Appendix 2-1 Biodiversity Management Plan

SCART MOUNTAIN WIND FARM

BIODIVERSITY MANAGEMENT PLAN

December 2024

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Glossary

The following terms and acronyms are used throughout this document.

Term / acronym	Meaning
Developer	FuturEnergy Scart Mountain DAC
BMP	Biodiversity Management Plan
EIAR	Environmental Impact Assessment Report
Project	Proposed Scart Wind Farm.
Offset Lands	Lands currently within legal control of the Developer for the purpose of providing compensation for residual effects.
Steering Group	Group tasked with implementation of the measures in the biodiversity management plan.
ESA	Ecological Specialist Advisor providing specialist advice, carrying out surveys, monitoring, and part of Steering Group.
Farm Plan Team	Ecological and Agricultural advisors forming team tasked with preparation and implementation of the farm plans. Responsible for auditing the success of land management measures and part of Steering Group.
Moorland	Moorland generally refers to open upland landscapes dominated by heather and maintained through human management.

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1.0 Summary

This Biodiversity Management Plan sets out details of the approach to be applied to deliver the compensation measures referred to in the Biodiversity (Chapter 6) and Ornithology (Chapter 7) Chapters of the Scart Mountain Wind Farm EIAR.

The proposed wind farm is located in conifer plantation and open moorland. The lower part of the development is dominated by Coillte conifer plantation forestry with open moorland habitats, fragmented areas of dry heath and bracken *Pteridium aquilinum* form the remainder of the habitats present.

Hen harrier was confirmed breeding within / adjacent to the proposed wind farm site from 2018-2020. No occupied territories were recorded in 2021. In 2022, the only breeding activity recorded was a confirmed nest over 2 km from the site. Breeding was confirmed in 2023 at a nest site around 300 m from the nest site used in 2018 (east of the proposed project). Territorial activity was recorded at edge of the proposed wind farm site in 2024, displaying males were observed in April and birds were recorded carrying food in July, but no nest site was found. Most Hen Harrier flightlines were recorded over Knocknanask Hill.

The residual significant effects of the proposed project requiring compensation are displacement of hen harrier and loss of habitat. Compensation can be defined as *"……measures taken to offset residual effects resulting in the loss of, or permanent damage to, ecological features despite mitigation.* ***For example, it may take the form of replacement habitat or improvements to existing habitats****."* (CIEEM, 2018). [Emphasis added] The compensation measures to offset the residual effects are restoration and long-term management of 118.1 ha of open moorland on Knocknanask Mountain, restoration of areas around turbines within the conifer plantation, restoration of 37.24 ha of conifer plantation to dry heath on Knocknasheega and land management of 79.43 ha of agricultural lands.

The 3 broad aims of the BMP are as follows:

- Aim 1: Management of lands to improve suitability for foraging hen harrier.
- Aim 2: Restoration of moorland habitats.
- Aim 3: Restoration of conifer plantation to dry heath.

The total area of offset lands within the control of the Developer is 326.87 ha and of this 234.77 ha can be considered to be suitably located for management for foraging hen harrier. The agreement for the total 326.87 ha of offset lands is for the lifetime of the wind farm once operational plus an additional 3-5 years before operation commences. This is likely to be a term of 35 – 40 years for Scart wind farm development. The landowners have agreed to the management of their lands for biodiversity.

The BMP and the measures within have been designed to implement some of the recommended actions of the Irish Wildlife Manual (IWM) No.147 (2024). IWM No. 147 reports on the findings of the 2022 Hen Harrier National Survey and provides specific recommendations arising from the national survey to inform the protection and restoration of the hen harrier population in Ireland. The crossover between the recommendations in IWN No. 147 and the BMP aims and objectives is set out in Table 4.1 of this document.

The suite of management measures (Appendix I) that will be implemented have been tried and tested by the hen harrier project, Farming for Nature and other agri-environment schemes in Ireland. The efficacy of the proposed management measures has been demonstrated by agri-environment schemes such as the Hen Harrier Project and is also supported by resources such as Conservation Evidence. The proposed management measures are management prescriptions that are standardly used by a variety of community, conservation and development projects across Ireland and the UK to improve biodiversity in habitats in a variety of settings.

2.0 Introduction

This Biodiversity Management Plan sets out aims and objectives of the plan to deliver the compensation measures referred to in the Biodiversity (Chapter 6) and Ornithology (Chapter 7) Chapters of the Scart Mountain Wind Farm EIAR. The BMP should be read in conjunction with both the Biodiversity and Ornithology Chapters and associated technical appendices. The BMP forms a commitment to deliver in full all mitigation and compensation measures set out in both chapters. For details on wind farm layout, site characteristics, birds, habitats, protected species present, and predicted ecological and ornithological impacts reference should be made to the relevant sections of the EIAR for the proposed project.

2.1 Background

The proposed wind farm is located in conifer plantation and open moorland. The lower part of the development is dominated by Coillte conifer plantation forestry, with open patches of dry heath and bracken, and locally wet heath. The upper-most part of the wind farm is situated within moorland habitats dominated by wet heath in poor condition along with some degraded peat bog and smaller areas of other habitats such as dry heath and bracken *Pteridium aquilinum*.

Hen harrier was confirmed breeding within / adjacent to the proposed wind farm site from 2018-2020. No occupied territories were recorded in 2021. In 2022, the only breeding activity recorded was a confirmed nest over 2 km from the site. Breeding was confirmed in 2023 at a nest site around 300 m from the nest site used in 2018 (east of the proposed project). However, there were no juvenile birds recorded, and the nest was considered to have failed. Territorial activity was recorded at edge of the proposed wind farm site in 2024, displaying males were observed in April and birds were recorded carrying food in July, but no nest site was found.

Most Hen Harrier flightlines were recorded over Knocknanask and may have been associated with the Hen Harrier nest site that was over 2 km from the site, as there was no breeding activity closer to the site. In the other breeding seasons, the Hen Harrier flightlines were likely to be mainly associated with the territories within / on the edge of the site.

2.2 Brief Description of the Site

The proposed development site is located across an upland ridge plateau known as Scartmountain, with Broemountain in the vicinity of the site and sitting at a slightly higher level of (481 m AOD). Both hills are positioned at the eastern most periphery of the Knockmealdown Mountain range immediately south of the Tipperary border. The Comeragh Mountain range is located approximately 10 km east of the proposed development site.

The proposed wind farm site is situated within the townlands of Knocknanask, Tooranaraheen, Knocknasheega, Scartmountain, Coolagortboy, Took, Moneygorm, Moneygorm East, Moneygorm West, Lackenrea Co. Waterford. The settlements of Cappoquin and Lismore are located south - west of the site at approximately 4 km and 11 km, respectively. Dungarvan town is located approximately 17 km south - east.

2.3 Brief Description of the Proposed Development

The proposed development will consist of the installation of 15 wind turbines, a 110kV on site substation, new entrances and access roads, upgraded access roads, cabling, compound areas, borrow pits, turbine delivery route works and any other associated works.

The overall project will also include a 110kV grid connection which will export electricity generated on site via an underground cable to the existing Dungarvan 110kV substation. This element of the project is being progressed under a separate planning application to An Bord Pleanála.

2.4 Purpose of the BMP

The BMP seeks to implement positive land management for the benefit of nature conservation that will offset any residual adverse impacts of the proposed Development may have had. The current habitat value of the proposed Development and has taken the opportunity to provide not only compensation, but large scale enhancement of local habitat features to provide wider benefits. Other species likely to benefit from the measures set out in the BMP include passerines with potential for new species to colonise the offset lands due to the changes in land management. This BMP defines the Aims and Objectives of the land management that will be implemented.

2.5 Timeframe for delivery of the wind farm

It is anticipated that construction of the project will take from 15 - 24 months. The operating life of the wind farm will be 35 years from the date of energisation. At the end of its life, it likely that the wind farm would be decommissioned and this is likely to take approximately 12 months.

3.0 Overall Approach

A sequential process has been adopted to avoid, mitigate and compensate negative ecological impacts and effects on biodiversity arising as a result of the proposed project. This is referred to as the 'mitigation hierarchy' which is illustrated in Figure 1 below.

Figure 1: Mitigation hierarchy

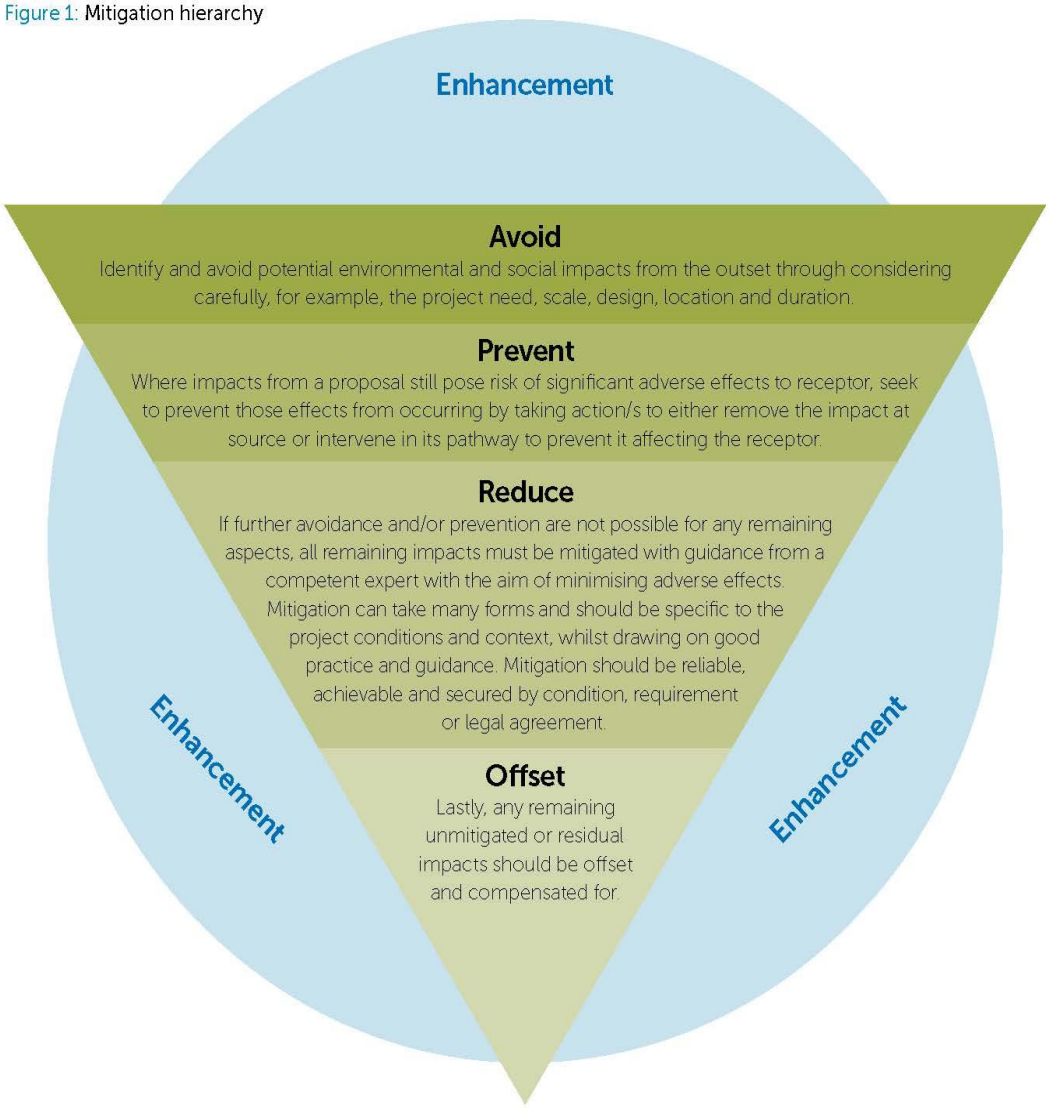

Figure 1 The Mitigation Hierarchy (IEMA, 2024)

The mitigation hierarchy was applied throughout the design of the proposed project to avoid significant effects on biodiversity, and where such effects could not be avoided, they have been minimised where possible, to reduce residual effects. Thus, where significant residual effects remain, applying the approach in Figure 1 above, they must be offset and compensated.

The distinction between mitigation and compensation is that mitigation avoids or reduces the occurrence of negative impacts and effects and **compensation addresses**

effects which are residual, after avoidance and mitigation have been considered. (CIEEM, 2018) [emphasis added]

This BMP provides details of the compensation measures, proposed in the biodiversity and ornithology chapters of the EIAR, how they will be implemented and monitored to offset any identified significant residual effects on biodiversity as a result of the proposed project. Compensation describes measures taken to offset residual effects resulting in the loss of, or permanent damage to, ecological features despite mitigation. **For example, it may take the form of replacement habitat or improvements to existing habitats**. Compensation can be provided either within or outside the project site (defined by the red line of a planning application). Compensation should always be seen as a last resort, when all other mitigation options have been exhausted (CIEEM, 2018).

3.1 Overview

The residual significant effects of the project requiring compensation is displacement of foraging hen harrier (indirect habitat loss) and direct loss of habitat. The compensation measures to offset the residual effects are restoration and long-term management of approximately of open moorland on Knocknanask Mountain, restoration of areas around turbines within the conifer plantation and on Knocknanask, restoration of conifer plantation to dry heath on Knocknasheega and land management of 79.43 ha of agricultural lands off-site.

The area of Knocknanask open moorland habitat within control of the Developer is 206.5 ha. However, applying the displacement zone of 250 m 87.5 ha of this moorland is excluded from the calculation of compensatory habitat for hen harrier. The total area of offset lands within the control of the Developer is 326.87 ha and of this 234.77 ha can be considered to be suitably located for management for foraging hen harrier. Thus, for the purposes of foraging hen harrier the total area of offset lands is 234.77 ha.

3.2 Indirect habitat loss

The development of a wind energy development in, or immediately adjacent to, hen harrier habitat has the potential to result in some indirect loss of existing suitable foraging habitat, through potential displacement due to avoidance of foraging proximal to operational turbines. The following text discusses hen harrier habitat preferences in Ireland and the species usage of the project site along with the offset lands were identified, their current land use and the offset lands to be restored and/ or managed for foraging hen harrier.

3.2.1 Hen harrier habitat

Hen harrier is closely linked to specific habitat types, primarily open grasslands, heaths, and bogs, which provide essential nesting and foraging grounds. Their population dynamics are significantly influenced by habitat quality and availability (Madders, 2003; Arroyo *et al*., 2009; Irwin *et al*., 2012; Caravaggi *et al*., 2019). Optimal habitat features, such as dense vegetation cover for nesting and abundant prey, including small mammals and birds, are crucial for successful breeding (McClure *et al*., 2018). However, habitat degradation due to agricultural intensification, afforestation, and land-use changes poses a severe threat to hen harrier populations (Fernandez-Bellon *et al*., 2021). The loss of traditional farming practices, which can maintain some suitable habitats, has led to declines in prey availability and increased predation risk frequently associated with

coniferous forest plantations (Sheridan *et al*., 2020). Furthermore, the fragmentation of habitats can reduce foraging efficiency and increase competition with other raptors (Hunt *et al*., 2022).

