

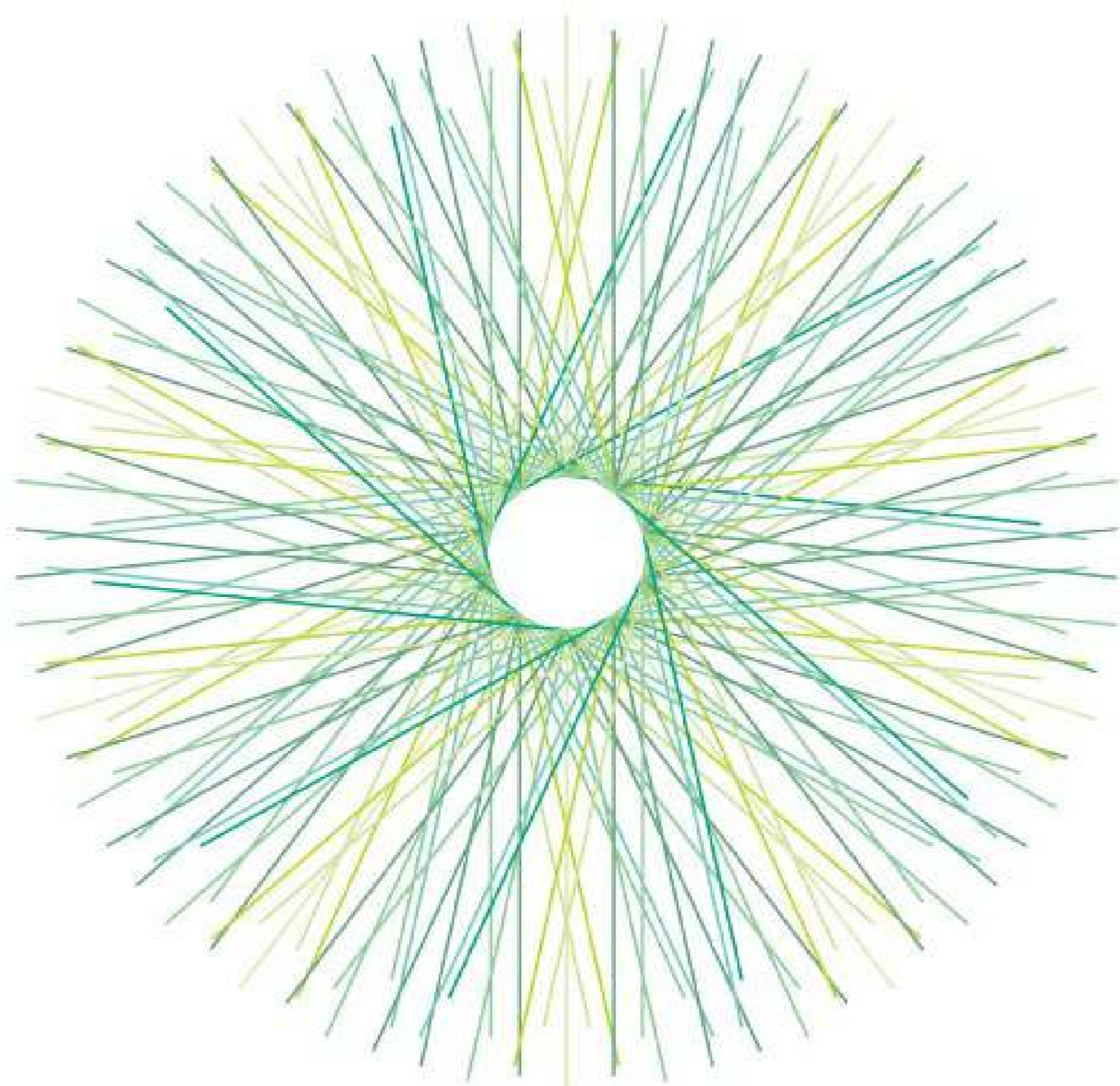


An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

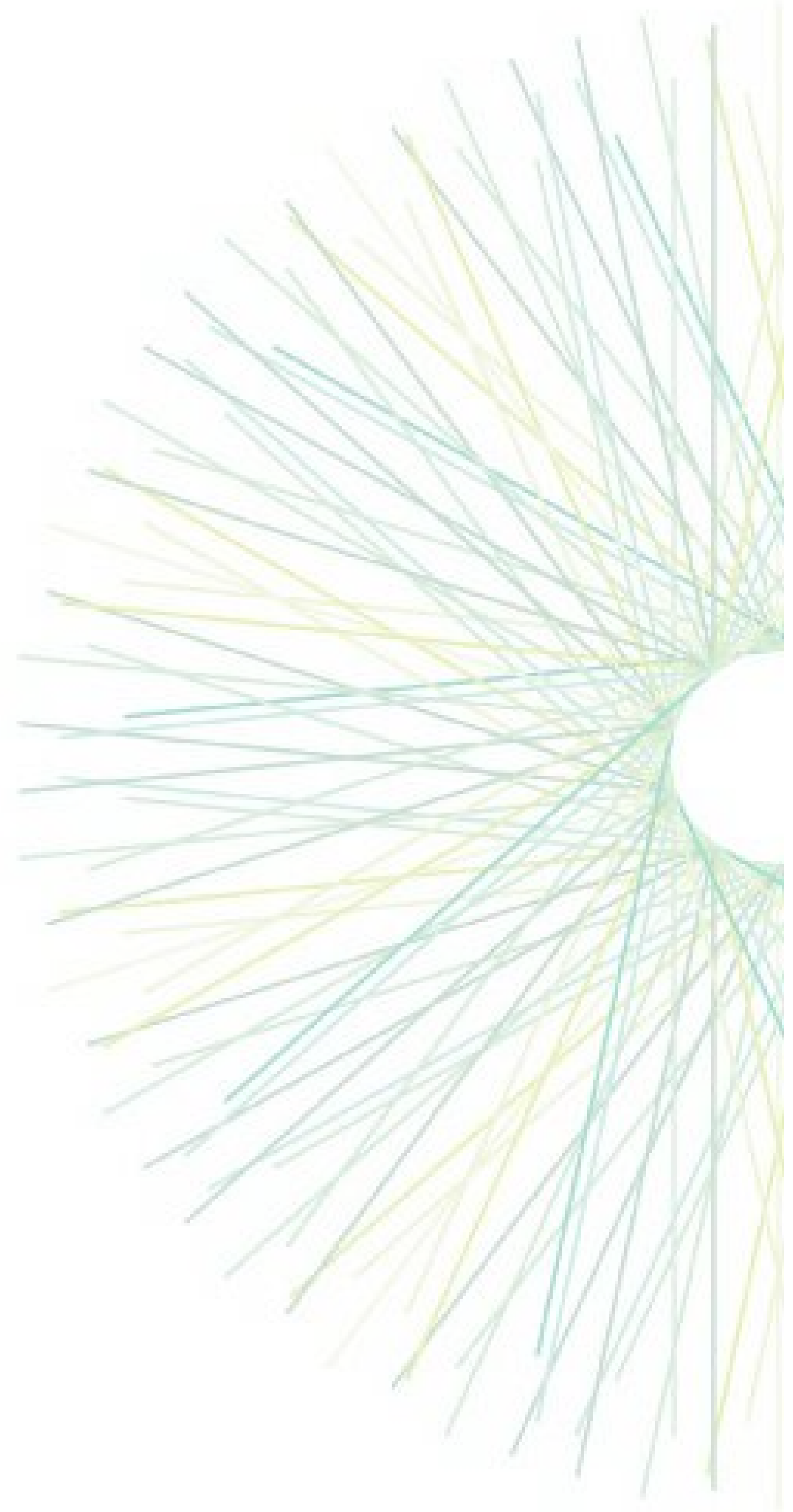
EIP-AGRI: Ireland's Operational Groups 2019



An Initiative of the Department of Agriculture, Food and the Marine
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Prepared by the National Rural Network team at NUI Galway on behalf of the Department of Agriculture, Food and the Marine.

Designed by Dr. Shane Conway, Postdoctoral Researcher at NUI Galway and the National Rural Network.



**An Roinn Talmhaíochta,
Bia agus Mara**
Department of Agriculture,
Food and the Marine



The European Agricultural Fund
for Rural Development:
Europe investing in rural areas



**Ireland's European Structural and
Investment Funds Programmes
2014-2020**

Co-funded by the Irish Government
and the European Union



National Rural Network

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Minister's Foreword

I am pleased to introduce this handbook on the European Innovation Partnership for Agriculture Productivity and Sustainability (EIP-AGRI) Operational Groups which are being co-funded by my Department and the EU under the Rural Development Programme 2014–2020. Some €59 million is available to fund these projects under our RDP. I have made this a very significant investment because I recognise the potential which locally-led schemes can offer.



Ireland's EIP-AGRI Operational Groups are an initiative of my Department.

They encourage co-operation and innovation in rural Ireland, by offering new opportunities to bring a broad range of people together to overcome problems in their areas and to make new things happen. There are many challenges ahead for Irish agriculture, but its resilience and the power of people working together with a common objective, should not be underestimated. EIP-AGRI projects allow farmers, scientists, advisors and all interested in the health of the Irish Agricultural Sector and the environment to face critical challenges with new models of co-operation and innovation.

When my Department launched the EIP-AGRI initiative in 2016, nobody could have imagined the interest it would generate. Competitive tenders invited teams to design and administer programmes for the conservation of the Hen Harrier and the Freshwater Pearl Mussel. Because of that competitive process, two really strong teams are now in place and over the next five years I look forward to seeing their plans develop and grow. Both projects have as their core objective the conservation of endangered species. However, they are also dedicated to delivering sustainable benefits for biodiversity, ecosystems, water quality and, critically, making a strong contribution to vibrant local economies and enhancing the viability of the farmers who engage with them. Both projects are using a practical, results based approach to farming. I know that the lessons learned from these teams will be of immense benefit in building a structure for farming for conservation for our future.

More recently, my Department held two open calls for proposals to address challenges in the agri-food sector and received over 170 proposals, covering a wide variety of subject areas. The response was overwhelming and shows that the people of Ireland are passionate about creating a truly sustainable agricultural sector, contributing positively to the environment, to climate change mitigation and to enhancing the reputation of the sector in a way that can help to develop new market opportunities. Following this exercise, my Department has chosen 21 projects, to deal with a wide range of topics. These include projects relating to targeting unutilised agricultural biomass, sheep genetics, organic production, flood management, pollinators, water quality, invasive species, biodiversity, soils, peat uplands, farming in an archaeological landscape and bio-energy.

This is really important work, and it simply couldn't happen without the strong collaborative model established through the EIP-AGRI Operational Group structure, with farmers who know their own land, working closely with relevant Government Departments and state agencies.

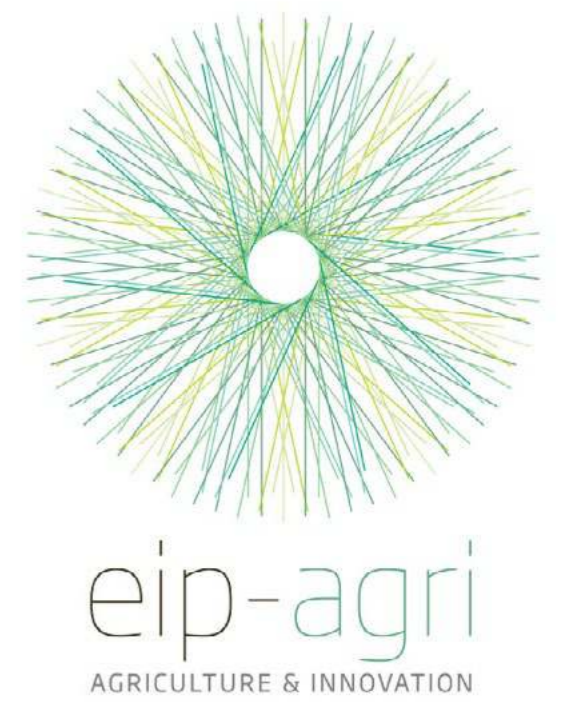
My Department and I look forward to working with the various project teams over the next five years. I commend them all for their initiative, their courage and I wish them every success as they trial new ideas and work together to make a better Ireland.

The EIP-AGRI Initiative in Ireland

The European Innovation Partnership for Agriculture Productivity and Sustainability (EIP-AGRI) was launched in 2012 to contribute to the EU's 'Europe 2020 Strategy' of smart, sustainable and inclusive growth. In Ireland, EIP-AGRI projects are funded by the Department of Agriculture, Food and the Marine (DAFM) under the Rural Development Programme (RDP) 2014 – 2020. A budget of €59m is set aside for these projects. EIP-AGRI projects are developed by Operational Groups which bring together actors such as farmers, researchers, advisors and agri-businesses to identify innovative solutions to particular challenges facing the agri-food sector and rural economy.

The EIP-AGRI initiative includes:

- EIP-AGRI Open Call for proposals
- Hen Harrier Project
- Pearl Mussel Project



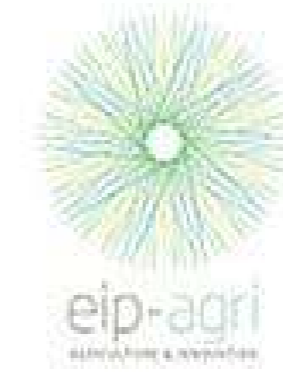
DAFM has selected 23 EIP-AGRI projects to be designed and implemented by their own Operational Groups. These projects align well with Ireland's RDP and national priorities and will address challenges such as biodiversity, profitability and sustainability and will harness the creativity and resourcefulness which is the hallmark of Ireland's rural sector. The majority of the projects are bottom-up, led by farmers who are passionate about the future of farming and the environment in their own communities.

DAFM has engaged the National Rural Network (NRN) which is managed by a consortium led by Irish Rural Link in partnership with the Wheel, NUI Galway and Philip Farrelly & Co. to be a membership network for farmers, agricultural advisors, rural communities and others interested in rural development. It provides up-to-date information, case studies, seminars and conferences to maximise the beneficial outcomes of Ireland's Rural Development Programme 2014-2020 for rural stakeholders. This document, aimed at inspiring people in the farming community and rural areas to maximize the success of the objectives set out in the RDP 2014-2020, details the main aims, objectives, activities and background of each of the successful EIP-AGRI projects. It also includes information about a new interactive database of Irish EIP-AGRI projects to further disseminate and promote the Irish EIP-AGRI Operational Groups nationally and internationally. This information, graphically displayed on a Storyboard platform on the EIP-AGRI section of the NRN website, consists of a geographical map of Ireland combined with user-friendly interactivity and an infographic created for each project. This useful tool also includes links to the websites and social media accounts of the EIP-AGRI projects.

This EIP-AGRI booklet and the interactive database have been designed and produced by Dr. Shane Conway, Dr. Maura Farrell and Dr. Aisling Murtagh who are based in the Discipline of Geography's Rural Studies Research Cluster at NUI Galway on behalf of the Department of Agriculture, Food and the Marine and the National Rural Network.

Abstracts of all 23 Irish EIP-AGRI Operational Group projects are also featured on the EIP-AGRI Service Point's online project database and interactive European map.

For more information on the EIP-AGRI initiative please email the DAFM EIP-AGRI section (eip@agriculture.gov.ie) or visit the NRN website at www.nationalruralnetwork.ie.



Operations



1 Inishowen Upland Farmers Project



2 Cúlra Créafóige - Cultivation
Renewal Programme



3 The Conservation of Breeding Curlew in Ireland



4 Farming Rathcroghan Project



5 Maximising Organic Production Systems (MOPS)



6 North Connemara Locally Led
Agri-environmental Scheme



7 Caomhnú Arann



8 Hen Harrier Project



9 Biomass to Biochar for Farm Bioeconomy (BBFB)



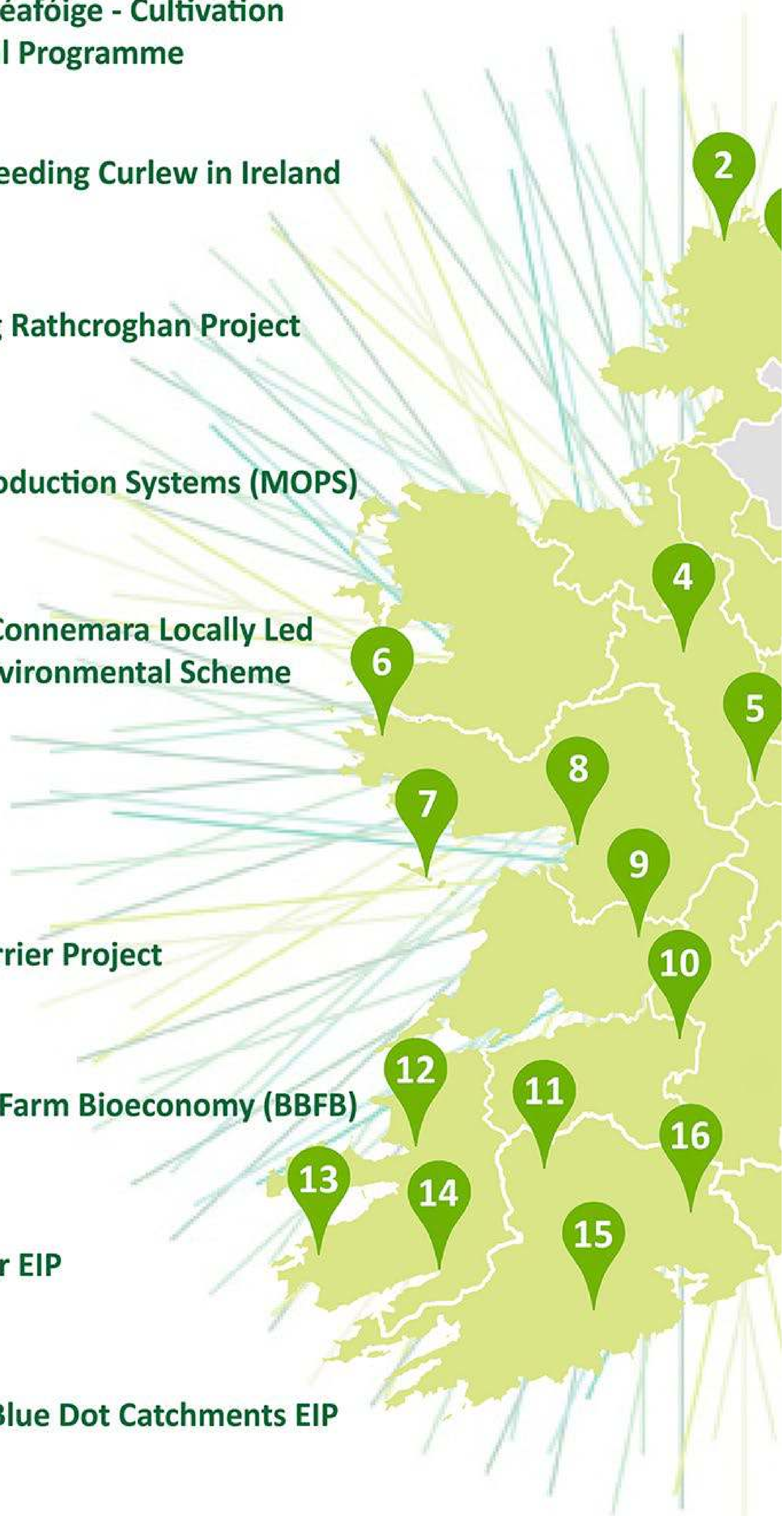
10 Mulkear EIP



11 Duhallow Farming for Blue Dot Catchments EIP



12 Biorefinery Glas



* The location points for each EIP-AGRI Operational Group, in most cases are far reaching 'Geographical Location' for each group can be found in the National Rural Network (NRN) website, and also on the

EIP-AGRI Project Groups



Small Biogas Demonstration Programme

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Pearl Mussel Project

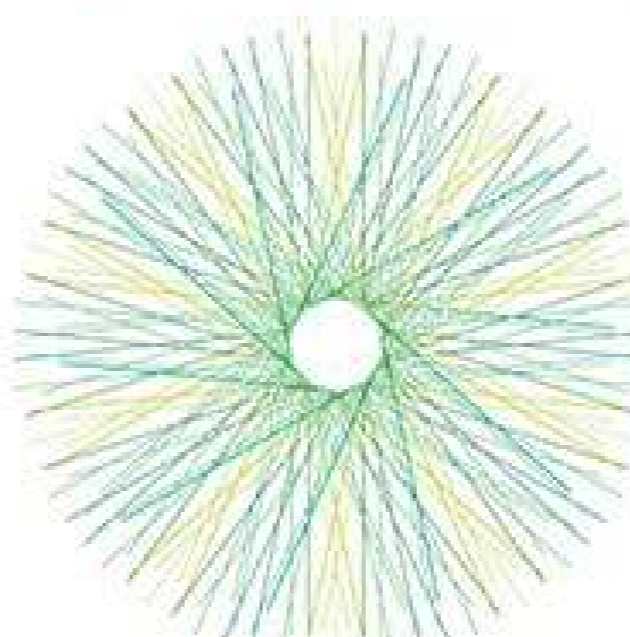


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Sustainable Agricultural Plan for the MacGillycuddy Reeks



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Infographic designed and produced by Dr Shane Conway (NUI Galway/NRN)

Project relates to the group's Lead Partner, however regionally and nationally. A specific indication of the EIP-AGRI Project Storyboard Database on the EIP-AGRI Service Point website.

