

**Powerscourt Paddock**  
**2021 Ecological Survey**



**Final Report**

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## **Powerscourt Paddock**

### **2021 Ecological Survey**

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## Powerscourt Paddock

### 2021 Ecological Survey

#### 1. Introduction

A baseline habitat condition and ecological survey and habitat management plan was prepared for the Powerscourt Paddock upland farm in 2018<sup>1</sup> and the measures within same underwent screening for Appropriate Assessment<sup>2</sup>.

The implementation of the management prescriptions in the plan began in 2019. The management prescriptions in the SUAS plan for this upland farm set out to address the impacts highlighted in that report so progress is made towards attaining **Favourable status** for the Annex I habitats present on the site – principally **4010 Northern Atlantic Wet Heaths with *Erica tetralix***, **4030 Dry Heath** and **4060 Alpine and Boreal Heath**. The major impacts to the habitats in this upland farm arise predominantly from under grazing (and historical overgrazing in the valley areas), lack of movement of sheep across the hill resulting in under-grazing in many areas, lack of controlled burning, vegetation management of dry heath through flailing (which has been successful in some parts but not in others), and recreational access resulting in localised peat erosion.

The extent of habitats present within the Powerscourt Paddock upland farm and their affinities to either Fossitt (Level 3) or Annex I habitats were mapped as presented on **Figures 1 and 2** (See **Appendix 1**) and their conservation status was assessed and mapped as shown on **Figure 3** (See **Appendix 1**). A series of management prescriptions were drawn up for the Powerscourt Paddock upland farm as detailed in **Table 1** and mapped on **Figure 4** (See **Appendix 1**).

#### 2. SUAS Vegetation Management Measures

The proposed management measures for the Powerscourt Paddock upland farm under SUAS as set out in 2019 are as follows:

##### Year 1 (2019)

1. Control burn a number of small sections in area 8. Cut up to a maximum of 13ha, in sections of approx. 2-3ha in size. These areas should be dispersed around area 8, and away from previously cut areas to encourage sheep to spread out more over this area. Fire control lines, at least 3m wide shall be cut around each section, either by tractor mounted machine or by hand, to ensure these controlled burning areas are contained. This controlled burning will help build up experience among the farmers and in future years they may be able to work with much smaller control lines. Controlled burning may be carried out either in the spring or the autumn (or both) so long as it is within the legal burning season and has the approval of NPWS.
2. Spray Bracken in area 4. A number of small areas, totalling up to 1-2ha, to be trialled in 2019. As this area is not suitable for tractors, control will involve the application of asulox herbicide, by means of knapsack sprayer, hand lance or such other handheld device as is licenced for this product. The use of asulox is subject to emergency licence granting of full licence approval for this product in 2019.

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<sup>1</sup> Wilson, F. (2019). Ecological Baseline Survey prepared for Powerscourt Paddock upland farm as part of the Commonage Management Plan for SUAS. 27th January 2019. Unpublished report for SUAS EIP.

<sup>2</sup> Wilson, F. (2019). Report for Screening for Appropriate Assessment for a Commonage Management Plan at Powerscourt Paddock, Roundwood, Co. Wicklow in accordance with the requirements of Article 6(3) of the EU Habitats Directive. 11th February 2019. Unpublished report for SUAS EIP.

3. Mulch up some of the brash left in the previously cut sections in area 8. This can be done using tractor mounted flail cutter in a number of sections and then the brash removed from part of these areas. It is planned to burn some of this brash in at least one of the cut areas to see how this affects recovery of heath vegetation.

#### **Year 2 (2020)**

1. Control burn a number of small sections in area 8. Cut up to a maximum of 13ha in 2020, in sections of approx. 2-3ha in size. These areas should be dispersed around area 8, and away from previously burnt/cut areas to encourage sheep to spread out more over this area.
2. Spray further sections in area 4, up to 5ha for bracken during 2020.

#### **Year 3 (2021)**

1. Control burn a number of small sections in area 8. Cut up to a maximum of 13ha in 2021, in sections of approx. 2-3ha in size. These areas should be dispersed around area 8, and away from previously burnt/cut areas to encourage sheep to spread out more over this area.
2. Spray further sections in area 4, up to 5ha for bracken during 2021.

#### **Year 4 (2022)**

1. Control burn a number of small sections in area 8. Cut up to a maximum of 13ha in 2022, in sections of approx. 2-3ha in size. These areas should be dispersed around area 8, and away from previously burnt/cut areas to encourage sheep to spread out more over this area.
2. Spray further sections in area 4, up to 5ha for bracken during 2022.