Conservation efforts in Ireland focus on habitat restoration and management, emphasising the importance of agri-environment schemes to promote hen harrier-friendly practices (NPWS, 2024). Effective habitat management is critical for reversing population declines and ensuring the long-term maintenance and survival of this species in Ireland. Successive national surveys in Ireland (Norriss *et al*., 2002; Barton *et al*., 2006; Ruddock *et al*., 2012; 2016; 2024) have defined the typical habitats used by the species which includes (i) first rotation (or new) forest (1F); ii) second rotation forest (2F) (iii) thicket (pole) or mature stage forest (T); iv) clearfell (CF); v) heather moorland/bog (H); vi) grass moorland (G); vii) rough grassland (RG); viii) improved grassland (IG); ix) scrub (S); x) linear feature associated with rough grassland (LR); xi) linear feature associated with improved grassland (LI); xii) woodland (W) and xiii) other (O). These tend to be utilised according to availability, preference and certain habitats amongst these which may also be actively avoided. Other habitats utilised by the species include fens (especially for wintering), reedbeds (especially for wintering), bracken (occasionally for breeding and foraging), saltmarsh (especially wintering), arable crops (especially wintering and foraging).

3.2.2 Hen harrier usage of the proposed wind farm site

Hen harrier was recorded using the proposed wind farm site for foraging., predominantly the area of open moorland over Knocknanask (See Chapter 7 of the EIAR). Published literature indicates that foraging hen harrier can be displaced from suitable habitat around operational turbines although the extent of displacement varies between studies and authors. Pearce-Higgins *et al.* (2009) indicates that reductions in Hen Harrier densities mainly occur within 250 m of the turbine and they state that Hen Harrier avoidance of turbines extended to "*at least … 250 m from the turbines.*" Therefore, the potential area of suitable foraging habitat around each of the 15 proposed turbines at Scart Mountain was calculated, assuming that 100% of the 250 m area around turbines would no longer be used by foraging hen harrier once the turbines are operational. The quantitative displacement effect quoted above is from Table 3 of the Pearce-Higgins paper, which shows predicted reductions in densities for a range of species in 500 m buffers around turbines. These predicted reductions were based on statistical models that assumed linear relationships between bird densities and distances from turbines. This means that, where the avoidance effect extends for less than 500 m, the models will tend to over-predict the displacement effect at the 500 m scale. Therefore, the assessment of the displacement effect for Scart Mountain has been calculated using 250 m buffers around the turbines and makes a precautionary assumption of a 100% displacement effect within those buffers.

The above approach is precautionary as in reality any displacement effect will be less than 100%. Furthermore, there is some uncertainty about the displacement effect reported by Pearce-Higgins *et al.* (2009) as other studies have reported much weaker displacement effects (although most of these other studies are grey literature and have not been peer reviewed).

The estimated area of habitat, indirectly lost to foraging hen harrier through displacement, is thus calculated as 133 ha using the precautionary approach described

above. The BMP sets out compensation for the potential displacement effect on foraging hen harrier through the provision of alternative and / or improved foraging habitat within the legal control of the Developer. Land management measures will therefore be employed on the lands under option as shown on Figure 2 to provide foraging habitat to offset the predicted displacement of foraging hen harrier. The area of the offset lands within the control of the Developer suitable for management to provide alternative and / or improved foraging habitat is 234.77 ha. This equates to ca. 1.8 ha to each 1 ha of land potentially lost to hen harrier through displacement.

3.2.3 How were the lands to offset displacement effects identified?

Lands to offset the displacement effect were sought within 2 km of a known recent hen harrier nest location (immediately east of the proposed project redline boundary) by carrying out a desk-based review of available maps and aerial photography in conjunction with liaison with the land agent, project manager and other members of the project team. The desk exercise focused on identifying lands that are either not currently suitable for foraging hen harrier, such as improved agricultural grasslands, or habitat that is suitable for foraging hen harrier but is currently degraded. Improvement of the habitats within the offset lands will increase its suitability for foraging hen harrier and provide a greater quality resource.

The offset lands were selected based on some, or all, of the landholding located within 2 km of the recent nest location east of the project site, current suitability for feeding hen harrier i.e. not currently suitable or degraded and capable of being improved for hen harrier through simple changes in current land management practices. Land management measures to create or improve habitats for foraging hen harrier is a recognised conservation approach in the Conservation Objectives Supporting Document for Breeding Hen Harrier (NPWS, 2022)..

3.2.4 What is the current land use within the offset lands?

The proposed lands for offset are currently in use for agriculture, primarily grazing animals, and forestry with the breakdown of number of hectares (ha) of each provided in Table 3-1 below. The agricultural lands selected are used predominantly as pasture for grazing animals and consist of a combination of improved and semi-improved grasslands. Some of the grasslands selected may also be used for silage or hay crops.

The forestry lands are a mixture of closed canopy coniferous plantation and failed plantation that is not used with any regularity by foraging hen harrier. The open moorland habitats on Knocknanask hill are currently used for sheep grazing and was assessed by AECOM (2023) as being in unfavourable condition due to a combination of historical land management and the current grazing regime. Some of the lands under the control of landowner 2 are also open moorland and acid grassland habitats that are currently subject to intensive grazing by sheep and are extremely degraded as a result of overgrazing.

The ornithology chapter (Chapter 7, Section 7.5.3.2) of the EIAR discusses the land use and habitats of the offset lands. It notes that the habitats within the wind farm can be broadly classified as dry and wet heath, acid grassland and conifer forestry and these areas were surveyed during the habitat survey of the project site. However, the land use

of the areas outside the project site was evaluated in Chapter 7 using CORINE[1] data. Based on these data sources, around 25 ha of the lands are occupied by forestry and another 30 ha are occupied by improved grassland. The remaining area is mapped as heath or peat bogs. However, a lot of the area mapped as peat bogs in the CORINE dataset may be degraded bog / heath or acid grassland or a mosaic of these habitats.

For the purposes of this BMP the current land use has been divided into two broad categories, namely agricultural and forestry, and the area of each within the control of the Developer is presented in Table 3-1 below.

Table 3-1 Current Land use of Offset lands (hectares)

Landowner	Agriculture	Forestry
Landowner 1	54.71	-
Landowner 2	19.67	-
Landowner 3	5.05	-
Total landowners 1 -3	**79.43**	
Coillte	-	41.84 (Of this 21.8 ha requires clear felling)
Knocknanask	205.6	-
Total hectares within Developer Control (Optioned)	**285.03**	**41.84**
250 m Displacement Zone Area	87.5	4.6
Total hectares (excluding 250 m displacement zone)	**197.53**	**37.24**

The total area (ha) of agricultural and forestry offset lands under the control of the Developer is 326.87 ha. However, when calculating the BMP lands available to foraging hen harrier a 250 displacement zone has been applied at each turbine (See Figure 1). This means that of the 326.87 ha of offset lands within the control of the Developer a total of 234.77 ha can be considered to be suitably located for management for foraging hen harrier. The loss of 133 ha of habitat to foraging hen harrier through displacement will be therefore be offset by 234.77 ha of lands that will be managed to benefit foraging hen harrier for between 35 and 40 years. Each 1 ha of the 133 ha indirectly lost to foraging hen harrier through displacement will be compensated by ca. 1.8 ha of offset lands. Table 3.2 below sets out the optioned land total before and after the application of the 250 m displacement zone.

[1] CORINE (Coordination of Information on the Environment) program in an effort to develop a standardized methodology for producing continent-scale land cover, biotope, and air quality maps.

Table 3-2 Optioned Offset Land for hen harrier

Land use / Land type	Total (ha) Optioned Offset Lands	Area (ha) excluded from offset land due to 250 displacement zone	Total (ha) of Lands for foraging hen harrier
Off-site agricultural lands	79.43	0	79.43
Moorland (Knocknanask)	205.6	87.5	118.1
Forestry (Knocknasheega)	41.84	4.6	37.24
Total hectares	**326.87**	**104.6**	**234.77**

3.3 Direct Habitat Loss

Wet and Dry heath habitat will be lost as a result of the proposed project. Both of these habitats are listed on Annex 1[2] of the Habitats Directive. The distribution of these habitats within Knocknanask and Knocknasheega is shown on the maps (prepared by AECOM) provided as Appendix II.

The loss of these habitats is a permanent effect that cannot be mitigated thus resulting in a residual significant effect. The residual effect of the habitat loss therefore requires offsetting through compensation. The compensation measures proposed are as follows:

- Habitat Restoration.
- Habitat Management.

The focus of the compensation measures to offset the loss of wet and dry habitat will be on Knocknanask, excluding the footprint of the turbine and road infrastructure, in the northern section of the project site. Knocknasheega, located in the eastern portion of the site, will also form part of the offset lands. The permanent buffer areas around turbines will also be managed to restore dry heath habitat. See Figure 3 for these locations.

3.3.1 Moorland Habitats

Burning is one of the key degradation factors at Knocknanask, particularly in wet heath but also dry heath, and burning may also have affected and certainly poses a future threat to the already-degraded blanket bog. Future prospects for all these habitats is considered Unfavourable Bad (AECOM, 2023), since burning has taken place in recent times and, if

[2] These are habitats of Community interest listed in Annex I of the EC Habitats Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna). In summary, habitats of Community interest are those that: a) are in danger of disappearance in their natural range, b) have a small natural range, or c) present outstanding examples.

current management continues, is likely to take place again, threatening further harm to wet heath and potentially bog. Although burning of wet heath (and bog) may be legally permitted [at certain times of the year], it is often problematic in reducing ericoid cover and diversity, reducing the cover of or damaging Sphagnum, reducing diversity of the flora in general, encouraging the spread of species that can favour disturbance at the expense of other species (likely the case at Knocknanask for deergrass *Trichophorum germanicum, Campylopus introflexus* and possibly purple moor grass *Molinia caerulea*), and potentially degrading peat deposits. With cessation of burning, the threat of further degradation by burning at Knocknanask would be immediately removed and, with the implementation of an appropriate grazing regime, the condition of wet heath would be expected to gradually improve. The changes in land management on Knocknanask will lead to benefits for other habitats and species including hen harrier.

3.3.2 Dry heath habitat

It is proposed to remove the pine plantation on former dry heath at Knocknasheega, Currently the ground flora present includes a high percentage of ericoid, indicating that removal of the plantation would likely lead to reestablishment of dry heath habitat. That this would be very likely to occur is effectively demonstrated by the block of dead pine plantation, in which dry heath dominated by bilberry with frequent heather is now developing. The 41.84 ha of land at Knocknasheega includes a Coillte BioClass[3] area which Coillte has identified as BioClass 3. BioClass 3 is defined as by Coillte as "*Habitats of ecological significance at county level*". This BioClass 3 area is classified as dry heath and the management proposed by Coillte for this area is "*Remove conifers, conversion to open habitat*". The habitat classification as dry heath aligns with the AECOM 2023 survey findings and the proposed management mirrors that proposed by the Developer.

Removal of trees in the clearance zone around wind turbines located in the conifer plantation can also be expected to result in an increase in Annex I dry heath as similar ericoid flora remains within the ground flora. Given that dry heath is showing signs of recovery within the block of dead pine plantation, it is likely that this would happen also happen within the clearance zones with minimal intervention aside from removing as much brash as possible. The changes in land management on Knocknasheega will lead to benefits for other species, including hen harrier, particularly given the proximity of similar open moorland habitats on Dyrick Hill.

[3] https://www.coillte.ie/media/2020/02/Coillte_BioClass_Brochure_Sept_2018.pdf (last accessed 6 December 2024)

4.0 Plan Details

The aims of the plan are broadly described in this section of the BMP along with measures of success for each aim.

4.1 Aims of the BMP

The aim of this BMP is to provide details of the compensation measures and how they will be implemented and monitored to address residual effects on biodiversity as a result of the proposed project. The BMP measures to compensate for the loss of habitat and displacement of foraging hen harrier will also benefit other species such as bats, breeding birds and will increase floral diversity within agricultural grasslands. The plan measures will also allow floral species sensitive to grazing to recover within the moorland habitats such as degraded blanket bog, wet and dry heath. The lands required to implement the plan objectives have already been optioned, in other words the landowners have signed a legally binding agreement to allow the Developer to control management of the lands for the lifetime of the wind farm.

The aims of the BMP include the following:

- Implementation of land management measures to benefit foraging hen harrier.
- Habitat restoration of dry heath where trees are felled on Knocknasheega and where the forest plantation canopy has been opened to facilitate turbine construction and associated bat buffers (See Figure 3).
- Habitat restoration and management measures to improve habitat quality open moorland to compensate for the loss of moorland habitat.

4.1.1 Aim 1: Management of lands to improve suitability for foraging hen harrier.

The total area (ha) of agricultural and forestry offset lands under the control of the Developer is 326.87 ha. However, of the 326.87 ha under Developer control land a total of 234.77 ha is outside the displacement zone and can be managed for hen harrier. The 234.77 ha includes 197.53 ha of agricultural land, including the open moorland habitats on Knocknanask and 37.24 ha of forestry lands distributed within and surrounding the proposed wind farm site (Figure 1). There is a further 79.43 ha of agricultural land outside the redline boundary of the wind farm that makes the total of 234.77 ha to be managed for foraging hen harrier..

4.1.2 Aim 2: Restoration of moorland habitats

The loss of wet and dry heath habitat on Knocknanask will be offset through the restoration of the moorland habitats unaffected by the footprint of the proposed development. There is approximately 118.1 ha of open moorland on Knocknanask, when excluding the turbine and road infrastructure area, that will be managed to improve the condition of the habitats present. The restoration will largely be delivered through habitat management measures such as change in type and numbers of grazing animals as well as the timing and duration of grazing. The management measures to improve the condition of the moorland habitats will also benefit foraging hen harrier.

4.1.3 Aim 3: Restoration of conifer plantation to dry heath

The restoration of the 37.24 ha of conifer plantation in Knocknasheega on the eastern part of the project site will involve the removal of the pine plantation in this area and the restoration of dry heath habitat. The clearance zones, including bat buffers, within the conifer plantation will also be restored to dry heath habitat (See Figure 4).

4.2 Crossover between 2022 hen harrier survey recommendations and the BMP

The BMP and the measures within have been designed to implement some of the recommended actions of the Irish Wildlife Manual (IWM) No.147 (2024). IWM No. 147 reports on the findings of the 2022 Hen Harrier National Survey and provides specific recommendations arising from the national survey to inform the protection and restoration of the hen harrier population in Ireland. The crossover between the recommendations in IWN No. 147 and the BMP aims and objectives is set out in Table 4.1 below.

