



**EMERGENCY AUTHORISATION APPLICATION
FOR THE USE OF ASULAM**

FOR THE CONTROL OF BRACKEN ON ROUGH GRAZING, MOORLAND, AMENITY
GRASSLAND, FORESTRY AND THE HISTORIC ENVIRONMENT IN 2020

SUPPORTING INFORMATION

1 Introduction

- 1.1 This Supplementary Information is provided to support the application for an Emergency Authorisation to allow the continuing use of Asulam to control bracken in the UK, during 2020.
- 1.2 The information provided to support this application does not repeat the information that has been provided for previous applications, but it seeks to update the information and highlight recent developments.
- 1.3 The Conservation Agencies in the different parts of the UK have provided input as part of this application.
- 1.4 Details of the areas treated with Asulam in recent years has been collated into a separate section.

NATURE CONSERVATION PERSPECTIVE

Highlights from Information provided to support previous applications have been included here to provide a quick summary of the key points that have been made previously.

2 Designated Sites

- 2.1 Bracken can provide an important habitat for specific wildlife species.
- 2.2 Bracken has serious negative impacts in some habitats; it is often invasive and can dominate other vegetation
- 2.3 In England and Wales, 60% of moorland is designated for the quality of vegetation or the importance of the habitat to breeding birds.

2.3.1 If the vegetation communities, which often form the basis of these designations, are invaded and out-competed by bracken, it has an adverse effect on the conservation status of the designated areas.

3 Control of Bracken

- 3.1 Control of bracken is widely carried out for nature conservation purposes.
- 3.2 If control effort is not continued bracken can completely re-establish its dominance within about 3 years, wasting the investment in the original control work.
- 3.3 Bracken control is a frequent management requirement in designated site management plans.
- 3.4 Conservation agencies would generally consider alternative methods to herbicide use as a first option for bracken control. However, where access or terrain make mechanical or physical management difficult, dangerous or impossible, then chemical control is the only management option available.
- 3.5 The properties of Asulam as a systemic herbicide allows the targeting of the rhizomes.
- 3.6 Asulam has less negative impact on non-target plants than other effective alternatives.

4 Lowland Sites

- 4.1 Excessive bracken cover is also a concern in some lowland habitats, such as heathlands, which are also of national and international importance.
- 4.2 Asulam is needed for bracken control on lowland sites (especially heathland but also other grassland), many of which are also designated under the EU Habitats and Birds Directives. Examples of where asulam has been used are the heaths in Dorset and the Thames Basin.
- 4.3 In both the uplands and the lowlands, there are a number of designated sites, where herbicidal control of bracken is carried out for biodiversity conservation purposes.
- 4.4 Herbicides are also used in the preparation of ground for the establishment of woodland for biodiversity, and their use is of major importance for the protection of archaeological sites, many of which are scheduled monuments. In both cases, it is important to minimise any effects on non-target species to maximise re-establishment of ground flora.

- 4.5 The extensive use of Asulam in the uplands for agricultural and sporting purposes has often prevented bracken becoming a specific conservation issue in such areas.

5 Cutting of Bracken

- 5.1 Cutting is often not a practicable alternative to chemical control with a selective herbicide like Asulam in heather moorland areas.
- 5.2 Experiments on the North York Moors have shown that cutting cannot achieve clearance unless it is done at least three or four times per growing season, to a very low level for at least three or four years consecutively.
- 5.2.1 Labour costs make this impracticable in many situations.
- 5.2.2 Cutting bracken low enough risks damaging other vegetation and soils, including peat. This can lead to an erosion risk.
- 5.2.3 Mechanical cutting may cause damage to known and unknown archaeological interest.