#### **Shepherding**

Average time per shepherding: 6 Hours

No of times sheep are to be shepherded: 2-3 Times per week from 1<sup>st</sup> May to 30<sup>th</sup> November.

Identified objective of the shepherding;

- Sheep are to be kept from straying off the commonage onto surrounding areas.
- Move off sheep from other commonages.
- Monitor sheep health for signs of tick diseases.
- Count numbers of deer grazing the commonage and areas they are grazing.

#### **Other works to be carried out for entire commonage**

Use feed buckets to encourage more sheep grazing the commonage in the Jan/Feb and the April/May period.

Use the feed buckets to move grazing pressure to overgrown areas in Jan/Feb time.

#### **Details of sheep stocking rates proposed**

Accurate sheep numbers will be obtained in year 1 and over the remaining 3 years, they will be increased gradually up to GLAS stocking rates.

#### **Ecological Assessment**

The commonage was surveyed in September 2021 by Faith Wilson and Declan Byrne to examine and review the implementation of the proposed measures and make any recommendations regarding same. The observations and recommendations from this visit are set out below.



### 3. 2021 Walkover Survey

The following observations, comments on same and recommendations on the works completed in 2021 are presented.

#### 3.1 Bracken Control

Bracken control was implemented in Area 4 on 5<sup>th</sup> September 2019 using knapsack sprayers. A rate of 11 litres of asulox per ha was applied and an area of 2 ha was treated. This treatment was very successful as can be seen comparing the photographs from 2021 to 2020 to 2019.



**Plate 1. Bracken control was implemented in Area 4 in 2019.**

It is great to see a good dense area of bracken has been successfully treated. There's a huge difference in regrowth between areas that have only a little bilberry in amongst them and areas that have more. The height of the bracken in the more grassy areas is only about 15-20 cm high whereas in some of the lazy beds where the bilberry are as well the bracken is still quite vigorous and at a much greater density, so it's not very clear what has happened here as both areas were given the same treatment.

The area where the very deep lazy beds are on the slope with the hill only got sprayed once in 2019 with no follow up and yet it has almost 95% success rate compared to the lower slopes which had similar treatment but these are still more vigorous.

The sheep are favouring these areas and there's starting to be a little bit of erosion as a result; there is a little bit of bare ground opening up and the deer of course are hanging around here too. There is certainly a good grass sward for grazing - sweet vernal grass, common bent and velvet bent grass, plenty of heath bedstraw, tormentil, and a bit of sheep's fescue.....



**Plate 2. Visible results in 2020 of the bracken control conducted in Area 4 in 2019.**



**Plate 3. Results of the bracken control in Area 4 in 2021.**



On the south side of the stream the bracken on the northern slopes there has been gone over with the bracken bruiser and you can see where it has travelled. That bruising treatment was only conducted this year, with no work done here in 2020, and only one run has been done.

On the south-facing slopes of Middle Hill below the big lazy beds, you can see where two runs of a bracken bruiser have had an impact and the grassy sward is recovering. The sheep are gathering here as a result.

The shallower soils are definitely reducing the vigour of the bracken, so this is worth considering when and where you pick your bracken battles. You can see the effect the quad and the bracken bruiser had just going through the bracken travelling from one area to the next.



**Plate 4. Bracken which has been bruised on the southern slopes.**





**Plate 5. Some areas are beginning to become over grazed following bracken control.**



**Plate 6. Successful bracken control on the upper lazy beds – a mecca for sheep.**





**Plate 7. Less successful bracken control on the lazy beds on the lower slopes.**



Plate 8. Something has been browsing the bracken on the upper slopes.





**Plate 9.** The impacts of the quad and the bracken bruiser moving through the bracken is obvious.

### **3.2 Tree Planting**

Tree planting has taken place along the stream. Tree planting is also recommended on the steep slopes around the bottom of the ridge of Middle Hill where erosion is occurring – this might be best achieved through the erection of an enclosure surrounding the new plantings.



**Plate 10.** Tree planting along the watercourse.



### 3.3 Firebreaks for Controlled Burning/Flailed Areas

Firebreaks for controlled burning were created on the 12<sup>th</sup> and 14<sup>th</sup> February 2019 using a flail mulcher behind a tractor as can be seen in the Bing Maps imagery of the commonage as presented on **Figure 1** below. The older flailed areas near the forestry can also be seen.



