



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"



## HEN HARRIER PROJECT

# ANNUAL REPORT

YEAR 4: MAY 2020 - APRIL 2021



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# Glossary

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|       |  |
|-------|--|
| BPS   | Basic Payment Scheme                           |
| DAFM  | Department of Agriculture, Food and the Marine |
| GLAMS | Generic, Land Management System                |
| GMIT  | Galway Mayo Institute of Technology            |
| HHP   | Hen Harrier Project                            |
| HNV   | High Nature Value                              |
| NPO   | Nest Protection Officer                        |
| NPWS  | National Parks and Wildlife Service            |
| MTU   | Munster Technical University                   |
| REAP  | Results-Based Environment-Agri Pilot Project   |
| UCD   | University College Dublin                      |

## PREVIOUS ANNUAL REPORTS



The Hen Harrier Project Annual Reports for Year 1, 2 and 3 are available online via our website and provide a summary of the Project's activities over the last three years of development and operation.

Available at the following links:

<http://www.henharrierproject.ie/HHPAR2017.pdf>

<http://www.henharrierproject.ie/HHPAR2018.pdf>

<http://www.henharrierproject.ie/HHPAR2019.pdf>

# Introduction

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May 2020 - April 2021

The fourth year of the Hen Harrier Project was dominated by the impact of the Covid-19 pandemic. This meant that engagement with farmers, advisors and others was extremely difficult. Even practical administrative functions of the project were challenging due to necessary changes to work practices. In spite of this, the Hen Harrier Project continued to expand and increase the number of participants across the Special Protection Area (SPA) network. By the end of the reporting period there were 1,597 farmers participating the project. Considerable progress was made in approving and certifying the delivery of Supporting Actions on farms and developing the technology to make this process manageable. Training had to move to digital platforms. To provide training materials, the Hen Harrier Project produced a wide range of training films during the course of the year. These included the very successful "Horse in the Gorse" film on the lessons learned in a gorse management trial using mob grazing of equines in the Mullaghanish to Musheramore SPA.

There are now almost 1,600 farmers managing c.40,000 ha of land participating in the Hen Harrier Project. This represents over 70% of the total agricultural area in the SPA network designated for breeding Hen Harrier. Over €4,300,000 was paid out to participating farmers for delivering quality habitats and actions including planting Wild Bird Cover, delivering water infrastructure and sustainable grazing infrastructure.

Despite the pandemic challenges, Hen Harrier monitoring campaign was completed successfully. Overall, there were slightly fewer territorial pairs in the SPAs than in previous years. Chick fledging success was down on the extremely successful 2019 season, however there were encouraging increases in breeding pairs and fledged chicks in the Mullaghanish to Musheramore SPA.

The Hen Harrier Project maintained a high profile throughout the year on social media and on the broadcast and printed media. Staff members participated in a wide range of online events. These served to disseminate lessons learned within the project to farmers, farm advisors, public administration, and the general public. Engagement with local communities continued with multiple projects financed through the Local Actions Fund.



Low sloping grasslands and blanket bog of Derrygoolin, Slieve Aughty Mountains SPA with Lough Derg in the distance.

The inability to hold open days for farmers along with the necessity of moving advisor training to a virtual platform were most serious impacts in terms of programme development. However administrative functions, in particular the screening and approval of supporting actions were also affected.

# Steering Group

The Steering Group met on three occasions. There was a rotation of the private advisor and farmer representatives. The Steering Group consisted of Dan O'Donoghue and Martin Mulvihill, representing participating farmers and private advisors respectively, along with representatives of DAFM, NPWS and Teagasc. The Project team would like to thank the outgoing members for their input and assistance to the Project during their term.

Table 1: Steering Group Meetings

| Meeting | Venue  | Date       |
|---------|--------|------------|
| 1       | Online | 28/09/2020 |
| 2       | Online | 22/01/2021 |
| 3       | Online | 01/03/2021 |

# STATS

1,597

## PARTICIPANTS

2,916

## ACTIONS APPROVED

17,995

## FIELDS SCORED FOR PAYMENT

39,936

## HECTARES OF LAND UNDER CONTRACT

€4,326,000

TOTAL PAYMENTS YEAR 4

>70%

## SPA AGRICULTURAL LAND IN THE PROGRAMME



## Our Farmers



## Participants Year 4

There were 1,597 participants in the Hen Harrier Programme at the end of April 2021, a further 18 farmers accepted contracts to start in the summer of 2021.

The area farmed within the Hen Harrier Project at the end of April 2021 was 39,935.59 ha. This consists of 33,878.35 ha of privately owned land and 6,057.24 ha of commonage. There are 73 farmers who only farm commonage land within the Hen Harrier Programme, a further 211 farmers have both privately owned land and commonage. The remaining 1,311 farmers manage private land only.

Table 2: Number of participants per Special Protection Area

| Special Protection Area  | Number of Participants |
|--|------------------------|
| Mullaghanish to Musheramore SPA                                  | 88                     |
| Slieve Aughty Mountains SPA                                      | 582                    |
| Slieve Beagh SPA   | 29                     |
| Slieve Bloom Mountains SPA                                       | 80                     |
| Slievefelim to Silvermines SPA                                   | 150                    |
| Stacks to Mullaghariers, West Limerick Hills and Mount Eagle SPA | 668                    |

|       |       |
|-------|-------|
| TOTAL | 1,597 |
|-------|-------|

The overlap with GLAS is significant, 1,342 farmers (84%) are also in the GLAS scheme while 255 farmers (16%) do not participate in GLAS. The land farmed by participants accounts for 23.88% of the total area of the SPA network for breeding Hen Harrier. However as approx. 52% of the SPA area is forested this represents a much larger proportion of the total agricultural area.

|  |              |
|--|--------------|
| Area declared for Basic Payment Scheme in SPA network    | 56,617 ha    |
| Area linked to participants in the Hen Harrier Programme | 39,935.59 ha |
| % of total area declared for Basic Payment Scheme        | 70.53 %      |

# Habitats 2020

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## Field Assessments

In spite of the difficulties created by the Covid pandemic, Hen Harrier Farm Advisors and Project Staff assessed 17,995 privately owned fields on behalf of their clients. An additional 69 commonage fields were assessed by the Project team or advisors working directly for the project. In total 1,477 farmers had habitat assessments submitted for their privately owned land. A further 71 commonage-only farmers are not required to submit an assessment as this is done for them by the Project Team. In total 96.93% of participants were eligible to be considered for payment.