COMMENTS BY CONSERVATION AGENCIES

6 Natural England

- 6.1 Natural England supports the continued requirement for emergency authorisation of asulam.
- 6.2 Natural England would generally consider alternative methods to herbicide use as a first option for bracken control, such as grazing or mechanical control, but bracken management with herbicides remains very important locally for achieving favourable condition in specific lowland and a number of upland SSSIs and for preventing their deterioration.
- 6.3 Bracken management using herbicides remains a key requirement for meeting Historic Environment and access requirements.
- 6.4 Natural England continues to support the investigations into potential alternative herbicides, which will help inform our future advice on management.
- 6.5 Agri-environment scheme options continue to be important to facilitate this activity both within and outside SSSIs.
- 6.6 Natural England's role as a statutory consultee for aerial spraying operations near SSSIs enables consideration of specific risks to protected habitats and sensitive species in such circumstances.

7 Scottish Natural Heritage

- 7.1 The Scottish Government continues to support bracken control through the Agri-Environment and Climate Scheme (AECS) of the Scottish Rural Development Plan.
- 7.2 Bracken is viewed as a native plant and a natural component of many woodlands. It can provide a valuable habitat, particularly if the canopy is relatively open, so it is not viewed as such a threat as an invasive non-native species.
- 7.3 Bracken is a successful coloniser and can encroach on other habitats, often as a result of poor management of that habitat, so we agree it needs to be controlled in such circumstances.
- 7.4 Aerial spraying will be undertaken on large steep sites for primary control where other control options appear to be impractical or are unsafe. The perception is that this represents a significant proportion of places where bracken needs to be controlled in Scotland, but we have no figures to provide and support this perception.
- 7.5 Control of bracken has enabled the area of bracken cover in the UK to remain more or less the same. This suggests that bracken control (largely spraying *de facto*) works compared with the counterfactual (no control), but that spraying does not work so well over time if bracken cover and the area sprayed every year remain more or less constant.
- 7.6 A single aerial application cannot eradicate bracken, and we feel that much chemical bracken control had been ineffective because aerial spraying had not always been followed up properly with subsequent ground-based mechanical or chemical treatments. Besides, there are areas where other options could be used, and would be more effective (e.g. smaller buffers are required for non-aerial methods, meaning a higher proportion of the bracken can be treated), but aerial application is used on convenience and cost grounds.

8 Natural Resources Wales (NRW)

- 8.1 NRW fully endorses the application for an Emergency Authorisation for Asulam for bracken control in 2020.
- 8.2 NRW believes that there is no other product currently available to replace the vital role that Asulam plays in bracken control in Wales to enhance biodiversity and other land use interests.
- 8.3 Additionally, in Wales, Asulam plays a key role in the management of forestry resources, which form a key component of NRW's land management function.
- 8.4 NRW is grateful for being engaged in the efforts to gain further authorisation for this irreplaceable product.

9 Department of Agriculture, Environment and Rural Affairs, Northern Ireland

- 9.1 The spread of bracken in Northern Ireland continues to be a major concern throughout the country, and this is also a concern in Southern Ireland.
- 9.2 The *DAERA Notes: Environment*¹ published on 9th July 2019, provides a local view of bracken control that highlighted several issues:
 - 9.2.1 Control is important for four reasons – land eligibility, habitat damage, water quality and disease.
 - 9.2.2 Shading from the bracken canopy may be so severe that little or nothing can grow beneath it, sometimes at the expense of a priority habitat area such as heather moorland or semi-natural grassland.
 - 9.2.3 Cutting or rolling should be carried out from mid-June as the plants reach maturity with a second treatment in August. A minimum of two treatments per year for four years will be required.
- 9.3 The College of Agriculture Food and Rural Enterprise (CAFRE) established some bracken treatment trials in 2014 that have compared the results of different control techniques. The trials covered eight sites in different parts of the country.
- 9.4 The DAERA Notes provide an update on the trials:
 - 9.4.1 The trial plots “have achieved a consistent 95% bracken reduction with one spray of Asulam, costing approximately £150 per hectare in chemical cost.
 - 9.4.2 There was little regrowth and no damage to the underlying habitat.
 - 9.4.3 From one year’s data it appears that the cheaper chemical option of Glyphosate weed wiping has reduced bracken cover by up to 80%, but further control will be required.
 - 9.4.4 Cutting plots have shown stimulated frond production initially so must be repeated with dedication over several years.
 - 9.4.5 Rolling twice each year has shown some success, with variable results (30-90%) between sites.”
- 9.5 No aerial spraying is taking place in Northern Ireland, although DAERA estimates that there is demand for up to 800ha. While there is uncertainty about the availability of asulam, it appears that the areas for spraying are not sufficient to justify the deployment costs for aerial contractors.