Hen Harrier Project

Locally Led Scheme for the Conservation of the Hen Harrier

Geographical Location	IE 041 Border, IE 042 West, IE063 Midlands, IE 053 South-West, IE 051 Mid-West Region
Keywords	Hen Harrier, Special Protection Area, High Nature Value Farming
Project Leader	Fergal Monaghan, The Hen Harrier Project Ltd. (email: fergal.monaghan@henharrierproject.ie)
Project Type	Operational Group
Starting Date	2017
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€25,000,000



Project Rationale

The Hen Harrier is a rare, ground nesting bird of prey, adapted to open moorland and marginal grassland habitats. These semi-natural habitats that the bird depends on however have decreased in area over the last 40 years, as demographic, economic and regulatory factors have driven changes in land use. In fact, within the SPA network the breeding population of Hen Harrier has declined by 27% since 2005. The national Hen Harrier now only stands at an estimated 108 – 157 pairs.

Project Aims and Objectives

The project aims to deliver sustainable benefits for biodiversity, upland ecosystems and a vibrant local rural economy by building strong partnerships with farmers who have land designated as Special Protection Areas for breeding Hen Harrier through a practical, results-based approach to farming for conservation.

To achieve these goals, the project will pursue the following specific objectives over a 5 year, locally targeted conservation Programme:

- (i) Ensure the sustainable management of High Nature Value farmland in the most important areas for Hen Harrier in Ireland, with special emphasis on providing quality habitat for the Hen Harrier and the various other species of wildlife that share the same landscape;
- (ii) Promote a stronger socio-economic outlook for what are generally difficult to manage marginally agriculturally productive upland areas;
- (iii) Develop an effective model for future sustainable management of Hen Harrier areas;
- (iv) Foster continued positive relations through locally-led solutions between the people who have managed this landscape for generations, the relevant Government Departments and the special biodiversity that exists on the land.

Project Activities

- Design and implement a conservation programme in six Special Protection Areas designated for breeding Hen Harriers.
- Incentivise farmers to enhance the habitat value of their designated lands.
- Support enabling measures that facilitate habitat enhancement.
- Recognise the farmer's role in delivering defined conservation objectives.
- Carry out annual surveys of breeding Hen Harriers to inform the advisory and training services provided to farmers.
- Work with Government Departments to minimise negative impacts arising from disturbance and habitat loss.
- Co-ordinate the delivery of landscape level interventions to reduce the risk to the Hen Harrier and other ground nesting birds from predation and wildfire.



HEN HARRIER PROJECT

Ireland's EIP-AGRI
Operational Groups



Pearl Mussel Project

Farming for Nature in a Vibrant Rural Economy

Geographical Location	IE 053 South-West; IE 042 West; IE 041 Border Region
Keywords	Farming Practice; Landscape Management; Fertilisation and Nutrients Management; Water Management; Biodiversity and Nature Management
Project Leader	Dr Patrick Crushell, The Pearl Mussel Project Ltd. (email: patrick@pmproject.ie)
Project Type	Operational Group
Starting Date	2018
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€10,000,000



Project Rationale

The freshwater pearl mussel is a mussel species of clean rivers that is on the verge of extinction in Ireland and western Europe, where populations have declined by 90% over the past century. The primary cause of this decline is related to altered and intensifying land use. The species is on the IUCN Red List, and is one of the 365 most endangered species in the world. It is listed for protection under the EU Habitats Directive. In Ireland, eight river catchments contain 80% of the total Irish freshwater pearl mussel population, and are known as the 'Top eight catchments'. While these rivers support the highest remaining numbers of freshwater pearl mussels in Ireland, these populations are also undergoing a slow decline, and face extinction unless action is taken.

Project Aims and Objectives

The Pearl Mussel Project aims to design and implement a voluntary results-based agri-environmental scheme with farmers that will help protect the endangered freshwater pearl mussel, as well as benefiting the wider environment.

To achieve these goals, the project will pursue the following specific objectives within eight priority fresh-water pearl mussel catchments in Ireland:

- (i) Protect and enhance the conditions of the freshwater pearl mussel rivers and local environment by maintaining and improving natural habitats (such as wetlands, grasslands, and bogs);
- (ii) Deliver an opportunity for farmers in eight priority catchments to earn an additional income from their land. Farmers will receive a score for the delivery of a defined environmental result, with higher scores being rewarded with higher payments;
- (iii) Provide sustainable benefits for biodiversity and river ecosystems, while supporting a vibrant rural economy.

Project Activities

- Develop and then implement a results-based agri-environmental scheme which will financially reward farmers for delivering environmental benefits.
- Community outreach to promote environmental awareness amongst local communities in each of the project areas.
- Promote innovative agriculture by supporting novel approaches to land management that are relevant to the aims of the project.
- Develop market opportunities for agricultural producers that complement the project's overall environmental targets
- Support research and development relevant to the aims of the project.



Allow Project

Duhallow Farming for Blue Dot Catchments

Geographical Location	IE 053 South-West Region
Keywords	Farming practice, Landscape, Fertilisation and Nutrients Management, Water Management, Biodiversity, Nature Management
Project Leader	Dr Darren Reidy, IRD Duhallow (email: darren.reidy@irdduhallow.com)
Project Type	Operational Group
Starting Date	2019
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,460,707



Project Rationale

The protection of high ecological status water bodies, as defined by the Water Framework Directive (WFD), is a national priority in the implementation of the River Basin Management Plan for Ireland 2018-2021 (RBMP). Agriculture is a significant pressure impacting on high-status waterbodies and required measures will go beyond those currently available under current agri-environment protection programmes.

Project Aims and Objectives

This project aims to restore the status of a high-status waterbody in an agricultural catchment (River Allow, Duhallow, Co. Cork), through a collaborative locally led farmer-focused approach, with both farmers who have experience of high-status bespoke conservation measures and those with none.

To achieve this goal, the project will pursue the following specific objectives:

- (i) Restore and protect high status objective waterbodies in the project target area;
- (ii) Develop and implement a three tiered locally led results-based payment scheme for farmers in high status catchments.
- (iii) Implement bespoke measures to achieve the integrated catchment management impact required through knowledge exchange between farmers with target waterbodies;
- (iv) Develop and implement an on-farm citizen science approach with the farmers;
- (v) Incorporate biodiversity and greenhouse gas payments within the measures;
- (vi) Carry out catchment visioning on the importance of high status to farming community through knowledge exchange and the wider community through public engagement;
- (vii) Inform national policy and programmes on best practice for the management of high-status waterbodies.

Project Activities

- Develop and roll out a result based locally led farming for conservation programme for the restoration and protection of high-status water bodies in 100 farms in Duhallow through incentivisation of bespoke high status measures and nutrient management strategies, developed under previous high status farm focused conservation projects in the area
- Integrate with WaterMARK to further harness social learning across catchments and improve nutrient management.
- Set up 5 demonstration farms to show case the full range of measures required.
- Set in motion a catchment wide farmer sharing of experiences of agri-environment schemes and nutrient management / conservation initiatives through knowledge exchange discussion groups and workshops. This discussion group will encourage a shared understanding, through social learning, on what is required to conserve high status sites through behavioural change and measures on a farm by farm basis.
- Incentivise additional biodiversity and greenhouse gas reduction benefits of proposed and developed measures.
- Work with farmers through a citizen science approach to measure performance of key measures.
- Bring about a shared understanding of 'what a high-status waterbody means to a local community' through catchment visioning at knowledge exchange discussion groups.
- Work with industry to increase participation by farmers in the scheme through further incentivisation.



Biodiversity Regeneration in a Dairying Environment (BRIDE)

Geographical Location	IE 053 South-West Region
Keywords	Results-based Schemes, Farmland, Sustainability, Ecosystem Services, Biodiversity, Wildlife, Hedgerows, Birds, Invertebrates, Pollinators, Vertebrates, Mammals
Project Leader	Donal Sheehan (dcsheehan@eircom.net)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,100,000

Project Rationale

Intensively managed farmland throughout Ireland has had relatively low participation rates in agri-environment schemes (and associated wildlife options). Nevertheless, it is this farmland that is most frequently represented in Quality Assurance and Sustainability Schemes, and is most likely to require a customised plan to maintain and enhance farmland wildlife habitats.



Project Aims and Objectives

The project aims to design and implement a cost effective, results-based approach to conserve, enhance and restore habitats in lowland intensive farmland, and to improve national awareness of the options that are available in an effort to maintain and enhance farmland wildlife on intensively managed farmland without unduly affecting agricultural production.

To achieve these goals, the project will pursue the following specific objectives delivered over a five-year period to a group of up to fifty farmers in the River Bride Valley, Co. Cork, which constitutes part of the River Blackwater Special Area of Conservation:

- (i) Explore an innovative implementation of a results-based approach for wildlife on intensively managed farmland;
- (ii) Develop, implement and assess innovative options to restore, preserve and enhance farmland habitats;
- (iii) Improve communication and dissemination on the contribution of Irish farmland to the conservation of biodiversity, especially in intensively managed grasslands;
- (iv) Facilitate the creation of a market-based demand by the agri-food industry for supply of ecosystem services from farmers.



Project Activities

- Produce a Biodiversity Management Plan in consultation with participating farmers that identifies priority and actions for the maintenance/enhancement of farmland wildlife. Farm-based actions will target farmland habitats such as: hedgerow management, field margins, retention of winter stubble on cereal farms, skylark plots, riparian buffer strips, creation of a permanent pond, conservation of existing farm habitats, native woodlands, nest-box and bat-box installation, rodent control and control of invasive species.
- Monitor the diversity of vegetation types, plants, bird, bats and pollinators, using a baseline and ongoing surveys.
- Disseminate lessons learned from the project to a wide variety of stakeholders via multiple methods.



BRIDE Project

Farming with Nature

Biomass to Biochar for Farm Bioeconomy (BBFB)

Geographical Location	IE 051 Mid-West Region
Keywords	Biomass, Pyrolysis, Biochar, Innovation
Project Leader	Bernard Carey (email: Loughdergcharcoal@gmail.com)
Project Type	Operational Group
Starting Date	2018
End Date	2021
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€998,377

Project Aims and Objectives

The project aims to demonstrate the worth of unwanted/unutilised agricultural biomass (rushes, gorse, bracken, hazel, forest harvest residue) as a valuable resource to produce biochar through a life cycle approach to current farm vegetative control/management practices, and to also make direct use of this biochar product to sustain an innovative bioeconomy on and off the farm as well as providing further downstream ecosystem services.

To achieve these goals, the project will pursue the following specific objectives:

- (i) Develop a valuable biomass stream from currently unutilized agricultural biomass by demonstrating effective cutting, collection and processing practices in a number of typical pilot areas;
- (ii) Demonstrate, using a Mobile Pyrolysis Unit (MPU) suited to Irish conditions, how this unutilised biomass can be converted to commercial products such as biochar;
- (iii) Improve localised sustainable land management to increase productivity, increase biodiversity and increase economic sustainability (contribution to bio-economy) through new biomass practices and the appropriate application of biochar;
- (iv) Demonstrate that biomass utilisation can increase the sustainability of local bioeconomies, and help the agri-sector by reducing its greenhouse gas emissions, improving land fertility and productivity, and protecting water quality;
- (v) Create a platform for further focused research activities, making use of the established biomass supply network and the biochar production assets at appropriate locations, to evaluate the contribution of biochar to ecosystem services and to determine the environmental impact of its application to land;
- (vi) Provide 'proof of concept' (to national/local government and local landowners) that both local community and the wider state can benefit economically from currently unutilised biomass streams.

Project Rationale

In Ireland, biomass which is not utilised for livestock feeding occupies a large area of agricultural land. This biomass consists primarily of rushes (*Juncus* spp.), as well as Bracken (*Pteridium*), Furze (*Ulex* spp.), Hazel (*Corylus*) and Heather (*Calluna*). These biomass streams require no husbandry to produce; however, considerable expenditure is spent annually on their control (i.e. cutting and disposal), either by chemical or mechanical means to ensure compliance with EU grant schemes and for conservation purposes under GLAS. This leads to the widespread use of chemical herbicides and the production of an unwanted biomass stream.



Project Activities

- Design, build and test MPU.
- Coordinate biomass harvesting among multiple farmers/landowners.
- On-site processing of biomass to biochar.
- Quality control, laboratory analysis.
- Test pre-processing and post-processing samples.
- Development of marketing strategy including research, marketing and end uses of accredited biochar.
- Undertake life-cycle analysis.
- Communication and international technology transfer. Website and digital media resources, reports, demonstration activities, final conference.



Biorefinery Glas - Small-scale Farmer-led Green Biorefineries

Geographical Location	IE 053 South-West Region
Keywords	Bioeconomy, Biorefinery, Circular Bioeconomy, Resource Efficiency, Ammonia Emissions, Nutrients, Fodder, Climate Resilient, Diversification
Project Leader	James Gaffey, Institute of Technology, Tralee (email: James.gaffey@staff.ittralee.ie)
Project Type	Operational Group
Starting Date	2019
End Date	2020
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€940,498



Project Rationale

Agriculture has been put under the spotlight in recent years as Ireland attempts to decarbonise its economy and meet the challenges and commitments laid out under the Paris Climate Accord and Sustainable Development Goals. With over a third of national Greenhouse Gas (GHG) emissions currently coming from the agriculture sector, most would agree that urgent action is necessary. Ireland's fragmented supply chain and high grass production area make small-scale biorefineries a key opportunity area for growing Ireland's bioeconomy, particularly in rural regions.

Project Aims and Objectives

This project aims to improve the overall sustainability, value and resource efficiency of Ireland's agriculture sector through diversification into the bioeconomy, using a widely replicable small-scale farmer-operable grass biorefinery.

To achieve this goal, the project will pursue the following specific objectives:

- (i) Improve traditional farming activities and provide diversification opportunities for farmers via the integration of new technologies, driving new value chain development;
- (ii) Demonstrate a viable mechanism for better utilisation of national protein reserves through small-scale biorefineries.
- (iii) Reduce agri-related GHGs emissions arising in the agri-sector both indirectly (through displacement of soybean imports) and directly (through reduction in overall nitrogen and phosphate emissions in cattle excrement) emissions arising in the agri-sector;
- (iv) Target a 40% increase in usable protein per hectare of Irish grassland, helping to contribute significantly to indigenous feed reserves;
- (v) Demonstrate a model which integrates easily into Ireland's existing agricultural structures.

Project Activities

- Demonstrate a small-scale mobile grass biorefinery on multiple farms in South West Ireland.
- Ensure that each component of grass is used at its highest value, with the simultaneous production of multiple products from grass, including an improved fodder press-cake fibre for cattle, protein concentrate feed for monogastrics, high value prebiotic sugars (for the food and feed markets) and recovery of nutrients for use as fertilizer.
- Promote farm-to-farm symbiosis and cooperation.
- Facilitate several knowledge exchange activities, including training of farmers on the operation of small-scale biorefineries in the South West and nationally.
- Deliver a dissemination package with farmers playing a central role, sharing their experiences with other farmers and relevant multi-actors through a digital storytelling initiative.



Blackstairs Farming Futures

Sustainable Farming Project in the Blackstairs Mountains

Geographical Location	IE 052 South-East Region
Keywords	Natura 2000, Upland Habitats, Commonage, HNV Farming, Governance, Co-operation, Public Goods, Ecosystem Services, Locally-led, Biodiversity, Farm Viability
Project Leader	Martin Shannon, Blackstairs Farming Group (email: martinshannon160@gmail.com)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,500,000

Project Rationale

The combination of ageing farmer population and low incomes from existing hill farming outputs in the Blackstairs Mountains and its hinterland are leading to an increased risk of land abandonment and pose a threat to the achievement of favourable status of the semi-natural habitats and associated species of conservation concern in the Blackstairs Mountains SAC.

Project Aims and Objectives

The project aims to develop a new revenue stream for commonage farmers in the Blackstairs Mountains for the delivery of innovative eco-system services whilst simultaneously improving habitat conditions in the Blackstairs Mountain SAC and adjacent semi-natural habitats (peatlands, heathlands and grasslands).