# Verifications

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Hen Harrier Project staff carried out essential quality control functions on the field assessment data provided by advisors. The project verified advisors assessments on 1,262 fields on 90 farms. This data was used to inform training needs for advisors and to give feedback to advisors in respect of their performance.

Table 3: Number of verifications undertaken in 2020 per Special Protection Area.

| Special Protection Area   | Number of Farms Audited |
|---|-------------------------|
| Mullaghanish to Musheramore SPA                                 | 12                      |
| Slieve Aughty Mountains SPA                                     | 23                      |
| Slieve Beagh SPA  | 1                       |
| Slieve Bloom Mountains SPA                                      | 6                       |
| Slievefelim to Silvermines SPA                                  | 5                       |
| Stacks to Mullaghierks, West Limerick Hills and Mount Eagle SPA | 43                      |
| <b>TOTAL</b>  | <b>90</b>               |

1041



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Likewise no penalties were applied for failure to attend training as the lockdown prevented the completion of the training programme in the winter/spring of 2019/2020.

\* Adjustments include corrections made for previous overpayments

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# Payments



## Supporting Actions Payments

Payments for supporting actions continued from April 2020 through to February 2021. Due to the increasing complexity of this aspect of the programme, payments were halted in February 2021 until software to further develop the integration of this task with the approval and certification process.

Note: This task was completed in May 2021 and applications for funds to DAFM resumed in June 2021.

Table 4: Supporting actions payments overview

| No. of Participants | Number of Actions delivered | Total amount paid |
|---------------------|-----------------------------|-------------------|
| 293                 | 975                         | € 249,425.10      |

Note: 74 participants overshot their available allowance to a combined value of €37,084.51 Balancing Payments worth €25,727.13 were paid to these participants in May 2021. This was to pay them for actions delivered in excess of their allowance. There were 21 participants where the 2021 allowance was insufficient to cover the value of the actions. The combined value of these actions is €12,071.08, this will be settled out of their 2022 allowance.

# Hen Harrier Payments

Hen Harrier payments worth €483,927.15 were paid to 996 participants. The average payment was €485.87. A total of 68 farmers received a payment over €1,000. These were cases where the SPA reached its objective in terms of confirmed Hen Harrier nests and where the farmers land was within the core territory of a successful nest.

Unfortunately the Slieve Aughties did not reach its objective in 2020, nevertheless 30 Slieve Aughty farmers qualified for the payment based on proximity to nest sites.

## Total Payments

The total value of payments approved for farmers (excluding recipients of Local Action funding) in the reporting period 2020/ 2021 was €4,328,663.83.



# Payments

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## Participant Funds not yet Issued

For a variety of reasons it was not possible to make payments to a small number of participants, most of these involved situations where the participant passed away and the Project was awaiting instructions regarding how payments to the estate should be made. The table below contains a summary of participant funds held by the project on 30th April 2021.

Table 5: Supporting actions payments overview

| Payment type        | Period | No. of participants | Amount      |
|---------------------|--------|---------------------|-------------|
| Habitat             | 2019   | 1                   | € 1,482.87  |
| Habitat             | 2020   | 9                   | € 25,369.18 |
| Hen Harrier         | 2019   | 2                   | € 756.28    |
| Hen Harrier         | 2020   | 6                   | € 2,484.48  |
| Funds Request Error | 2020   | N/A                 | € 32.40     |
| TOTAL               |        |                     | € 30,060.41 |

Note: Since April 30th one 2020 Habitat payment worth €9,456.98 has been issued along with two Hen Harrier Payments worth €828.16 have been issued. The total participant fund on hand on September 14th, 2021, was €19,775.20.





# Annual Works Plans

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The production of Annual Works Plans is partially automated with authorised works periods being determined based on the action proposed and its location relative to the environmental and heritage assets described previously.

A Screening Statement is produced for every action, this is made available to the farmer on request.

## Data Management

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Significant improvements were made to the Hen Harrier App and the project database. These were directed at improving the screening process for supporting actions and enhancing capacity to analyse geotagging data.

During the course of the 2020 habitat assessment campaign, serious issues arose regarding field data collected by some advisors. Initially more than 100 farms failed to upload to the database. In most cases the data was recovered from advisors devices. Unfortunately the data from 20 farms was lost permanently. One advisor was linked to half of these losses.

The farms involved were resurveyed by advisors or project staff. An assessment of these losses determined that they were due to:

- A failure to upload data on a regular basis
- Operators neglecting to ensure that they had good connectivity before uploading data

Features of the app and the power apps platform may have contributed to this, but the most significant issue was user error. This was likely exacerbated by the inability of the project to provide in person training for advisors due to public health restrictions. Lack of practice with the app by advisors who had not used it for certifying actions since the 2019-assessment season was identified as an important risk factor. There appeared to be a strong correlation between data losses and advisors with a smaller client base and assessments carried out earlier in the season.

# Farmer Training

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Due to public health restrictions, it was not possible to hold formal farmer training events during the year. The use of training films and direct support by Project staff partially compensated for this.

## Training Videos

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The project team produced a comprehensive series of training films. The films were launched on the 20th October 2020 by Junior Minister Pippa Hackett. This series followed on from the very successful film on management of Wild Bird Cover crops in the Spring of 2019.



Videographer Jack Caffrey of the Pimlico Project (Photography and Video Creative Studio) filming on location in the Slieve Aughty Mountains SPA.

Links to the films were sent by text message to relevant participating farmers. For example farmers with cattle and bog or heath habitats would have received a link to the “Managing Cattle on the hill” film. Links to showcases showing films on related topics were sent to Hen Harrier Farm Advisors.