¹ <https://www.farminglife.com/farming-news/daera-notes-environment-1-8989819>

AREAS TREATED WITH ASULAM

10 Information Provided

- 10.1 This section provides information about:
 - 10.1.1 The number of aerial permits issued,
 - 10.1.2 The area of bracken treated with asulam in the UK, with a breakdown by different parts of the UK,
 - 10.1.3 An indication of the location of the treated areas by UK region,
 - 10.1.4 A comparison between the area of bracken controlled each year and an assessment of the annual increment,
 - 10.1.5 The proportion of the area treated by aerial spraying, and
 - 10.1.6 The proportion of the treated area that was part of an agri-environment scheme.

11 Sources of Information

- 11.1 The information provided in this section has been provided from a range of sources.
- 11.2 The Aerial contractors provided information about the areas they had treated and the locations. The Ground based contractors provided similar information.
- 11.3 The distributors of Asulam were contacted and the Agricultural Industries Confederation provided details of their Asulam sales on their behalf.
- 11.4 Fera and CRD provided information from the pesticide returns and the permits that were issued.
- 11.5 The annual reports from the Pesticides Forum were accessed to provide additional detail.
- 11.6 UPL Europe Ltd provided details of their sales figures and the returns of unused material in unopened containers.

12 Repeat Treatments

- 12.1 Where primary treatment is carried out by aerial spray, concern has been expressed that a further treatment might take place in the following year. This has been discussed with the aerial contractors and it is not something they would do, for several reasons:
 - 12.1.1 In the first year after treatment, the amount of regenerating bracken is likely to be low. It would be completely uneconomic to treat a low level of cover with an overall spray.

12.1.2 As there is no visual effect on the bracken in the year of spraying, the effectiveness of the treatment will not be known until the bracken shows the following year. If it was decided that a further overall treatment was required, it would be difficult to programme treatment in the following year.

12.1.3 With a reduced amount of vegetation in the treated area, any chemical applied would be more likely to enter watercourses.

12.2 An overall spray is not the recommended follow-up treatment. A more targeted approach is required that focuses on small areas where bracken has regenerated, or even individual fronds.

13 Aerial Spraying Permits

13.1 The number of aerial permits issued since 2012 has been reported through the Pesticides Forum and as the 2018 report has not been published yet, CRD provided the 2018 figure. The number of aerial permits from 2012-2018 are shown in Figure 1.