Table 4-1: Crossover between IWN No. 147 and Scart Mountain Wind Farm BMP

IWM No. 147 Recommendation	BMP Aims	How the BMP Aims meet the IWM Recommendations
Long-term and consistent supports (greater than five years) within the agricultural sector.	Aim 1: Management of lands for foraging hen harrier.	Supports in place for the lifetime of the wind farm. Total years 35 – 40 (includes pre-construction implementation).
Knowledge transfer and skill sharing between hen harrier ecologists and the farm advisor networks.	Aim 1: Management of lands for foraging hen harrier.	The implementation of the BMP aims and objectives requires ecologists, farm advisors and ornithologists working together. The BMP will be overseen by a Steering Group who will review the results from the monitoring programme and adapt management measures including adjustment of farm plans as required.
Reduce disturbance and habitat losses with the hen harrier range from land-use changes and development activities.	Aim 2: Restoration of moorland habitats	The offset lands, particularly at Knocknanask, will be managed in a manner to optimise habitat suitability for breeding and foraging hen harrier. Activities, such as burning and use of off-road vehicles, are prohibited under the landowner legal agreements. (See Appendix I for details).
Cessation of cutting and burning of deep heather.	Aim 2: Restoration of moorland habitats	Knocknanask, will be managed in a manner to optimise habitat suitability for breeding and foraging hen harrier. Cutting and burning heather will be prohibited under landowner legal agreements.
A programme of awareness and education within the recreational sector in particular is recommended, focussed on dog walking, scramblers and off-road vehicle usage within the uplands and breeding ranges of the hen harrier and also with regard to the	Aim 2: Restoration of moorland habitats. Aim 3: Restoration of conifer plantation to dry heath.	The organising, allowing, or engaging in recreational activities involving off -road or racing vehicles is prohibited under landowner legal agreements. The Steering Group will review compliance with prohibited activities set out in the landowner agreements and make

IWM No. 147 Recommendation	BMP Aims	How the BMP Aims meet the IWM Recommendations
development of projects, trails and tracks within hen harrier areas.		recommendations on any required actions arising from the review.

5.0 Implementation of the BMP

The implementation of the aims and objectives of the BMP is described in the following sections. The measures proposed are broad and will be subject to further development and elaboration by the Steering Group, including the agricultural and ecological specialists, appointed to carry out and / or oversee the work of implementation.

5.1 Proposed Management Measures

This section of the BMP describes the aims, objectives and prescriptions for improving and restoring habitat within the proposed wind farm site and in the offset lands. A total of 234.77 ha of lands within the control of the Developer is habitat will be managed for biodiversity, with a focus on foraging hen harrier, through changes in land management and / or habitat restoration (See **Error! Reference source not found.**igures 1 - 4).

5.1.1 Aim 1: Management of lands to improve suitability for foraging hen harrier.

The objectives of Aim 1 seek to align with conservation goals and address the specific needs of hen harrier and their preferred habitats. Key objectives include (i) enhancing habitat quality to support breeding, foraging, and roosting; (ii) restoring or maintaining natural vegetation and prey populations and (iii) minimising human-induced disturbance.

The key objectives are summarised in Table 5-1 and described in more detail in the text following on below.

Table 5-1 Summary of Objectives, Prescriptions and Target Outcomes for Aim 1

Objective	Prescription	Target Outcomes
Objective 1.1: Baseline Surveys	Carry out a baseline survey of landholdings.	Up to date baseline information for each landholding.
Objective 1.2: Land Management for foraging hen harrier	Agri-environment scheme to benefit hen harrier for 35-40 years. Measures will include: a. Grassland Management: b. Rush Management c. Delayed Topping/Mowing: d. Hedgerow Management e. Scrub Development. f. Reduction in Fertilizer Application. g. Planting of Native Trees and Fruit Trees.	Detailed farm plan specific to each landholding and developed by farm advisor and ecologist. Improvement in diversity of species, sward structure and suitability for hen harrier prey species.

Objective	Prescription	Target Outcomes
Objective 1.3: Disturbance management	Managing disturbances, such as limiting recreational activities, restricting access during breeding seasons, and controlling noise and other human impacts.	Improved conditions for successful nesting and fledging of young prey species and, if habitat is suitable, hen harrier.

5.1.1.1 Objective 1.1: Baseline Surveys

Agricultural and Ecological Specialists will commence survey work of the agricultural lands, excluding Knocknanask, which will include, as a minimum, the following:

- Survey and classification of habitats present within each landholding. Habitat classification will follow '*A Guide to Habitats in Ireland*'.
- Survey and classification of soils within each landholding.

The agricultural and ecological survey results will be used to prepare the Farm Plan specific to each land holding. These surveys will assist in identifying areas which can be optimised for the target species focusing on the hen harrier that the land management programme is designed to support. The Farm Plan will set out specific measures for each land holding to achieve the optimum results for foraging hen harrier such as:

- Landholding specific stocking density and grazing regime.
- Hedgerow management / planting.
- Determining fertiliser application levels or whether cessation of fertiliser application is needed.
- Set targets / outcomes that will be audited in line with a set audit schedule.

5.1.1.2 Objective 1.2: Management of Agricultural Lands

The suite of land (habitat) management measures proposed for the agricultural lands were developed using the measures applied in the hen harrier project, literature on the ecology of the species and expertise of the ecologists working on the wind farm project. The suite of management measures that will be implemented have been tried and tested by the hen harrier project[4], farming organisations[5] and other agri-environment schemes in Ireland. The efficacy of the proposed management measures has been demonstrated by agri-environment schemes such as the hen harrier project and other agri-environmental schemes as summarised by Conservation Evidence [6].. The baseline surveys carried out by the ecologist and agricultural specialist will be used to develop the landholding specific farm plan which will provide the targeted habitat management measures.

[4] Hen Harrier Project website http://www.henharrierproject.ie/ (last accessed 8 December 2024)

[5] Farming for Nature https://www.farmingfornature.ie/ (last accessed 8 December 2024)

[6] Conservation Evidence summarises the documented evidence for the effectiveness of conservation actions. See https://www.conservationevidence.com/actions/700 (last accessed 15 December 2024)

The proposed management measures are management prescriptions that are standardly used by a variety of community, conservation and development projects across Ireland and the UK to improve biodiversity in habitats in a variety of settings. Thus, the measures proposed can be expected to succeed in enhancing floral species diversity in agricultural grasslands and providing additional and improved foraging habitat for hen harrier. It is expected that the land management measures will begin to benefit hen harrier within 5 years of implementation.

The agreement for the offset lands will be for the lifetime of the wind farm once operational plus an additional 3-5 years before operation commences. This is likely to be a term of 35 – 40 years for Scart wind farm development. The Landowner agreements for Scart Mountain wind farm have been executed and the landowners have contractually agreed to the management of their lands for biodiversity. These agreements are confidential so letters of consent to demonstrate the existence of the Landowner Agreement have been included as part of the planning documentation as evidence of the agreement for the decision maker to review.

The suite of standard land (habitat) management measures was provided to each landowner signing their agreements to ensure they fully understood the commitments required. The habitats used by hen harrier and the document provided to landowners is included at Appendix I. The specific measures for each landholding will be developed into the Farm Plan in consultation with the landowner after planning permission has been achieved for the project.

The standard land (habitat) management measures to be implemented include, but are not limited to, the following type of measures:

a) Grazing Regime

Livestock management plays an important role in maintaining habitats that are beneficial for hen harrier. When livestock grazing is carefully controlled, it helps to create a varied landscape with patches of open ground and areas of low, native vegetation, which are ideal for hen harriers to hunt. Overgrazing, however, can degrade vegetation cover and reduce the abundance of prey species, so balancing livestock density ensures that habitats remain rich in biodiversity. This balanced approach encourages the presence of small mammals, birds, and invertebrates that hen harrier relies on for food.

The hen harrier project field guidance states[7] "*Sward structure is an important contributor to both prey numbers and prey accessibility. Rush tussocks create foraging and nesting opportunities for small rodents along with Meadow Pipits and other ground nesting birds. Sward structure responds well to management and significant progress can be made in a single growing season.*" The overall aim of the grassland management will be to create foraging and nesting opportunities for hen harrier prey species through changes to the grazing regime by changes to the length of time lands are grazed, and reduction or increase in stocking density as deemed appropriate to develop and / or enhance foraging habitat for hen harrier. The specific detail of the grazing regime will be developed on a land holding by land holding basis and provided in the Farm Plan.

b) Rush Management

[7] *Hen Harrier Programme Field Guidance for scoring Species Rich Grassland Ver. 2 June 2021* http://www.henharrierproject.ie/HHPSRGGuidance.pdf (last accessed 12 January 2024)

The structure of the sward, as described earlier, is important to the successful provision of optimal foraging habitat for hen harrier. Sward structure must include a mix of vegetation heights and while rush tussocks are a desirable part of the sward, they must not make up more than 70% of the sward at most.

As a rule of thumb rush management will not be carried out during the period 1 March – 31 August inclusive to avoid disturbance and mortality or injury of ground nesting bird species and other wildlife. The management of rushes cannot be carried out using chemicals such as glyphosate. Mechanical control may be required / acceptable from time to time to prevent rush cover becoming excessive. Where mechanical control is to be undertaken, the rush cutting regime must be agreed with the ecologist and agricultural advisor.

c) Delayed topping / mowing

As a rule of thumb topping or mowing will not be carried out during the period 1 March – 31 August inclusive to avoid disturbance and mortality or injury of ground nesting bird species and other wildlife. The availability of tussocky rushes and multi- layered swards is key to supporting the prey species of birds and small mammals favoured by hen harrier. However, individual landholdings may be allowed, on the advice of the ecologist and agricultural advisor, to top or mow grasslands during the period referenced above. Any such allowance / deviation would be written into the Farm Plan and closely monitored.

d) Hedgerow establishment and management

The hen harrier programme supporting actions states "*Hen harrier show strong preferences for foraging along intact, dense structured hedgerows between 3 and 4 metres wide. Supporting actions on farm plans therefore should establish and restore hedgerows to these ideal specifications.*"

The Farm Plan for each landholding will therefore include establishment and enhancement of hedgerows in appropriate locations through additional planting (gapping up) of hedgerows with native species to encourage dense growth. Where available native hedgerow species will be of local provenance and, if the landowner is agreeable, a buffer strip along hedgerows will be retained and sown with wild bird cover crops to provide additional foraging habitat. The cover crop will provide cover for small mammals and birds and attract invertebrates.

Management of hedgerows using low impact mechanical means will be limited to a minimum of every 3 years and with the exact rotation period for each landholding in the Farm Plan developed with the farm plan ecologist and agricultural advisor. Fencing of hedgerows may be required to protect them from livestock.

e) Scrub Development

Scrub is a valuable habitat for hen harrier and many of their prey species. Hen harrier will hunt along the edges of scrub and allowing scrub at suitable locations will increase suitable foraging habitat and may also provide roosting opportunities. Scrub encroachment into grasslands will be discouraged through the continued use of grazing animals or by use of mechanical means if advised to do so by the agricultural advisor and ecologist. The locations for any desired scrub expansion will be agreed with the landowner and set out in the Farm Plan.

f) Reduction / cessation of fertiliser application

The requirements for reduction or cessation of the application of fertilisers will be determined by soil testing and surveys carried out by the agricultural advisor to inform the individual farm plan. The aim of this measure would be to increase the species and structure diversity of the grassland sward through reduced nitrate application. This measure would also assist in meeting the requirements of the Nitrates Directive and improve the quality of surface water run-off to streams and drains locally.

g) Planting of native trees

This measure that will be subject to suitable soil and land availability to develop small orchards or woodlands on the landholding and subject to landowner agreement to implement same.

5.1.1.3 Objective 1.3: Disturbance management

Human-related disturbance can affect the spatial utilisation by foraging and breeding hen harrier through displacement and has potentially negative consequences for long-term population persistence or recovery. Disturbance reduces nest attendance and increases predation risk, influenced by factors like nest visibility, predator proximity, and food availability (Ruddock & Whitfield, 2007). Birds leaving nests to find food can leave them unguarded (Caravaggi *et al.,* 2019). Disruptions from roads, trails, tracks, buildings, burning, can lead to habitat loss and increased predator access.

Management of access and activities to avoid disturbing nesting birds forms an important objective of the BMP. However, it must be noted that currently there is no nesting hen harrier within Scart wind farm but it is possible in the future that, as habitat management and restoration is measures are implemented, hen harrier may choose to nest within the offset lands.

Disturbance management is essential for supporting healthy hen harrier populations, as these birds are particularly sensitive to human activity and environmental disruptions in their habitats. Managing disturbances, such as limiting recreational activities, restricting access during breeding seasons, and controlling noise and other human impacts, helps create a more stable and secure environment where hen harriers can nest, hunt, and rear their young with minimal stress. Reducing disturbances around nesting sites decreases the likelihood of nest abandonment, ensuring that chicks have a higher chance of survival.

This management also encourages other wildlife to inhabit the area, supporting broader biodiversity that enhances the ecological balance of the hen harrier's habitat. In summary, disturbance management not only directly benefits hen harriers by providing safer, quieter spaces for essential behaviours but also promotes a healthier ecosystem, which sustains a resilient and productive habitat for these birds and other wildlife (Bird Surveyors Ltd., 2024).

5.1.2 Aim 2: Restoration of moorland habitats

The restoration of moorland habitats on Knocknanask is primarily focused on improving the condition of the Annex I habitats present particularly the wet and dry heath habitats given that most of the degraded blanket bog present is considered to be of non-priority habitat type. The proposed restoration objectives are therefore focused on the priority habitat types present. The literature sources consulted include IUCN guidance / literature

on Peatlands and forestry[8] along with Source to Tap reports[9] and NatureScot (previously Scottish Natural Heritage) guidance on practical peatland restoration[10]. The proposed prescriptions are shown to be successful by examples such as the European Commission study on identifying the drivers of successful implementation of the Birds and Habitats Directives.

Table 5-2 Summary of Objectives, Prescriptions and Target Outcomes for Aim 2

Objective	Prescriptions	Target Outcomes
Objective 2.1: Baseline Habitat Survey	Carry out a baseline survey and condition assessment.	Updated baseline report and condition assessment to accurately inform monitoring methods and programme.
Objective 2.2: Knocknanask Farm Plan	Prepare a detailed farm plan building on the current farm plan prepared for the legal agreement.	Farm plan prepared by agricultural advisor with ecological input based on the current baseline at that time. Move from sheep to cattle grazing and adjust the current grazing regime in line with ecologist and farm advisor advice.
Objective 2.3: Increase the presence of wet and dry heath indicator species	Monitor growth rate, structure and condition of Annex I habitat indicator species as described in Perrin *et al.* (2014). evaluate whether any additional interventive management is required to achieve this objective	Annex I habitats that can be considered to be in favourable condition or at least with improved condition, based on criteria in Perrin *et al.* (2014) *Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland.*
Objective 3.5: Maintain and improve the hydrological regime	Hydrogeological and hydrological study determining movements of water within the moorland habitats and evaluate potential for local drain blocking.	A comprehensive study of the ground water and surface water movements within Knocknanask habitats.