**Figure 1. Old flailed areas and new firebreaks cut on Powerscourt Paddock (Bing Maps).**

#### Previously Flailed Areas

In one area we examined there were three different ages of cuttings. There was an area that was previously cut (or burnt) and the heather there in places is about 1m high and it is pretty uniform, it is just heather – no other species. Around it there was a ring cut, probably in preparation for a burn that never happened, and it is at a different height, about 20-30cm, and it is mostly heather with very occasional bilberry in it. Some areas have more bilberry than others and mosses are coming back, which is good. Again, it is all very uniform in height. There are animals moving through it, you can see tracks. There are more tracks in this than in the bit that's more than a metre high.

Around it there are areas that have had no obvious recent management and here we are starting to see all the different ages of the heather.

In some areas below this there is quite a lot of more mature heather starting to die off so the dry heath is naturally getting the diversity of structure back. In those areas there is more species recorded such as tormentil, wavy hair grass, heath bedstraw, etc. all of which provide forage for sheep.

We need to try and get more sheep in the taller areas that are 20-30cm high using feed buckets and try and get grazing in here as if this area doesn't get grazed, it will ultimately end up at a uniform height like the 1m high sward and be inaccessible to sheep.

We then looked at a recently flailed area which was cut under SUAS and there is regeneration of ling and bilberry and quite a bit of bare ground. A lot of animal dung here, there's still a lot of dead brash - it is taking a long time to break down. There is a little moss regrowth on it, it's coming slowly, it is taking a long time, whereas up above this area you could see where the cut went in to an older cutting and the regrowth here was better.





**Plate 11.** Some flailed areas have regenerated well with ling heather but no other species are present.



**Plate 12.** Areas that were flailed prior to the SUAS project are showing very dense regeneration of ling heather but these areas lack bilberry. Uncut areas are up to 1m high (as seen on the right of the image) whereas the older undisturbed area on the left of the image are naturally beginning to open up and regain structure.





**Plate 13. The natural cycle of heather is evident in some parts of the hill in 2021.**

The erosion caused by the movement of sheep back down towards the lower enclosed fields on the farm (coupled with natural runoff and the slope) will be tackled in 2022 through the erection of a temporary fence to try and encourage sheep away from this area and to allow the peat to stabilise and the vegetation to recover.



**Plate 14. Some of the flailed areas conducted under SUAS are beginning to regenerate.**





**Plate 15. Large areas of brash with little regeneration occurs in many of the flailed areas.**



**Plate 16. Sheep are favouring open areas.**





Plate 17. Erosion was noted in previously burnt areas.





**Plate 18. The townland boundary ditch between Glasnamullen and Powerscourt Paddock.**

### **3.3 Acid Grassland Habitats**

The areas of acid grassland within the commonage are currently overgrazed and in some areas (Area 10, 11 and 21) are at risk of erosion. Some localised erosion is occurring in Area 4.



**Plate 19. Sheep are continuing to favour grazing in the sheltered valley in Area 4.**



Feed buckets were used in the period Dec-Feb to encourage sheep into the taller heather areas away from the overgrazed areas. Grazing pressure in these areas also needs to be managed through active shepherding and hunting out of sheep from these areas.

These habitats are also under pressure from trampling associated with hill walkers but this is very localised compared to the grazing pressure (and more easily rectified).

The successful treatment of bracken from a large portion of Area 4 will further encourage the congregation of sheep in this area on the acid grassland beneath so active shepherding will be required to move sheep out of here.

It was noted that there are too many sheep on Powerscourt Paddocks during the summer months, but there are a lot of trespassing sheep coming in from neighbouring hills.



**Plate 20. Mat grass is frequent in Area 10.**

The north-facing slopes in Area 10 are very, very overgrazed there is quite a dominance of mat grass amidst the other species - there is also a lot of moss as well (because it is getting more light), so it is growing more strongly at the expense of the grasses. This should be more in balance. There are large accumulations of sheep droppings in this area indicating the grazing pressure and given the overgrazed nature of the grassy sward and the compaction of the soils there doesn't seem to be much opportunity for these nutrients to be assimilated. Any surface water flow here following heavy rains would be coming down off here full of nutrients, there is no buffering for it in the existing vegetation cover. There is a little bit of bracken below here but it is entering the watercourse as evidenced by the condition of the headwater stream. Tree planting on the slopes along the river coming up the valley is to try and deal with that.





Plate 21. Dry heath vegetation is becoming overgrazed and reverting to acid grassland.



Plate 22. Overgrazed and trampled slopes beginning to erode.





**Plate 23. Nutrient enrichment entering the watercourse.**

### **3.4 Track Repairs**

Erosion and severe trampling pressure continues on the Wicklow Way walking track and the track to the summit of Djouce, which urgently needs repairs. Sheep grazing is an issue here also. The results of the study recently completed during the track erosion surveys conducted by Chris York in 2021 should be reviewed and the recommendations implemented.