Views on the Vimeo site were principally people who followed the link sent to them by the Project team. A significant proportion of participating farmers received a level of training that would not have been possible otherwise.



The following films were produced for participants and a wider public audience. All are available to view on our website homepage [www.henharrierproject.ie](http://www.henharrierproject.ie)

Overview of the Hen Harrier Project describing how the programme values participation and co-operation in the delivery of environmental objectives and encourages and rewards farming for conservation with incentives and supports.



This ten minute film provides guidance on the importance of an appropriate grazing regime to deliver high nature value grasslands. The film discusses planning and managing rotational grazing on the farm and getting the most out of extensive grazing.



Converting a strip of appropriate grassland into a strip of Wild Bird Cover provides insects and seeds for small birds and small mammals and provides opportunities for hunting Hen Harriers. This film provides guidance on how to establish a Wild Bird Cover crop.



Hill grazing for two months of early summer is a useful resource. Purple moor grass grows faster than Rye-grass during this period. This film provides guidance on the most appropriate cattle breeds, veterinary issues and stocking rates.



Permanent or temporary electric fencing, water provision for livestock through troughs, solar and ramp pumps can enable farmers to better manage a range of habitats on the farm. This film provides guidance on improving farm infrastructure for delivering optimal grazing.



# Film Resources

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## Spring Nest Disturbance

Hen Harrier and other upland birds are very sensitive to disturbance during the early breeding season. This film covers the types of disturbance and ways to reduce these pressures during this critically important time of the year in breeding areas.



## Rush Management

Rushes may not have much agricultural value but as part of a mixed sward they create opportunities for insects, small mammals, birds and the Hen Harrier. This film explores ways to maintain a diverse rush cover and structure on marginal farmlands, delivering and retaining high biodiversity value.



## Protecting the Bog

Bogs are extremely important habitats, storing carbon, supplying and regulating the flow of water, and providing seasonal grazing. All of these functions are threatened by erosion and drainage. This film demonstrates ways to managing the movement of water to restore damaged bogs for the future.



## Grassland Habitats

The most common farmland habitat in the Hen Harrier SPAs is wet grassland. This film discusses the high nature value of grasslands and the impact of their management. The value of using species and diversity of wildflowers as positive indicators of conservation value is also explained.



## Land Management on the Hill

For most farms in the programme the hill accounts for the largest area. These areas provide for the best nest sites and are the most important hunting grounds for Hen Harrier. It is where most of the payments come from and potentially the most profitable part of the farm. This film discusses how with effort, investment and good management, hill grazing can deliver for conservation and for the farm, securing direct payments and supporting livestock.



# Advisor Training

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No further advisors were approved during the period covered by this report. Advisor seminars in advance of the Supporting Actions Application period were held on 15th October 2020. Advisors were briefed on the 2020 habitat assessment season and on initial results of the Hen Harrier monitoring breeding season.

Advisors were given detailed feedback on their performance during the year under a series of categories. These included the results of verifications and the extent to which advisors submitted Annual Works Plans on behalf of their clients. Advisors in the bottom 50% were informed of their placing relative to their peers.

While many advisors are reaching a high standard of proficiency, there are still significant problems. Some advisors with very small numbers of clients are not getting the opportunity to gain the experience needed to improve their ability to support farmers in the programme.

# Plant Identification Film

Advisors also received links to a series of 1 minute plant ID films. These were based on flower colour, one each on plants with White, Yellow, Blue, Red/ Purple and a final one on species that would need to be identified vegetatively. These were designed to be watched on mobile devices and assist advisors in the field. This helped to mitigate the forced absence of pre-season field-based training for advisors.



## Staff Resources

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There were no changes in staff over the course of the reporting period. Formal staff training was organised ahead of the 2020 habitat assessment season. This training was to ensure consistent scoring among staff members involved in verifying field scores. The training event was held in the Slieve Aughty Mountains SPA on 20th July 2020.

# Monitoring 2020

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There were 58 confirmed territories and 4 possible breeding pairs of Hen Harrier within the SPAs (a population range of 58 - 62 pairs) in 2021. This is slightly less than the total number of breeding pairs recorded within the SPAs in 2017 (58 - 70 pairs), 2018 (53 - 68 pairs) and 2019 (56 - 63).

Monitoring results are shared with NPWS for the production of maps showing Higher Likelihood of Nesting Areas, popularly known as Red Areas. These maps are used by the Forestry Division of the Dept. of Agriculture to inform the forest licensing process.

The Hen Harrier population in the Mullaghanish to Musheramore Mountains SPA, Co. Cork had a positive upturn in 2020 with four successful pairs fledging ten young.

The Stacks, Mullaghareirks, Mount Eagle and West Limerick Hills SPA spanning parts of Co. Kerry, Cork and Limerick supports the largest population of breeding Hen Harrier in the SPA network. Following a record-breaking year for numbers of fledged young in 2019 (51 fledged from 17 confirmed pairs), there was a drop in productivity in 2020, with 13 of the 30 confirmed pairs successfully fledging 33 young.

The breeding Hen Harrier population in the Slievefelim to Silvermines SPA, Co. Tipperary is similar to that recorded at the time of designation. However there has been a decline from a peak of ten pairs in 2015 to six pairs in 2020. Productivity in this SPA has been very low in recent years with just one chick fledged in 2019 and three chicks in 2020.



A report on the results of the Hen Harrier monitoring carried out in 2020 was published on the 27th November 2020 and is available on our website.