To achieve this goal, the project will pursue the following specific objectives:

- (i) Sustainable management of High Nature Value Farmland with a focus on providing habitat optimised for red grouse, a species of conservation concern in Ireland and other upland biodiversity;
- (ii) Develop and implement a result based, agri-environment payment scheme on semi-natural habitats and commonage land;
- (iii) Develop and trial an effective commonage governance model for Ireland to support cooperation within and between commonages and with other stakeholders to work together to address current and future challenges;
- (iv) Engage the wider community in the environment, culture and traditions of farming in the uplands.



Project Activities

- Results based element - Reward good habitat condition of the SAC and adjacent habitats of semi-natural value using a scoring system for indicators or characteristics
- Complementary actions – Utilise best practice techniques where needed to improve habitat quality to include fencing Coillte plantations; bracken ('ferns') control; targeted grazing aids; management of scrub; removal and control of invasive species; possible re-introduction of cattle; implementation of a managed burning programme; nest protection/predator control and improvement of access tracks to commonages.
- Complementary enhancement actions - Protect and enhance archaeological sites; Repairing of certain traditional granite dry stone walls that support sustainable habitat management.
- Training and awareness-raising - Available to all potential participants and farm advisors on an on-going basis
- Ongoing project monitoring and evaluation at a number of levels to include methodology, impact against specific biodiversity targets, effectiveness and wider benefits of the project to the wider community.



Caomhnú Arann

Managing the Habitats of the Aran Islands to Maximise their Agricultural and Ecological Output

Geographical Location	IE 042 West Region
Keywords	HNV Farming, Outcome Based, Agri-environment, Biodiversity, Wild Seed Production, Phosphorous Deficiency, Habitat Management, Cattle Production
Project Leader	Caomhnú Árann (email: aranlifeproject@gmail.com)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,450,000

Project Rationale

The Aran Islands contain some of Ireland and Europe's scarcest and most valuable limestone pavement, orchid rich calcareous grasslands and machair habitat. However, due to relatively low farm incomes, small and fragmented holdings, low productivity land, high labour intensity of optimal conservation methods and other factors, this high priority habitat is not receiving adequate maintenance, with consequent loss of species diversity, overgrowth and reversion to scrub.

Project Aims and Objectives

The project aims to protect and restore priority habitat on the Aran Islands at lower costs and greater efficiency through the exploration and development of innovative methods of habitat improvement and conservation, and also to keep phosphorus supplementation on the Islands to a minimum.

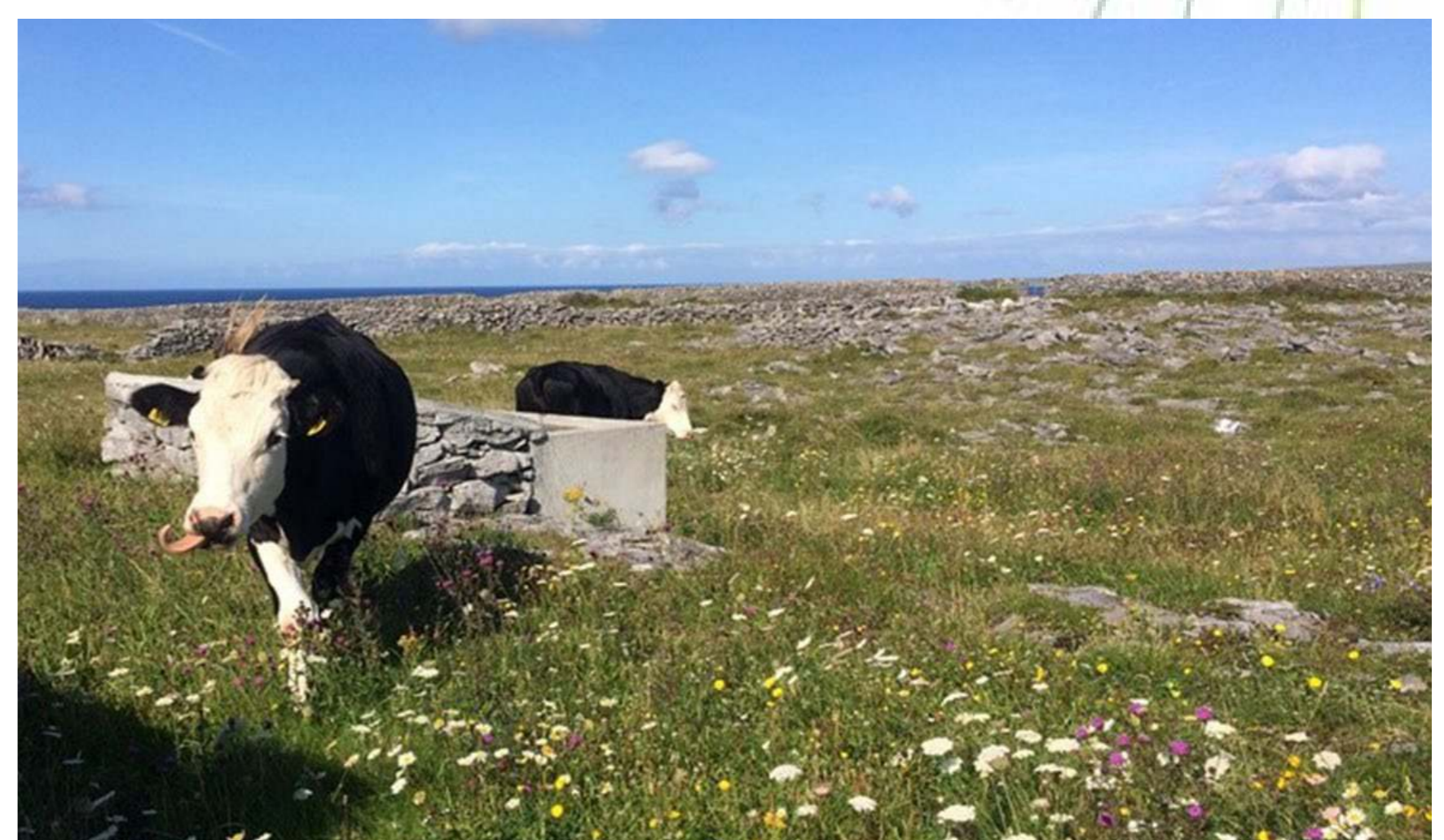
To achieve these goals, the project will pursue the following specific objectives:

- (i) Examine technologies that increase the quality and uniformity of habitat assessments whilst cutting down on the labour intensity and administrative cost of agri-environmental conservation and improvement measures;
- (ii) Examine non-subsidy methods of improving farm income levels to address issues of land abandonment, undergrazing, intensification, loss of traditional management systems and associated loss of knowledge which degrade the conservation status of priority habitat;
- (iii) Investigate innovative and cost-effective ways of selectively delivering phosphorus to cattle on the Aran Islands which minimises any adverse effect on species richness and diversity;
- (iv) Improve the conservation status of 1,500 hectares of priority habitats;
- (v) Enhance understanding, appreciation and engagement of all the key stakeholders with the conservation of priority habitats on the Aran Islands.



Project Activities

- Develop a simplified habitat scoring system that enables farmers to self-assess the habitat status of land, in addition to allowing for the efficient and effective evaluation of the farmer's self-assessment scores;
- Develop remote sensing tools for habitat scoring, work targeting, work monitoring and assessment, and auditing;
- Examine low labour intensity methods of priority habitat management; e.g. drone delivery of micro dosage herbicides;
- Examine innovative methods of improving farm income to stem the flow of land abandonment on the islands (e.g. methods of targeted phosphorus delivery to manage chronic low-level phosphorus in cattle as well as seed harvesting and treatment from the islands' species rich grasslands).
- Demonstrate the best management techniques for the sustainable management of priority habitats, through the maintenance of optimal grazing on the Aran Islands.



Cúlra Créafóige

Cultivation Renewal Programme

Geographical Location	IE 041 Border Region
Keywords	Innovation, Cultivation, Small Farm Landscape, Crops, Tourism, Biodiversity
Project Leader	Lárionad Acmhainní Nádúrtha Ctr. (LAN) (email: laneipculra@gmail.com)
Project Type	Operational Group
Starting Date	2019
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€583,010

Project Rationale

The Gaeltacht Parish of Cloich Cheann Fhaola in Co. Donegal is recognised as having markedly poor socio-economic indicators. Recent census information and analysis illustrates that the area has a declining population, high emigration rates, high unemployment levels and an ageing demographic. It also has a terrestrial landscape that is primarily managed by small farmers, with many land parcels either not in active agricultural production or heading towards farm abandonment. There has also been an almost complete abandonment of traditional cultivation and tillage practices within this farming landscape over the last 40 years.



Project Aims and Objectives

This project aims to stimulate the vitality and socio-economic renewal of Cloich Cheann Fhaola by supporting and restoring small-scale farming enterprises in the area through upskilling and experimental cultivation activities.

To achieve this goal, the project will pursue the following specific objectives:

- (i) Provide a template which utilises inactive livestock farm enterprise land parcels for alternative cultivation and re-engage livestock owners and others with the skills and benefits of cultivation;
- (ii) Monitor and assimilate all pertinent growing and market value data
- (iii) Upskill and train a variety of key local stakeholders;
- (iv) Create a positive local narrative and comfortable association between the community and cultivation activities.



Project Activities

- Rehabilitate, plough and plant 4.86 hectares of fresh lands annually.
- Plant and closely monitor all aspects of the planted crops, namely Spring and Winter Oats, Gortahork Kale, Garlic, Linseed, Nettles, Comfrey and Chicory.
- Devise a coherent plan to implement all necessary aspects of this cultivation renewal programme.
- Acquire a detailed understanding of the key drivers of growth and the overall value of a variety of produce.
- Identify the required level of participant upskilling needed.
- Explore the community and micro-business benefits of cultivation activity.



DANÚ Farming Group

Project Plan for a Biological Farming Transition Programme

Geographical Location	Ireland (not limited to one region)
Keywords	Biological Farming, Sustainable farming, Biodiversity
Project Leader	David Wallis (email: wallis.david94@gmail.com)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€400,000

Project Rationale

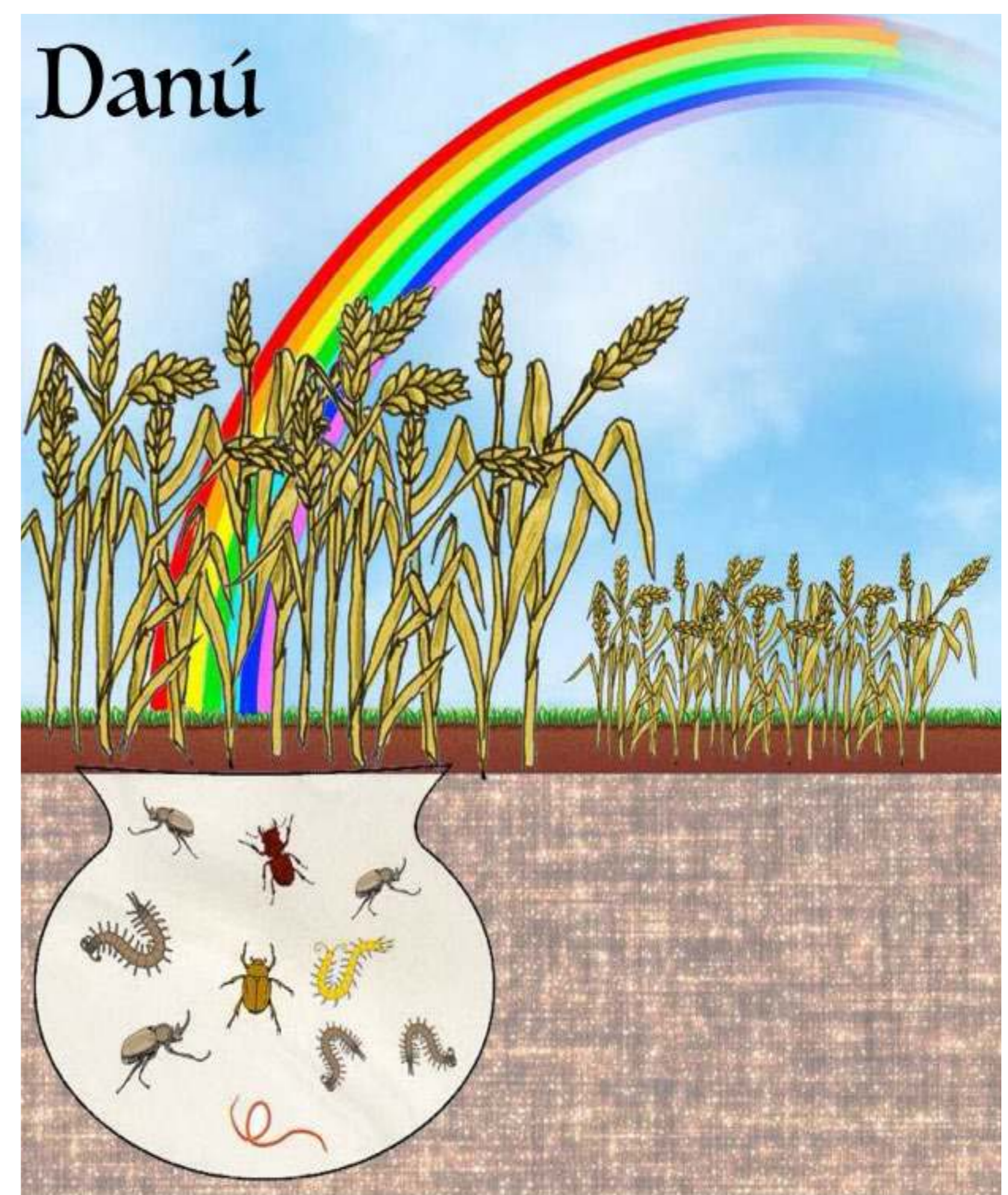
Biological farming is a holistic approach to soil, crop and pasture management that accounts for the agronomic, environmental, nutritional, physical, chemical and biological components of what constitutes a healthy soil. It combines the best practices of conventional and organic farming with an emphasis on attaining productive soils that display high levels of biological activity. The principles of biological farming are increasingly being adopted in many countries worldwide as evidence grows that its practices can lead to the production of nutrient-dense food, feed and forages in addition to minimising plant diseases with minimal or no herbicide and pesticide usage. The existing nature of high output tillage and pasture production systems currently in operation in Ireland has led to a greater interest in, and openness to more sustainable farming practices, such as biological farming.

Project Aims and Objectives

The project aims to develop a conventional to biological farming transition programme system for a group of sixteen individuals who have come together to learn about and carry out the basic principles of biological farming, in an effort to produce food, feed and forages of high nutritional quality.

To achieve these goals, the project will pursue the following specific objectives:

- (i) Review current farming practices to identify weaknesses in existing soil, crop and pasture management systems;
- (ii) Develop clear, workable guidelines for a successful and cost-effective transition programme to biological farming that any interested farmer can implement based on a sound understanding of soil structure, chemistry, biology and plant nutrition;
- (iii) Develop and maintain high levels of soil biological function that will facilitate the production of nutrient dense food, feed and forages, in addition to leading to an increase in soil organic matter and carbon sequestration potential.



Nurturing nature's abundance

Project Activities

- Set up control and trial plots on twelve farms. Baseline information will consist of subjective assessments and objective measurements (i.e. comprehensive soil tests and bioassays). Treatments will be determined on these results.
- Use treatments to improve soil biological activity and function over the course of the project. Treatments will be adjusted on the basis of their efficacy.
- Monitor and evaluate control and trial plots over the period of the project using an array of in-field and laboratory measurements.
- Monitor control and trial input costs and output values to assess cost of transition process.
- Hold discussion group meetings, workshops and study days throughout the duration of the project. Open days for all interested farmers in years 3, 4 and 5.
- Disseminate results through various media on an on-going basis (e.g. a Danú Biological Farming Group account will be set up on social media platforms such as Facebook and Twitter).



Enable Conservation Tillage (ECT)

Wider Adoption of Sustainable Conservation Tillage Systems

Geographical Location	Ireland (not limited to one region)
Keywords	Tillage, Conservation Agri, Grass Weeds, Sterile Brome, Blackgrass, Cover Crops, Herbicide Resistance, Precision Agri, Knowledge Exchange, Participatory Approach
Project Leader	Michael Hennessy, Teagasc (email: Michael.hennessy@teagasc.ie)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,000,000

Project Rationale

Across many regions of the world, Conservation Agriculture (CA) techniques (or Conservation Tillage), which incorporate less intensive soil cultivation, have been adopted to reduce production costs and to improve sustainability. Irish tillage farmers have been reluctant to adopt CA techniques however because of concerns about grass weeds and crop establishment in a mild, wetter climate. This lack of engagement threatens the sustainability and competitiveness of arable crop production in Ireland.

Project Aims and Objectives

The project aims to enable the adoption of conservation agriculture practices on Irish tillage farms, by providing farmers with the knowledge skills and capacity to achieve effective grass weed control in addition to prioritising farmer to farmer knowledge and innovation exchange.

To achieve this goal, the project will pursue the following specific objectives:

- (i) Establish a network of 10 tillage 'Focus Farms' located throughout Ireland encompassing CA and conventional growers to act as a knowledge source and dissemination platform;
- (ii) Develop, evaluate and demonstrate the best combinations of techniques for grass weed control for different crop establishment systems, on these Focus Farms;
- (iii) Determine the factors that impact on grass weed prevalence on CA and conventional farms;
- (iv) Co-design with farmers practical aids which can be used by the industry to identify and quantify grass weeds and select the appropriate combination of grass weeds control measures;
- (v) Guide farmers in implementing and evaluating cover crops as a grass weed control measure;
- (vi) Establish the level and source of grass weed herbicide resistance in key grass weed species;
- (vii) Assess and demonstrate novel weed control approaches such as using drone acquired data to facilitate a spatially variable approach to weed control and the use of 'electric' weed control.



Project Activities

- Develop an innovation hub with farmers central, and linked to a large group of stakeholders, including seed assemblers, merchants, farm advisors, specialist advisors, researchers and herbicide manufacturers, with a specific focus on solving the grass weed challenge thereby enabling the adoption of CA.
- Co-develop weed control solutions with farmers committed to conservation agriculture, resulting in usable tools for the entire industry to use.
- Develop a strong focus on validation and demonstration on growers own fields, using large scale validation trials in multiple locations maximising peer to peer knowledge transfer.
- Use and test precision agriculture techniques combined with novel weed control approaches.
- Quantify the level and nature of grass weed herbicide resistance in Ireland, providing an evidence base for future farming practices and solutions.
- Develop a novel suite of dissemination tools including a weed scoring system; videos; operational manuals, etc.