### **3.5 Faunal Observations**

Two pairs of red grouse were flushed during the walkover. Grouse were favouring the flailed areas on the hill.



### 3.6 Management for 2022

The main management proposals for 2022 are set out below following a review of the 2020 and 2021 measures, some of which were not completed to date (highlighted in red).

#### 2020

1. Control burn the areas in Area 8 that have firebreaks around them (see map below)
2. If the areas with the fire breaks are burned successfully in spring 2020, cut further fire breaks for up to another 13ha in the autumn of 2020.
3. Spray further sections in area 4, up to 5ha for bracken during 2020.
4. Use bracken bruiser on areas of bracken that are accessible.
5. Use feed buckets to encourage more sheep grazing the commonage in the Jan/Feb and the April/May period.
6. Increase grazing activity across the whole year to work towards a sustainable stocking regime for the commonage.

**Management Actions coloured in red were not completed**

#### 2021

1. Control burn at least 2 areas that have firebreaks around them, if possible –try to ensure that structure within the sward is retained and the burn is not too intense.
2. Spray further sections for bracken during 2021. Up to 4ha may be done, concentrating on the areas where the bracken is encroaching into the surrounding heath habitats, areas marked in orange on map below.
3. Use bracken bruiser on sections of bracken that are accessible in the areas marked in purple on map below.
4. Cut small sections of tall heather with a suitable tractor & mulcher in the areas marked blue on the map. Approx 3ha to be mulched in total, done in 15-20m by 15-20m sections, distributed throughout the two areas marked blue.
5. Use feed buckets to encourage more sheep grazing the commonage in the Jan/Feb and the April/May period.
6. Increase grazing activity across the whole year to work towards a sustainable stocking regime for the commonage, and reduce the numbers of sheep grazing during the peak (late summer) period.
7. Plant 150 native trees along the river gullies in spring 2021.



- Bracken Bruising on Powerscourt Paddocks
- Proposed Temp Fence on Powerscourt Paddocks
- Bracken Spraying on Powerscourt Paddocks
- Flailing on Glasnamullen
- Flailing on Powerscourt Paddocks
- Controlled Burning in Sept 2020