Table 6. 2020 Monitoring Results - Number of Hen Harrier Pairs in each SPA (2019 Figures in brackets).

| Special Protection Area  | Confirmed Territories | Possible Territories | Successful Nests | Fledged Chicks |
|--|-----------------------|----------------------|------------------|----------------|
| Slieve Bloom Mountains (4160)  | 10 (10)               | 0 (0)                | 1 (6)            | 3 (16)         |
| Stacks to Mullaghareirks, West Limerick Hills and Mount Eagle (4161) | 30 (28)               | 1 (4)                | 13 (17)          | 33 (51)        |
| Mullaghanish to Musheramore Mountains (4162)                         | 5 (2)                 | 0 (0)                | 4 (2)            | 10 (2)         |
| Slievefelim to Silvermines Mountains (4165)                          | 5 (7)                 | 1 (1)                | 1 (1)            | 3 (1)          |
| Slieve Beagh (4167)  | 2 (3)                 | 1 (1)                | 2 (2)            | 5 (4)          |
| Slieve Aughty Mountains (4168)                                       | 6 (6)                 | 1 (1)                | 3 (4)            | 7 (7)          |
| <b>TOTAL</b>   | <b>58 (56)</b>        | <b>4 (7)</b>         | <b>24 (32)</b>   | <b>64 (81)</b> |



# Monitoring 2020



More than 1,946 hours of Hen Harrier monitoring was carried out by the Golden Eagle Trust in 2020. Shane O'Neill surveying in the Slieve Aughty Mountains.

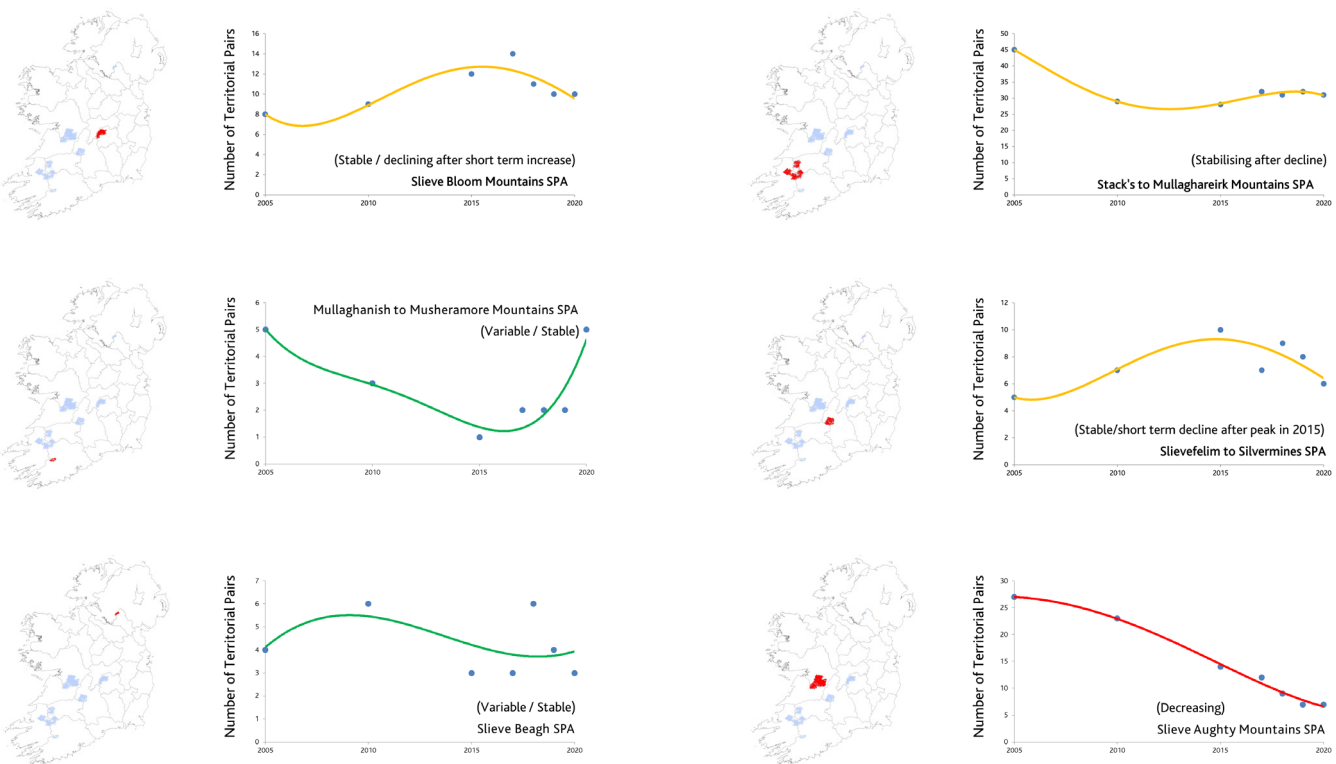
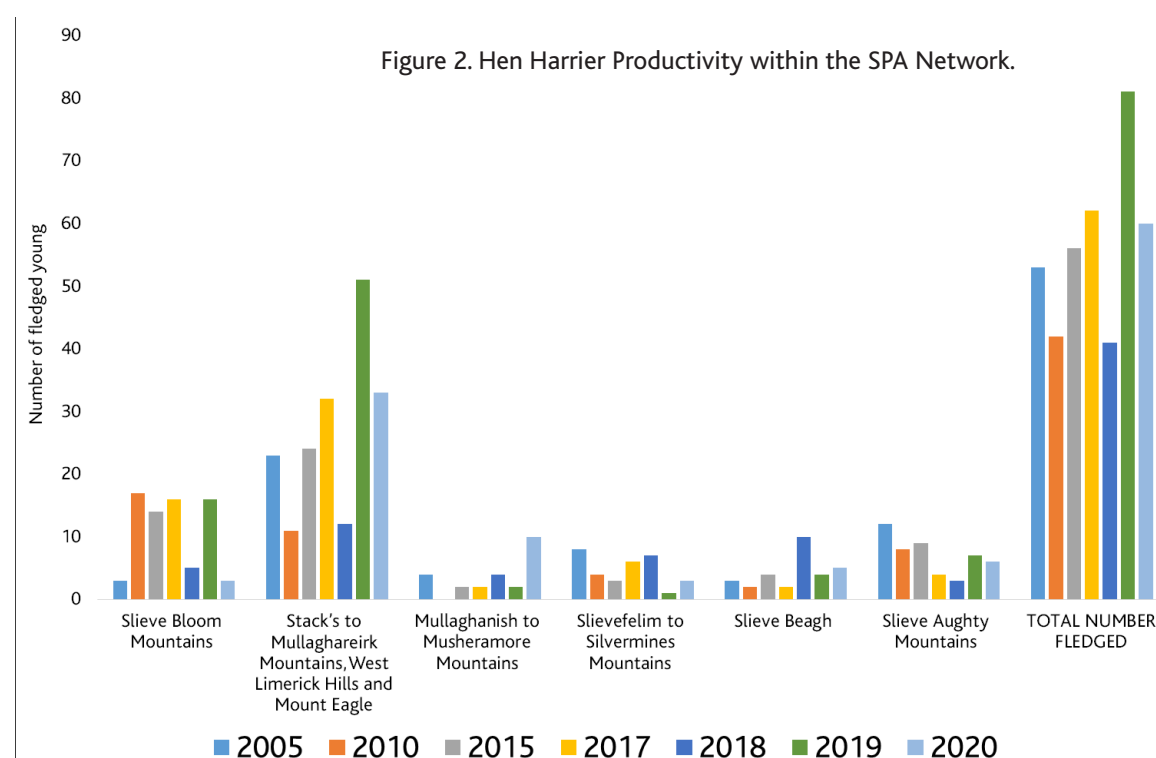


