



Bracken: frond or foe



Game & Wildlife
CONSERVATION TRUST
Scotland



The Bracken Control Group

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NATIONAL PARK AUTHORITY
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Bracken: frond or foe

Simon Thorp

Director of The Heather Trust

Coordinator of the Bracken Control Group

Introduction



The Heather Trust



- The Heather Trust is:
 - A charity
 - Dedicated to moorland management throughout the UK
 - A membership organisation
- Promoting Integrated Moorland Management
 - From an independent view



The Heather Trust Approach



- Start from a land management perspective
- Often working with sporting & farming issues
- We are not scientists
 - Provide a scientific bridge between researchers and farmers & managers
- Work includes:
 - Promoting demonstration Events
 - Scotland's Moorland Forum



The Bracken Control Group



- Informal association of organisations
 - Established October 2011
- Communication to all with an interest in bracken control
- Promotes control by any means
- Coordinated by the Heather Trust



Programme



Time	Speaker and subject
1025	Bruce McConachie, CNPA Funding options
1040	Iain Anderson, Forestry Commission Scotland Bracken control & woodland – funding through FGS
1045	Jeanette Hall, Woodland Adviser, SNH Conservation perspective on bracken control
1100	Questions
1115	COFFEE
1130	Outdoor session with machinery demonstrations and informal discussion, landowner experiences
1300	LUNCH
1345	END

Introduction



- Presentation outline
 - Bracken: the plant
 - Bracken Control
 - Why is asulam important?
 - Regulatory position
 - Bracken Control Group
 - Other views
 - State of play & Conclusions



A photograph of a dense field of bracken ferns. The ferns are lush green and fill the foreground and middle ground. In the background, a flat landscape is visible under a pale, overcast sky. A blue rectangular box is superimposed over the center of the image, containing the text "Bracken: the plant" in white.

Bracken: the plant

The Challenge



- Area coverage - ~1.5 million hectares
 - Uncertainty
 - Debate about increase / decrease
 - Under woodland,
 - Boundaries, hedgerows etc
 - Climate change
 - Stock reduction – CAP
- Cost to agriculture
 - LFA England & Wales
 - £10m p.a. – in late 1980s
- Global presence
 - every continent – Antartica?



What makes bracken special?



Photo: Roderick Robinson

What makes bracken special?