[8] https://www.iucn-uk-peatlandprogramme.org/sites/default/files/2020-01/CoI%20Forestry%20and%20Peatlands_reduced%20size.pdf (last accessed 9 January 2024)

[9] A literature review of methods of peat restoration suitable for formerly afforested peatland in the Source to Tap project. https://www.sourcetotap.eu/wp-content/uploads/2022/09/McIntosh-2020-Peat-Literature-Review.pdf (last accessed 9 January 2024)

[10] https://www.nature.scot/climate-change/nature-based-solutions/peatland-action/peatland-action-resources/peatland-action-project-resources (last accessed 9 January 2024).

5.1.2.1 Objective 2.1: Baseline Habitat Survey

The baseline habitat survey to update the findings of the AECOM 2023 survey will be carried out during the optimum survey period for the habitats present. The ecologist appointed to carry out this survey will be required to demonstrate extensive experience of upland habitats and vegetation survey methods. The habitats will be classified following Fossitt (2000) and the European Commission Annex I interpretation guidance (2013). The habitats will be mapped in the field and target notes recorded. The condition of Annex I habitats on Knocknanask, such as H7130 Blanket bog (only a very small area), H4010 wet heath and H4030 dry heath, will be recorded by making observations at various stop points during the habitat mapping and recording the relevant condition criteria as described in Perrin *et al*. (2014).

5.1.2.2 Objective 2.2: Knocknanask Farm Plan

A farm plan has already been prepared for Knocknanask as part of the work to support the planning application for the proposed wind farm (See Appendix III). In line with the recommendations set out in the AECOM (2023) report the farm plan recommends a revised grazing regime that includes replacing sheep with cattle. The use of cattle will discourage over-dominance of purple moor-grass and to permit the best rehabilitation of burnt wet heath. The farm plan recommends that the cattle should spend a minimum of 60 days on Knocknanask during the months of June and July to encourage better grazing throughout the site.

The updated baseline survey results will be used to further develop the farm plan for Knocknanask and a targeted habitat restoration programme will be prepared alongside this. The farm plan will be updated as needed throughout the period of the lease so that measures can be amended where needed to achieve the desired outcomes. Similarly, the restoration work and monitoring programme will be adapted if needed to ensure the condition of the moorland habitats is improved.

5.1.2.3 Objective 2.3: Increase the presence of wet and dry heath indicator species.

Burning is identified as one of key degradation factors at Knocknanask and poses a future threat to the moorland habitats. Burning is on the list of prohibited actions set out in the Biodiversity Exhibit (Appendix I) provided to the landowner for the landowner agreement. The farm plan for Knocknanask (Appendix III) sets out recommendations to change the grazing regime from sheep to cattle and this change has already been agreed with the landowner. This will be a key change for the moorland habitats as AECOM (2023) report commented that "*it would be beneficial, if possible, to implement cattle grazing at Knocknanask, to discourage over-dominance of purple moor-grass"*.

The change in grazing regime and the prohibition of burning will allow the gradual improvement in habitat by allowing the wet and dry heath indicator species as per Perrin *et al*. (2014) to increase. The monitoring regime will be designed to allow increase in abundance and distribution indicator species to be captured.

5.1.2.4 Objective 2.4: Maintain and improve the hydrological regime.

The hydrological regime of the moorland will be studied to understand water movement, above and below ground, to determine where measures such as drain blocking may be

feasible. The study may involve use of dip wells to monitor water levels or an approach such as LiDAR may be employed to inform appropriate location and management of surface and ground water for habitat restoration. Any changes to the proposed hydrological regime would be agreed with the landowner and neighbouring landowners would also be advised of any such changes. It is important to note that any measures to change the hydrological regime would be, if relevant, subject to separate planning permission and focused on Knocknanask moorland[11]. The hydrological regime would not be altered on Knocknanask if the hydrological / hydrogeological studies demonstrated that negative downstream effects were likely.

5.1.3 Aim 3: Restoration of conifer plantation to heath

This aim is focused on Knocknasheega on the eastern edge of the wind farm site. Knocknasheega is contiguous with Dyrick Hill to the east and in the past is likely to have formed part of a larger area of upland habitats including dry heath and acid grassland. The restoration of dry heath habitat at Knocknasheega will create ecological connectivity[12] with Dyrick Hill where hen harrier has attempted to breed as recently as 2023 and 2024.

Table 5-3 Summary of Objectives, Prescriptions and Target Outcomes for Aim 3

Objective	Prescriptions	Target Outcome
Objective 3.1: Tree felling	Felling of trees for turbines and bat buffers. Removal of conifers from Knocknasheega.	Open areas of habitat within plantation that have potential for restoration to dry heath habitat. The removal of conifers from Knocknasheega opening up area for restoration to dry heath.
Objective 3.2: Baseline Habitat Survey	Carry out a baseline survey and condition assessment after felling has been completed.	Updated baseline report and condition assessment to accurately inform monitoring methods and programme.
Objective 3.3: Restoration of dry heath habitat	Restore dry heath from the modified habitat legacy of the conifer plantation within Knocknasheega and in the opened areas within the conifer plantation.	Dry heath habitat that includes indicator species as described in Perrin *et al.* (2014)

[11] Landscape Actions within ACRES Co-operation – Drain blocking https://acresireland.ie/landscape-actions-within-acres-co-operation-drain-blocking/

[12] Ecological connectivity is defined as the '*unimpeded movement of species and the flow of natural processes that sustain life on Earth*.' This definition has been endorsed by the Convention on Migratory Species in 2020: https://www.cms.int/sites/default/files/document/cms_cop13_res.12.26_rev.cop13_e.pdf

Objective	Prescriptions	Target Outcome
Objective 3.4 Mechanical Bracken Management	Develop a long-term bracken control programme with appointed contractor, in line with best practice such as that provided by the ACRES scheme.	Constrain bracken growth and spread on Knocknasheega.

5.1.3.1 Objective 3.1: Tree felling

The restoration of dry heath habitats within conifer plantation will require the preparation of, and submission to the Forest Service, a felling licence. Upon grant of the felling licence the conifer plantation will be felled and trees (including brash) will be removed off – site. There will be a specific method statement prepared by the forestry contractor which will detail the methods of felling and removing timber along with specific advice as part of the felling licence application.

It is intended to removal all timber and brash from the clear-felled area / areas where trees are felled and carry out "*surface smoothing*" if ground conditions allow. Surface smoothing refers the mechanical homogenisation of the ridge/furrow pattern into a flat surface.

Brash refers to the above-ground parts of trees, not normally removed during forestry clear-felling. The removal of brash will result in the faster restoration of vegetation on the exposed land.

While the specific methods for tree felling will be determined by the appointed forestry contractor a key part of any method to be employed will be to reduce ground disturbance (and possible colonisation by undesirable species) during felling. It is likely that due to the terrain and slope of Knocknasheega a method such as mulching may be employed as this method can reduce the stump to ground level. This method of forest removal is considered in areas where uneconomic or small trees are located, particularly on soft and wet ground. It involves a base unit with a high powered flail that chips the tree to fragments. This forms a mulch on the ground that can decompose and/or be subsumed by growing peatland vegetation (notably mosses in wetter areas). The flail head can also reduce the stump to ground level. Mulching will have an expected 'out-turn' (work rate) of half a hectare per day per machine (SSE Renewables, 2020).

5.1.3.2 Objective 3.2: Baseline Habitat Survey

The baseline habitat survey will focus on Knocknasheega and areas felled within the conifer plantation to facilitate the wind farm. The habitat survey to update the findings of the AECOM 2023 survey will be carried out during the optimum survey period for the habitats present. The ecologist appointed to carry out this survey will be required to demonstrate extensive experience of upland habitats and vegetation survey methods. The habitats will be classified following Fossitt (2000) and the European Commission Annex I interpretation guidance (2013). The habitats will be mapped in the field and target notes. The condition of Annex I habitats on Knocknasheega such as H4010 wet heath and H4030 dry heath, will be recorded by making observations at various stop points during the habitat mapping and recording the relevant condition criteria as described in Perrin *et al.* (2014).

5.1.3.3 Objective 3.3: Restoration of dry heath habitat

The suite of land management measures proposed for the areas where trees have been felled have been developed using accepted good practice for habitat restoration of peatland habitats.

Dry heath dominates open areas within the forestry plantation and on Knocknasheega, particularly where the pine plantation has failed. Consequently, removal of trees in the clearance zone around turbines is likely to facilitate the establishment of dry heath in these areas within the plantation. The recolonisation of these areas by dry heath species will occur organically upon removal of the trees albeit gradually. To facilitate this recolonisation aside from the removal of the trees it is also important to remove as much brash as possible. The recolonisation will be monitored as part of the monitoring programme and if the desired outcome is not being achieved the Steering Group will work to develop suitable additional actions. It is also worth noting that the area of poor quality wet heath habitat on Knocknasheega will also benefit from the measures to restore dry heath.

Ideally Knocknasheega, once the trees have been removed or mulched, would be subject to a grazing regime but the suitability of this approach will be subject to the agreement of Coillte and availability of suitable grazing animals for this terrain. In the absence of grazing the use of heather cutting or mowing may be considered with cuttings / mowings removed to prevent enrichment of the soil.

Natural regeneration of conifers, and potentially broadleaf species too, may occur on Knocknasheega during the recolonisation by dry heath species. Trees regenerating in the Knocknasheega dry heath will be removed by hand pulling and removing the seedling for mulching and / or composting off – site.

The tree removal and any heather cutting / mowing must be cognisant of the bird breeding season and avoid any disturbance to nesting hen harrier in particular. The ESA will be required to co-ordinate such activities to avoid disturbance to breeding hen harrier.

5.1.3.4 Objective 3.4: Mechanical Bracken Management

Bracken control is permissible only using mechanical means, no chemical controls are permitted. The advice provided by ACRES[13] is that strimming or rolling bracken, depending on terrain and location, on a least two occasions over multiple years will be required to control the species. The UK Best Practice Guidance on Bracken Management (FERA, 2024) provides useful case studies and some additional methods of management.

Irrespective of the method chosen to manage bracken on Knocknasheega it will be extremely important that such work does not cause disturbance to breeding hen harrier, or any other breeding birds, that may be attempting to nest on Dyrick Hill. The ESA will be required to co-ordinate such activities to avoid disturbance to breeding hen harrier.

[13] https://acresireland.ie/ (last accessed 8 December 2024)

5.2 Roles and Responsibilities

The roles and responsibilities for implementing the measures to achieve the aims of this BMP are set out in this section. This section also provides the safeguards in place to ensure that landowners are meeting their obligations under the legal agreement in place.

5.2.1 Who is responsible for implementing the measures?

FuturEnergy Scart Mountain DAC will assume overall responsibility for the implementation of the proposed measures through appointment of agricultural and ecological specialists. FuturEnergy Scart Mountain DAC will be responsible for agreed payments to landowners, payment of specialist agents / group and payment for provision of materials etc. as set out in the lease options. FuturEnergy Scart Mountain DAC or their appointed agents will also be responsible for ensuring compliance with planning conditions and engaging with statutory bodies and advisory agencies as needed.

The landowner agreement and associated schedule sets out the purpose of the lease and a broad suite of measures for land management. This landowner agreement places a legal obligation on the landowner to comply with the requirements of the developer upon exercising the lease option. In other words, there is a legal document in place that allows the developer to implement land management measures to benefit biodiversity with particular emphasis on hen harrier foraging habitat.

The agents appointed by FuturEnergy Scart Mountain DAC will be responsible for preparing / overseeing the preparation of the Farm Plans. The agents / group will also assume responsibility for auditing the land holdings, determining if the measures are achieving the desired results and, where necessary, amending the Farm Plan to achieve the required results. The Farm Plan and auditing programme will be in place for the operational lifetime of the proposed wind farm plus a further period of 3-5 years before operation commences.

The responsibility for implementing the measures will lie with the landowner once the Farm Plan has been prepared and agreed. It is proposed that all Farm Plans will have been prepared and adopted within 12 months of the exercise of the lease.

5.2.2 How Will We Ensure Implementation of the Measures?

The broad aims and objectives set out in this document form part of the information submitted with the planning application for Scart Mountain Wind Farm. The implementation of the aims, objectives and management prescriptions will commence a minimum of 3 years prior to construction. At that stage the detail of the methods to be employed to achieve Aim 1 – 3 will be further developed in specific method statements and in the landholding level farm plans. The governance structure for ensuring that Aims 1-3 are implemented and the desired outcomes achieved are set out in the following sections of text.

5.2.2.1 Steering Group

A steering group will be formed comprising the ESA (on behalf of FuturEnergy Scart Mountain DAC), the farm plan team, and, if appropriate / required, the landowners. The Steering Group will review the results from the monitoring programme and adapt management measures including adjustment of farm plans as required.

It is acknowledged that resources within organisations such as the Irish Raptor Study Group (IRSG) and National Parks and Wildlife (NPWS) are extremely constrained and therefore they are not likely to have capacity to formally sit on / engage with the steering group. However, the ESA , on behalf of the Developer, will seek to engage with and involve such organisations in discussions around the best methods for monitoring hen harrier usage of the offset lands. The Steering Group will publish an Annual Report on progress of the programme that will demonstrate compliance with any planning conditions, report on the success of the land management measures and restoration measures and make recommendations for any revision to the proposed management measures.

5.2.2.2 Developer

If the proposed Scart Mountain Wind Farm receives a grant of planning permission the next steps from the perspective of implementation for the Developer are as follows:

- Prepare the tender documents and issue tender notice for the agricultural and ecological specialists to administrate and implement the biodiversity management measures.
- Appoint the successful tenderer and agree final terms including scope of work.

The developer will appoint a group / body of agricultural and ecological specialists to oversee the preparation of the farm / landholding level plans. The appointed group / body will operate independently of the developer and will be responsible for providing each farmer / landowner with an agricultural consultant and ecologist. The plan developed will be specific to the farm / landholding in question and will be developed in consultation with the landowner and included/ referred to in the Option Agreement.

The Option Agreement is exercisable a minimum of 3 years prior to commencement of construction, subject to a final grant of planning, free from any court proceedings, and the process of developing the Farm Plan will be implemented upon exercise of the agreement. This allows for the land management measures to be implemented prior to and during the construction phase of the development to ensure that the habitat will be available to displaced foraging harrier when the wind farm becomes operational.

The farm / landholding level plan will be specific to each farmer / landowner and will employ measures for management of lands such as those provided in Schedule 1 of the Option Agreement/Lease as provided at Appendix I of this document. The farm / landholding level plan will clearly set out the land (habitat) management measures that must be implemented to ensure discharge of the agreed lease payments. The farm plan will include a timeline for auditing of the farm, the frequency of audit visits will be based on the aims of the plan and on advice of the agricultural consultant and ecologist. The findings of the audits will be submitted to the developer and to the local authority for their records and to demonstrate compliance with the commitments made in the planning application for the proposed wind farm.