Figure 1. Breeding Hen Harrier population trends per SPA in 2020.

In 2020, sixty chicks fledged from nests, numbers similar to 2018 levels of productivity. There were gains in the Mullaghanish to Musheramore SPA with ten fledged young, however, the Slieve Bloom Mountains SPA recorded its lowest productivity in the last 15 years and productivity in the Slievefelims to Silvermines Mountains SPA and Slieve Aughty Mountains SPA remains low.



# Nest Protection

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Nest Protection Officers (NPO) were employed in the Slieve Bloom Mountains SPA, in the Stacks to Mullagherierks, West Limerick Hills and Mount Eagle SPA, in the Slieve Aughty Mountains SPA and in the Mullaghanish to Musheramore SPA. Training for NPOs was provided in conjunction with the Curlew Conservation Programme operated by the NPWS. The Nest Protection Management System developed by the Hen Harrier Project was shared with the Curlew Conservation Programme. This system allows Nest Protection Officers to submit data in the field through an app and is of considerable assistance in the collation of records and the assessment of the efficacy of nest protection works.

# Fire Resilience

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Project Officers Eoin McCarthy (left) and Pdraig Cronin (right) inspect the damage caused by an illegal fire at Black Banks, near Brosna, Co. Kerry.

Wildfires were again an issue for Hen Harriers during the reporting period. The most significant fire was in the Black Banks area near Brosna Co. Kerry where an active Hen Harrier nest was destroyed at the end of April 2021. Elsewhere in the Stacks to Mullagherierks, West Limerick Hills and Mount Eagle SPA significant areas were burned in the Athea area of Co. Limerick and near Cordal, Co. Kerry. In the other SPAs there were significant fires in the Slieve Beagh SPA and the Slieve Blooms Mountains SPA.

Planning for the provision of post fire recovery plans for the Back Banks site and for the provision of improved water resources for firefighting in Kerry and Limerick was initiated during the year.

More than 54 participants offered sites for multi-purpose ponds. However due to the uncertainty surrounding the projects capacity to support the necessary on-going maintenance it was decided to limit the development of multi-purpose ponds to a single demonstration site.



# Protecting Bogs

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## Drain Blocking

The scoring system for bog and heath rewards sites where the full suite of ecosystem services are delivered, i.e. biodiversity, carbon sequestration, fire risk mitigation and water quality. Raising the water table by blocking drains increases the resilience of the bog, the farm enterprise, and the landscape to the impacts of climate change. It is one of the best strategies for improving the score on a peatland site.



The Hen Harrier Project progressed drain blocking on two participating farms in Counties Kerry and Limerick. The area of the fields involved was 40.5ha. These actions proved very useful, helping to improve a significant area of blanket bog habitat and providing a valuable demonstration and training opportunity for project staff, contractors, and farmers. Further development of large-scale drain blocking is reliant on changes to the land eligibility criteria for direct payments. It is hoped that this will become possible in the next Common Agricultural Policy period.



Padraig Cronin installing a composite dam (top left and right). Infilling of peat dam on a bog drain (bottom left) and water build up post blocking (above right).



# Local Actions

## Awards of Grant Funds

The Hen Harrier Project local actions grant fund is an initiative available to farmers, either individually or in groups, community groups, small local businesses, schools and sports or social clubs serving the community in breeding Hen Harriers SPA. Grant aid is provided to support local projects and to address issues that could not be accommodated under the Habitat or Supporting Actions payments in the Hen Harrier Programme.

Table 6: Successful applicants for Hen Harrier Project local actions grant fund 2020.

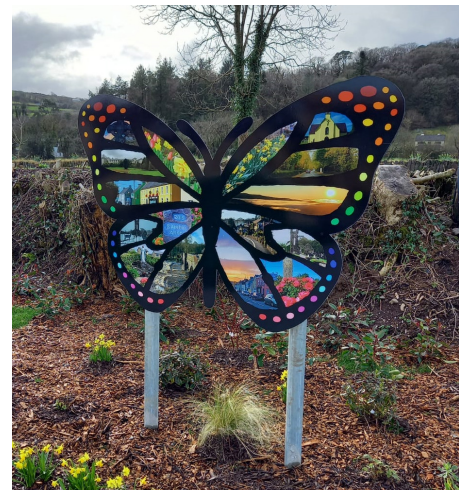
| Applicant                           | Special Protection Area                                       | Type               |
|-------------------------------------|---|--------------------|
| Muinefluich National School         | Mullaghanish to Musheramore SPA                               | School             |
| Clondrohid National School          | Mullaghanish to Musheramore SPA                               | School             |
| The Vincent Wildlife Trust          | Slieve Aughty Mountains SPA                                   | Conservation Group |
| Wilhelm Rost                        | Slieve Aughty Mountains SPA                                   | Farmer             |
| Tubber National School              | Slieve Aughty Mountains SPA                                   | School             |
| Killoscully Development Association | Slievefelim to Silvermines SPA                                | Community          |
| Athea Tidy Towns                    | Stacks, Mullagherierks, West Limerick Hills & Mount Eagle SPA | Community          |
| Michael Reapy (Ballybees)           | Stacks, Mullagherierks, West Limerick Hills & Mount Eagle SPA | Business           |
| St. Senans GAA                      | Stacks, Mullagherierks, West Limerick Hills & Mount Eagle SPA | Sports Club        |
| Lyrecrompane National School        | Stacks, Mullagherierks, West Limerick Hills & Mount Eagle SPA | School             |
| Carrigkerry National School         | Stacks, Mullagherierks, West Limerick Hills & Mount Eagle SPA | School             |