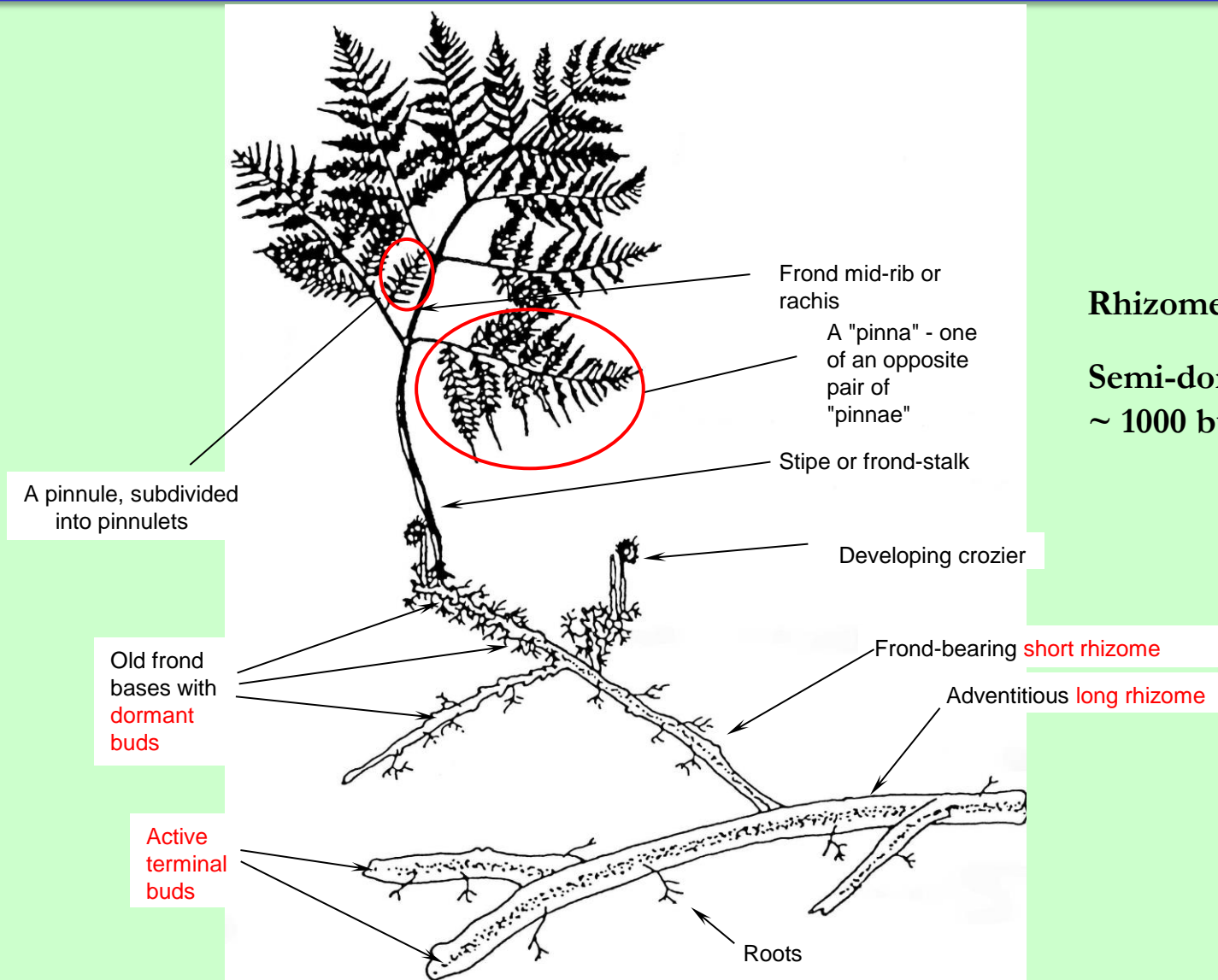


Diagram: Koderick Robinson

Rhizomes ~ 300t/ha

**Semi-dormant buds
~ 1000 buds/m²**

A photograph of a dense field of green bracken ferns. The ferns are in various stages of growth, with many fronds unfurling. The background shows a flat landscape under a cloudy sky. A blue rectangular box is overlaid in the center of the image, containing the text "Bracken Control" in white serif font.

Bracken Control

The need for control



- Upland areas
 - Bracken occupies important area between in-bye & open hill
- Important for grazing & wildlife
- Monoculture
 - threat to biodiversity



Photo: Butterfly Conservation

The need for control



The need for control



- Upland areas
 - Bracken occupies important area between in-bye & open hill
- Important for grazing & wildlife
- Monoculture
 - threat to biodiversity
- Natural (ecosystem) services
 - Water
 - Access
 - Landscape



Photo: Butterfly Conservation

Alternative Control options



- Ground based spray
 - Boom & jet
- Weedwiping;
- Cutting;
- Crushing (rolling);
- Rooting pigs or boar;
- Low level equilibrium grazing (LEG);
- Other physical control
- Biological control options

Alternative Control options



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Exotic moths from the Southern Hemisphere?!
Bracken specific herbivores

The Future 1?



The Future 2?