Farming Rathcroghan Project

Sustainable Farming in the Rathcroghan Archaeological Landscape

Geographical Location	IE 042 West Region
Keywords	Farming, Archaeology, Conservation, Landscape, Co-operation, Public Goods, Ecosystem Services, Locally-led, Farm Viability, Innovation, Integrated Resource Management
Project Leader	Daniel Curley (email: info@rathcroghan.ie)
Project Type	Operational Group
Starting Date	2019
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€984,000



Project Rationale

Rathcroghan is a well-preserved prehistoric and medieval archaeological landscape located in rich agricultural pasture in Co. Roscommon. The complex of archaeological sites in the area are on the Department of Culture, Heritage and the Gaeltacht tentative list for UNESCO World Heritage Status (Royal Sites of Ireland) in recognition of their national and international significance. The Rathcroghan area and its surrounding areas are experiencing socio economic decline however, with pastoral farming systems combined with the weak economy of its hinterland increasing the vulnerability of farming in the area and of the valuable landscape farmers care for. This tension between the desire and indeed the statutory requirement to protect archaeological heritage whilst earning a living from the land is the primary challenge faced by the Rathcroghan farming community.

Project Aims and Objectives

This project aims to improve the socio-economic circumstances of farming in Rathcroghan whilst also conserving and enhancing the internationally significant archaeological landscape through the deliverance of interventions which provide co-benefits for a range of services, including biodiversity, carbon sequestration and water quality.

To achieve these goals, the project will pursue the following specific objectives:

- (i) Manage the Rathcroghan landscape in a sustainable way with a focus on the delivery of good archaeological condition;
- (ii) Devise a system of dynamic access routes through farmland to the Rathcroghan archaeological monuments;
- (iii) Increase awareness and recognition amongst members of the general public of the significance of Rathcroghan as a farmed archaeological landscape and of the central role of farmers in caring for the Rathcroghan living landscape.

Project Activities

- Trial and develop a management regime with farmers linked to the National Monument Service, relevant national bodies and state agencies.
- Develop and trial a suite of innovative management solutions to sustain the area as a viable farming landscape in harmony with its rich cultural and ecological assets.
- Test and implement best farming and archaeological practice to proactively monitor, manage, maintain and enhance the ancient cultural landscape in an environmentally and ecologically-friendly way.
- Through engagement with key stakeholders, archaeology expertise will be made available locally to the Farming Rathcroghan Project to support the proactive management of the archaeological landscape by Rathcroghan farmers.



Inishowen Upland Farmers Project

Geographical Location	IE 041 Border Region
Keywords	Uplands, Bovines, Grazing, Red Clover, White Clover, Trees, Agroforestry, Hedges, Biodiversity, Climate, Water, Nitrogen
Project Leader	Henry O'Donnell (email: henryodon@gmail.com)
Project Type	Operational Group
Starting Date	2019
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€989,700

Project Rationale

Farming in the Inishowen Peninsula, Co. Donegal is currently facing many difficulties with lack of income, lack of succession planning, over-regulation and lack of incentives being just some of the difficulties cited. Many farm part time and see farm subsidies as their only form of income as there is little return on their farming activity. Thus, the role and purpose of the part time farmer needs to be redefined and appreciated. The reality is that most of the farms in Inishowen, and indeed throughout Ireland are not capable of generating a sufficient income. However, if there is some tangible return for the production of public goods the long-term sustainability of these farms could be improved.

Project Aims and Objectives

This project aims to improve the economic sustainability of farming High Nature Value (HNV) land in Inishowen through the implementation of a range of innovative measures which also deliver on environmental sustainability by increasing biodiversity, improving water quality and combating climate change.

To achieve these goals, the project will pursue the following specific objectives with those farming both improved lowland and mountain uplands:

- (i) Provide a best practice management template to increase farm profitability and ensure that the farming activity being carried out is contributing to overall household income;
- (ii) Demonstrate that adopting a whole farm approach which addresses both the economic and environmental aspects of mountain upland and improved lowland on the farm will lead better long-term outcomes;
- (iii) Demonstrate that economic returns can be improved by using measures such as agroforestry and climate smart innovation which also simultaneously deliver on environmental public goods.

Project Activities

Participating farmers in conjunction with project staff will create a farm plan using data collected from a spatial mapping exercise of their farm to:

- Integrate suitable broadleaved woodland into improved land at pre-defined locations to improve hydrology.
- Strategic planting of hedgerows and coppicing and continuous management of existing hedging at landscape level to create biodiversity corridors.
- Plant trees and hedges to provide shelter belts, which have been shown to improve daily liveweight gain in livestock.
- Incorporate clover and apply lime to build soil fertility and reduce chemical fertilisers.
- Trial red clover swards for silage production and so reduce feed costs.
- Trial alternative legumes for forage
- Create ponds with multi-purposes of habitat creation, flood mitigation, and farm water supply.
- Trial experimental grazing regimes with cattle, where sheep are traditionally grazed, to establish ideal mix and density for optimum management and production of biodiverse upland vegetation.
- Plan for scrub removal on the uplands.
- Locate temporary fencing on the uplands to achieve required grazing outcomes.
- Prescribe wetland restoration in suitably identified areas in the uplands to slow water flows and alleviate flooding in lower catchments.



Maximising Organic Production Systems (MOPS)

Maximising Organic Production through Integrated Cropping Systems

Geographical Location	Ireland (not limited to one region)
Keywords	Organic Horticulture, Cropping Systems, Collaborative Approach
Project Leader	Gillian Westbrook, Irish Organic Association (IOA) (email: gillian.westbrook@irishoa.ie)
Project Type	Operational Group
Starting Date	2018
End Date	2020
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€597,416

Project Rationale

Irish organic horticultural (fruit and vegetables) producers have identified the lack of sufficient capacity and resultant continuity of supply as key challenges in meeting increasing retailer demands. Irish farmers are predominantly small-scale and individually cannot meet market requirements and therefore import many crops to fulfil orders.

Project Aims and Objectives

The project aims to optimize organic horticultural production in Ireland and improve continuity of short supply chains for the national market through the creation of a collaborative cropping system that corresponds to growing retailer demands, in addition to making farms more sustainable through reducing dependency on nutrient imports.

To achieve these goals, the project will pursue the following specific objectives using the economies of scale from the collaborative production of 11 farms, producing as if they were a single farming enterprise:

- (i) Design, develop and implement a series of organic cropping systems to provide better continuity of supply;
- (ii) Facilitate the group of farmers to work as if 'one farm';
- (iii) Improve structure and efficiencies of short supply chains;
- (iv) Improve farm viability by reducing surplus production;
- (v) Determine appropriate cropping systems suitable for each farm based on its characteristics;
- (vi) Provide a platform for the farmers to formalize inter-trade and supply amongst the group;
- (vii) Advise on green cover crop practices to improve sustainable practices and reduce reliance on imported nutrients;
- (viii) Establish current and future retail market demands and requirements for organic horticulture;
- (ix) Build capacity, via the group to produce a training video to disseminate to the wider community.



Project Activities

- Assessment of each farm, reviewing all factors to design a suitable cropping system.
- Design a cropping system specifically tailored to each farm.
- Implement on-going monitoring to assess production methods, growing techniques, seed varieties, land conditions, use of inputs and farm productivity.
- Analysis of soil and compost.
- Capture of key environmental climatic conditions and variables impacting farm production.
- Conduct practical farmer-friendly green manure and compost trials.
- Assessment of market demand for organic horticulture.
- Introduce methods to determine product quality.



Mulkear EIP

Innovation, Technology and Knowledge Transfer for Farmer Led Enhancement of Water Quality, Instream Habitat and Riparian Management in the Mulkear Catchment

Geographical Location	IE 053 South-West Region
Keywords	Catchment Sensitive Farming, Partnership Approach, Water Quality, Biodiversity, Farm Viability, Innovation, Sustainable Water Management
Project Leader	David Thompson, Mulkear Catchment Ltd (email: info@mulkeareip.com)
Project Type	Operational Group
Starting Date	2019
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,172,830



Project Rationale

Agriculture is the single most significant pressure impacting water quality in Ireland. In the past 15 years, a major transformation has occurred in the agriculture sector with output dramatically increasing in response to strategic targets set by the Irish Government. In 2016 the Gross Agricultural Output was valued at almost €7 billion, with the beef and dairy sectors dominating (70%). Milk production has increased by 4% annually since 2012. This unprecedented level of growth is placing significant pressure on Ireland's natural water bodies.



Project Aims and Objectives

This project aims to deliver a catchment sensitive approach to farming in a catchment 'At Risk', by working with farmers to bring about improvements in water quality, riparian management and instream habitat.

To achieve these goals, the project will pursue the following specific objectives:

- (i) Build capacity of farmers to identify and mitigate agricultural impacts on water quality through practical on-farm measures and shared learning;
- (ii) Deliver a locally-led, collaborative, partnership model to enable partners collectively identify key water quality concerns, with farmers central in the co-design, development and implementation of measures;
- (iii) Celebrate the Mulkear via community outreach work based on improving local water quality, biodiversity and riparian management.

Project Activities

- Develop a model of collaborative working to identify key water quality concerns.
- Develop and deliver a tailored Catchment Sensitive Farming training programme.
- Achieve a real collaborative partnership through the co-design of a suite of farm measures.
- Complete detailed local catchment assessments and develop baseline data for monitoring.
- Undertake detailed farm risk assessments to ensure the right measure in the right place.
- Share best practice and communicate widely via a Digital Story Telling method, local volunteers and an award system to recognise farmers and local river champions.
- Develop a community outreach programme to improve water quality, biodiversity and riparian management.



North Connemara Locally Led Agri-environmental Scheme

Geographical Location	IE 042 West Region
Keywords	Natura 2000, Special Area of Conservation, Special Protection Area, Innovation, Upland Habitats, Peatlands, Social Farming, HNV Farming, Commonage
Project Leader	Forum Connemara CLG (email: info@forumconnemara.ie/b.omalley@forumconnemara.ie)
Project Type	Operational Group
Starting Date	2019
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,424,284

Project Rationale

The landowners in the Twelve Bens/Maumturks area face increasingly difficult challenges farming this vast upland landscape due to land abandonment brought about by decreasing economic viability, decrease in the numbers of traditional grazers, encroachment of *Rhododendron ponticum* and labour-intensive practices required to continue farming these upland habitats. Further pressures are brought about by increased recreational use of this unique upland area.

Project Aims and Objectives

This project aims to ensure the long-term economic viability of hill farming in the Twelve Bens/Maumturks area through the development of sustainable and innovative agricultural management practices to restore, preserve and enhance the biodiversity of this unique Natura 2000 area.

To achieve this goal, the project will pursue the following specific objectives over a four-year pilot locally led agri environmental scheme targeting 2500ha of HNV upland habitats:

- (i) Develop a landscape-based approach to recapture the historical tradition of governing local commonage through locally-led farm group management practices;
- (ii) Establish a common set of agronomic, economic, social and environmental indicators using innovative technologies (livestock tracking, GIS, drones, digital media, trail counters), to monitor impacts regarding grazing management, biodiversity, landscape and walking initiatives;
- (iii) Provide a mechanism to create a positive outreach programme to include a social farming initiative;
- (iv) Prevent further habitat damage through the formation of management groups to manage the habitats on a landscape scale;
- (v) Improve the conservation status of Annex I Heath and Bog Habitats in the Twelve Bens/Maumturks area.



Brendan O'Malley, Forum Connemara

Project Activities

- Formulate farmer-led management groups to manage the uplands sustainably.
 - Develop an incentive system for improving agricultural management of upland heaths and peatlands.
 - Run training events and implementation programmes for scheme participants in the use of modern technology such as drones and virtual fencing to mitigate against uneconomical and extensive labour practices.
 - Targeted scrub removal of *rhododendron* encroachment by non-chemical methods to enable the restoration of peatland and grassland habitats.
 - Develop a social farming programme through the Forum Connemara ABILITY Programme.
- Develop a Twelve Bens/Maumturks blackface sheep initiative, whereby the indigenous blackface sheep bred in the Twelve Bens/Maumturks will be maintained and enhanced to produce an animal for sustainable management of upland habitats through extensive grazing regimes.
- Reintroduce suitable cattle breeds to manage upland peatlands and grasslands.
 - Manage the impact of recreational use in the Twelve Bens/Maumturks through trail definition and maintenance works.
 - Develop school education programmes and public outreach.



Ovi Data

Increasing Sheep Genetic Gain in Ireland through Scientific Data Capture and Analysis

Geographical Location	Ireland (not limited to one region)
Keywords	Sheep, Genetics, Genomics, Genotype, Parentage, Health, Carcase, Longevity
Project Leader	Eamon Wall, Sheep Ireland (email: ewall@sheep.ie)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€515,225

Project Rationale

The rate of genetic gain within the Irish sheep industry is being hindered by the lack of known animal parentage and phenotypes (performance records) available on Irish commercial sheep farmers. Capturing phenotypes on animals with unknown ancestry has limited capacity to add long-term improvement to productivity. Only when parentage is known can the true power of these phenotypes be unlocked by linking and comparing the performance of entire bloodlines – through Ireland’s national sheep genetic evaluations.

Project Aims and Objectives

The project aims to accelerate the rate of genetic gain in the Irish sheep industry through the application of innovative genomic technologies to commercial flock performance recording, and to increase the productivity and profitability of the sector for the benefit of all Irish sheep farmers and associated industries (e.g., processors, abattoirs).

To achieve these goals, the project will pursue the following specific objectives:

- (i) Genotype sheep in high value flocks which are collecting large volumes of phenotypes;
- (ii) Increase the accuracy of Ireland’s genetic indexes and in doing so increase genetic gain by ‘unlocking’ the value of phenotypes by assigning full flock parentage;
- (iii) Develop a model for commercial farm data capture which can be replicated by other Irish sheep farmers;
- (iv) Generate large quantities of health phenotypes to contribute to a new national health genetic index;
- (v) Investigate the establishment of an infrastructure which will facilitate the routine transfer of carcase data into the national database for the purpose of genetic evaluation.



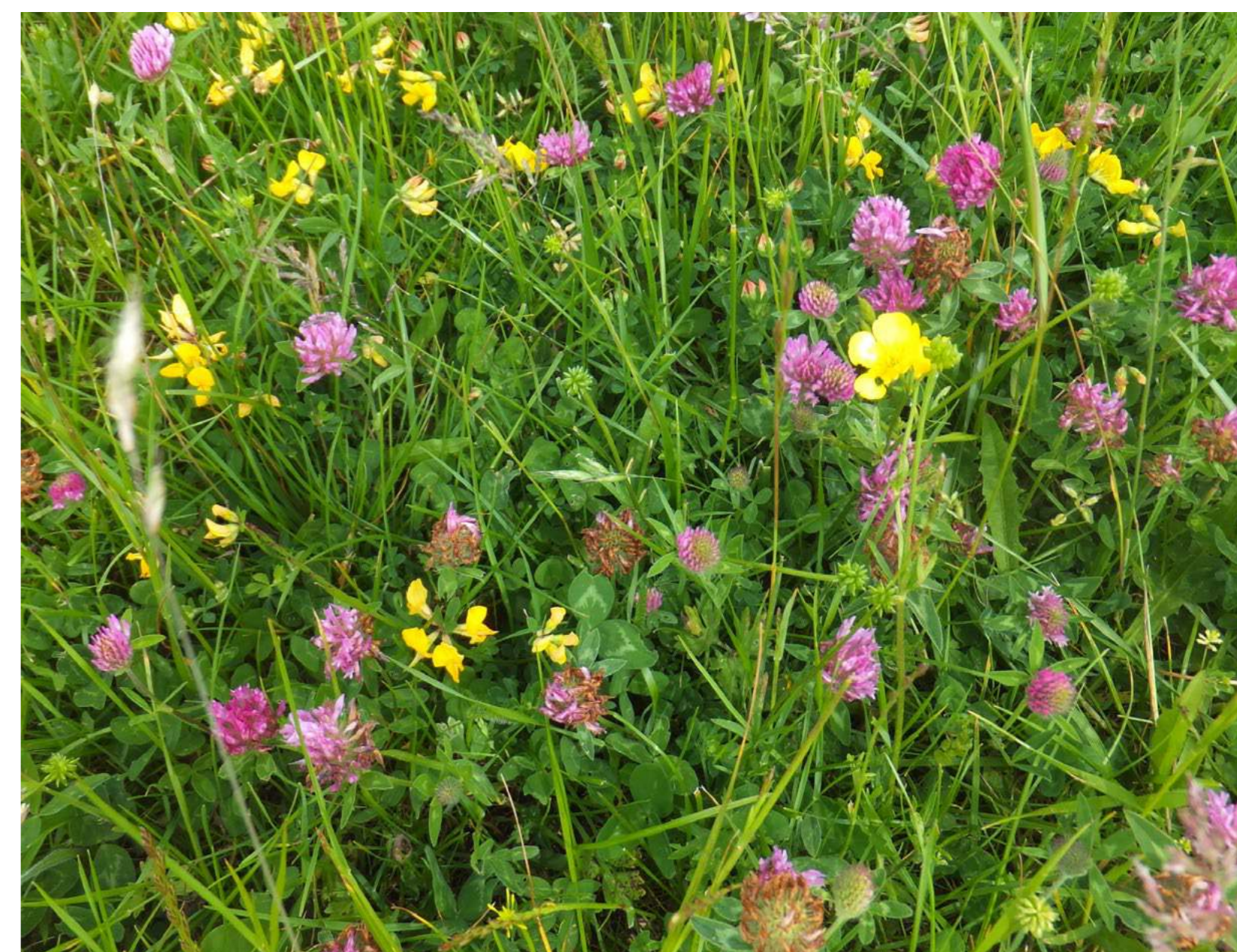
Project Activities

- Collection of DNA (ear biopsy) from all breeding animals in selected participating flocks (1,500 breeding ewes and rams).
- Collection of DNA (ear biopsy) samples from all progeny born to these genotyped ewes at birth using DNA tags incorporated into national identity tags.
- Genotype all project animals on a high density 50K SNPchip which is custom designed for the Irish sheep industry.
- Collect new phenotypes relating to health traits (lameness, dag and mastitis) and longevity traits from all project animals three times per year over the project 5-year lifespan.
- Investigate the establishment of routine carcase data transfer from sheep processors to the national genetic evaluation database.
- Develop standard phenotype collection protocols for health and longevity phenotypes and to train data collection technicians/participating farmers accordingly.