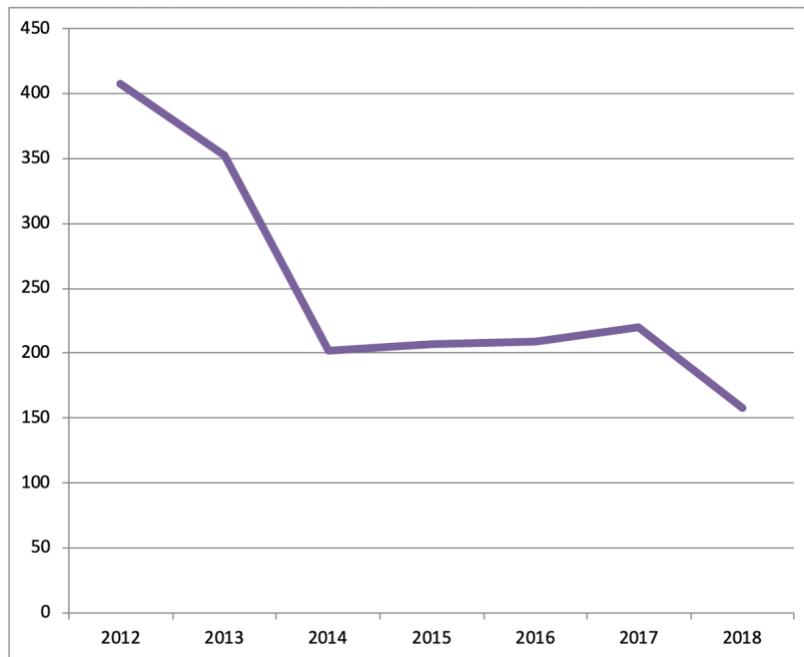


Figure 1: Spraying Permits Issued
Source: Pesticides Forum & CRD

13.2 From an initial high in 2012, the downward trend is not surprising in view of the uncertainty about the future availability of Asulam.

13.3 Although the numbers are decreasing, the issue of a significant number of permits, in spite of the uncertainty about future availability of Asulam, is a measure of the importance that end users attach to bracken control. This justifies the effort to ensure the continued availability of the product under an Emergency Authorisation.