The objectives of the Farm Plan will be linked to a timeline / milestone for achievement of the improved or new hen harrier foraging habitat. The auditing of the landholdings will evaluate the achievement of the Farm Plan objectives against the agreed timeline / milestones. In some cases where objectives are not being achieved or where progression is not following the agreed timeline amendments to the land management prescriptions may require revision. However, where it is apparent that the landowner is not implementing the land management measures or breaching the terms of the lease option

agreement leading to failure to enhance habitat for hen harrier, the developer will be notified immediately. The developer will review the audit report and, depending on the findings of the review, may withhold all or part of the agreed payments to the landowner concerned.

The landowner can continue to use the land for farming subject to certain conditions which are set out in the Lease Option and will also be set out in the Farm Plan. This agreement does not impact on famers single farm payments and / or other participating schemes that do not interfere with or negatively impact on the objectives of the biodiversity management plan and the Farm Plans.

5.2.2.3 Farm Plan Team

Agricultural and Ecological Specialists will commence survey work of agricultural lands which will include, as a minimum, the following:

- Survey and classification of habitats present within each landholding. Habitat classification will follow '*A Guide to Habitats in Ireland*'.
- Survey and classification of soils within each landholding.

The agricultural and ecological survey results will be used to prepare the Farm Plan specific to each land holding. The Farm Plan will set out the land holding specific measures to achieve the optimum results for foraging hen harrier such as:

- Landholding specific stocking density and grazing regime.
- Hedgerow management / planting.
- Determining fertiliser application levels or whether cessation of fertiliser application is needed.
- Set targets / outcomes that will be audited on an annual basis.

5.2.2.4 Ecological Specialist Advisor(s)

The Ecological Specialist Advisor (ESA) role, in summary, will be to carry out surveys to meet monitoring commitments and satisfy any planning conditions. The ESA will also be required to review and approve method statements and other documents relating to their specialisms. It is anticipated that this role may be delivered by a team of ecologists of various grades led by a senior experienced ecologist who will assume overall responsibility for the role including liaison with the OE, the Developer, the contractors' environmental team (including the Ecological Clerk of Works), statutory bodies and landowners.

The ESA for Scart Mountain will be required to demonstrate specific competence in hen harrier ecology and upland habitat restoration and management. The ESA will oversee the restoration works for the upland and forestry habitats. They will be required to develop the scope of work for the appointment of an appropriate contractor to carry out the restoration work on Knocknasheega and Knocknanask. Upon completion of the baseline surveys in Year 1 they will be required to develop Method Statements setting out the details of the proposed monitoring work including methods, timing and frequency of the monitoring work. The method statements will be presented to the Steering Group for discussion and agreement. The method statement for monitoring hen harrier usage of offset lands will be discussed with NPWS and IRSG or similar organisations, who wish

to engage with the Steering Group, and may have advice to provide or an interest in the outcome of the monitoring.

5.3 Management and Monitoring Schedule

A monitoring programme will be implemented to record the success of the compensation measures for hen harrier and habitat loss.

5.3.1 Proposed Monitoring

A monitoring programme will be implemented to record the success of the compensation measures. The monitoring programme will be tailored to individual landholdings or objectives and will the detail of this will be developed by the Steering Group in the first 2 years of the programme when baseline survey work and farm plans have been completed. The monitoring protocol for hen harrier usage of the offset lands will be to provide feedback on the success of the implemented prescriptions and to adapt these where required. The programme for the farm plans will be in place for the operational lifetime of the proposed wind farm plus a further period of 3-5 years before operation commences.

It is critical that the process remains flexible, allowing alterations to prescriptions in response to the monitoring programme. The monitoring results for each year will therefore be analysed and presented in an annual report to be prepared by the ecological and agricultural specialists carrying out the monitoring work on the agricultural lands and habitat management and restoration areas. Recommendations regarding any changes to management practices and/or monitoring requirements that may be considered necessary, will be presented to the Steering Group.

The monitoring programme will include the following:

- Establishing use of the offset lands by foraging hen harrier.
    - Behavioural and displacement surveys will be carried out to observe any changes in hen harrier activity, particularly in nesting or roosting locations, flight paths and foraging behaviour around the turbines and within the BMP area. The survey methods will be designed using standard reference texts such as Hardey *et al* (2013), Gilbert *et al.* (1998), Bibby *et al.* (2000) and relevant guidance such as that produced by NatureScot.
- Monitoring the recovery of moorland habitats on Knocknanask.
    - Vegetation surveys will be carried out to monitor the condition of the moorlands habitats on Knocknanask.
- Measuring the success of restoration of dry heath habitat on Knocknasheega.
    - Vegetation surveys will also be carried out to monitor the restoration of habitats on Knocknasheega.
- Measuring the success of restoration measures proposed for the clearance areas around the turbines.
    - The success of the restoration efforts around turbines will also involve monitoring the condition of the vegetation and the success of the measures implemented.

The details of the methods to be used for monitoring will be established by the Steering Group drawing on the expertise provided by the ESA and in consultation with landowners and stakeholders such as NPWS and / or IRSG.

The monitoring schedule set out in Table 5.4 provides a broad estimation of start and finish timelines for the objectives for Aims 1 -3. This schedule will be revised, if required, throughout the lifetime of the project which is expected to be from 35-40 years. The schedule will be further developed upon receipt of planning permission and the appointment of the ESA, Farm Plan Team and commencement of the Steering Group.

Table 5-4 Summary of Monitoring Timeline for Objectives

Phase	Pre-Construction			Construction		Operation										
Year	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40
Aim 1: Management of lands to improve suitability for foraging hen harrier																
Objective 1.1: Baseline Surveys																
Objective 1.2: Management of Agricultural Lands																
Objective 1.3: Disturbance management																
Aim 2: Restoration of moorland habitats																
Objective 2.1: Baseline Habitat Survey																
Objective 2.2: Knocknanask Farm Plan																
Objective 2.3: Encourage the growth of wet and dry heath indicator species																
Objective 2.4: Maintain and improve the hydrological regime																
Aim 3 : Restoration of conifer plantation to heath																

Phase	Pre-Construction			Construction		Operation										
Year	1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40
Objective 3.1: Tree felling																
Objective 3.2: Baseline Habitat Survey																
Objective 3.3: Restoration of dry heath habitat																
Objective 3.4: Bracken Management																

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Figures

Figure 1:

Windfarm Site and Offset Lands

Legend

- Watercourse
- Site Boundary
- Third Party Enhancement Land
- Turbine Layout
- Hardstands
- Construction Compound
- Displacement Zones (250m)
- Roads
- Coillte Enhancement Land
- Bioclass
- Substation
- Borrow Pit

Created by: FEI GIS LF
Date: 12/12/24

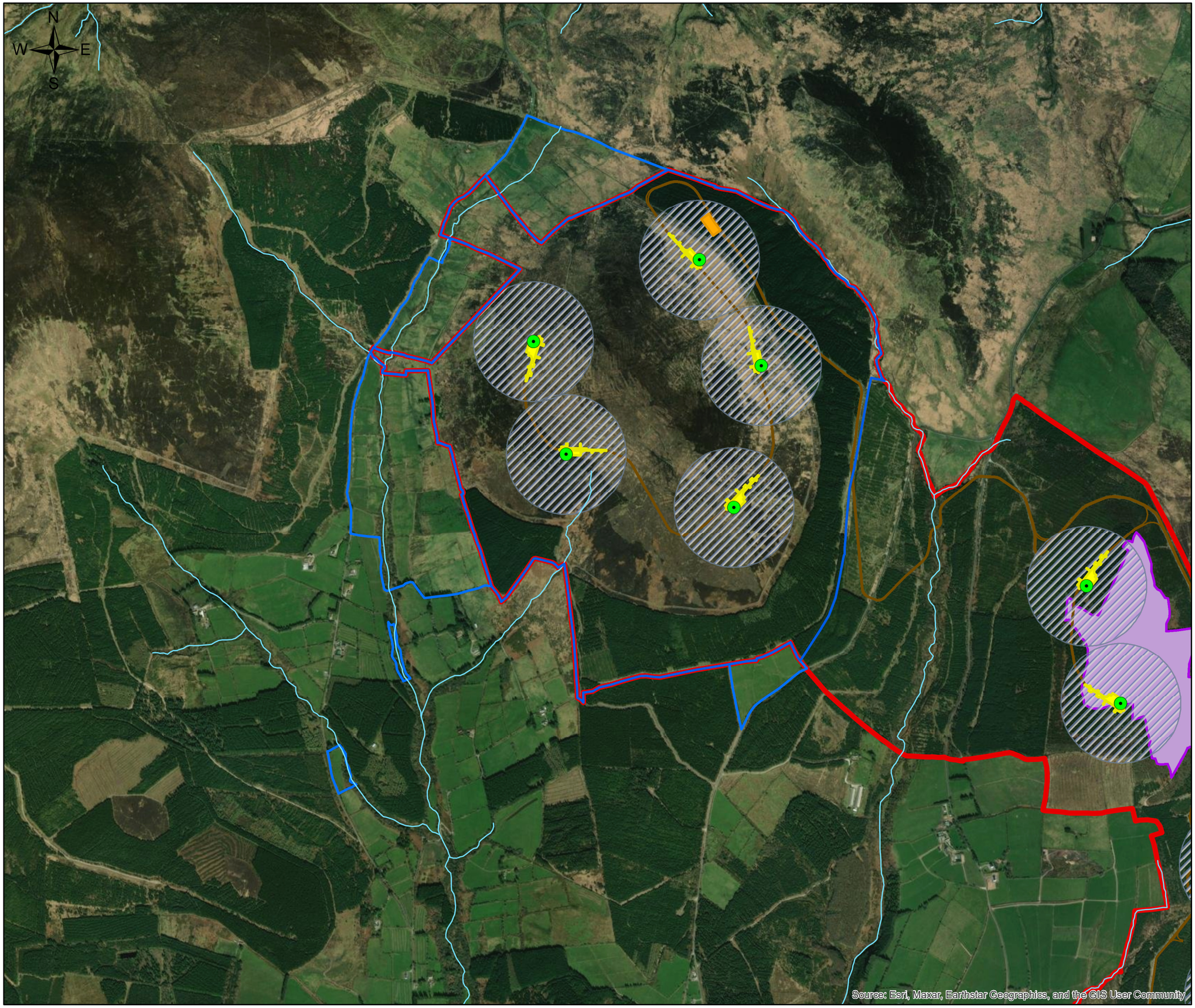
Scale @ A3: 1:28,000

Kilometers
0 0.35 0.7 1.4

Ireland FuturEnergy

Figure 2:

Agricultural Lands



Legend

- Watercourse
- Third Party Enhancement Land
- Site Boundary
- Turbine Layout
- Hardstands
- Construction Compound
- Displacement Zones (250m)
- Roads
- Bioclass

Created by: FEI GIS LF
Date: 12/12/24

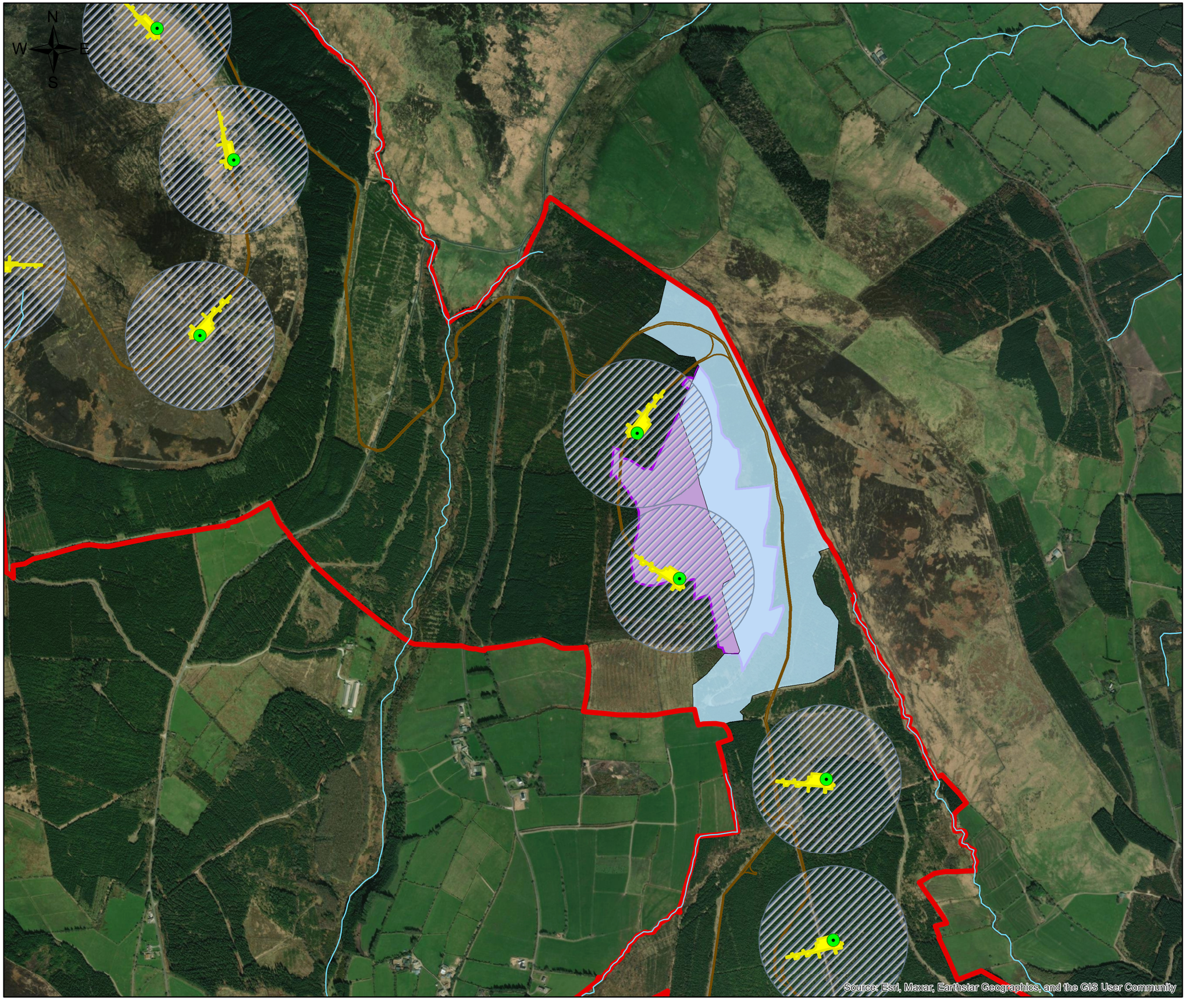
Scale @ A3: 1:15,000

Kilometers
0 0.175 0.35 0.7

Ireland
FuturEnergy

Figure 3:

Forestry Lands



Legend

- Watercourse
- Site Boundary
- Turbine Layout
- Hardstands
- Displacement Zones (250m)
- Roads
- Coillte Enhancement Land
- Bioclass

Created by: FEI GIS
Date: 10/12/24

Scale @ A3: 1:12,000

Kilometers
0 0.15 0.3 0.6

Ireland FuturEnergy

Figure 4:

Habitat Restoration Areas

Legend

- Watercourse
- Site Boundary
- Bat Buffer Felling
- Hardstands
- Displacement Zones (250m)

Created by: FEI GIS
Date: 10/12/24

Scale @ A3: 1:28,000

Kilometers
0 0.35 0.7 1.4

Ireland FuturEnergy

Appendix I: Scart Wind Farm Biodiversity Exhibit

FuturEnergy Scart Mountain DAC

Lands for Biodiversity Enhancement

Exhibit: Biodiversity Enhancement Measures

This exhibit outlines a comprehensive list of measures aimed at enhancing the biodiversity value and providing a foraging habitat for the hen harrier on the land subject to the Option Agreement between the Landowner and the Grantee. The Grantee may request the implementation of any of the following measures, as described herein, during the option period and the subsequent lease term. The actual measures to be implemented on the lands shall be further refined and detailed in the Biodiversity Farm Plan (the farm plan), which will be drafted after a detailed survey of the lands is conducted.