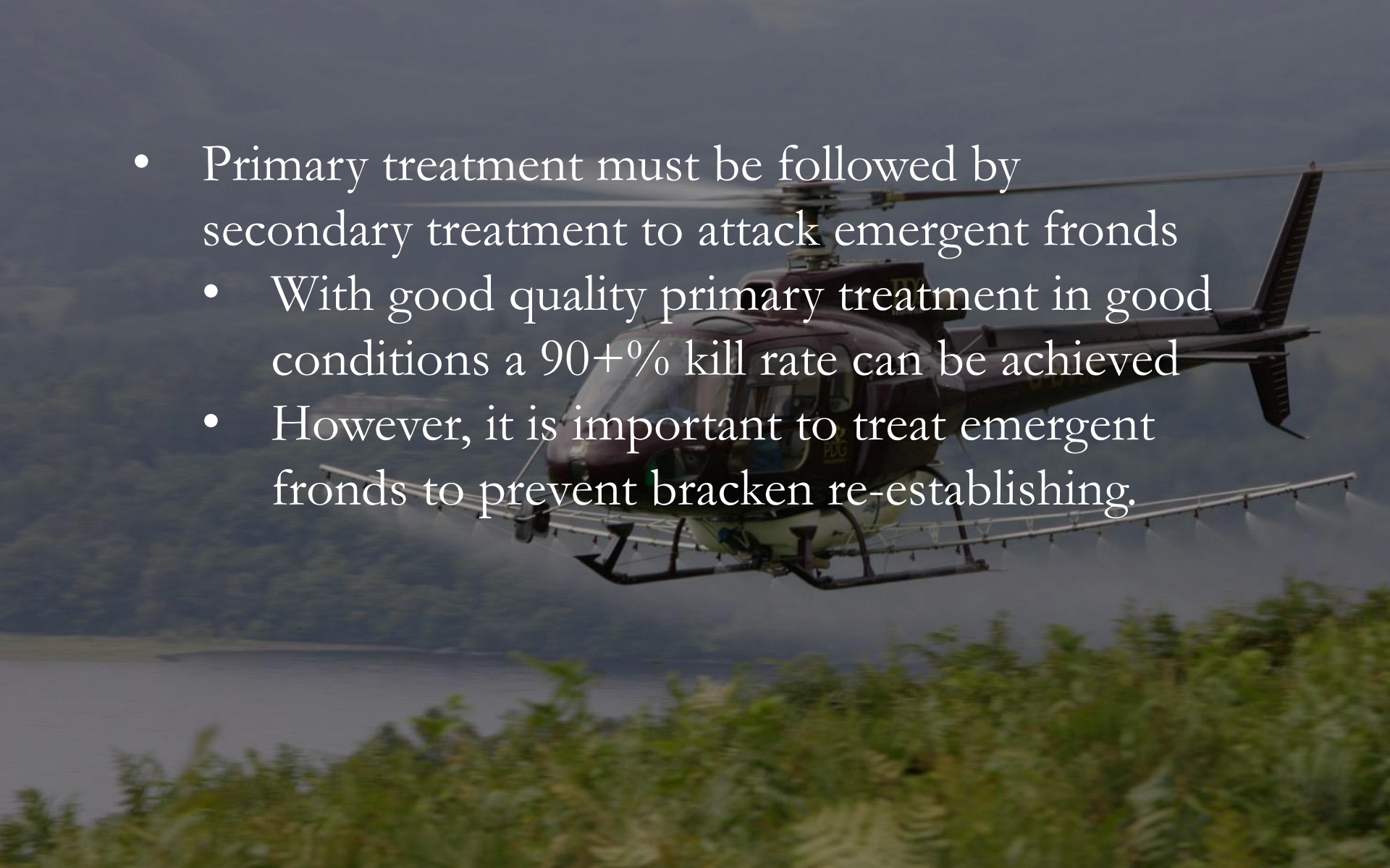
Primary Control



Follow Up



- Primary treatment must be followed by secondary treatment to attack emergent fronds
 - With good quality primary treatment in good conditions a 90+ % kill rate can be achieved
 - However, it is important to treat emergent fronds to prevent bracken re-establishing.



A photograph of a vast field of green ferns, likely Asulam, stretching towards a distant horizon under a pale, overcast sky. The ferns are in various stages of growth, with some showing yellowish-brown fronds. A solid blue rectangular box is superimposed over the middle of the image, containing white text.

Why is asulam important?

Asulam - history



- Discovered by May & Baker
 - First reported in 1965
 - Sold as Asulox
- Uses
 - selective control of certain annual and perennial grasses
 - broad-leaved weeds post-emergence in:
 - spinach, oilseed poppies, alfalfa, ornamentals, sugar cane, bananas, coffee, tea, cocoa, coconuts, rubber, flax, grassland and forestry.
- Bracken control is a minority, specialised use.