**2021 Management Plan for  
Powerscourt Paddocks & Glasnamullen**

#### **4. Appendix 1. Maps & Management Recommendations**

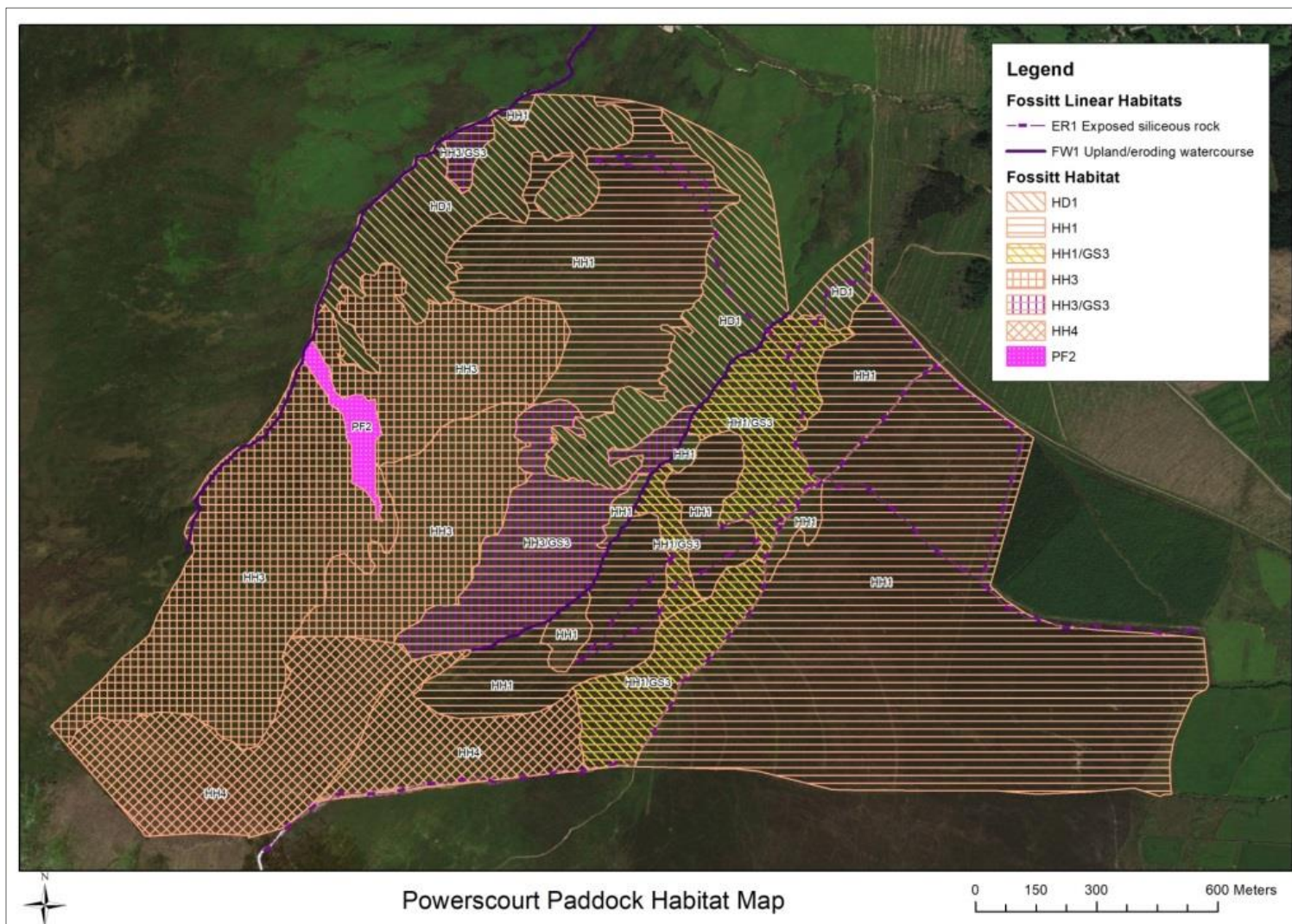


Figure 1. Habitats mapped to Level Three (Fossitt, 2000) within Powerscourt Paddock.