1. Works for Biodiversity Conservation / Enhancement:

The Grantor agrees, upon request by the Grantee, to carry out any works required for the purposes of conserving or improving biodiversity, in accordance with the Grantee's reasonable directions. The cost of such works, if necessary, shall be borne by the Grantee. Failure to implement such works may lead to non-payment of the lease rent and/or termination of the lease.

2. Access for Monitoring and Implementation:

The Grantor shall allow access to the Property by the Grantee or their appointed agents for the purposes of survey, monitoring and/or implementation of measures for conserving or improving biodiversity within the designated lands.

3. Land (Habitat) Management Measures:

The Grantor shall implement the following land management measures, which may include ;

a. **Grassland Management:** Possible changes to the length of time lands are grazed, and reduction or increase in stocking density as deemed appropriate for biodiversity conservation. A stocking density of a minimum 0.10LU and maximum 1.40LU per hectare may be sought during the months of September to March. Advice on such requirements will be set out in the farm plan with the aim of the measure being to prevent poaching or churning of lands.

b. **Rush Management:** No spraying rushes with glyphosate or other herbicides. This aim of this measure is to provide suitable and safe locations for ground nesting species such as hen harrier.

c. **Delayed Topping/Mowing:** No mowing of grassland between the period 1 March – 31 August inclusive. The aim of this measure is to preserve habitats for nesting birds and other wildlife during the period. This is particularly important for ground nesting species such as hen harrier.

d. **Hedgerow Management:** Encouraging the establishment and preservation of hedgerows for nesting and sheltering wildlife. This may include additional planting (gapping up) of hedgerows to encourage dense growth and the exclusion of mechanical management of hedgerows such as use of a flail.

e. **Scrub Development:** Encouraging the growth of scrubland to provide diverse habitats for various species. Allowing hedgerows at suitable locations, to be agreed with the landowner, to expand into small pockets of scrub woodland. Scrub encroachment into grasslands would be discouraged through the continued use of grazing animals.

f. **Reduction in Fertilizer Application:** Reducing or ceasing the use of fertilizers in certain areas to promote biodiversity. The requirements for reduction or cessation of the application of fertilisers would be determined by soil testing and survey carried out to prepare the individual farm plan. The aim of this measure would be to allow a diversity of grassland species including soft rush to be present in the grassland sward. This measure would also assist in meeting the requirements of the Nitrates Directive and improve the quality of surface water run-off to streams and drains locally.

g. **Planting of Native Trees and Fruit Trees:** Adding native trees to gap up hedgerows or creating small orchards to support wildlife. This would be a measure that would be subject to suitable soil and land availability to develop small orchards or woodlands on the landholding.

4. Prohibited Activities:

The Grantor shall not carry out or permit any of the following activities on the Designated Lands:

a. Burning Areas of Vegetation.

b. Removal of Hedgerows.

c. Planting of Conifers.

d. Land Drainage.

e. Organizing, Allowing, or Engaging in Recreational Activities Involving Off-road or Racing Vehicles.

f. Unapproved Use of Herbicides, Pesticides, or Rodenticides.

g. Turf Cutting.

5. Non-interference with Biodiversity Management:

The Grantor shall not do or permit to be done anything upon the Demised Property that would interfere or be likely to interfere with the Grantor's management of lands for biodiversity granted by the lease agreement.

APPENDIX II: Knocknanask and Knocknasheega Habitats

Revision: 0 Drawn: NN Checked: ND Approved: TM Date: 2023-03-30

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607000

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28 27 23 22 21 20 19 24 18 17 26 16 14 13 15 12 11 25 10 9 8 7 5 4 3 6 2 1

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0 50 100 200 m

bing

Filename: C:\Users\nick.dadds\OneDrive - AECOM\Documents\Scart Mountain Wind Farm\GIS\mxd\Scart_mountain_v2_Knocknanask.mxd

AECOM

PROJECT

Scart Mountain Wind Farm

CLIENT

FuturEnergy Ireland

CONSULTANT

AECOM Ireland Limited
4th Floor Adelphi Plaza
George's Street Upper
Dun Laoghaire, A96 T927
www.aecom.com

LEGEND

- Target note
- H7130 priority; active blanket bog
- H7130 non-priority; inactive degraded blanket bog
- H4010 wet heath
- H4010 wet heath (in mosaic with bracken)
- H4030 dry heath
- H4030 dry heath (in mosaic with bracken)
- H4030 dry heath and H4010 wet heath (in mosaic with bracken)
- H4030 dry heath and H4010 wet heath (mosaic)
- non-Annex I, GS3 acid grassland
- non-Annex I, HD1 dense bracken

NOTES

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ISSUE PURPOSE

FINAL

PROJECT NUMBER

60706008 / 1.1

FIGURE TITLE

Knocknanask habitat map

FIGURE NUMBER

Figure 1 Sheet 1

Revision: 0 Drawn: NN Checked: ND Approved: TM Date: 2023-03-30

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613000

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1:5,000 @ A3

0 50 100 200 m

AECOM

PROJECT

Scart Mountain Wind Farm

CLIENT

FuturEnergy Ireland

CONSULTANT

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www.aecom.com

LEGEND

- H4010 wet heath
- H4010 wet heath (in mosaic with bracken)
- H4030 dry heath
- H4030 dry heath (in mosaic with bracken)
- Developing H4030 dry heath with dead planted pines
- non-Annex I, GS3 acid grassland
- non-Annex I, HD1 bracken
- non-Annex I, WD4 conifer plantation

NOTES

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ISSUE PURPOSE

FINAL

PROJECT NUMBER

60706008 / 1.1

FIGURE TITLE

Knocknasheega habitat map

FIGURE NUMBER

Figure 1 Sheet 2

APPENDIX III: Knocknanask Farm Plan

Hen Harrier

Habitat Enhancement

Farm Plan

Applicant/s: Scart Mountain Wind Farm
Address: Knocknanask & Tooranaraheen
Cappoquin,
Co. Waterford

Reference No:
Herd No:

NHA/SAC/SPA: n/a

Site Code: n/a

River Catchment and Code: Blackwater (18)

River SUB-Catchment and Code: Blackwater (18_24)

Planners: . Denis Tuohy, William Corbett

Agency. Denis Tuohy Agricultural Consultants

Department of Agriculture Farm Advisory System... *Code.AGY12710*.....

Date 12/09/2024.

…….....…...

SECTION 1 DETAILS OF LANDS

Details of Lands (whether owned, rented, leased, commonage or grazing rights)

	Owner	Plot No	Land Parcel Number (LPIS No)	Plot Area (Ha)	Townland	County	Land use
1. **Lands farmed (includes 3 below)**							
- Owned lands (non-commonage)	[redacted]	1		117.08	Knocknanask	Waterford	Agricultural
	[redacted]	2		82.38	Tooranaraheen	Waterford	Agricultural
	[redacted]	3		5.01	Knocknanask	Waterford	Agricultural
	[redacted]	4		1.48	Knocknanask	Waterford	Agricultural
	[redacted]	5		0.05	Knocknanask	Waterford	Old Buildings
Land Leased in (>5years)				0			
Land leased (< 5years) /rented in				0			
owned commonage/rights of grazing				0			
commonage/rights of grazing leased or rented in							
Total of 1			A	206.00			
2. Lands owned (Non-farmed)							
Lands leased/rented out				0			
commonage leased out				0			
Total for 2				0			
	Total for 1&2			A 206.00			
3.Farmed Target area only (included in 1 above)							
Owned NHA/SAC/SPA				0			
Owned commonage/ rights of grazing							
Leased NHA/SAC/SPA (>5 years)				0			
Leased commonage (>5 years)				0			
Rented/leased (<5yrs) commonage				0			
Rented/leased (<5years) NHA/SAC/SPA				0			
	Total for 3		B				

SECTION 2 CONSERVATION PLAN

2.1 Are the following plans completed for this target area?

(a) an NPWS Conservation Plan?	**Yes**		**No**	**x**
or (b) a commonage framework plan?	**Yes**		**No**	
or (c) an ACRES Local Action Plan?	**Yes**		**No**	

If so which plan or plans are available:
Knockmealdown Mountains ACRES Local Area Plan

2.2 Conservation plan objectives

List the relevant conservation objectives of the Conservation Plan that relate to the planned target area, referring to plots on the farm plan map.

The objectives in the Knockmealdown Mountains include Hen Harrier, water quality and semi-natural grasslands.

SECTION 3. CURRENT LAND-USE

Projected Livestock Numbers and Quantities of Nitrogen and Phosphorus from Animal and Other Wastes to be Used on the Farm. P figures are required where Animal and Other Wastes are imported or where Wastes Arising from Commercial Pig, Poultry or Mushroom Enterprises are Generated on the Farm.

Enterprise	(i) Average No	(ii) Nitrogen Kg/head	(iii) Total N (i) * (ii)	(iv) P Kg/head	(v) Total P (i) * (iv)	Enterprise	(i) Average No	(ii) Nitrogen Kg/head	(iii) Total N (i) * (ii)	(iv) P Kg/ head	(v) Total P (i) * (iv)
Horses		50		9		Totals Carried Forward					
Dairy Cow (band 1)		80		12		Deer (red) (6-24 months)		13		2	
(band 2)		92		13.6							
(band 3)		106		15.8							
Suckler Cow		65		10		Deer (red) (Over 2 years)		25		4	
Cattle (0-1) yr		24		3		Deer (fallow) (6-24 months)		7		1	
Cattle 1-2) yrs		57		8		Deer (fallow) (Over 2 years)		13		2	
Cattle >2 yrs		65		10		Deer (sika) (6-24 months)		6		1	
Mt Ewe+Lamb	180	7	1260	1	180	Deer (sika) (Over 2 years)		10		2	
Low Ewe+Lamb		13		2		Sow (Weaner)		29		9	
Mt. Hogget	40	4	160	0.6	24	Sow (Finish)		67		22	
Lowland Hogget		6		1		Pig Finish/Pl		8.8		3	
Goat		9		1		Laying Hen/Pl		0.64		0.2	
						Broilers/Place		0.6		0.13	
Maximum No. of Ewes at any time during the Year				180		Turkeys/Place		1		0.4	
Maximum No. of Suckler Cows at any time during Year				0							
						Projected production of N & P			*1420*		*204*

3.1.1.1 Is slurry, mushroom compost or other organic wastes imported onto the farm/target area?

Provide details……none on the target area…….

3.1.1.2 Give a brief description of the Farm Enterprise, e.g. Sheep, Suckler herd, Dry stock, tillage, mixed etc.

_____Upland sheep farm situated in the Knockmealdown mountains in Co Waterford. Lands are currently grazed under an annual licence agreement for 124.23 Ha in addition to the surrounding lands owned by the farmer

Lands are traditionally grazed the whole year round. Target area lands are grazed only. No conservation of hay or silage takes place on the target area.

Plots 1 & 2 are upland areas consisting of one large undivided area of moorland of approximately 205.42 hectares. It consists of ~123.04 Ha (Plots 1,6) in the townland of Knocknanask and ~ 82.38 Ha (plot 2) in the townland of Tooranaraheen. Approximately 5.96 Ha (plot 6) has been excluded from this report as the lands in question are not owned by the same landowner. There is no notable division of the lands on the ground of plot 6 and these lands are expected to be covered under a separate Hen Harrier Management plan for the land owner associated with plot 6. Plots 3 & 4 are lowland areas which are adjoining upland plot 1. Plot 5 contains the ruins of an old dwelling house and associated outbuildings that have been derelict for a long number of years.

3.1.2 Current Grazing: *Existing livestock numbers grazing Target Area*

Plot 1 & 2……Total Area ___199.46Ha__ Significant Habitats ____HH____ Stocking Density 0.11 LU/Ha

Type	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Avrg.
Horse													
Cow													
0-1 y.o													
1-2 y.o													
>2 y.o													
Ewes + lambs	180	180	180	180	180	180	180	180	180	180	180	180	180
Hoggets	40	40	40	40	40	40	40	40	40	40	40	40	40
Goats													
Other													

3.2. Give details of any current housing of stock, waste storage, silage storage and locate on an accompanying map. Where facilities are located in the target area, document the number of animals housed, type of housing, dimensions, capacities and dimensions of effluent storage, adequacy of system, state of repair etc. Sketch plan of facilities located in the target area to be attached.

No animal housing, waste storage or silage storage areas are located within the target area.

3.3. Give details of the current practices of supplementary feeding within target area plot(s)

Supplementary feeding of hay/silage takes place in the months January to April prior to lambing on the lowland on plot 4.

3.4. Give details of the current practices of fertilising, slurry application, FYM or other wastes and/or liming within relevant target area plot(s).

No applications of FYM. Slurry, lime or other wastes occur on the target area

3.5. Give details of tillage practices within relevant target areas plots; type of crop, area and location of fields under this crop, date of ground preparation, harvesting and range of normal yields.

none

3.6. Has the applicant opened drains or undertaken maintenance work to drains in the target area in the last five years?

Yes	No

Give details no

3.7. Provide details of the condition of boundaries of target area plots

Majority of the boundary fencing is timber post and sheep wire located on earth banks. The Western external boundary alongside the public road is made of low traditional stonewall with sheep wire fencing.

Internal fencing between the upland areas and the lowland areas is a mixture of timber post and sheep wire fencing either on an existing earth bank or solely a post and wire fence. The condition of the internal fencing in two small sections of approximately; 217 metres of internal fencing between plot 3 and plot 1 (Refer to Appendix 1), and also a section of ~40 metres of external boundary that commences at the intersection of plot 4 and plot 1 heading in a southerly direction Appendix 2). Both these sections are in a poor state of repair and will need repair and or replacement work carried out on these sections.

Within the lowland areas there is a river that runs through both sections of the lowland land areas. There is also one section of lowland that is not fenced and is open to the adjoining lands (Appendix 3). In plot 4 there are two notable boundary anomalies. The fenced stockproof boundary of plot 4 contains a section of land that is not covered within this agreement (marked as 4 lowland area -Split a). There is no internal stockproof fence between split A and split B (Appendix 4). There is also a small section of 0.05 hectares which has been fenced to be included with the adjoining lands to the south of this area (Appendix 5)

3.8. Are there turbary rights on the target area?

Give details on an accompanying map and document the area and number of claimants, where known

none identified or no active turbary on the site

Has the applicant been extracting turf
a) within the non-designated commonage area (within the last 5 years)?