Why is asulam important?



- For bracken control
 - Asulam unique for 2 reasons
 - Selectivity
 - Aerial application
- Manufacturers
 - United Phosphorus Ltd
- Potential Drawbacks
 - Impact on water supplies
 - Chemical in the environment

Impact of asulam products

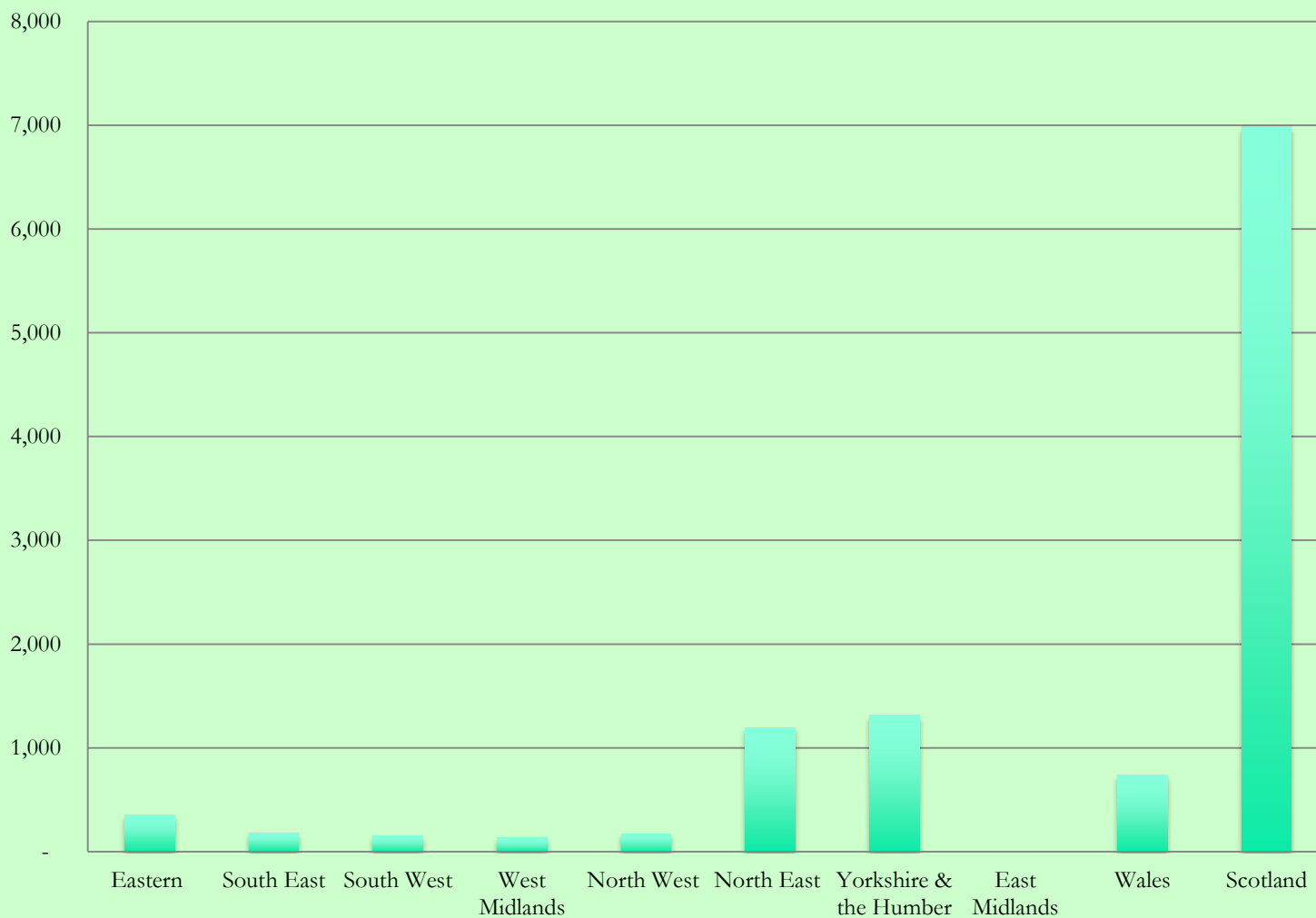


From Knowledge Scotland: Bracken & the Asulam ban - 2 May 2012