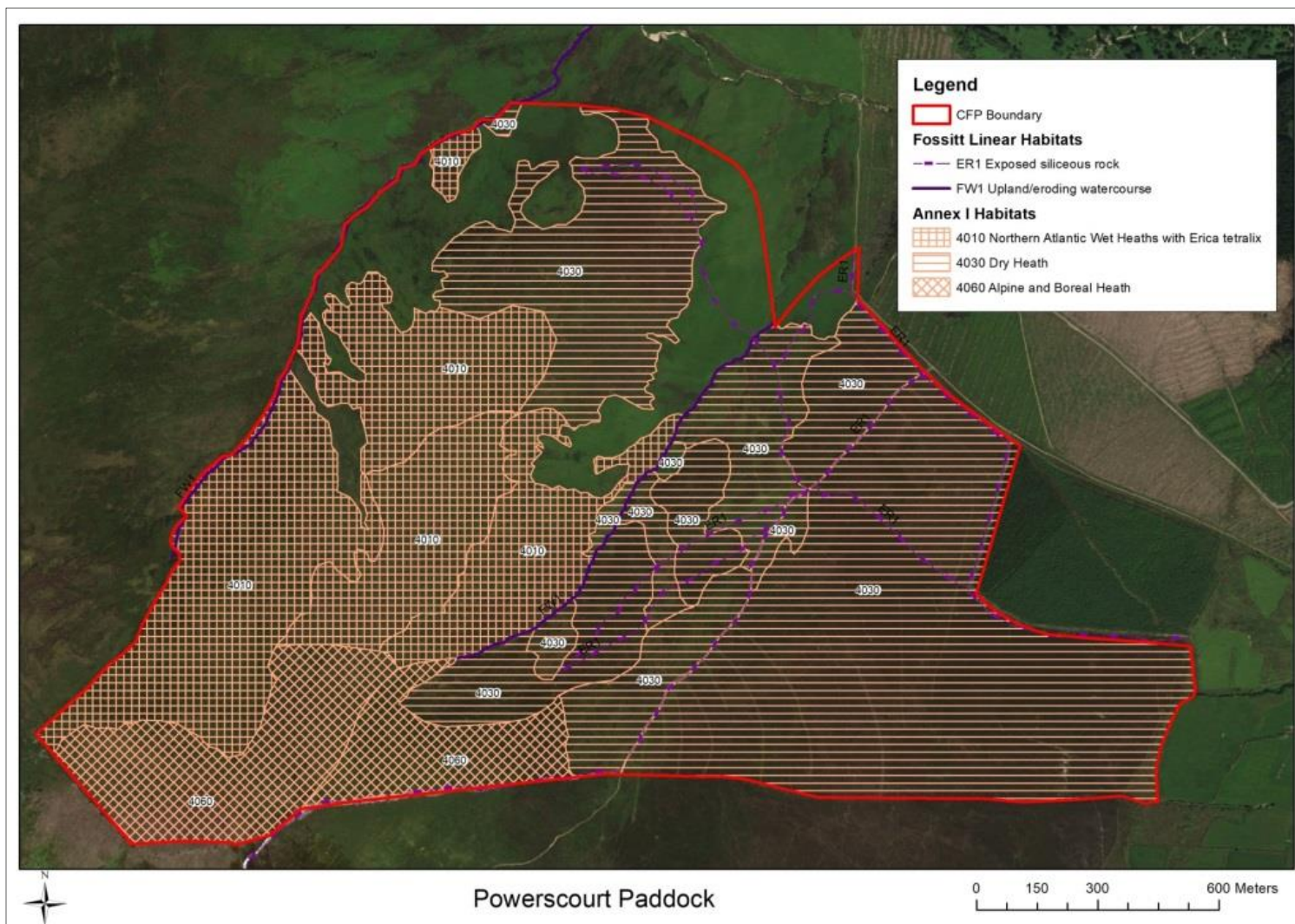


Figure 2. Habitats mapped according to their correspondence with Annex I habitats within Powerscourt Paddock.

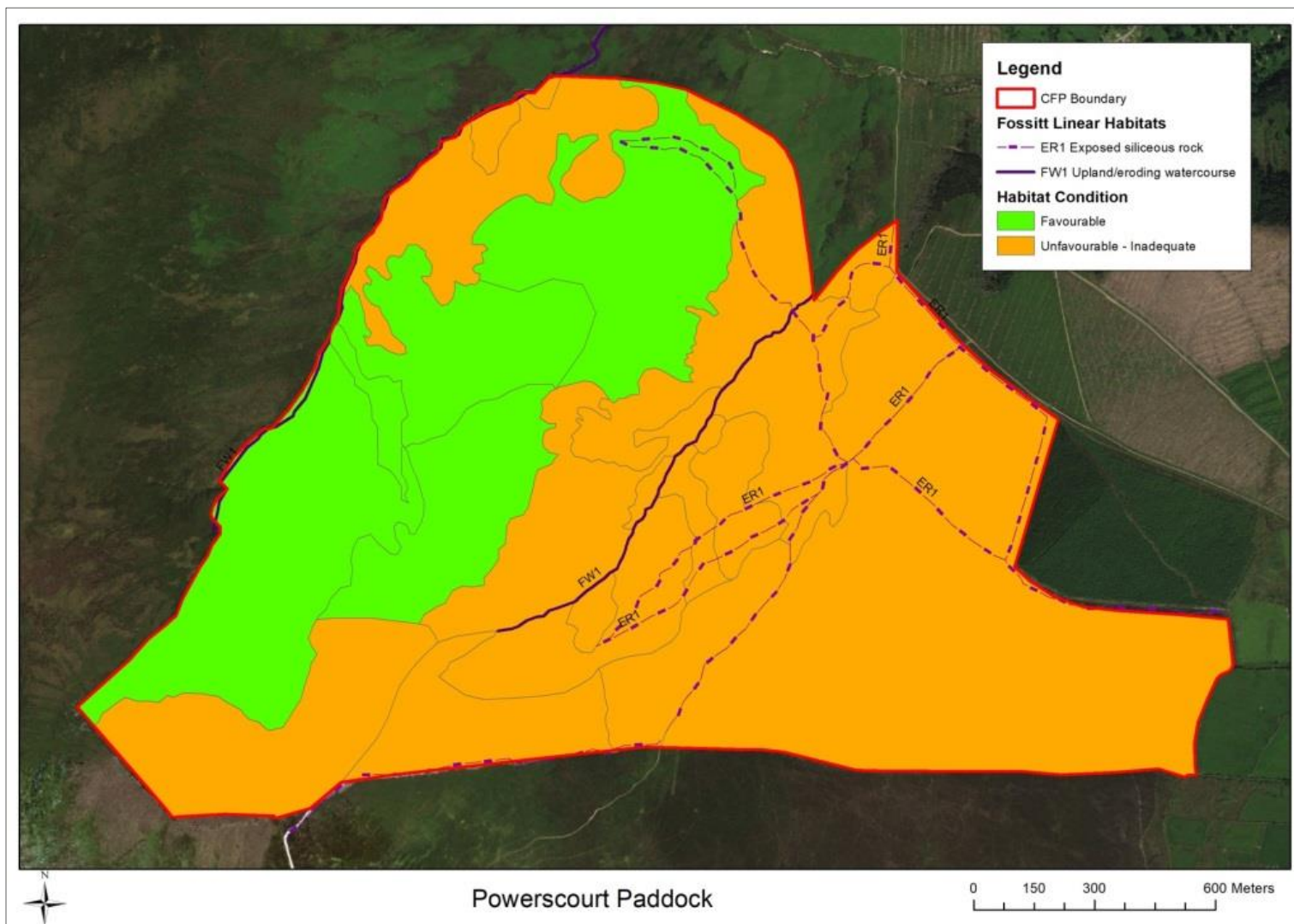


Figure 3. Habitat Condition Assessment for Powerscourt Paddock.