Protecting Farmland Pollinators

Geographical Location	IE 062 Mid-East Region
Keywords	Farmland, Innovation, Results-based Schemes, Biodiversity, Wildlife, Pollinators, Insects, Flora, Hedgerows, Sustainable Management
Project Leader	Dr Úna FitzPatrick, National Biodiversity Data Centre (email: ufitzpatrick@biodiversityireland.ie)
Project Type	Operational Group
Starting Date	2019
End Date	2023
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,194,679



Project Rationale

Farmland has experienced wide-scale loss of wild pollinators over the last fifty years. In Ireland, one third of our 99 bee species are threatened with extinction. To address this issue, the All-Ireland Pollinator Plan (AIPP) was published in 2015. For the AIPP to be successful, it requires small changes to how we manage the entire landscape to ensure it is a place where bees and other insects can survive and thrive. Farmers are at the heart of the solution, and it is imperative that realistic mechanisms are developed that will encourage and support farmers in protecting farmland pollinators.



Project Aims and Objectives

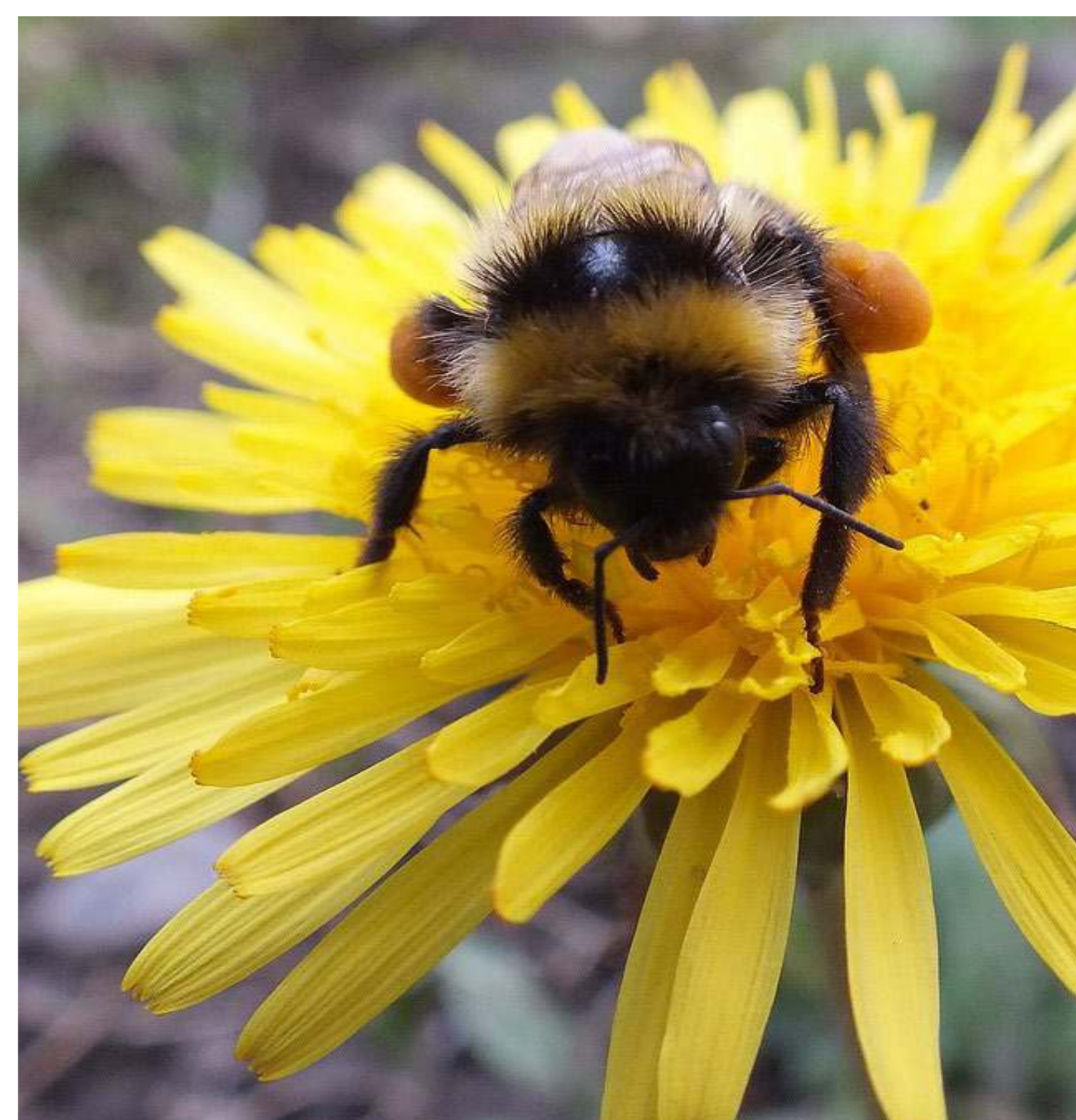
This project aims to develop a flexible mechanism that encourages all farmers to make their whole farm more pollinator friendly in a way that is measurable and will not impact on productivity.

To achieve this goal, the project will pursue the following specific objectives:

- (i) Test the effectiveness of a range of pollinator measures across farmland of different types in the Irish context and to identify those that have most impact and that are most cost-effective;
- (ii) Examine the impact of these pollinator measures on broader biodiversity;
- (iii) Based on the pollinator measures, develop an innovative, yet simple farm-scale scoring system that uses a habitat matrix approach to quantify how pollinator-friendly the entire farm is as a land parcel;
- (iv) Develop a simple results-based payment method that encourages and assists farmers in attempts to improve their overall farm-scale pollinator score.

Project Activities

- Assess all participating farms for existing pollinator habitat and give an initial baseline farm-scale pollinator score (year 1).
- Fully monitor all participating farms for pollinators (bees, hoverflies) and for broader biodiversity (year 1).
- Score all participating farms annually and encourage farmers to take simple actions to improve their score – a simple guideline document will make it very clear how the score works and how it can be maximised. Farmers will be paid annually depending on their scoring and the amount and quality of habitat they create (Years 2-5).
- Fully monitor all participating farms again for pollinators and biodiversity (year 4).
- Devise full critical review and make future recommendations (year 5).



Small Biogas Demonstration Programme (SBDP)

Geographical Location	IE 063 Midlands & IE 051 Mid-West Region
Keywords	Biogas, Bioenergy, Anaerobic Digestion, Agricultural Emissions, Closed-loop Farm System, Sustainability
Project Leader	Seán Finan, CEO, Irish Bioenergy Association (IrBEA) (email: seanfinan@irbea.org)
Project Type	Operational Group
Starting Date	2019
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€994,273

Project Rationale

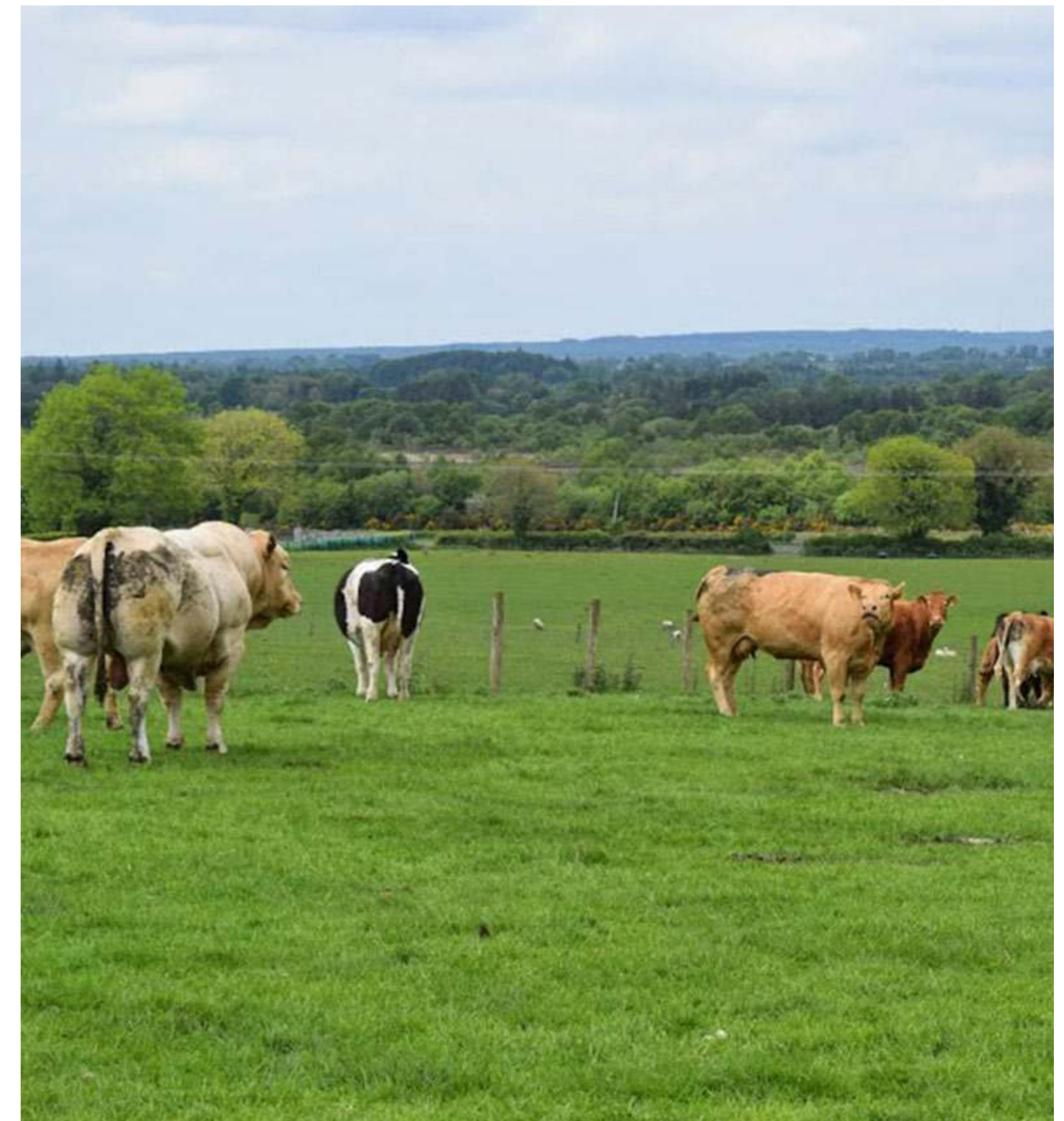
Biogas presents a great opportunity for direct on-farm action to reduce the climate change impact related to agriculture. There are also many environmental and practical benefits. Biogas production is not widely deployed in Ireland, despite anaerobic digestion being a commercially available technology, with many thousands of successful installations internationally. The handful of biogas production projects in Ireland tend to be medium to large scale plants which process a high proportion of non-farm waste and produce electricity for export to the grid under a feed-in-tariff. Farm-scale biogas projects tend to be smaller in size and do not import any off-farm waste. The deployment of Biogas at farm-scale has proved challenging in Ireland. There are many barriers to overcome, including knowledge-gaps, and availability of cost-effective solutions at smaller scale, availability of feedstocks and use for the biogas. There has also been a lack of non-electricity routes to market for biogas. Ireland is starting from a very low base in terms of innovation in deploying small-scale biogas in the agri-sector.

Project Aims and Objectives

This project aims to stimulate the deployment of innovative on-farm small-scale biogas production by providing support and a capital contribution to three demonstration projects. Research will assist in understanding how biogas can drive sustainability improvements at farm level.

To achieve these goals, the project will pursue the following specific objectives:

- (i) Develop the capacity of technology providers in delivery of farm-scale biogas production;
- (ii) Demonstrate compliance with sustainability criteria in the context of the EU renewable energy directive;
- (iii) Raise awareness amongst the farming community of the increasing challenges of addressing climate change;
- (iv) Demonstrate that the results are widely deployable.



Project Activities

- Provide support and a capital contribution to three farm scale biogas demonstration projects.
- Demonstrate the potential for deployment of small-scale biogas production at a farm level.
- Characterise a subset of individual farm enterprises in the Midlands region in terms of AD feedstock storage and seasonality as well as capacity to accept digestate.
- Use case study research data from the demonstration projects to understand the reduction in farm greenhouse gas emissions from deploying biogas in a closed loop system on the farm.
- Assess the contribution to soil nutrient requirements of digestate, improved water quality in farm environments and the improvement in the energy balance on the farm.



Sustainable Agricultural Plan for the MacGillycuddy Reeks

Conservation and Restoration of Upland Habitat in the MacGillycuddy Reeks

Geographical Location	IE 053 South-West Region
Keywords	Natura 2000, SAC, SPA, Locally Led Agri-Environmental Scheme, Innovation, Upland Habitats, Peatlands, Sustainable Farming, Reintroduction of Livestock, Appropriate Assessment, Project Team, HNV Farming, Commonage
Project Leader	Noel Spillane, South Kerry Development Partnership CLG (email: nspillane@skdp.net)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€950,000

Project Rationale

Landowners on the MacGillycuddy Reeks face increasingly difficult challenges in farming. Farming in this unique upland landscape, encompassing over eight thousand hectares of Natura designated, privately owned HNV farmland, is subject to economically unviable labour-intensive practices, coupled with rising pressures brought about by the largely uncontrolled and unmonitored recreational use by over 125,000 people on the Reeks annually.

Project Aims and Objectives

The project aims to improve the sustainability and economic viability of farming in the MacGillycuddy Reeks through the development of practical, achievable actions and innovative solutions to address the issues facing farmers on the Reeks, and to protect the biodiversity of this unique Natura 2000 area.

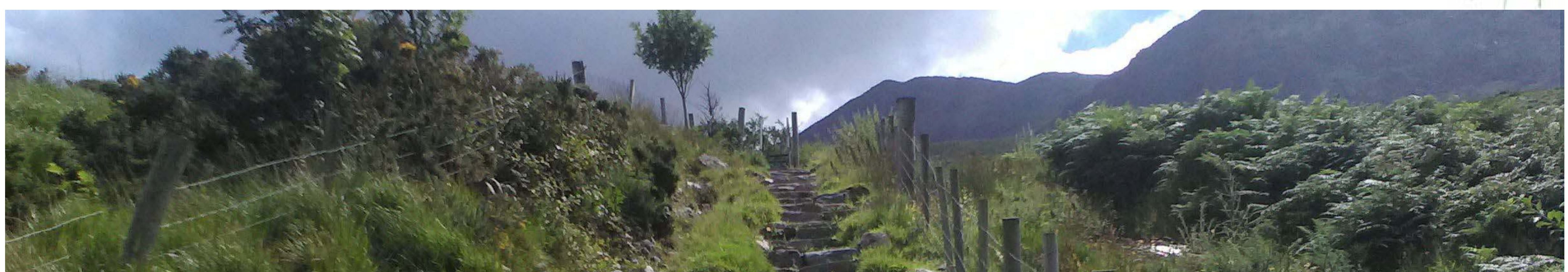
To achieve these goals, the project will pursue the following specific objectives over a four-year pilot locally led agri-environmental scheme, targeting 1,500ha of upland habitats:

- (i) Empower landowners to continue upland farming through development of sustainable agricultural management practices;
- (ii) Develop, with landowners, innovative management interventions for the preservation, restoration and enhancement of upland habitats;
- (iii) Create positive outreach programme and to prevent further habitat damage due to increasing recreational pressures through the formation of a landowner ranger system;
- (iv) Improve conservation status of Annex I habitats



Project Activities

- Set up farmer-led collective management groups to manage the uplands in a sustainable manner.
- Develop an incentive system for improving agricultural management of upland heaths and peatlands.
- Establish a landowner ranger system to manage recreational pressures impacting on the agricultural practices and the habitats.
- Remove rhododendron and bracken scrub to enable the restoration of peatland and grassland habitats.
- Trail definition works to manage the impact of recreational use, installation of sediment traps and to provide aggregate for trail maintenance.
- Run training events for scheme participants.
- Schools education programme development and public outreach.



Sustainable Uplands Agri-environment Scheme (SUAS)

Geographical Location	IE 061 Dublin Region & IE 062 Mid-East Region
Keywords	Commonage, Uplands, Integrated Agri-environmental Plans; Stakeholder Engagement; Endangered Flora & Fauna
Project Leader	Pat Dunne (email: dunnesglenmalure@gmail.com)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,950,000

Project Rationale

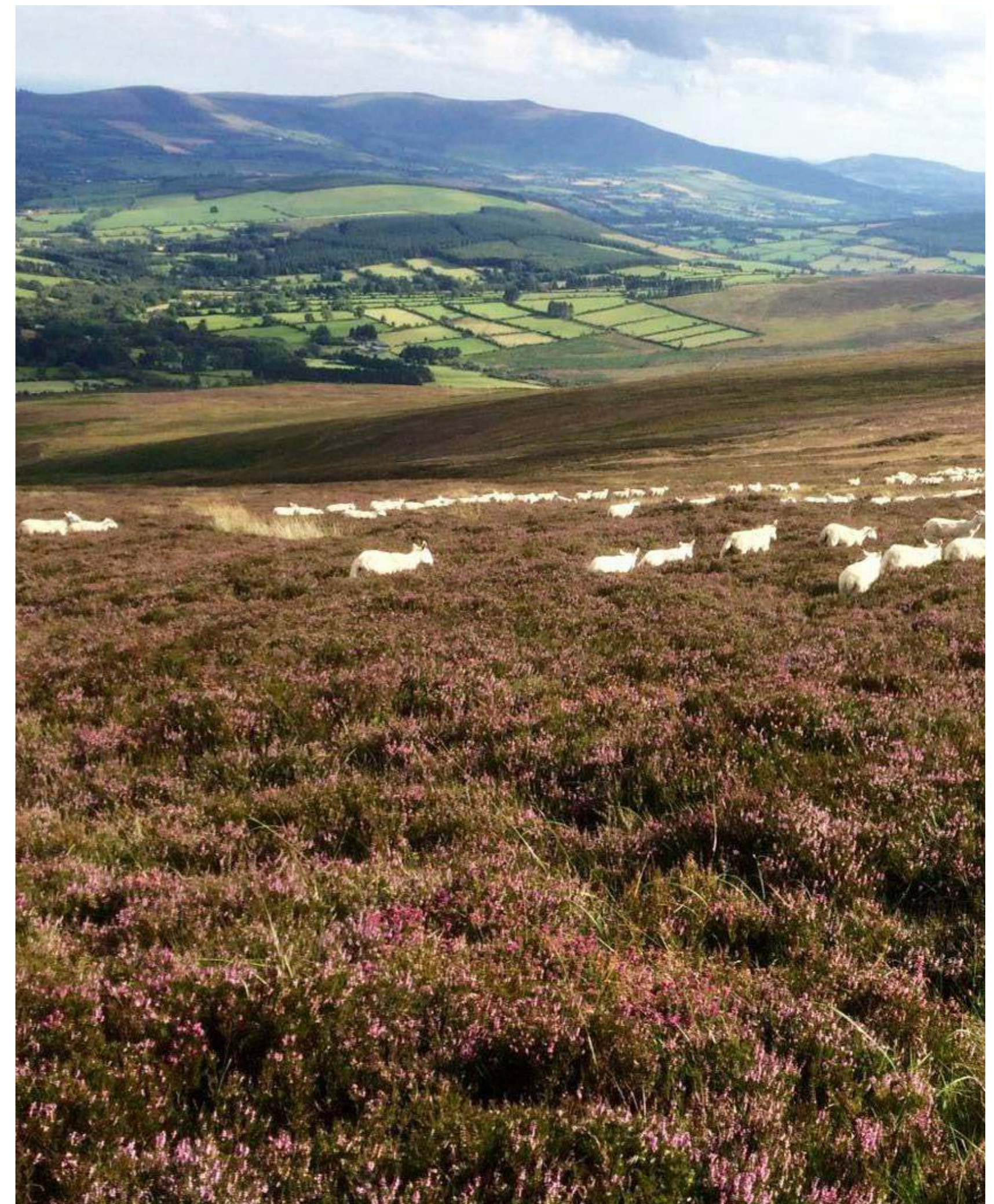
The unenclosed land in the Wicklow/Dublin Uplands is of high value for biodiversity and is of European conservation importance for habitats, species and birds. This is recognised by the designation of a substantial area of the uplands region as a Special Area of Conservation (SAC) and Special Protection Area (SPA). Recent research carried out in the Wicklow/Dublin uplands however has identified the poor-to-bad conservation status of the area and the uplands farmer's attitudes, understanding and responses to it.