Author: Professor Robin Pakeman, James Hutton Institute

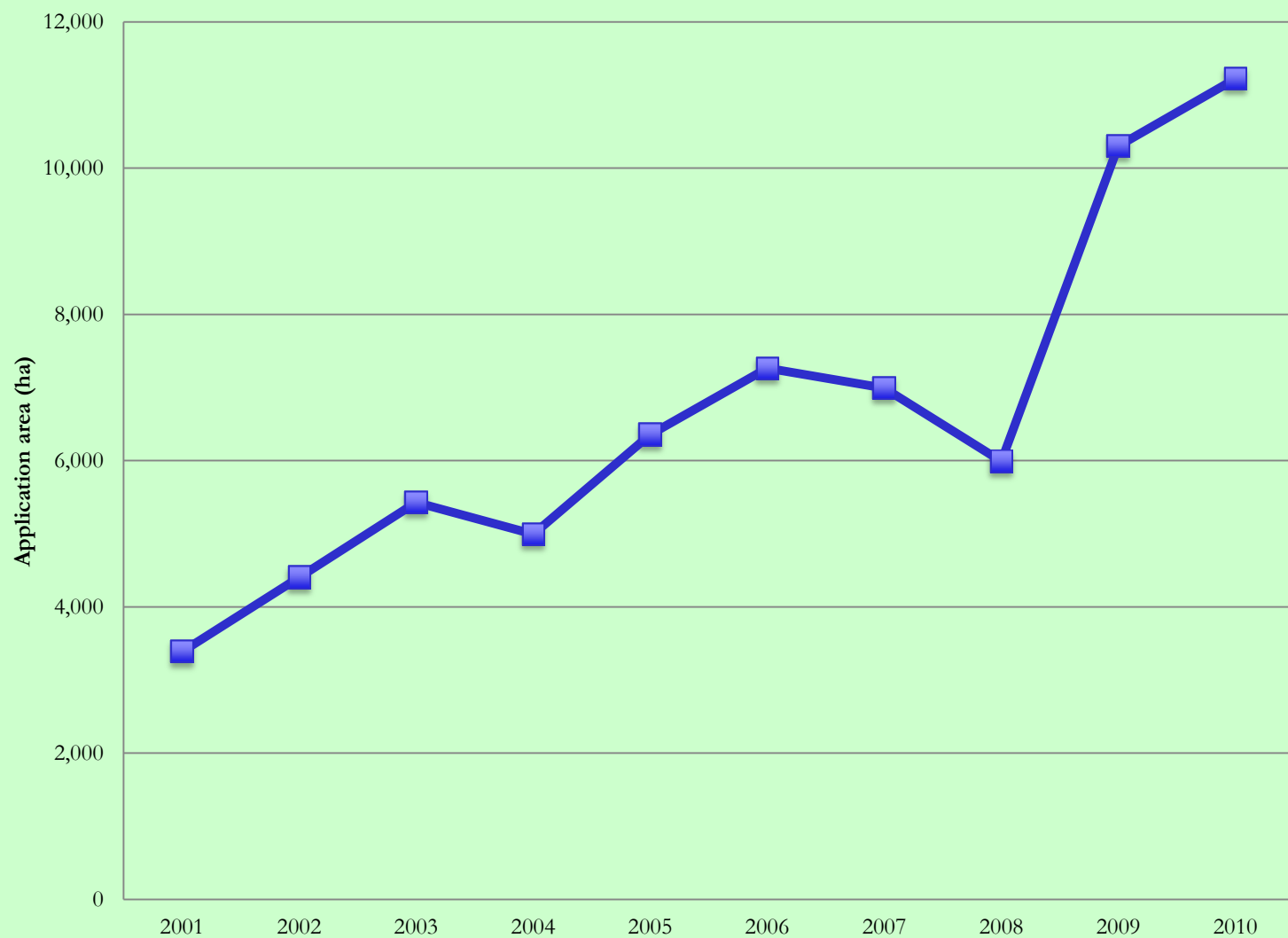
- Bracken sprayed 1978 – 2010 - 1,643 km²
- 2007 figure of bracken cover for UK - 2,600 km²
- Total area if no aerial control 3,897 km²
- Assumption
 - All bracken sprayed has resulted in long-term control
- Therefore, if there had been no use of asulam
 - current extent of bracken would have been c. 50 % higher