Yes	No X	N/A

b) within the SAC/SPA/NHA/designated commonage area (within the last 5 years)?

Yes	No X	N/A

If yes, please state method: Hand • Sausage • Hopper •

What was the purpose for extracting: Domestic • Commercial •

Give details on amounts extracted and area cut/ LPIS plots etc

---

3.9. Other activities undertaken within target area plots

	Agriculture related		*Miscellaneous*
	Burning		Fishing
	Internal fencing		Hunting
	Use of pesticides/herbicides		Tourism development
	Use of plant growth regulators		Recreation
	Scrub clearance		Water extraction/storage
	Hedge/Boundary removal		Extraction of sand, gravel, soil, rock
	Water level modifications		Forestry
	Water- drinking source	X	Dumping –
	Farm Buildings		Aquaculture
	Sheep dipping facilities		Boating
	Land reclamation		Pony Trekking
	Other	x	Invasive Plant Species

Provide details of above activities as they relate to target areas

Within plot 4 the is a few issues of dumping of old waste metal barrels, planks of timber and rolls of old unused fencing wire. There is also one small area adjacent to the roadside bridge in plot 4 where there the establishment of Invasive plant Species Himalayan Balsam. My advice is to remove the dumped material during the first 6 months and consult and seek appropriate professional advice regarding the control and treatment of the Himalayan Balsam. As the site is located within the Acres Co-Operation area I would recommend that you make contact regarding the invasive plant species with The ACRES Munster / South Connacht Co-operation Project Team which is based in Kerry Technology Park, Innovation Works 1, Dromtacker, Tralee, Co. Kerry V92 KF76. Their phone number is (066) 7127399.

SECTION 4: FUTURE LAND USE

4.1. Does the Farm Plan require an alteration to livestock numbers and/or grazing regime in relevant plot(s), based on CP and/or grazing impact assessment (see attached sheets)?

Yes x	No	N/A

If yes, please state the reasons and plot numbers.

The parcel assessment (appendix 7) that was undertaken on the upland section of the target lands has resulted in an overall evaluation of **Moderate Undamaged** due in part to the level of bare soil seen throughout the site. However, the site has a range of categories such as moderate damage to Moderate Unmanaged to Undamaged – no evidence of grazing. Grazing levels appear to be a small bit above optimum levels and therefore I am recommending that an overall reduction of 10% from 220 ewes to 200 ewe equivalents on the target lands.

There is a large section of approximately 30-40 hectares (appendix 6) on the northeastern slope of the mountain that is dominated by overgrown purple moor grass. This represents an area with little or no easy access to natural water provision and is the area which is not favoured by the grazing animals. Overgrown purple moor grass is an enemy of farmers and hen harriers as its dead leaves provide the ideal fuel source to accelerate spring fires. These fires pose a real risk to wildlife, including the hen harrier.

I will be recommending the introduction of between 8-16 large herbivores - cattle or equines as sheep are not able to keep the whole site in good condition. There is evidence of moderate damage by overgrazing in some sections of the target upland area as animals have favoured grazing areas near water supplies and the areas adjacent to the lowland areas. Large herbivores should spend a minimum of 60 days on the upland area during the months of June and July to encourage better grazing throughout the site. They can be there for longer periods, but should not be present for less than a minimum 60 days.

I will also be recommending that the provision of either a portable (mobile water bowser and water troughs) or fixed water supplies be provided on the north-eastern slope of the upland areas (Appendix 6) during the months of June and July to encourage large herbivores as a tool to influence animal behaviour to help better utilise the target purple moor grass area for grazing animals.

In parallel with this in the target areas, I would also see a benefit in the use of feed blocks/ salt licks throughout the years and/or the supplementary feeding of concentrates for a short 3-4 week window during June and July in the target purple moor grass area to achieve a more valuable ecosystem for the hen Harrier and its prey.

4.2. Does the Farm Plan require a change to supplementary feeding/outwintering in target areas?

Yes	No	N/A
X		

If yes, give reasons and plot numbers. Alteration to supplementary feeding in lowland area 4. The current practices have a risk to water quality due to its location, and the surrounding land is becoming more nutrient rich as a consequence of having the congregation of animals over a feeding period. It is also more apparent the agricultural favoured grassland weeds such as nettles and thistles are thriving in this are due to the nutrient rich soil.

Recommendations

Cease supplementary feeding of forage in Lowland area 4. Supplementary feeding of concentrates is permitted.

4.3. Does the Farm Plan require a change to animal housing or effluent control within the target area?

Yes	No	N/A
	x	

If yes, give reasons and plot numbers. No animal housing within the target area

Recommendations

4.4. Does the Farm Plan require an alteration to chemical or organic fertiliser application in target area plot(s) ?

Yes	No	N/A
	X	

If yes, give reasons and plot numbers no chemical or organic fertiliser is permitted in the target area

Recommendations (*attach soil analysis report and soil analysis summary sheet, where relevant*)

4.5. Does the Farm Plan require an alteration to the current practice of hay/silage making within target area plot(s)?

Yes	No	N/A
	x	

If yes, give reasons

Recommendations

not traditionally practiced in the target area

4.6. Does the Farm Plan require alterations to current tillage practices within the farm?

Yes	No X	N/A

Recommendations

4.7. Peat Extraction: Does the Farm Plan require alterations to the current practices of turf cutting by the applicant within the target area?

Yes	No X	N/A

Recommendations (method of extraction, area and amount)

4.8. Does the Farm Plan require a discontinuation of/alteration to drainage maintenance within the target area?

Yes	No X	N/A

If yes, give reasons

Recommendations

No new drainage permitted

4.9. Does the planned area contain archaeological or historical features?

Yes	No X	N/A

If yes, provide RMP numbers, if the site is known, and draw attention to the statutory obligations.

4.10. Are there wells within the target area?

Yes X	No	N/A

If yes, provide recommendations (in relation to plot numbers)

A number of natural springs are evident on the site.

4.11. Does the Farm Plan require alterations to the current farming practices outside the target areas?

Yes	No x	N/A

Rationale and Recommendations

All the target areas are included

4.12. Does the Farm Plan require specified works in relation to boundaries of the target area plots?

Yes x	No	N/A

If yes, give reasons

The condition of the internal fencing in two small sections of approximately; 217 metres of internal fencing between plot 3 and plot 1 (Refer to Appendix 1), and also a section of ~40 metres of external boundary that commences at the intersection of plot 4 and plot 1 heading in a southerly direction Appendix 2)..

Recommendations

Repair and or replacement work carried out on these sections of approximately 257 Metres

4.13. Other activities where alterations to management practices will occur.

Tick the activities where a change in practise is recommended. Give reasons and prescribe future conditions.

	Agriculture related		*Miscellaneous*
	Burning		Fishing
x	Internal fencing		Hunting
	Use of pesticides/herbicides		Tourism development
	Use of plant growth regulators		Recreation
	Scrub clearance		Water extraction/storage
	Hedge/Boundary removal		Extraction of sand, gravel, soil, rock
	Water level modifications		Forestry
x	Water-Drinking source	x	Dumping
	Farm Buildings		Aquaculture
	Sheep dipping facilities		Boating
	Land reclamation		Pony Trekking
	Other	x	Invasive Plant Species control

Recommendations

Within plot 4 the is a few issues of dumping of old waste metal barrels, planks of timber and rolls of old unused fencing wire. There is also one small area adjacent to the roadside bridge in plot 4 where there the establishment of Invasive plant Species Himalayan Balsam. My advice is to remove the dumped material during the first 6 months and consult and seek appropriate professional advice regarding the control and treatment of the Himalayan Balsam. As the site is located within the Acres Co-Operation area I would recommend that you make contact regarding the invasive plant species with [redacted] which is based in [redacted] Their phone number is [redacted]

Fencing, alternative water supplies are mentioned earlier in the report

4.14. **Goal of the plan** (also include key recommendations of plan)

Overall, the site is in a positive condition for the support of Hen Harrier population in the area.

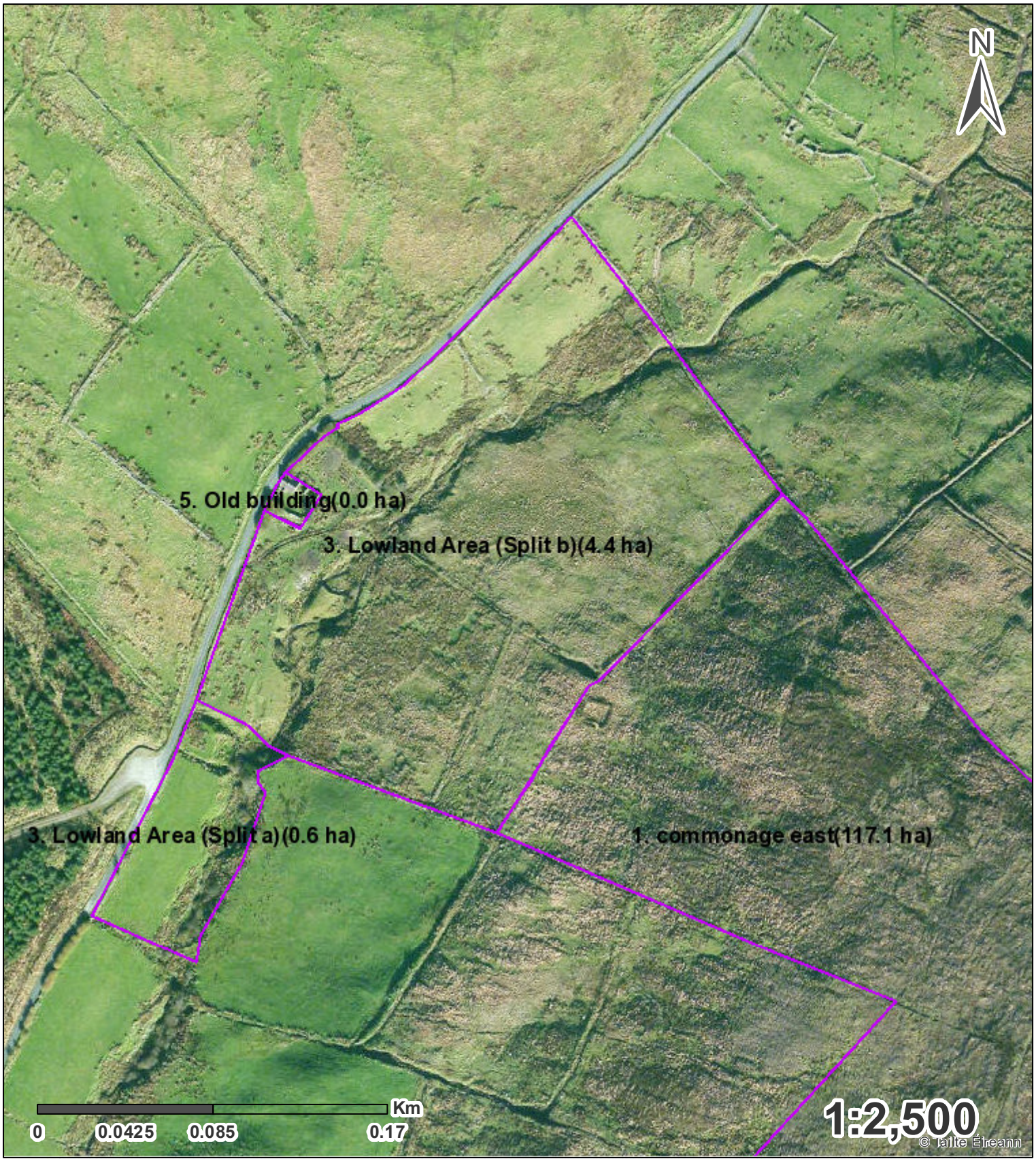
The site is actively grazed and the both the upland and lowland areas have a lot of positive attributes such as extensively grazed wet grassland and upland dry heath which has a range or sward types and grazing levels. Grazing levels are marginally to high and need to be reduced by 10 per cent to a maximum annual average of 200 ewe equivalents. I also am recommending the introduction of large herbivores (cattle/ponies/horses) for a minimum of two months of June and July each year on the site as there is a 40Ha section of land where purple moor grass has become dominant with little or no signs of grazing takes place. This introduction will be further supported by the use of encouragement tactics such as the provision of feed blocks/salt licks of the temporary provision of concentrate feeding with the 40ha Molinia area on the north-eastern side of the site. I am also recommending the provision of an additional fixed or mobile water supply with this area. Under grazed Purple Moor Grass can dominate large areas, and its dead leaves give many bogs the white grass look in winter and spring. The dead leaves dry out rapidly in sunny windy weather and create a substantial spring wildfire risk. These action should help to reverse the dominance of the purple moor grass in a targeted fashion.

There are some points to note such as the practice of supplementary feeding of forage in plot 4 which will have to cease from both a water quality and nutrient enrichment point which as a consequence is encouraging weeds to grow in the area. There are also a few items of dumping that need to be removed and a small area of invasive Himalayan balsam species that specialist advice should be sought on within plot 4.

There is approximately 177 metres of external fencing with adjoining farmland (see appendix 3) that may need to be fenced if the applicant wants to ensure the lands are managed according to the recommendations of this plan. Additionally, there is a need to repair or replace approximately 261 metres of internal fencing that has fallen into disrepair and no longer functional.