Project Aims and Objectives

The project aims to address the complex agricultural, environmental and socioeconomic challenges associated with the management of commonages and farms in the Wicklow/Dublin uplands through the development of an innovative yet practical, locally-led pilot framework.

To achieve these goals, the project will pursue the following specific objectives 'on the ground':

- (i) Explore and evaluate the lessons learnt from the extensive work, efforts and experience of the award-winning Burren Programme approach;
- (ii) Establish and activate new commonage management groups to address the decline in the biodiversity of the uplands, the viability of the farmers who manage it, the socio-economic concerns of local communities and the wide range of issues encountered by the diverse stakeholders who enjoy and value it;
- (iii) Foster and grow farmer and stakeholder's knowledge, capacity and confidence to take greater ownership of the of local commonage/upland agri-environmental challenges and solutions;
- (iv) Provide a flexible supporting framework to assist farmers and stakeholders in developing solutions that are adaptable to other upland areas in Ireland and Europe which face similar problems.



Project Activities

- Establish Commonage Groups (CGs) with their own constitutions, who will take responsibility for the development, implementation and delivery of their own Commonage Management Plan (CMP).
- Integrate environmental (biodiversity and water) and farming activities into a single CMP.
- Utilise an auction-based payment scheme to incentivise the CGs to develop their own solutions to problems they identify on their commonage.



The Conservation of Breeding Curlew in Ireland

Geographical Location	IE 042 West & IE 041 Border Region
Keywords	Breeding Curlew, Predator Control, Electric Fencing, Results-based, Turf Cutting, Bogs, Marginal Farmland
Project Leader	Dr Anita Donaghy, Birdwatch Ireland (email: adonaghy@birdwatchireland.ie)
Project Type	Operational Group
Starting Date	2018
End Date	2021
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,100,000



Project Rationale

In Ireland, the Curlew has been identified as a conservation priority in the Government's Prioritised Action Framework (PAF) and is Red Listed in the Birds of Conservation Concern in Ireland (BoCCI). The National Parks and Wildlife Service (NPWS) commissioned a National Breeding Curlew survey in 2015. This study was completed in 2017 and found an estimated >90% population Curlew decline since the 1970s. Habitat loss and degradation is likely to be a key factor in these declines; however, in addition, as with other studies across the breeding range, very low levels of productivity as a result of predation were recorded, with many pairs failing at the nest stage and very few young fledged. It is likely that without significant intervention, Irish breeding Curlew may become extinct in the wider countryside within the next 10 years. Conservation action to prevent this is therefore urgently required.

Project Aims and Objectives

The project aims to prevent further losses to the Irish Curlew population through the protection and enhancement of known Curlew breeding sites in Ireland, and also to educate and compensate farmers and rural dwellers for creating and managing Curlew habitats.

To achieve these goals, the project will pursue the following objectives in two focus areas, Lough Corrib in County Galway and the south Leitrim bogs:

- (i) Trial innovative methods which have so far not been tested in Ireland, on both farmland and bog habitats, to reduce predation and protect and enhance suitable habitat, both at the site and landscape level;
- (ii) Establish baselines and targets for breeding success, habitat condition, landowner participation, predator densities and capital works.

Project Activities

- Determine Curlew Breeding outcomes by assessing the behaviour of adults and monitoring for the presence of juveniles and fledged young.
- Trial the use of temporary electric fences (TEFs) at nest sites in an Irish context.
- Train farmers/landowners to undertake direct predator control.
- Direct control of generalist predators (foxes, corvids and mink) at known nest sites.
- Enhance habitats through capital works.
- Trial a hybrid agri-environmental scheme combining a results-based approach with some prescriptive elements specifically for Curlew.
- Monitor the extent to which peat extraction is causing disturbance to nesting habitat by mapping the extent and timing of active turf cutting.



The Duncannon Blue Flag Farming and Communities Scheme

Geographical Location	IE 052 South-East Region
Keywords	Water-quality, Pollution, Faecal, Agriculture, Septic tank, Community
Project Leader	Wexford County Council (email: brendan.cooney@wexfordcoco.ie)
Project Type	Operational Group
Starting Date	2018
End Date	2021
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€550,000



Project Rationale

The elevated bacteria levels of bathing water quality at Duncannon beach together with the loss of its 'Blue Flag' status of environmental excellence in 2007 have had a major impact on the tourism potential of the area. For example, bathing prohibition notices had to be enforced as recently as August 2017, during the week of the Hooked KiteFest, due to excessive levels of Intestinal Enterococci (IE) in the bathing water.

Project Aims and Objectives

The project aims to contribute to the recovery and long-term retention of the Blue Flag status at Duncannon beach, Co. Wexford, by improving the bacterial quality of the two coastal streams that flow onto the beach.

To achieve this goal, the project will pursue the following specific objectives within the Water Framework Directive (WFD) Integrated Catchment Management (ICM) approach:

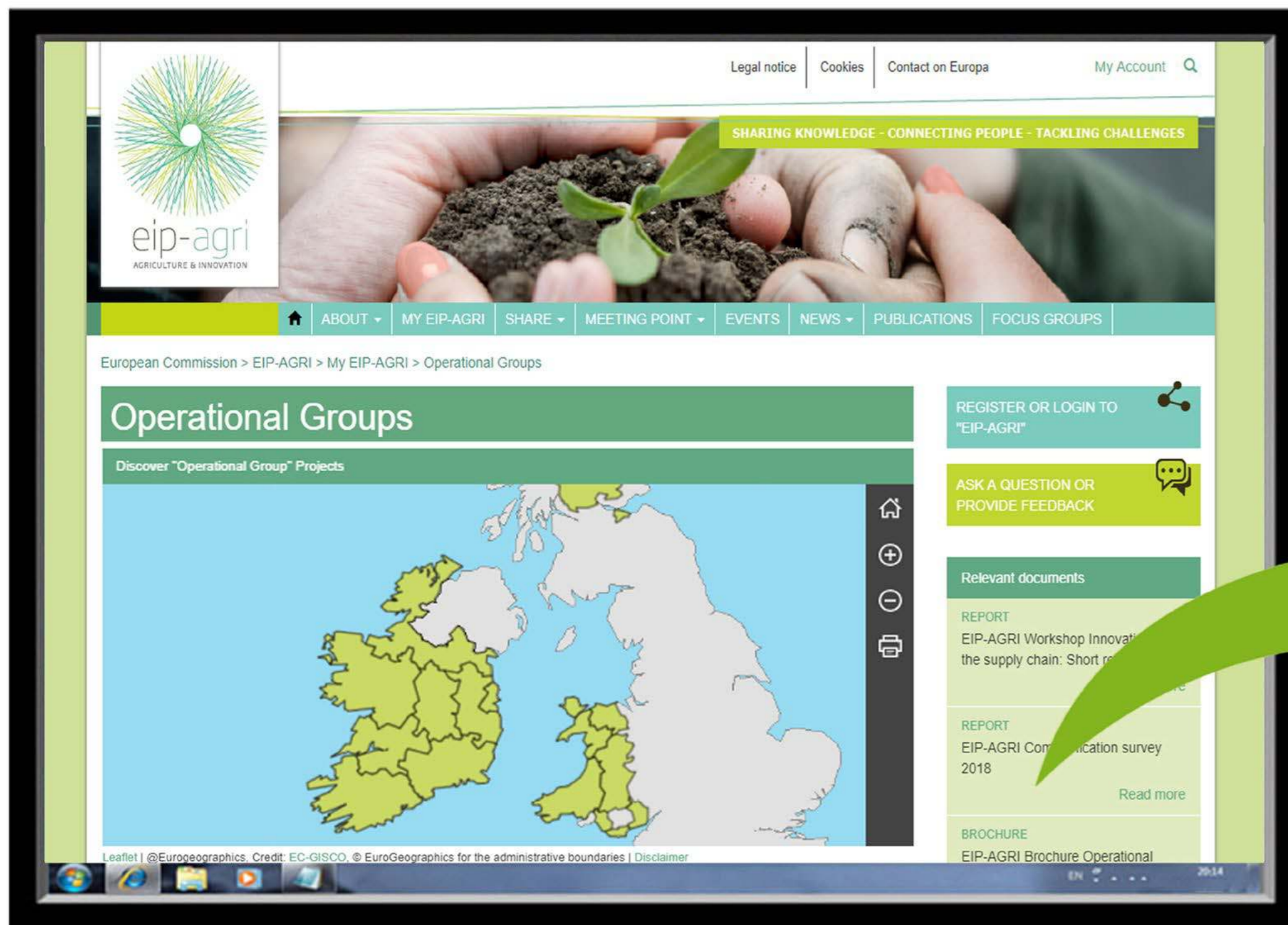
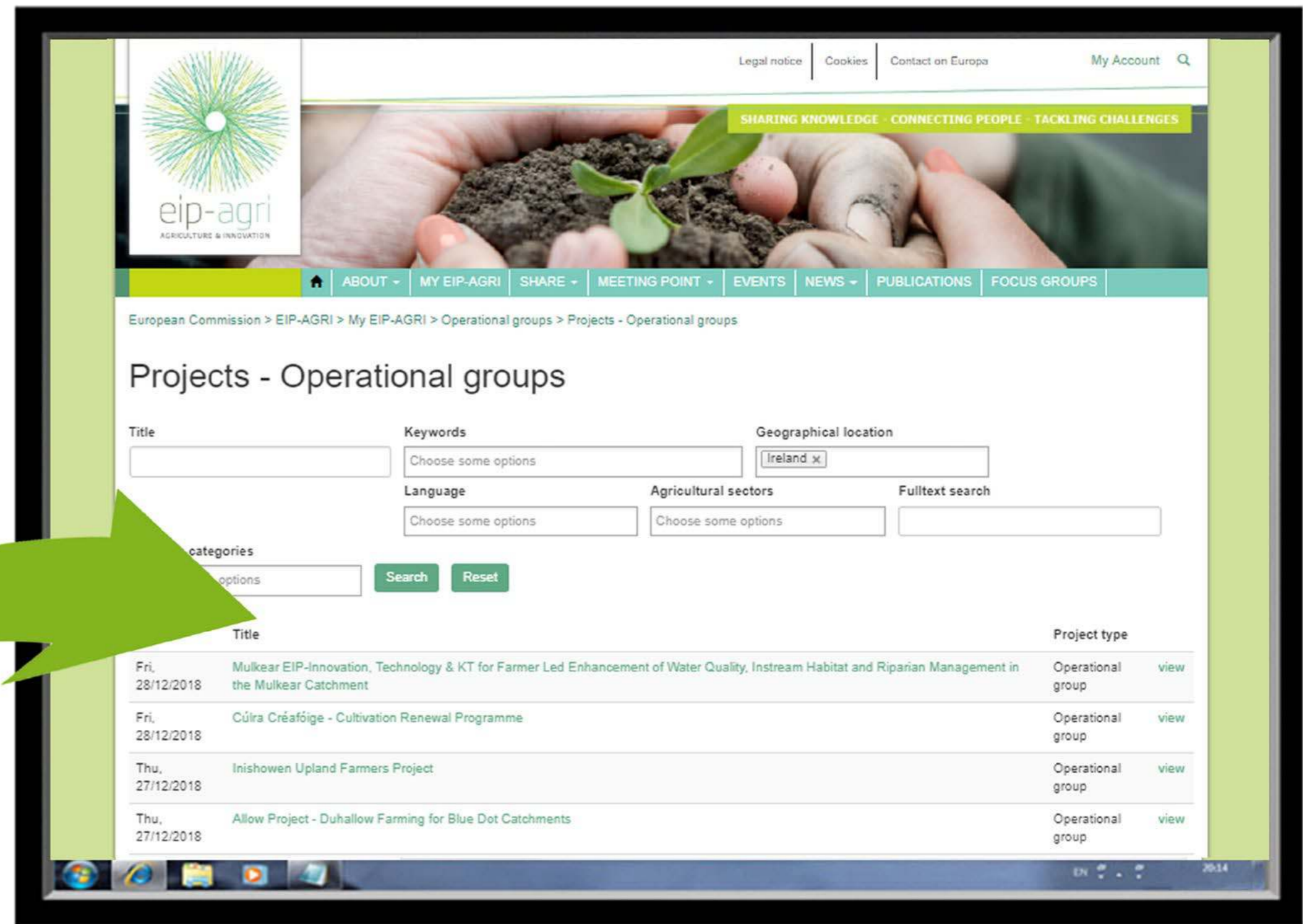
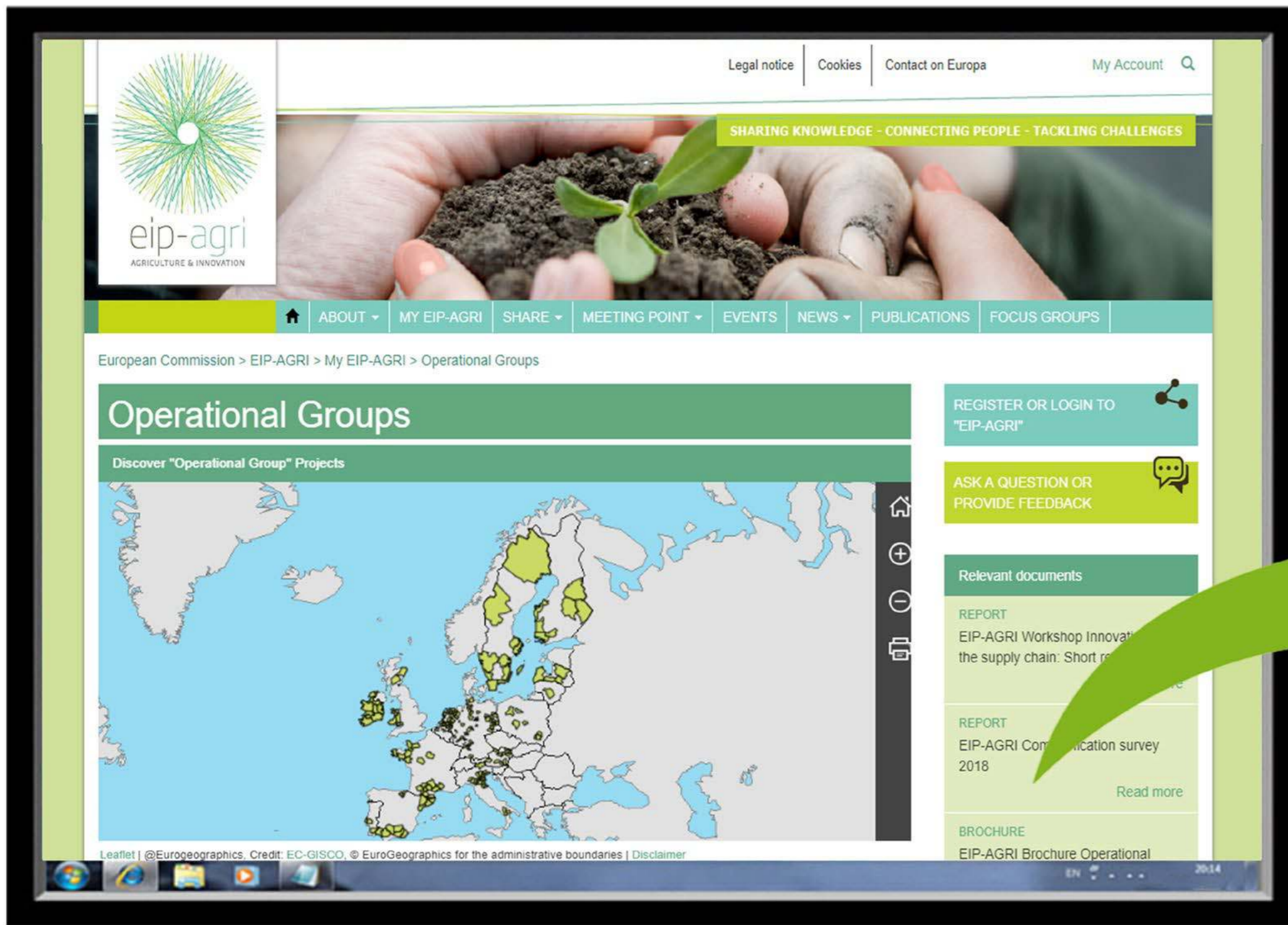
- i) Sustainably restore, protect and enhance the quality of the bathing and riverine waters at Duncannon by reducing pollution (mainly faecal bacteria but also nutrients and sediments) from rural agricultural and domestic sources whilst also protecting farm incomes;
- (ii) Develop an effective model for the future sustainable management of similar catchments;
- (iii) Foster positive relations between the farmers and householders in the catchment area and the local natural landscape, particularly the water environment and associated biodiversity.

Project Activities

- Create a farm-specific 'Pollution Potential Zone' (PPZ) plan for each farm.
- Provide local farmers with a full-time 'Sustainability Manager' who will help participant farmers achieve the objectives of the project by guiding them through their PPZ plans and by developing and delivering a number of knowledge exchange initiatives.
- Monitor farm practice change and water quality in the wider catchment area.
- Create a local awareness programme for domestic waste water treatment systems.
- Develop community wide engagement with the project with the objective of creating a sense of local ownership, responsibility and appreciation for the local water environment.