Asulam usage in 2010 by region



Source: Pesticide Usage Survey Report 235, Fera 2010

Asulam usage by year 2001 - 2010

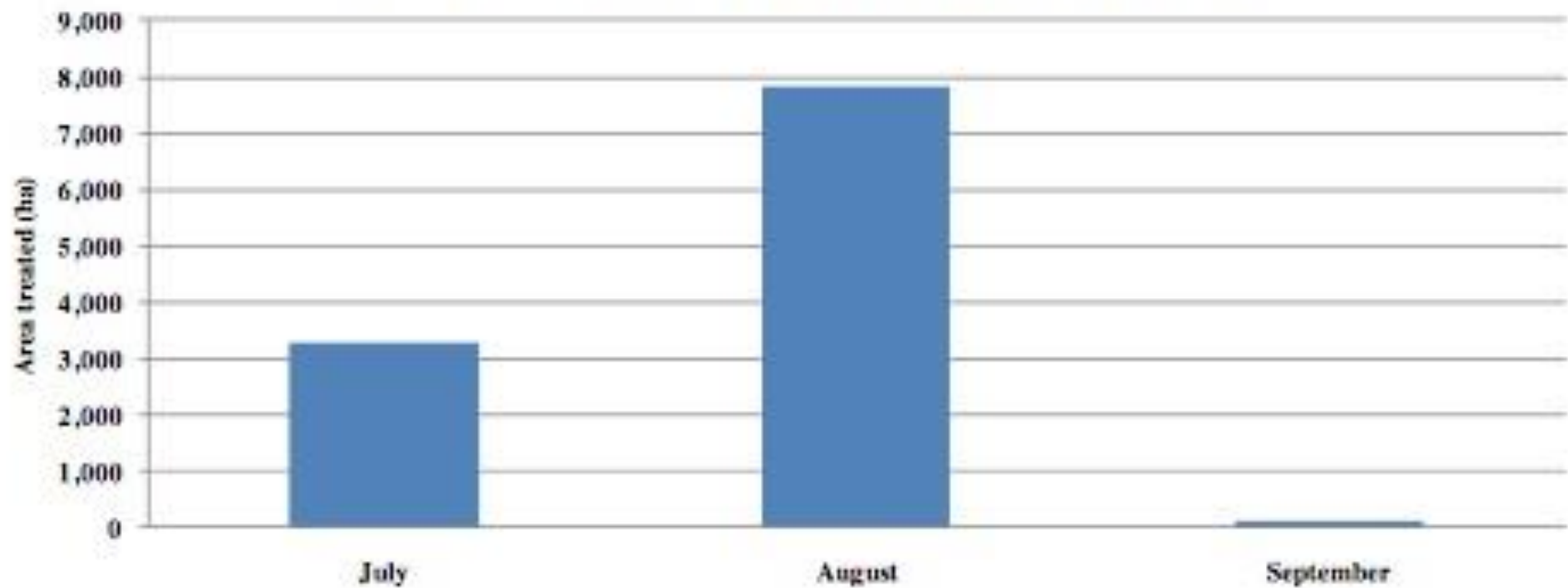


Source: Pesticide Usage Survey Report 235, Fera 2010

Timing of application



Figure A1 - Timing of aerial applications to control bracken - 2010



A photograph of a dense field of green ferns, likely bracken, filling the foreground and middle ground. The ferns are vibrant green and have a feathery texture. In the background, a flat, open landscape stretches to the horizon under a pale, overcast sky. A solid blue rectangular box is superimposed over the center of the image, containing the title text in white.