Applications for support through the local actions fund were invited on the 5th February 2021. The application period closed on the 12th March 2021. Thirty-one applications were received, sixteen of which were approved. Due to the ongoing difficulties arising from the Covid 19 pandemic, the time allowed to complete planned actions was extended into the following year.

# Local Actions

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## Delivered Community Projects



Top left to top right and centre right (Ballyvourney Gardens); Bottom left and bottom right (Athea Riverside Walk).



# Local Actions

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## Successful Applicants Spring 2021

Table 7: Successful applicants for Hen Harrier Project local actions grant fund 2021.

| Applicant                               | Special Protection Area   | Type                    |
|---|---|-------------------------|
| Athea Tidy Towns/ Athea GAA             | Stacks, Mullagherierks, West Limerick Hills and Mount Eagle SPA | Community / Sports Club |
| Ballymakeera Tidy Towns                 | Mullaghanish to Musheramore SPA                                 | Community               |
| Christopher Pearl                       | Slieve Aughty Mountains SPA                                     | Farmer                  |
| Clonaslee, St Manmans GAA               | Slieve Bloom Mountains SPA                                      | Sports Club             |
| Cobbs Road Wildlife Trail               | Stacks, Mullagherierks, West Limerick Hills and Mount Eagle SPA | Community               |
| Glanageenty Walkways                    | Stacks, Mullagherierks, West Limerick Hills and Mount Eagle SPA | Community / Farmer      |
| Gourmet Game Ltd                        | Slieve Aughty Mountains SPA                                     | Business                |
| Knocknagoshel Tidy Towns                | Stacks, Mullagherierks, West Limerick Hills and Mount Eagle SPA | Community               |
| Lough Graney Nature Sanctuary           | Slieve Aughty Mountains SPA                                     | Farmer                  |
| Loughfouder National School;            | Stacks, Mullagherierks, West Limerick Hills and Mount Eagle SPA | School                  |
| Meenikilly National School              | Stacks, Mullagherierks, West Limerick Hills and Mount Eagle SPA | School                  |
| Meet the Wool                           | Slieve Aughty Mountains SPA                                     | Business                |
| Patrick Higgins                         | Stacks, Mullagherierks, West Limerick Hills and Mount Eagle SPA | Farmer                  |
| River Blackwater Trust                  | Slieve Beagh SPA  | Community / Farmer      |
| Woodford Parish Development Association | Slieve Aughty Mountains SPA                                     | Community               |
| Frank Farrell                           | Slieve Aughty Mountains SPA                                     | Community / Farmer      |

# Innovation

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## Gorse Grazing Trials

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Farmers in the Mullaghanish to Musheramore SPA had expressed concern about the spread of Gorse, both European Gorse (*Ulex europaeus*) and Western Gorse (*U. gallii*). Many participants claimed that access to some sites was impeded and that they were powerless to address the issue because of concerns about burning and mechanical removal. To address this, the Project team initiated trials using Horses and Goats to assess their value in managing the Gorse management.

The first trial focussed on European Gorse and started in early February. Four blocks of Gorse were fenced off with solar powered electric fencing. Three of these blocks (Blocks 1-3) were relatively homogenous stands of Gorse with very occasional other woody species. The Gorse was very dense with very little vegetation at ground level. The fourth block (Block 4) was more mixed with Gorse, Willow, Ash, and occasional conifers, it was also more open and contained a sizeable area of grassland. The largest block (Block 1) was 0.5 ha, the remaining blocks (Blocks 2-4) were 0.3 ha.

A piped water supply was provided to all four blocks. Four Horses were introduced to Block 1 in early February, this was increased to 6 after 2 weeks and then reduced to 5 after another week. The Horses stayed in place until the middle of March, when they were moved to Block 2. They stayed there for another 2 weeks before being removed from the trial.

Sixteen Goats were introduced to Block 4 at the end of January. They were all wethers, 14 Saanens and 3 crossbreds, 13 animals were 1 year old, the remaining 3 were 2 years of age. The Goats stayed in block 4 until mid-March, when they moved to Block 1 after the horses were removed. The Goats grazed block 4 until mid-April when they were removed from the site.

# Innovation

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The Goats were successfully contained by 3 strands of electric fencing, their herding instinct was very strong, and the animals stayed close together throughout the period of the trial. The occasional animals that jumped the fences returned voluntarily to re-join the herd.

All animals were provided with supplementary concentrates throughout the duration of the trial.

Block 1 : Horses (Early Spring) followed by Goats (Late Spring). The Horses proved very effective early in the trial, grazing green shoots of Gorse, physically breaking Gorse stems and stripping the bark from stems. In phase 2 of the trial the Horses were observed to be less effective as they spent more time grazing on fresh grass. Their consumption of Gorse was limited to stems and flowers. The Gorse in Block 1 which was grazed early in the trial sustained very serious damage to Gorse, predominantly by bark stripping. Death of Gorse plants from ring barking was observed from July onwards.