Irish EIP-AGRI Operational Groups featured on EIP-AGRI Service Point Project Database

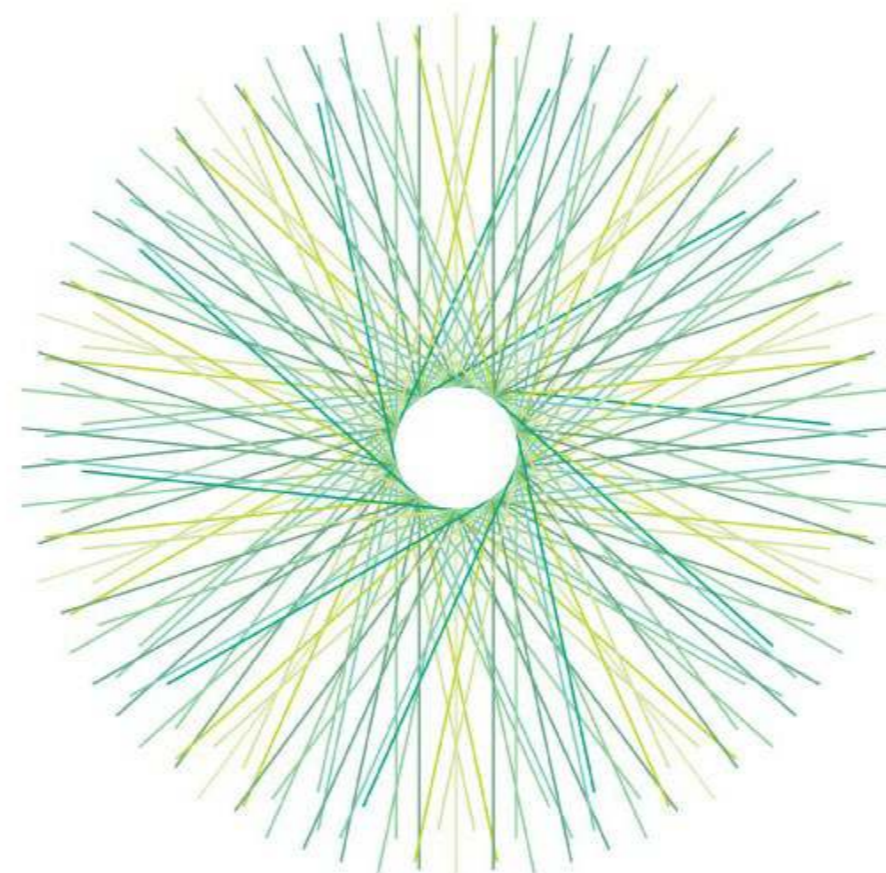


All 23 Irish EIP-AGRI Operational Group projects, successfully selected by the Department of Agriculture, Food and the Marine (DAFM) in 2017 and 2018, are now featured on the EIP-AGRI Service Point's online project database and interactive European map. The European Commission established the EIP-AGRI Service Point in April 2013 to connect people and facilitate innovation and knowledge exchange in agriculture.

EIP-AGRI Service Point Website: <https://ec.europa.eu/eip/agriculture/en>



The European Agricultural Fund for Rural Development:
Europe investing in rural areas



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National Rural Network



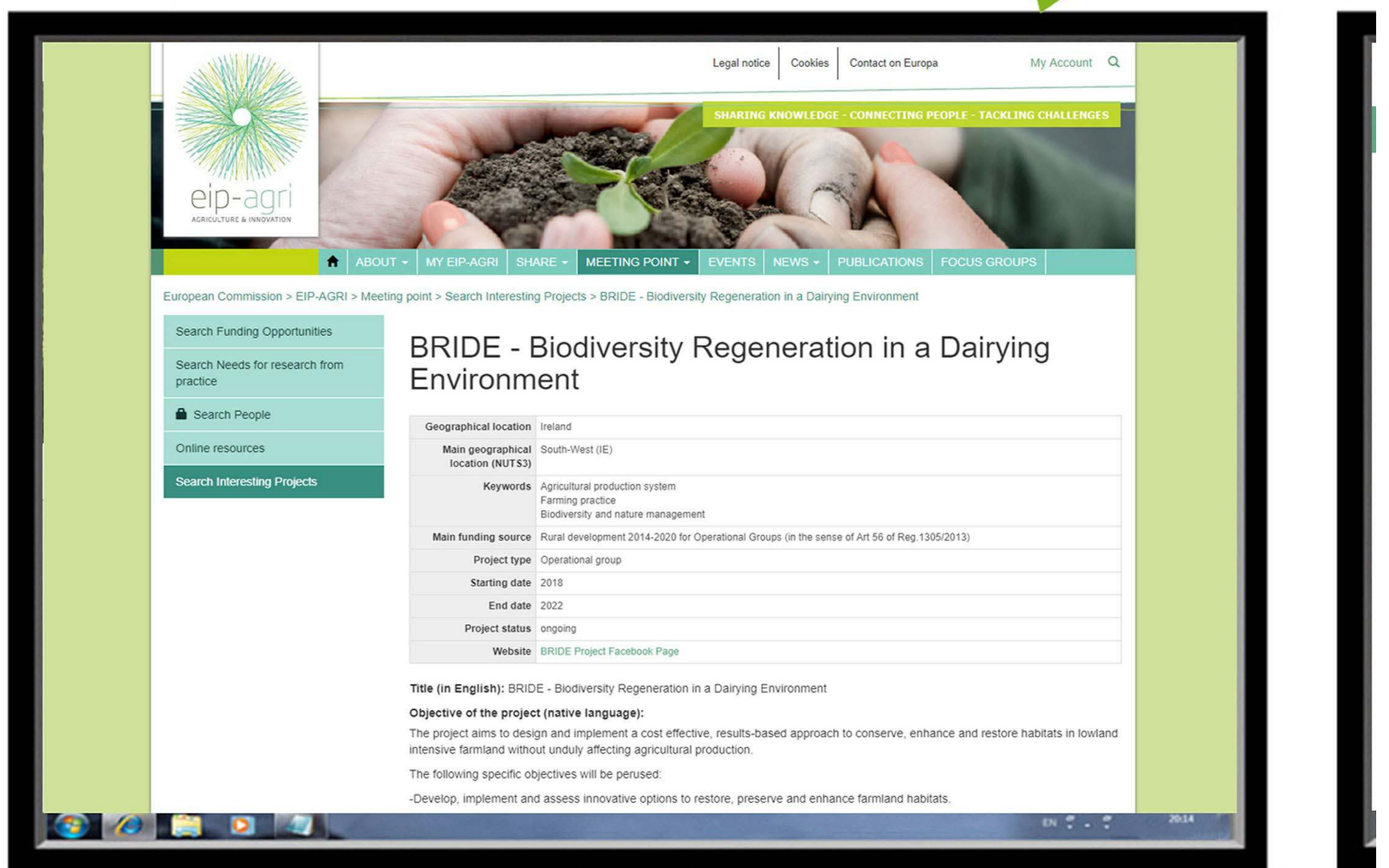
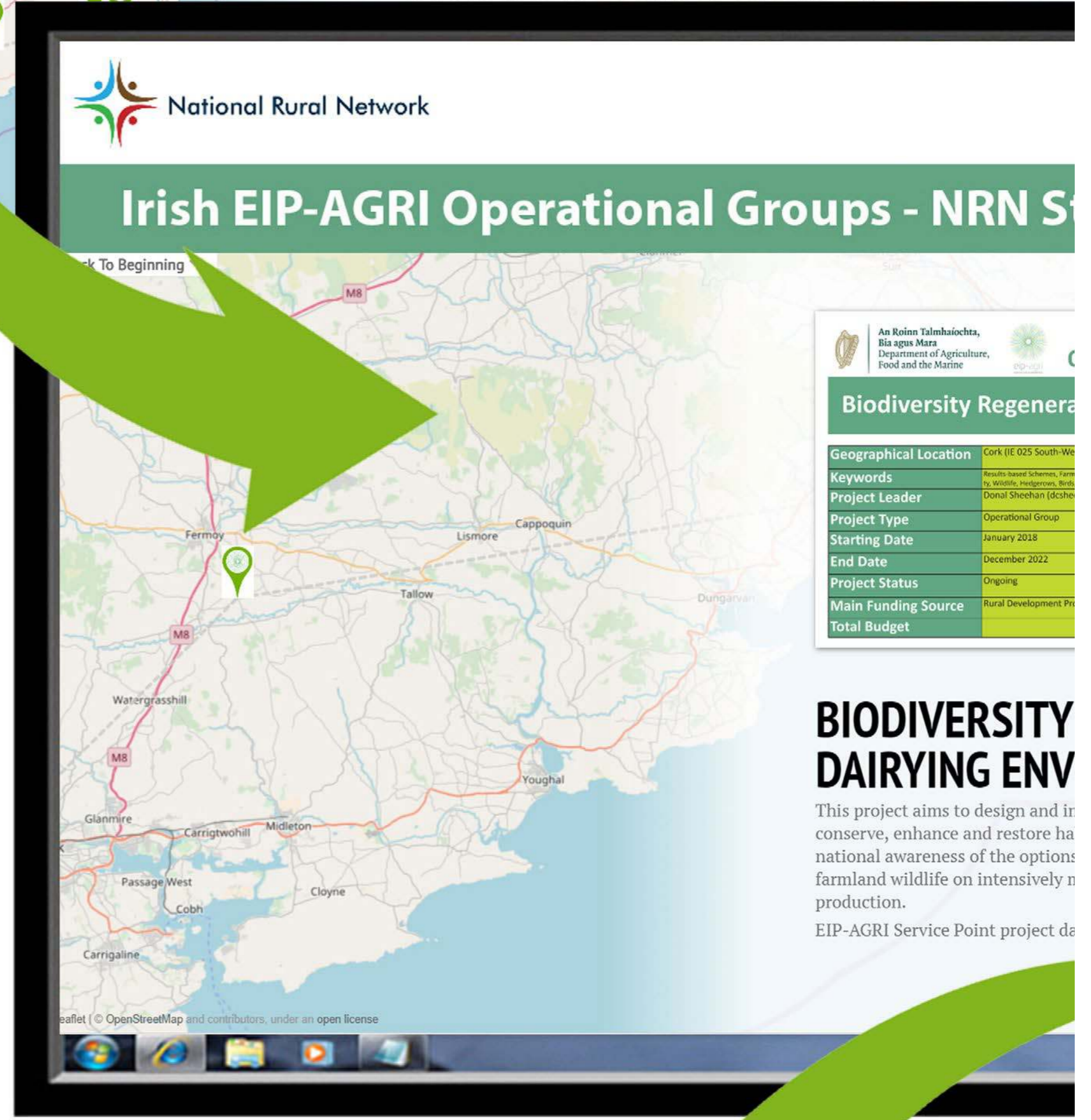
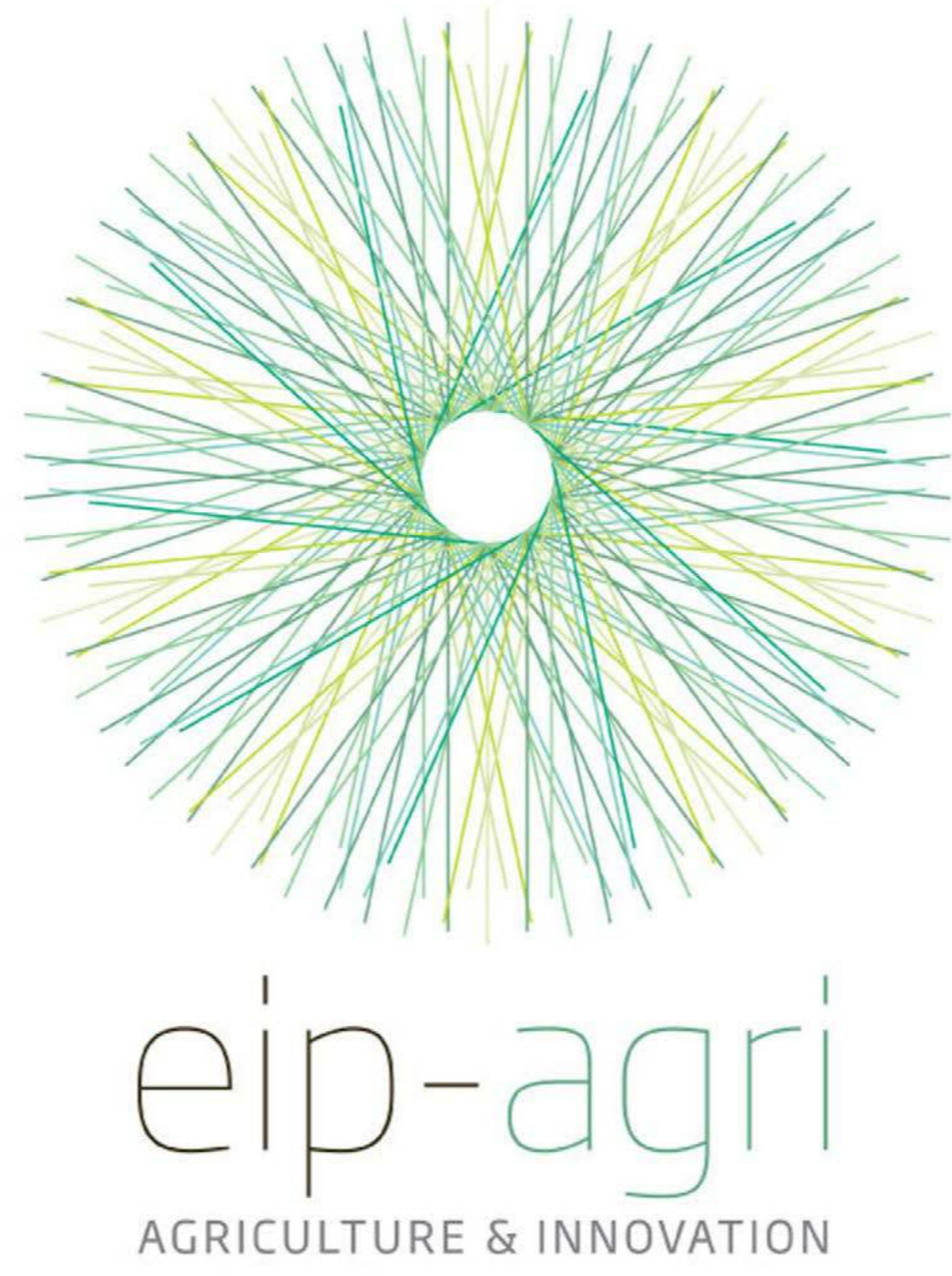
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Ireland's European Structural and Investment Funds Programmes 2014-2020

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Irish EIP-AGRI Operational Group 'One-Stop-Shop' NRN Storyboard Database



EIP-AGRI Service Point Project Database



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EIP-AGRI Operational Groups

The European Agricultural Fund for Rural Development
Europe Investing in rural areas

National Rural Network

Biodiversity Regeneration in a Dairying Environment (BRIDE)

Geographical Location	IE 053 South-West Region
Keywords	Results-based Schemes, Farmland, Sustainability, Ecosystem Services, Biodiversity, Wildlife, Hedgerows, Birds, Invertebrates, Pollinators, Vertebrates, Mammals
Project Leader	Donal Sheehan (dcsheehan@eircom.net)
Project Type	Operational Group
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme (RDP) 2014-2020
Total Budget	€1,100,000



Project Rationale

Intensively managed farmland throughout Ireland has had relatively low participation rates in agri-environment schemes (and associated wildlife options). Nevertheless, it is this farmland that is most frequently represented in Quality Assurance and Sustainability Schemes, and is most likely to require a customised plan to maintain and enhance farmland wildlife habitats.



Project Aims and Objectives

The project aims to design and implement a cost effective, results-based approach to conserve, enhance and restore habitats in lowland intensive farmland, and to improve national awareness of the options that are available in an effort to maintain and enhance farmland wildlife on intensively managed farmland without unduly affecting agricultural production.

To achieve these goals, the project will pursue the following specific objectives delivered over a five-year period to a group of up to fifty farmers in the River Bride Valley, Co. Cork, which constitutes part of the River Blackwater Special Area of Conservation:

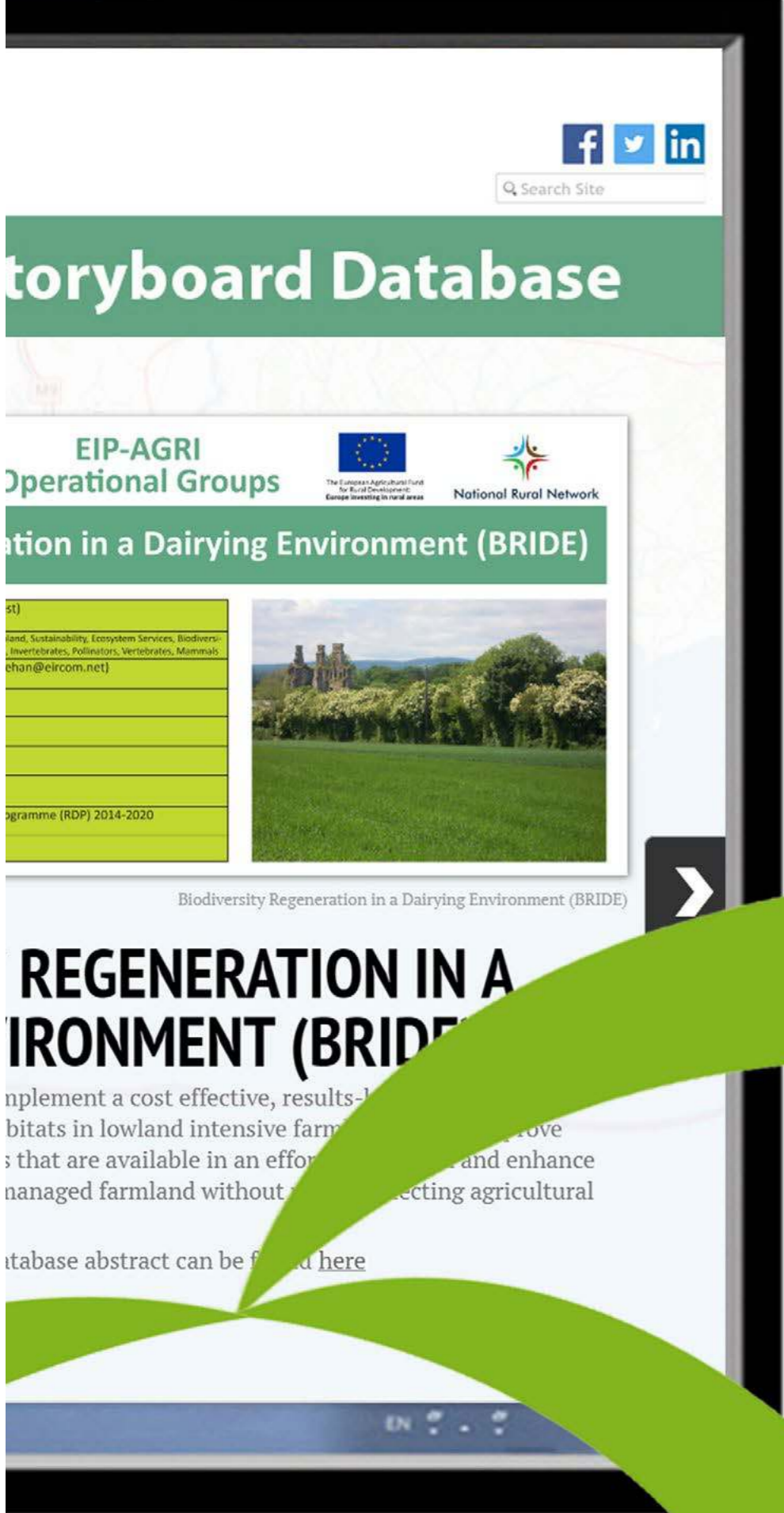
- (i) Explore an innovative implementation of a results-based approach for wildlife on intensively managed farmland;
- (ii) Develop, implement and assess innovative options to restore, preserve and enhance farmland habitats;
- (iii) Improve communication and dissemination on the contribution of Irish farmland to the conservation of biodiversity, especially in intensively managed grasslands;
- (iv) Facilitate the creation of a market-based demand by the agri-food industry for supply of ecosystem services from farmers.