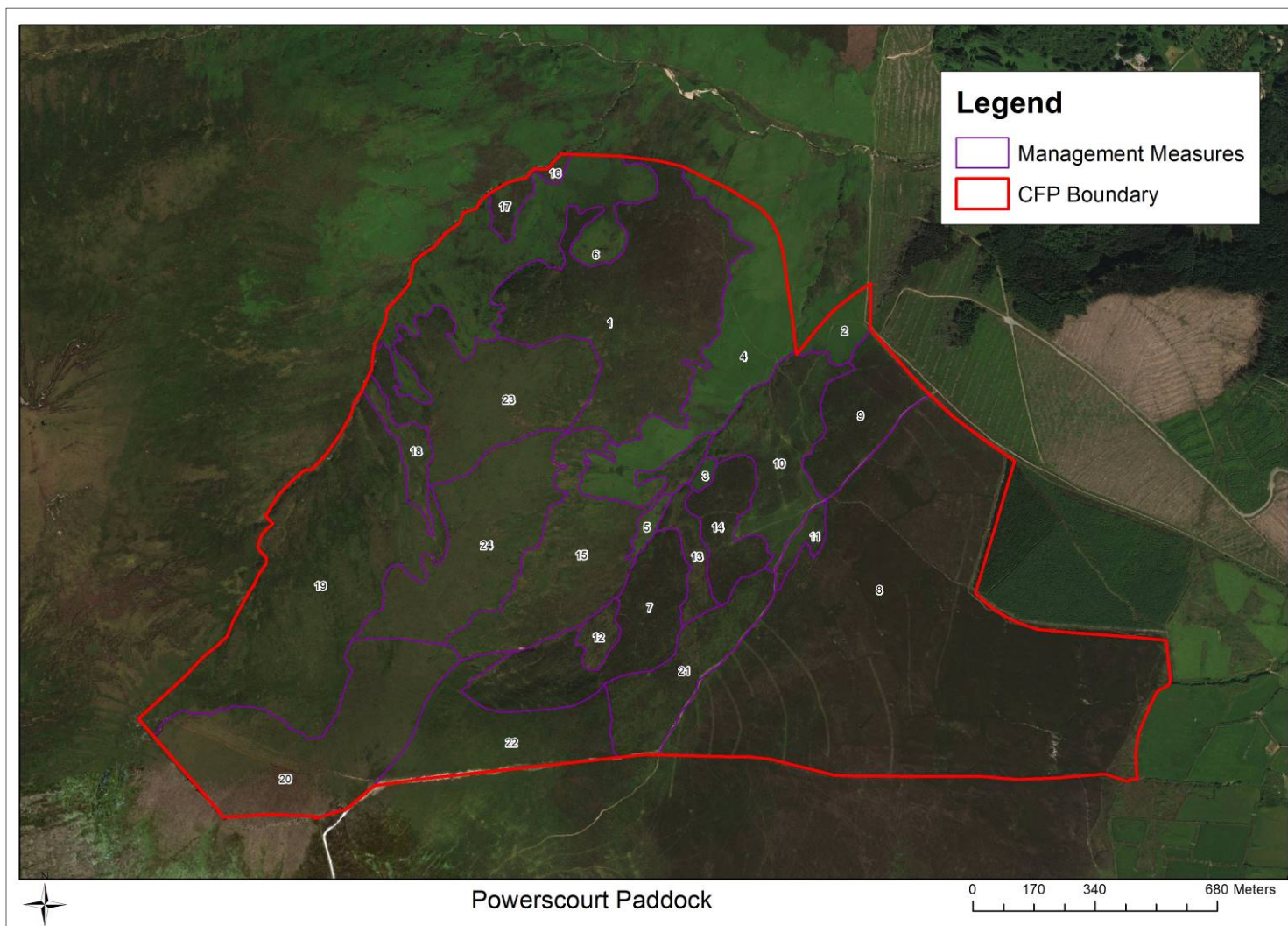


Figure 4. Management measures for Powerscourt Paddock.