The Regulatory Position

Regulatory position



- EU Plant Protection Products Directive 91/414
 - all pesticide products in Europe had to undergo a rigorous re-examination of all the supporting data.
- Aim
 - Product placed on a positive list of pesticides which may be used in the EU - known as 'Annex 1'.
- Asulam originally submitted by Bayer Crop Science in 2008
 - Representative use – weed control in spinach
 - Debate over the data to support food safety
 - UK happy - providing additional data obtained
 - EU Food Standard Agency position - insufficient data to prove no risk to human health
 - Result: Asulam failed to gain approval (after appeal) – 20 September 2011

Implementation of the 'ban'



- 31 December 2011
 - no promotion, sale or transfer
- 31 December 2012
 - end of use-up period
 - no further use of asulam products
 - illegal to store
- Importance of maintenance of supply
 - Maintain existing programmes
 - Maintain benefit of previous investment
 - Financial & time
 - Allow new programmes to start



The Bracken Control Group

The Bracken Control Group



- Bracken control ‘industry’
 - Concerns about lack of coherence & coordination for many years
- Formation of the Bracken Control Group
 - Loss of asulam the trigger
 - Links to the asulam supply chain
 - Work with every organisation and everyone who has an interest in bracken control throughout the UK



BCG Members



- Manufacturers
- Distributors
- Government & Agencies
- Bracken control contractors
- NGOs
- End users



- Government agencies – control application
 - Conservation agencies
 - Area of designated land – 75% of the uplands
 - Environment agencies
 - National Parks, Areas of Outstanding Natural Beauty
 - Forestry Commission
- Non Government Organisations
 - Water companies
 - Historic Environment
 - Research & technical advisers
 - Human & animal health - Sheep ticks
 - Landowners, land managers & farmers

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Emergency Authorisation

Application



- Annual application for an Emergency Authorisation
 - Support from Chemicals Regulation Dept (CRD) – first class
- Result for 2016
 - Time limited approval – 120 day EA period
 - 16 May – 12 Sep 16
 - Asulam can be applied from 1 Jul 16
 - Additional use-up period – until 31 Oct 16
- Annual approvals
 - Current Regulation EC 1107/2009
 - does not preclude series of EAs – but no guarantees



Emergency authorisation



- EA application covers asulam for:
 - All bracken control use in the UK
 - Including use in forestry
- No approval for use with:
 - Weed wiper
 - ULVA
- Restrictions
 - All hand-held equipment – concentration 1:100

Emergency authorisation



- Communications important
 - ‘We’re all doomed!’
 - Asulam continues to be available
 - Illegal storage to be avoided



WE'RE ALL DOOMED
DOOMED!

Registration



- UPL submitted application for registration
 - under Regulation EC 1107/2009
- Latest estimate for re-registration – 2019
- Impact of Brexit
 - Not known!



Alternative approach



- Other products
 - New Zealand
 - DuPont Answer® herbicide
 - Some work taking place in UK
 - Sulphonyl Urea
 - Too early to comment
 - Complementary not replacement
 - Concerns about persistence
- The future
 - How long will we be able to justify spraying chemicals onto open hill ground?
 - Best chance with the devil we know?



Conclusions 1



- Risk to moorland & upland management
- Loss of asulam
 - Support for retention from top to bottom
 - Ministers to end-users
- EU regulations
 - Probably doing their job
 - protection of food supplies
 - Law of unintended consequences
- Effectiveness of the BCG coordination
 - so far, so good