The extent to which the follow-on grazing by Goats contributed to this is unknown but is likely to have been minimal due to the much lower stocking rate of 4.8 LU/ha for Goats compared to 10 LU/ha for Horses.

In addition, as the Goats were present later in the Spring they were less likely to strip bark from stems. Observations of the animals during this period showed that they had a preference for young stems, flowers, and grass.

The animals opened up paths through the Gorse allowing light to penetrate. Stem breakage and bark stripping were very apparent along this network of paths. The passage of animals broke up the layer of litter on the ground. By July (3 months after the animals were removed) a lush growth of grasses had established along and adjacent to the pathways. By this stage Brambles were also becoming established although they were not yet considered problematic.





# Innovation

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Block 2: Horses only (Late Spring). The Horses were not introduced to this site until Phase 2 of the trial. They had very little long-term impact as most browsing in late spring was on young shoots and flowers. Bark stripping did not occur.

Block 3: This block was used as a control site.

Block 4: Goats only. The Goats were observed to be very selective in their diet. Browsing initially focussed on Brambles and Willow twigs and only moving onto Gorse when this food source was exhausted. There was considerable damage to the bark of unprotected trees of all species. However the vegetation recovered very quickly after the Goats were moved on.

## Conclusions

Horses managed at high stocking rates in late winter/early Spring can provide an effective mechanism for managing dense stands of Gorse. Timing is of critical importance as the stripping of bark from stems is concentrated in late Winter/early Spring. This behaviour appears to cease later in the Spring when grasses, young stems and flowers become more important in the diet.

The lush growth of grass in the summer may be linked to the opening up of the canopy and to the release of Nitrogen from decaying Gorse litter. The breakdown of Nitrogen fixing nodules on the roots of dying Gorse plants may have also been a factor. This may also be contributing to the observed increase in young Brambles. If this is the case, the effect may be relatively short term.

# Innovation

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The Project and the farmer intend to reintroduce Horses to Block 1, in the late Winter/ early Spring 2022 to further open up the site and control the developing Brambles. We do not intend to remove the Gorse but aim to break up the stand into a large number of smaller clumps interspersed with grassland. This will reduce the fire risk, increase the edge effect along the boundary between scrub and grassland and facilitate the Hen Harriers' hunting technique. A more open structure will also improve access and grazing potential for cattle and sheep.

If Winter grazing of Horses was not repeated, we expect the Gorse would recover although at least in the short term, it would be mixed in with Grasses and Brambles. This vegetation structure may be of more value to Hen Harriers as potential nest sites than the dense Gorse present initially.

Goats appear less effective than Horses for Gorse management. Their smaller size and the relatively low stocking rate in the trial meant that their forage consumption was much lower than that consumed by the Horses. Their small size also meant that stem breakage was insignificant. The Goats preference for the twigs of Willow and Brambles reduced the pressure on Gorse until these food sources were exhausted.

We believe that effective use of Goats for Gorse management would require a much higher stocking rates than was used in the trial.

The decision to use Wethers rather than Billy Goats or does avoided the increased management that a breeding herd would entail. Older animals (>3 years old) and those from larger meat breeds like Boer or Kiko would be preferable to the relatively young dairy goats used in the trial. For effective management, Goat grazing would have to continue into late Spring and Summer to prevent recovery of woody vegetation.

Overall the results of Goat grazing were disappointing. The difficulty in sourcing large numbers of Goats of the type required mean that Goats are unlikely to be a practical method for managing Gorse.

Targetted grazing by equines is a practical method for Gorse management with possible uses in managing fire risk, improving access and in improving nesting habitat for Hen Harriers. The introduction of winter grazing by Horses may open up dense Gorse and permit the development of Brambles, possibly creating an improved nesting habitat.

This trial was followed by another using Horses to graze Autumn or Western Gorse. Autumn Gorse is a smaller more compact plant. While Horses are unlikely to browse on its bark, research in Spain had shown that large equines can have an impact on Western Gorse, through stem breakage and browsing on young growth. This opens up habitats for other plant species and may reduce the continuity of fuels.

Based on the Spanish research and our own experience of Horses browsing on European Gorse, the Project team decided that trialling mob grazing of Western Gorse by Horses in the summer months was appropriate. Planning for this commenced before the end of the period covered by this report.

# Research



## Scientific papers

Two scientific papers were published by members of the Project team on the lessons learned in the operation of the Hen Harrier Project.

Moran, J., D. Byrne, J. Carlier, B. Dunford, J. A. Finn, D. Ó hUallacháin, and C. A. Sullivan. 2021. Management of high nature value farmland in the Republic of Ireland: 25 years evolving toward locally adapted results-orientated solutions and payments. *Ecology and Society* 26(1):20.

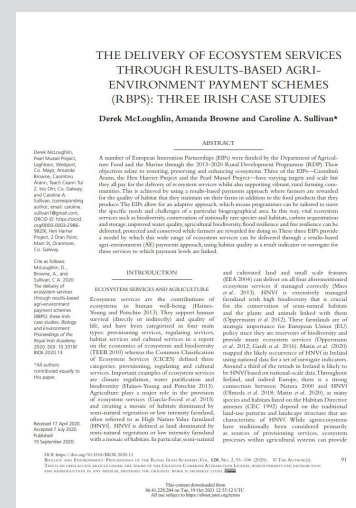
<https://doi.org/10.5751/ES-12180-260120>

This paper presents case studies in the design and implementation of results-based payments aimed to better achieve environmental objectives, and discusses the Irish experience with results-based approaches, and how they may be scaled up for wider implementation.

McLoughlin, D., Browne, A. and Sullivan, C.A., 2020, January. The delivery of ecosystem services through results-based agri-environment payment schemes (RBPS): three Irish case studies. In *Biology and Environment: Proceedings of the Royal Irish Academy* (Vol. 120, No. 2, pp. 91-106). Royal Irish Academy.