14 Area of Bracken Treated with Asulam

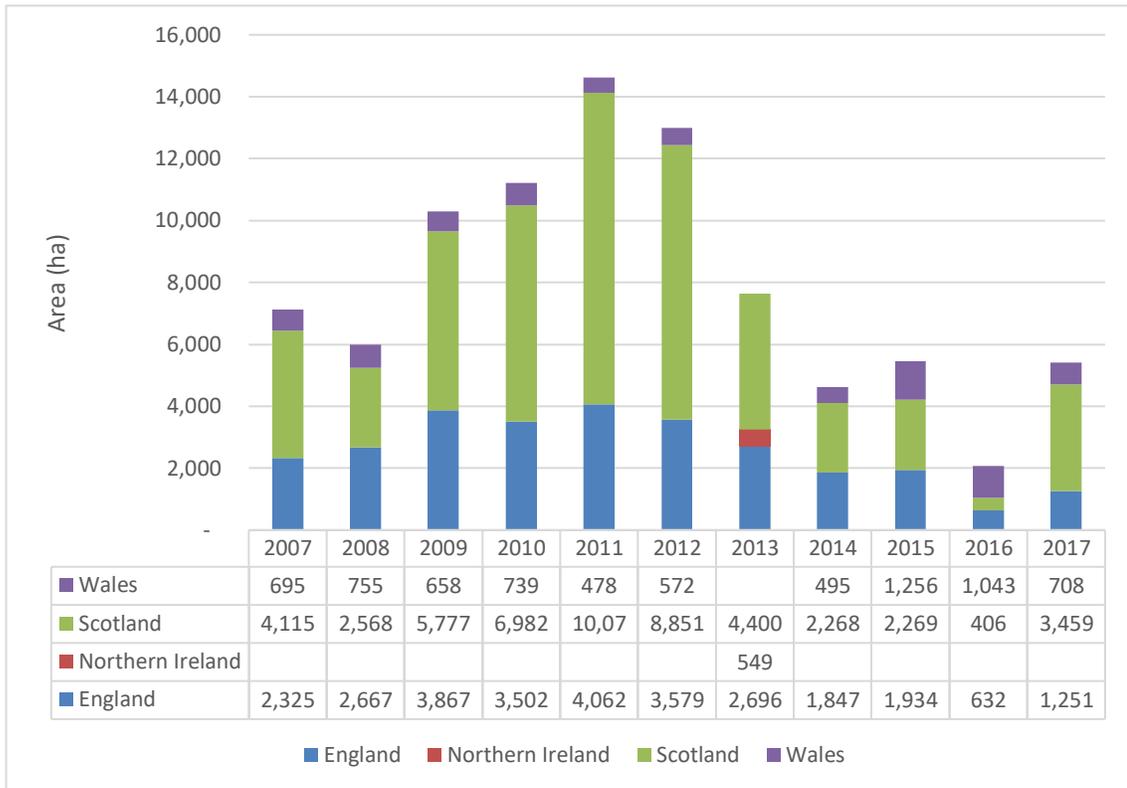


Figure 2: Area of Aerially treated Bracken by UK country

- 14.1 Figure 2 provides a breakdown by part of the UK of all areas of bracken treated, by aerial and ground-based contractors in the period 2007-2017. The data for 2018 are not available yet.
- 14.2 In the period approximately 2009–2012, there was a peak in the number of entrants into Higher Level Stewardship in England being allocated grant funding for bracken control.
- 14.3 It was also likely that there was a ‘pre-ban’ boost to the area of bracken controlled with landowners trying to treat areas of bracken under the previous regime and use up of stocks of Asulam.

15 Location of the Treated Areas by UK region

15.1 Figure 3 provides a breakdown by region of the UK of the area of bracken treated, by aerial and ground-based contractors in the period 2007-2017.