Project Activities

- Produce a Biodiversity Management Plan in consultation with participating farmers that identifies priority and actions for the maintenance/enhancement of farmland wildlife. Farm-based actions will target farmland habitats such as: hedgerow management, field margins, retention of winter stubble on cereal farms, skylark plots, riparian buffer strips, creation of a permanent pond, conservation of existing farm habitats, native woodlands, nest-box and bat-box installation, rodent control and control of invasive species.
- Monitor the diversity of vegetation types, plants, bird, bats and pollinators, using a baseline and ongoing surveys.
- Disseminate lessons learned from the project to a wide variety of stakeholders via multiple methods.



BRIDE Project
Farming with Nature



NRN Operational Group Project Poster

Biodiversity Regeneration in a Dairying Environment (BRIDE)

Project Title	
BRIDE - Biodiversity Regeneration in a Dairying Environment	
Geographical location/ Territorial Scope	
Country	Ireland
Geographical location (NUTS3)	IE 025 South-West
Project Coordinator (Lead-Partner)	
Name	Donal Sheehan
Address	Castlelyons, Co. Cork
E-mail	dcsheehan@eircom.net
Telephone	+35387 2292880
Project Details	
Starting Date	2018
End Date	2022
Project Status	Ongoing
Main Funding Source	Rural Development Programme 2014-2020 for Operational Groups (in the sense of Art 35 of Reg.1305/2013).
Total Budget of the Project	

Project Background

Intensively managed farmland throughout Ireland has had relatively low participation rates in agri-environment schemes (and associated wildlife options). Nevertheless, it is this farmland that is most frequently represented in Quality Assurance and Sustainability Schemes, and is most likely to require a customised plan to maintain and enhance farmland wildlife habitats.

Project Aims & Objectives

The project aims to design and implement a cost effective, results-based approach to conserve, enhance and restore habitats in lowland intensive farmland without unduly affecting agricultural production.

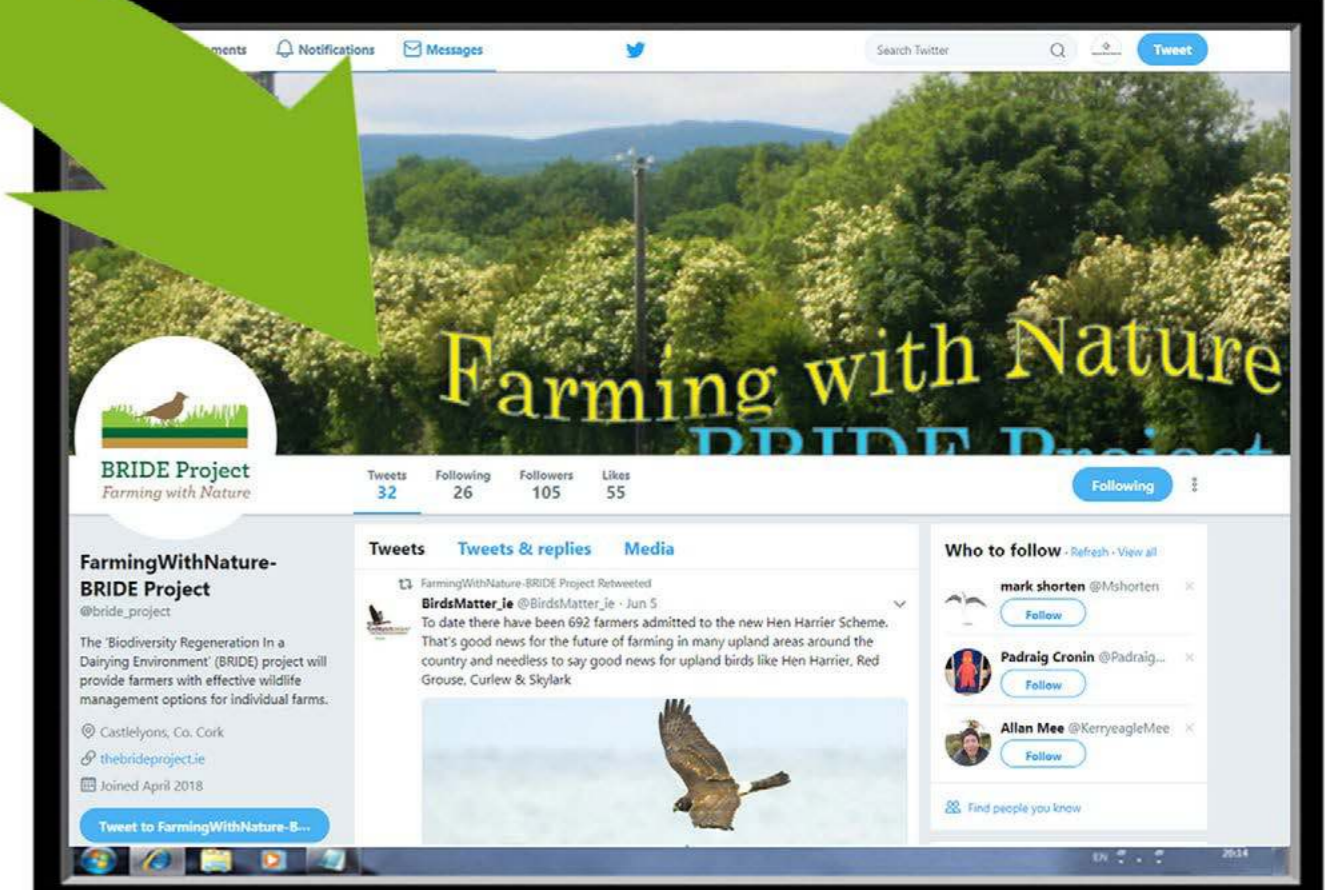
The following specific objectives will be pursued:

- Develop, implement and assess innovative options to restore, preserve and enhance farmland habitats.
- Improve communication and dissemination about the contribution of Irish farmland to the conservation of biodiversity.
- Facilitate the creation of a market-based demand by the agri-food industry for supply of ecosystem services from farmers.

Project Activities

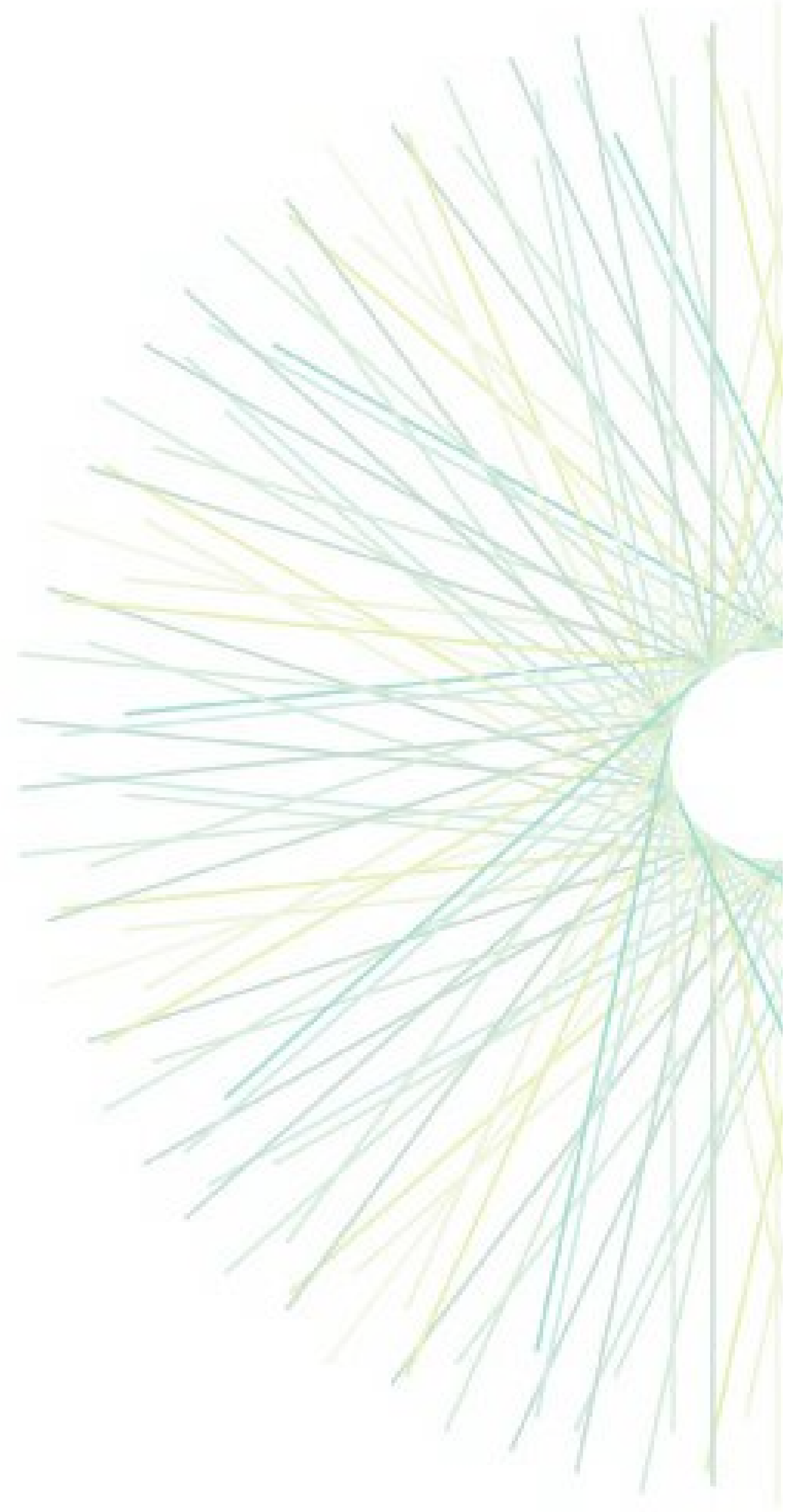
Project activities include:

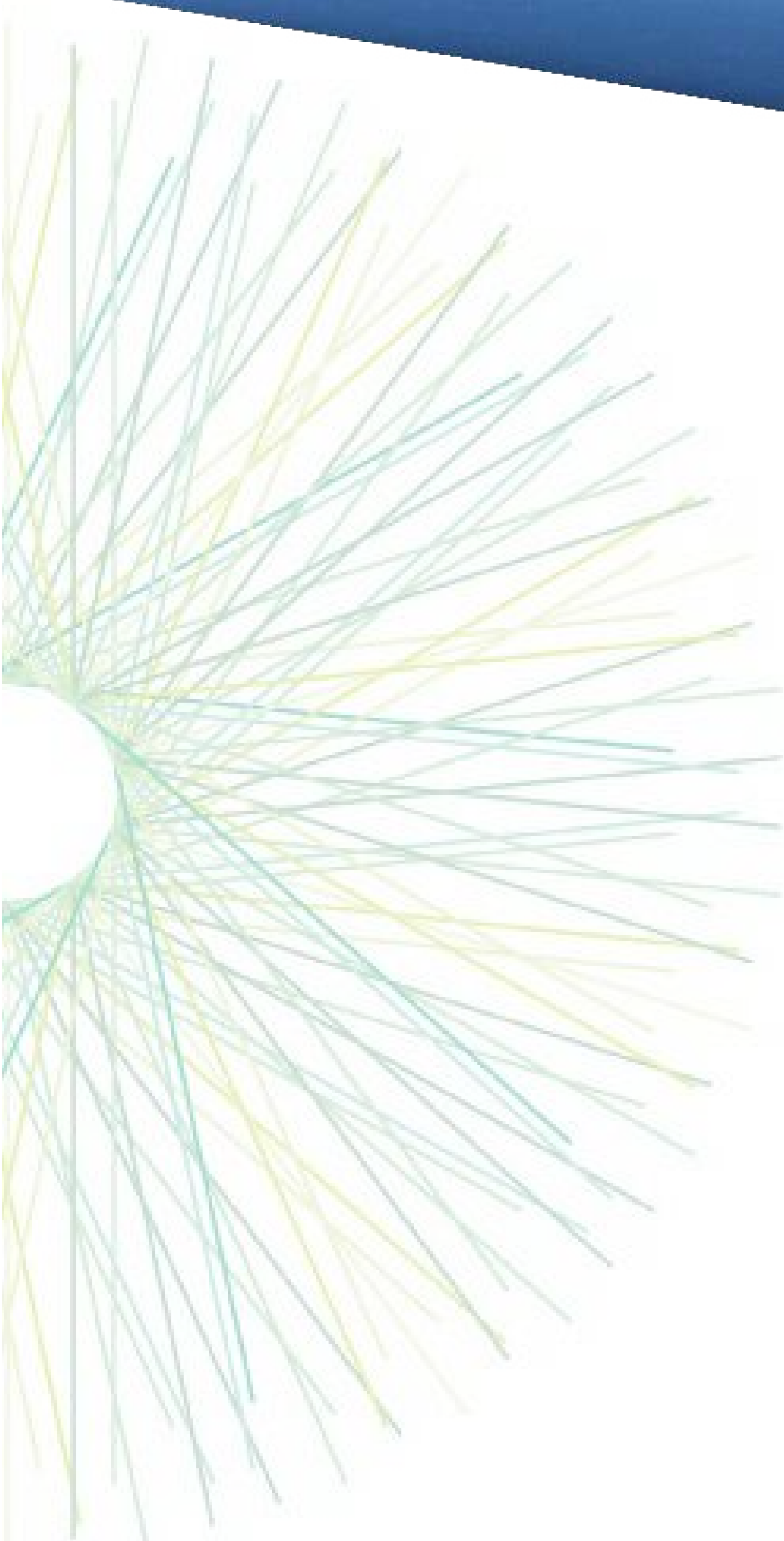
- Producing a Biodiversity Management Plan (BMP) in consultation with participating farmers that identifies priority actions for the maintenance/enhancement of farmland wildlife. Farm-based actions will target farmland habitats such as: hedgerow management, field margins, retention of winter stubble on cereal farms, skylark plots, riparian buffer strips, creation of a permanent pond, conservation of existing farm habitats, native woodlands, nest-box and bat-box installation, rodent control and control of invasive species.
- Monitoring the diversity of vegetation types, plants, bird, bats and pollinators, using a baseline and ongoing surveys.



NRN Operational Group Project Abstract Project Social Media

Notes





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Europe investing in rural areas



**Ireland's European Structural and
Investment Funds Programmes
2014-2020**

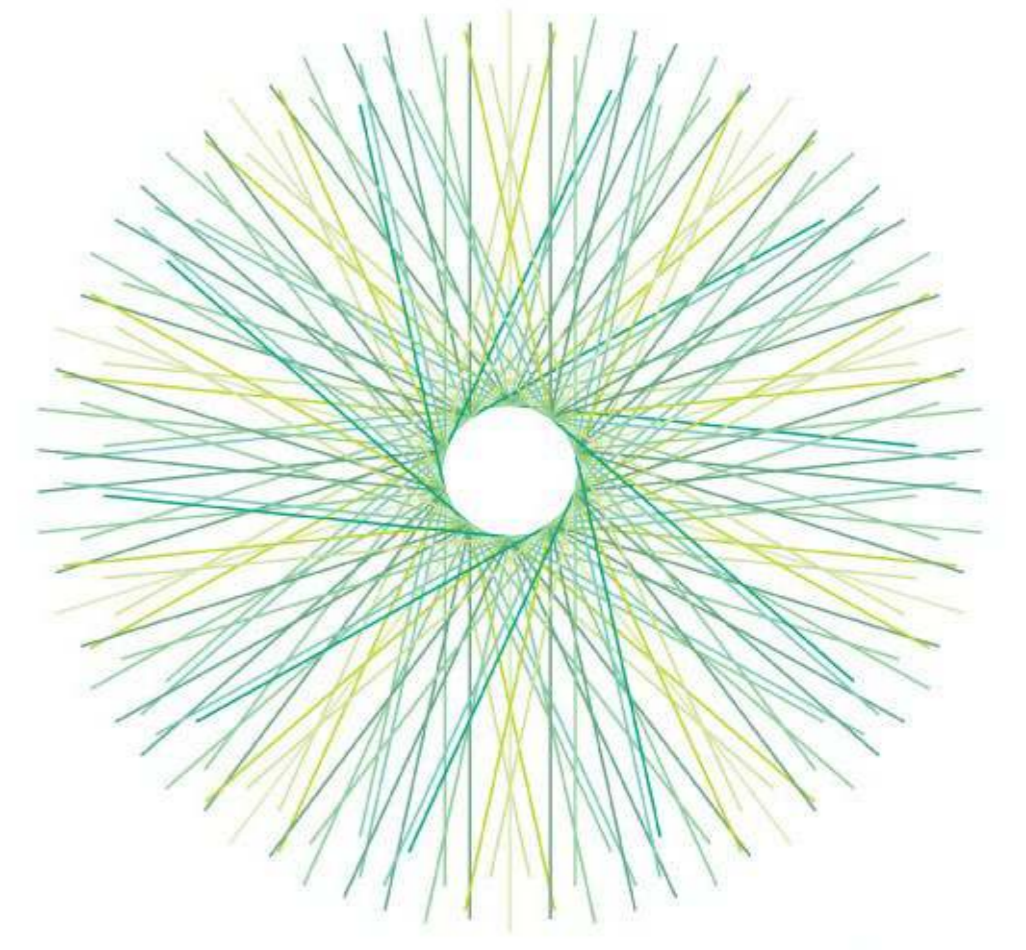
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Ireland's European Structural and
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