and fair scheme (identified in the simple scorecards used in all schemes so farmers could understand how scores were arrived at.
- Farmers to see the long-term benefits.

Community fund

- Highlighting good work to the local community.
- The community involvement aspect of these schemes is something that could be replicated in NI (funding from the scheme to local businesses/amenity areas to raise awareness of the importance of these sites/farmers good work)
- Promotion of farmers in a positive light was empowering for the group.

Ecosystem services

- More emphasis to be placed in NI schemes of the benefits of other ecosystem services.
- Need to take a baseline of biodiversity on farm.
- Work with what you have before creating new habitats.
- A notable disconnect between departments (commercial forestry/environmental)

Habitat creation/concepts

- Hares corner concept and the "horses mouth farmer to farmer mentoring"
- Opportunities to work smaller diversification opportunities into the business (pasture fed hens, pasture raised turkeys)
- Small areas of habitat creation (ponds)

The group individually then voted on their top three requirements for any future scheme.

1. Farmer makes management decisions rather than prescription based. Flexibility around stocking rates, grazing dates or works completed. Nature does not work by dates/ Calendar farming.
2. Trusted working relationships are very important (advisor/farmer). Local advisors providing targeted guidance, support and knowledge transfer is key to the success of future schemes. Farmers feeling supported leads to empowerment and a willingness to do more for the environment. Very evident amongst all farmers/advisors we visited.

3. A fair open and transparent scheme or schemes which are easily understood is key to success. The example of the assessment scorecard designed for use by a farmer means it is clear and easily understood how the scoring has been arrived at.

4. Be paid on outcomes rather than a set amount leading to less awareness or scheme requirements and less incentive to improve condition of habitat.
5. Benefits to other ecosystem services and a greater involvement with local communities.