<https://www.jstor.org/stable/10.3318/bioe.2020.13>

This paper describes the evolution of policy and management of HNV farmland in the Republic of Ireland over the last 25 years and describe the emerging locally adapted, results-based payment approach that is valorizing a broad range of ecosystem services from these areas, which helps to underpin the future social, ecological, and financial viability of HNV farmland



# Collaboration

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## FoodShield



University College Dublin  
Ireland's Global University

The Hen Harrier Project continues to participate in the FoodShield research project led by Professor Fiona Doohan, School of Biology and Environmental Science, University College Dublin. The FoodShield project, supported by Science Foundation Ireland and the Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAERA), will help the Irish AgriFood sector recover from delays and negative impacts associated with Covid-19 and assess their potential benefits at an all-Island level.

The FoodShield project is developing prototype digital technologies, underpinned by economic analysis and potential policy interventions, to help the Irish AgriFood sector reduce delays and support Irish plant protein products using ubiquitous sensing, track and trace, food provenance and Internet of Things (IoT). Project Manager Fergal Monaghan is on the Project Team.

## Post-graduate Diploma



**MTU**  
Ollscoil Teicneolaíochta na Mumhan  
Munster Technological University

Project Officer Eoin McCarthy, through the Munster Technical University, Department of Agricultural & Manufacturing Engineering secured Springboard+ funding for a part-time Post-graduate Diploma in Sustainable Agriculture and Land Use with Innovation to be run from January 2022. The Post-graduate Diploma aims to meet the growing demand for knowledge, leadership and understanding in the protection of land and natural resources. The programme will provide learners with the skills to recognise intrinsic issues which require both environmental and agricultural understanding to ensure a framework of sustainability for the Agri-Food industry for future generations. Springboard+ funding provides for 16 student places. Springboard+ is co-funded by the Government of Ireland and the European Union.

As part of the Post-graduate Diploma, students will learn about innovation in the Hen Harrier Project including grazing trials, approaches to scrub maintenance and management, habitat enhancement measures.

# Communications

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Staff from the Hen Harrier Project participated in a number of events including :

- 22nd September, 2020. The Project Manager Fergal Monaghan gave a presentation on the working of the Hen Harrier Project to the Northern Real Farming Conference. A week long conference on farming in the North of England. The presentation focussed on the results-based approach used by the Hen Harrier Project
- November to December 2020, Fergal Monaghan briefed DAFM staff involved with the design phase of the REAP (Results Based Agri Environment Programme). This focussed on the lessons learned in the operation of the Hen Harrier Programme and their potential applicability to the proposed DAFM scheme.
- 26th November 2020, Fergal Monaghan participated in a workshop on The Common Agricultural Policy post-2020: A new Green Architecture, Novel Eco-schemes, and biodiversity indicators. The workshop report follows the template prepared by the coordinating group for this project consisting of iDiv Helmholtz Centre for Environmental Research, the Thünen Institute Federal Research Institute for Rural Areas, Forestry and Fisheries, and the Universität Rostock (following a request for such workshops from the European Commission).
- 10th December 2020, Fergal Monaghan gave a presentation to the Galway Environmental Network on the work of the Hen Harrier Project.
- 28th January 2021, Project Officer Pdraig Cronin gave a presentation on agriculture, wildlife, and biodiversity to the agricultural science class Transition Year students in Presentation Secondary School Tralee Co Kerry.
- 28th January 2021, Project Assistant Manager Caroline Sullivan participated in a webinar with senior Welsh Government officials on results-based payment schemes.
- 9th February 2021, Caroline Sullivan presented at a webinar with senior Natural Resources Wales staff.
- 11th February 2021, Caroline Sullivan gave a presentation to the Scottish Environment LINK roundtable: The Future of Rural Support in Scotland (session 3 - supporting skills and knowledge transfer).



# Communications

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- 16th February 2021, Fergal Monaghan gave a presentation to Teagasc staff on Extensive Farming – Feedback on Learnings from Environmental innovation Partnerships (EIPs).
- 25th February 2021, Fergal Monaghan gave a presentation to the Upland EIP meeting on the work of the Hen Harrier Project.
- 1st February 2021, Project Ecologist Ryan Wilson-Parr presented on the Hen Harrier Programme for the Irish Wildlife Trust Webinar - Birds on the Edge. <https://iwt.ie/what-we-do/communication/webinars/>
- 17th February 2021, Fergal Monaghan was interviewed on the Mooney Goes Wild Programme about the work of the Hen Harrier Project.
- 18th February 2021, Fergal Monaghan gave a presentation to the Common Agricultural Policy (CAP) Consultative Committee on the need for a results-based, landscape level approach to a future Agri-Environment and Climate Measure in the next CAP.
- 24th & 25th February 2021, Fergal Monaghan participated in the Structured Approaches for Forest fire Emergencies in Resilient Societies - International User Requirements Workshop (SAFERS IURW2021).
- 25th February 2021, Caroline Sullivan presented on a webinar with major farming/landowning bodies (Farmers' Union of Wales, National Farmers Union Cymru, National Sheep Association and Country Landowners Association Wales) in Wales.
- 4th March 2021, RTE News showed the Horse in the Gorse grazing trial in Musheramore. This included a short interview with the Fergal Monaghan, the local Project Officer Padraig Cronin and the farmer hosting the trial.
- 4th March 2021, Padraig Cronin featured on the RTE Nuacht with regard to the grazing trial and management of gorse in the Musheramore SPA in Ballymakeera Cork.

# Communications

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Staff from the Hen Harrier Project participated in a number of events including :

- 11th March 2021, Fergal Monaghan spoke on Connemara Community Radio about the use of targeted grazing by horses for the management of Gorse.
- 24th March 2021, Caroline Sullivan inputted into the NPWS review.
- 20th April 2021, Fergal Monaghan presented at a webinar for farmers involved in the NPWS farm plan scheme on the issue of creating farms ponds. This event was organised by Teagasc.
- 26th April 2021, Fergal Monaghan was interviewed on the RTE Radio 1 news about the impact of the Wildfires in Co. Kerry.

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# HEN HARRIER PROJECT ANNUAL REPORT

YEAR 4: MAY 2020 - APRIL 2021

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