**Table 1. Habitats present on Powerscourt Paddock and Management Recommendations.**

<b>Id</b>	<b>Annex I Code</b>	<b>Annex I Description</b>	<b>Fossitt Code</b>	<b>Habitat</b>	<b>Area (m)</b>	<b>Area (Ha)</b>	<b>Conservation Status</b>	<b>Management Measure</b>
1	4030	Dry Heath	HH1	Dry heath	274984	27.50	Favourable	Ensure no burning Monitor grazing and sheep movements to keep in good condition.
2			HD1	Dense Bracken	22404	2.24	Unfavourable - Inadequate	Bracken Control
3	4030	Dry Heath	HH1	Dry heath	4421	0.44	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
4			HD1	Dense Bracken	156617	15.66	Unfavourable - Inadequate	Bracken Control
5	4030	Dry Heath	HH1	Dry heath	7629	0.76	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
6			HD1	Dense bracken	168820	16.88	Unfavourable - Inadequate	
7	4030	Dry Heath	HH1	Dry heath	118500	11.85	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
8	4030	Dry Heath	HH1	Dry heath	780057	78.01	Unfavourable - Inadequate	Controlled burning of some areas of tall leggy heather further up the slopes away from the bottoms Raking/removal of vegetation from flailed areas where regeneration has failed Trial excluding sheep through fencing from some flailed areas to see what regeneration is like in the absence of grazing (provide flight diverters for grouse on any fencing used) Trial flailing using various methods – working up, down or across the direction of slope Flailing at different heights Flailing with different machines – mulching/shredding as opposed to simply cutting once Controlled burn within previously flailed area



<b>Id</b>	<b>Annex I Code</b>	<b>Annex I Description</b>	<b>Fossitt Code</b>	<b>Habitat</b>	<b>Area (m)</b>	<b>Area (Ha)</b>	<b>Conservation Status</b>	<b>Management Measure</b>
9	4030	Dry Heath	HH1	Dry heath	75370	7.54	Unfavourable - Inadequate	Raking/removal of vegetation from flailed areas where regeneration has failed Trial excluding sheep through fencing from some flailed areas to see what regeneration is like in the absence of grazing (provide flight diverters for grouse on any fencing used)
10	4030		HH1/GS3	Dry heath/ Acid grassland Mosaic	108668	10.87	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
11	4030	Dry Heath	HH1	Dry heath	12710	1.27	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
12	4030	Dry Heath	HH1	Dry heath	14557	1.46	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
13	4030		HH1/GS3	Dry heath/ Acid grassland Mosaic	25364	2.54	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
14	4030	Dry Heath	HH1	Dry heath	51253	5.13	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
15	4010	Northern Atlantic Wet Heaths with <i>Erica tetralix</i>	HH3/GS3	Wet heath/ Acid grassland Mosaic	153800	15.38	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate.
16	4030	Dry Heath	HH1	Dry heath	3972	0.40	Unfavourable - Inadequate	Monitor bracken and control as required.

<b>Id</b>	<b>Annex I Code</b>	<b>Annex I Description</b>	<b>Fossitt Code</b>	<b>Habitat</b>	<b>Area (m)</b>	<b>Area (Ha)</b>	<b>Conservation Status</b>	<b>Management Measure</b>
17	4010	Northern Atlantic Wet Heaths with <i>Erica tetralix</i>	HH3/GS3	Wet heath/ Acid grassland Mosaic	13116	1.31	Unfavourable - Inadequate	Monitor bracken and control as required.
18			PF2	Poor fen and flush	23319	2.33	Favourable	Monitor sheep movements and ensure area remains in good condition
19	4010	Northern Atlantic Wet Heaths with <i>Erica tetralix</i>	HH3	Wet heath	323042	32.30	Favourable	Ensure no burning Monitor grazing and sheep movements to keep in good condition.
20	4060	Alpine and Boreal Heath	HH4	Montane heath	211035	21.10	Unfavourable - Inadequate	Monitor erosion along the walking track and remediate.
21	4030		HH1/GS3	Dry heath/ Acid grassland Mosaic	86773	8.68	Unfavourable - Inadequate	Monitor grazing and sheep movements. Move sheep out of this area where they tend to congregate. Monitor erosion along the walking track.
22	4060	Alpine and Boreal Heath	HH4	Montane heath	117239	11.72	Unfavourable - Inadequate	Monitor erosion along the walking track and remediate.
23	4010	Northern Atlantic Wet Heaths with <i>Erica tetralix</i>	HH3	Wet heath	166822	16.68	Favourable	Ensure no burning Monitor grazing and sheep movements to keep in good condition.
24	4010	Northern Atlantic Wet Heaths with <i>Erica tetralix</i>	HH3	Wet heath	159313	15.93	Favourable	Ensure no burning Monitor grazing and sheep movements to keep in good condition.