Additional Notes

Habitat Management & Enhancement Plan



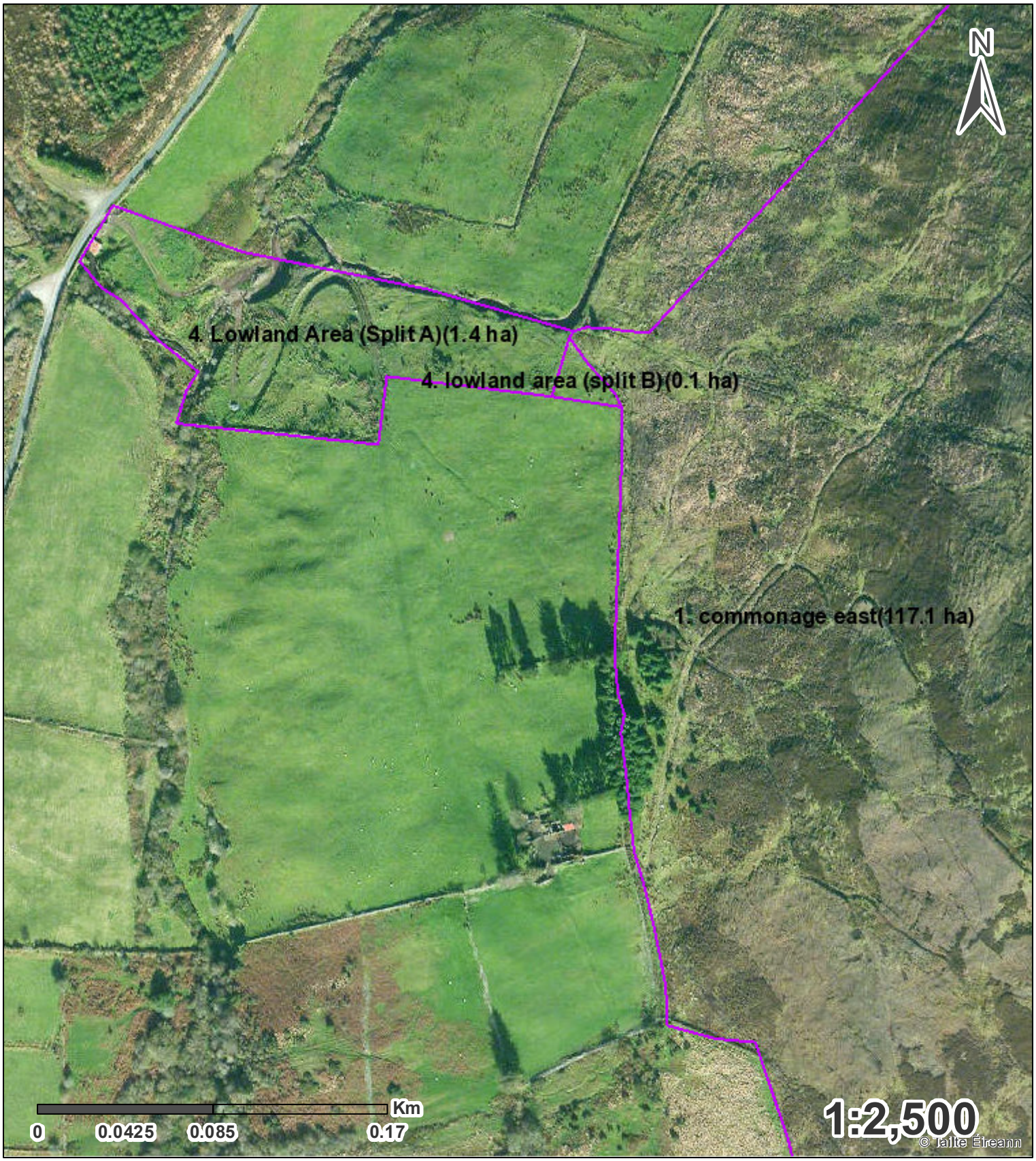
Author: NMP Online

Date: 19/06/2024

Plots

Agriculture and Food Development Authority

Habitat Management & Enhancement Plan



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Plots

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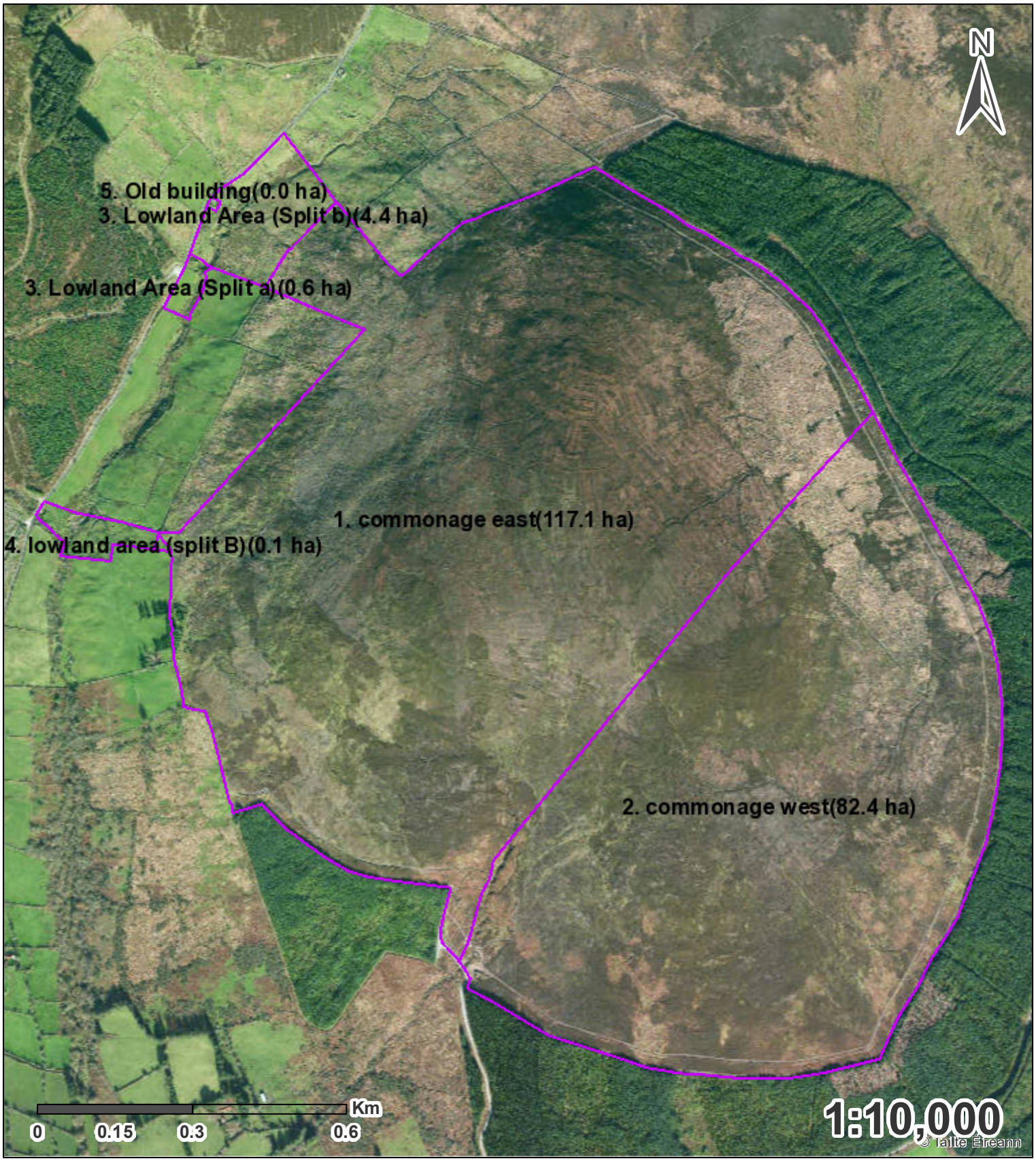
Habitat Management & Enhancement Plan



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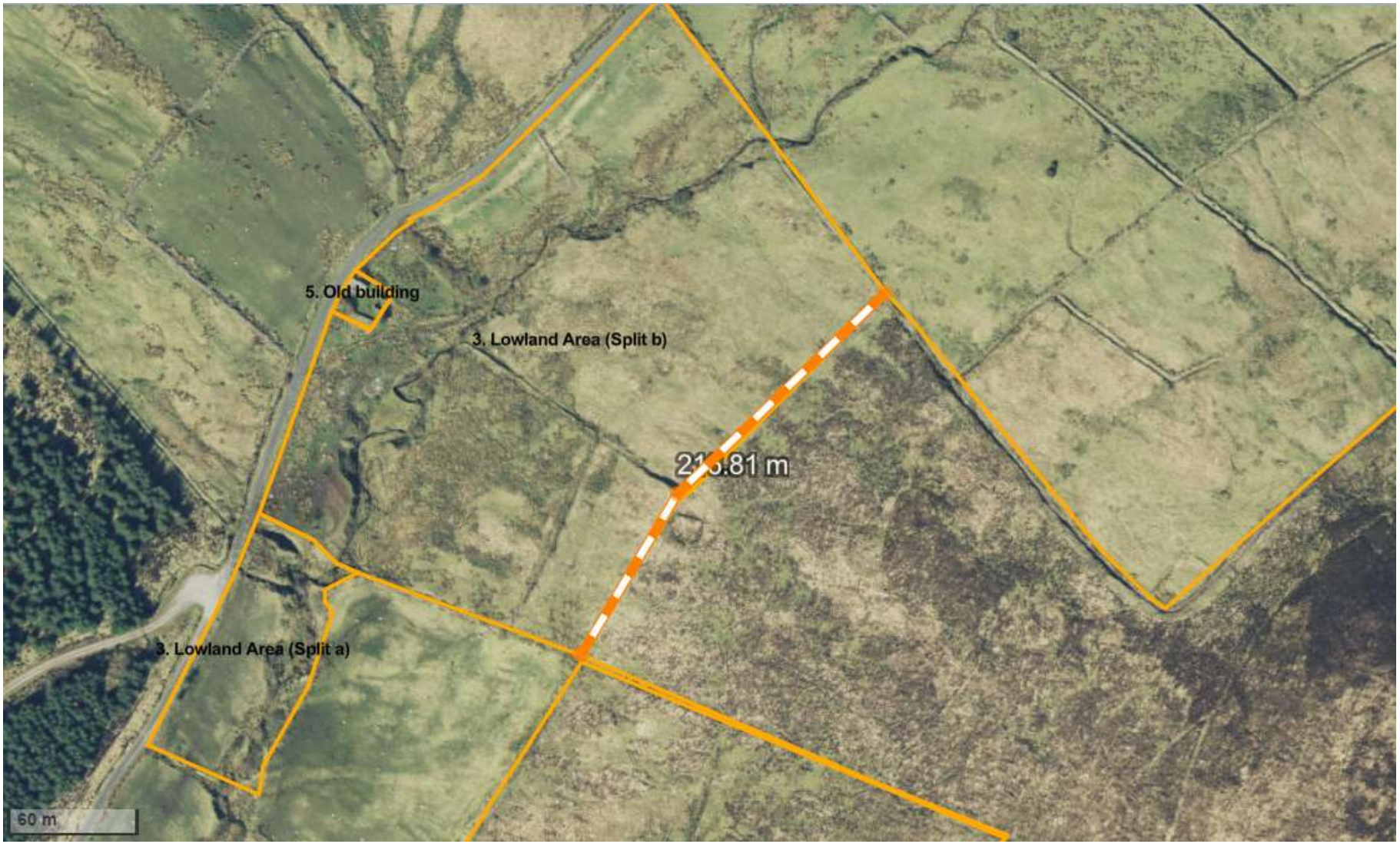
Plots

Agriculture and Food Development Authority



Appendix 1 – Fencing repair location 1 - ~217 metres in need of repair

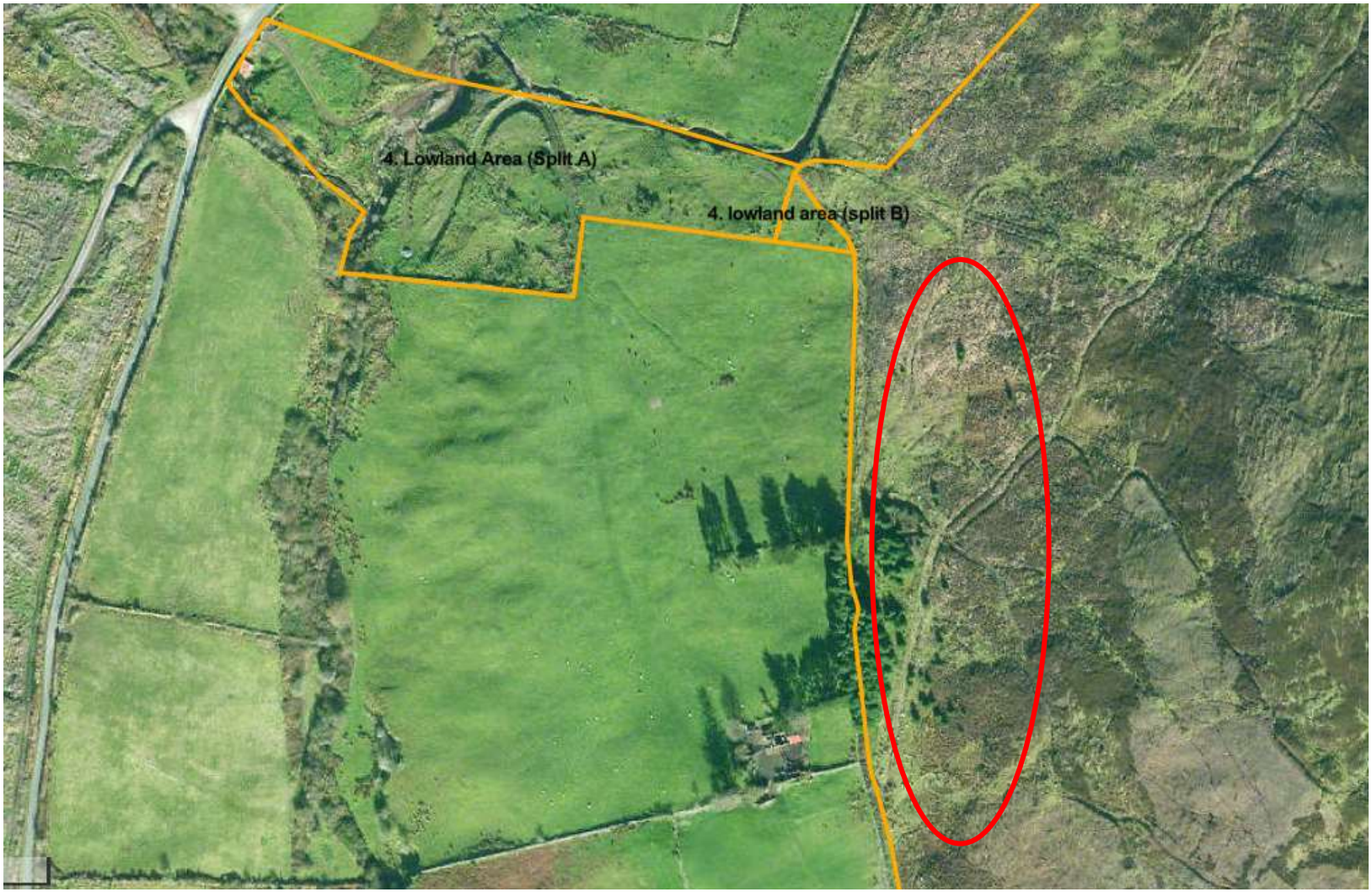
Appendix 2 – Fencing repair location 2 – 47 Meters of internal fencing between upland and lowland areas

Appendix 3 – Fencing location 3 - No stockproof external boundary

Appendix 4 – Fencing location 4 - Plot 4- Split A. 159 metres of fencing required to split the areas and ensure boundary fence is provided for management purposes

Appendix 5 – Area of land that is fenced to be excluded from owned target lands. It is managed with the adjoining lands on the southern side. Recommendation is to erect external boundary of ~36 Metres to include as part of adjoining owned lands

Appendix 6 - overgrown purple moor grass area



Appendix 7 Leyendii Trees removal area

Picture 2 – Repair or replacement of existing fencing needed between plot 1 and plot 4

Picture 3

Picture 4 – owned land on right side of picture

Picture 5 - owned land on left side of picture

Picture 6 – New fencing needed

Picture 7 - New fencing needed – owned

Picture 8 – new fencing needed

Picture 9 – old pallets/timber

Picture 10 - old metal and invasive species

Picture 11 - Invasive species