Conclusions 2



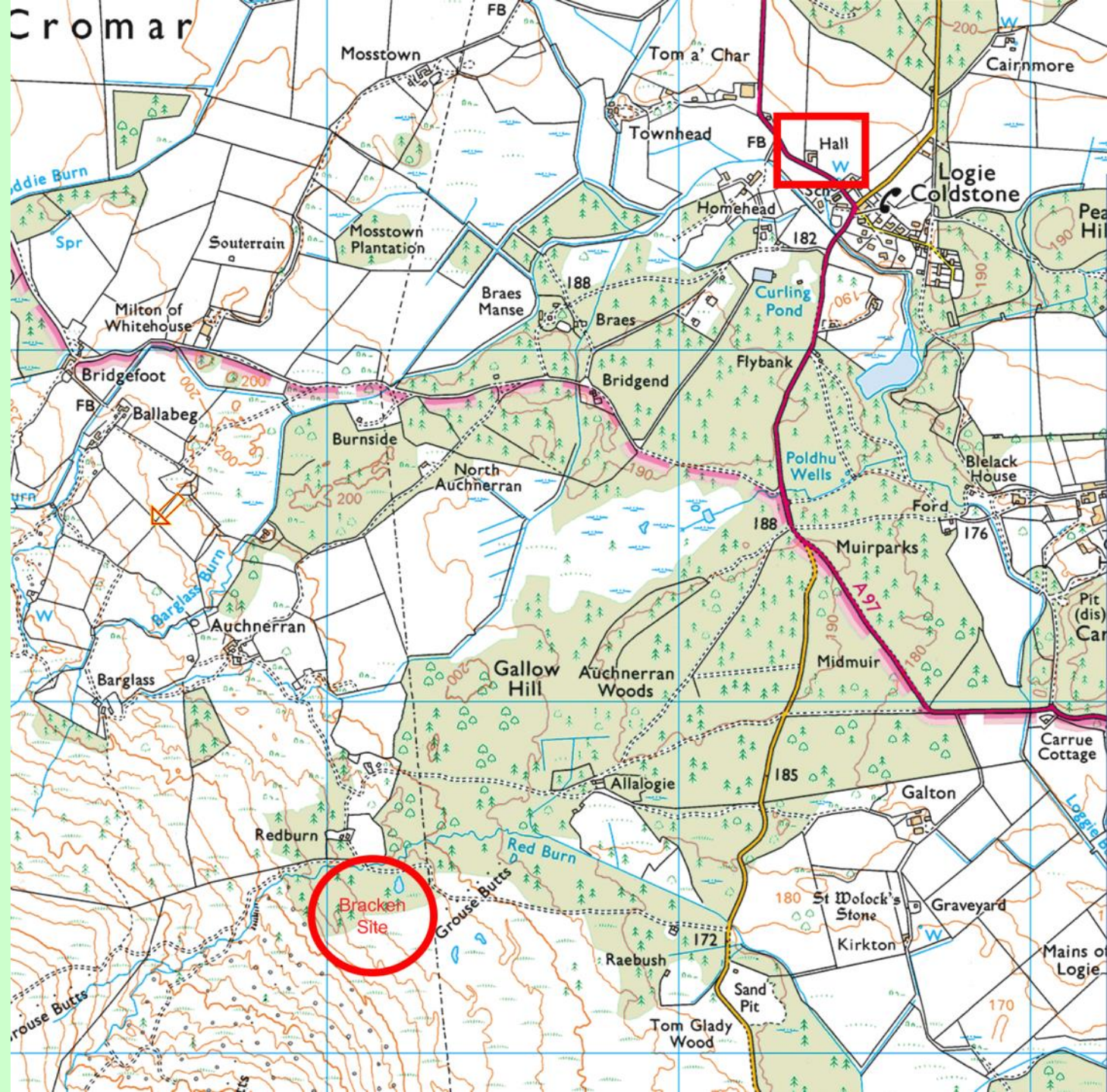
- Bracken expansion is a threat to the condition of our moorlands & uplands.
- Bracken can be a threat to income
 - Ineligible land & loss of payments
- There are a very wide range of control options
 - Contractors are available to help
- Positives
 - Awareness raising
 - Increased focus on the threat posed by bracken
 - A more unified bracken control industry

Conclusion in one phrase



Bracken is more foe than 'frond'

Cromar



Newtonrigg
Holywood
Dumfries
01387 723201



The Bracken Control Group

<http://www.brackencontrol.co.uk>



THE HEATHER TRUST
Promoting Integrated Moorland Management

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