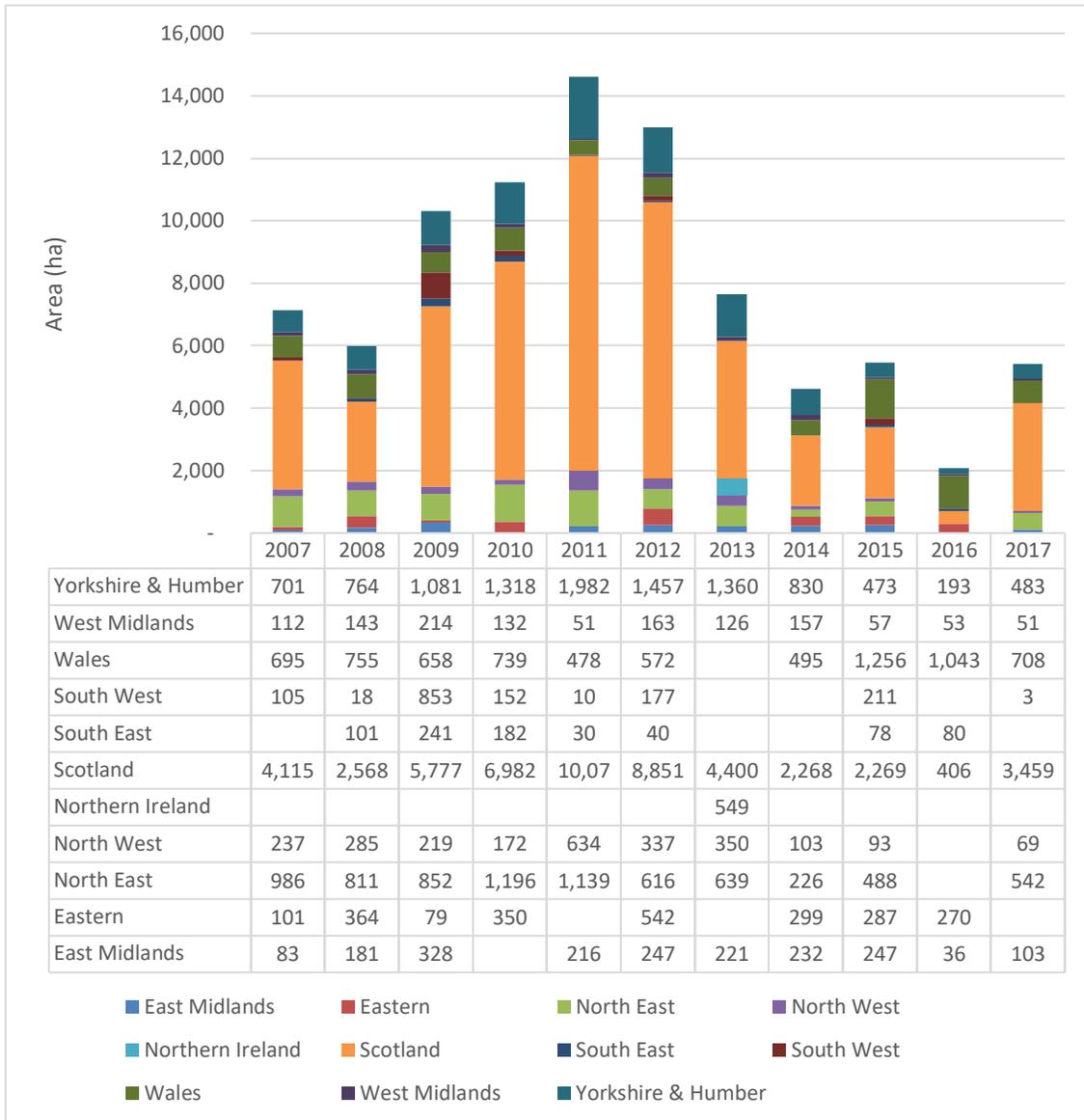


Figure 3: Area of Aerielly treated Bracken by UK region

15.2 Key features are:

15.2.1 58% of the bracken controlled in the UK during this period took place in Scotland.

15.2.2 After Scotland the next largest region for bracken control is Yorkshire and the Humber.

15.2.3 Very little bracken control has taken place in Northern Ireland, during this period.

16 Comparison between Bracken Encroachment and the Area Controlled

- 16.1 Based on Fera’s figures for the period 2007-2017, the average annual area of bracken controlled using asulam by ground-based and aerial contractors is 7,593 ha. This figure does not include bracken controlled by physical methods or small areas controlled by people who will not get reported in Fera’s information.
- 16.2 Traditionally, the rate of bracken encroachment has been assessed as 1-3% per annum.
- 16.3 If it is assumed that the area of bracken in the UK is 1.5m ha, and using a median figure for a rate of encroachment of 2%, the annual increment can be calculated to be 30,000 ha.
- 16.4 These figures show that at best, the current control effort is covering no more than about 30% of the annual increment. The actual position is likely to be much more in favour of bracken.
- 16.5 The rate of spread of bracken is only an approximation. The information provided by Professor Roy Brown at Section 2 of Enclosure 1, indicates that the rate of encroachment has been accelerating rapidly since the early 2000s, but in particular, over the last 5 years.

17 Split between Aerial and Ground-Based Application

- 17.1 Fera’s figures are summarised in Figure 4.
- 17.1.1 The ground-based application figures are only produced every four years.
- 17.1.2 In the period 2005-2017, ground-based application accounts for 38% of the total amount of asulam applied.

Year	Aerial Litres applied	Ground Litres applied	% Ground / Aerial
2005	69,464	32,907	47%
2009	112,522	28,699	26%
2013	84,103	37,871	45%
2017	59,600	20,430	34%
		Average	38%

Figure 4 – Amounts of Asulam applied by helicopter and from the ground

- 17.2 Fera's figures have been compared with the information supplied from other sources. There is a range of figures provided, from 17%.
- 17.3 In part, this may be explained by different conditions in different parts of the country. For example, it is possible to apply asulam from vehicles in large parts of the North York Moors or on lowland heaths. However, on the west coast of Scotland there will be very few areas where ground-based application can be carried out.
- 17.4 In the absence of better information, it is suggested that an estimate of the likely split between ground-based and aerially applied asulam lies between 20-35%.
- 17.5 It is expected that the proportion applied by helicopter will increase significantly if the future of asulam is assured and confidence in the future of bracken control returns.

18 Proportion of the Treated Area supported by Grant Aid

- 18.1 Information provided by the contractors indicates that the proportion of their treatment programmes, which is grant aided, lies in the range of 55-70%.
- 18.2 As has been indicated elsewhere, there is a close linkage between the amount of aerial control of bracken that takes place and the amount of grant aid available. The transition from the Common Agricultural Policy to locally-controlled support arrangements for the environment and for agriculture will introduce uncertainty and may reduce the amount of grant aid available in the short-term.
- 18.3 Through the conservation agencies, the BCG is feeding information to the governments in all parts of the UK to make sure that the threat posed by bracken is understood with a view to grant funding continuing to be available under the new schemes.