Information note:

Bracken management

Summary

Management will be of most benefit to wildlife where it breaks up extensive dense stands and where it prevents bracken spreading to replace more important wildlife habitats. Bracken provides the greatest benefits to wildlife when it is present as part of mosaic with other vegetation types.

Wildlife benefits

Bracken is a natural part of our landscape and of some benefit to wildlife when it is present as part of mosaic with other vegetation types, such as grass, heather, scrub and trees. However, bracken can be invasive and can cause the loss of priority habitats e.g. heathland or species-rich grassland. When it comprises large dense stands, its value to wildlife is also much reduced.

Many birds can benefit from the increased structural diversity that bracken provides in open landscapes, particularly where alternative taller vegetation (such as low scrub or mature heather) is not present to provide perching posts or cover for nesting. The whinchat and stonechat are two species whose breeding territories are positively associated with the presence of bracken. Other upland birds known to sometimes nest in bracken include twite, curlew, merlin and ring ouzel. Bracken can also be attractive to feeding birds due to the high numbers of insects it can contain, particularly where the bracken is sparse and intermixed with grass or heath. Skylarks, meadow pipits and yellowhammers have been shown to select such habitat for feeding in preference to rough grassland alone.

The high brown fritillary is a butterfly of conservation concern that can benefit from bracken, as violets, the food plant it relies on, can persist in the warmer microclimate under light bracken cover. Other woodland ground flora, such as bluebells, also persists under bracken.

Practical management

Ecology of bracken

Bracken is a native species of woodland, where it is not an aggressive competitor with other plants. However, on open ground historically cleared of woodland it can become highly dominant, helped by its dense litter, the release of chemicals that inhibit other plants and low palatability to grazing animals. It is most vigorous on deep, fertile, well-drained, slightly acidic soils, but can

Dense bracken on deeper soils of lower slopes

colonise almost any land except high mountains, and land that is periodically waterlogged or cultivated.

Bracken spreads via underground rhizomes, and has the potential to expand by 1–2m per year. If left to natural vegetation succession, bracken would eventually become scrub and woodland, although dense stands that receive little disturbance can be highly resistant to tree regeneration.

The need for bracken control

Spreading bracken is a problem for a variety of land management interests. Dense stands reduce the area available to grazing livestock and can make their checking and gathering problematic. Bracken can also cause significant damage to archaeological remains through its extensive root system.

Bracken control will be of most benefit to wildlife where it breaks up extensive dense stands to create a more diverse habitat mosaic, and where it prevents bracken spreading and replacing more important habitats for wildlife, such as heathland and species-rich grassland.

In the UK as a whole, there is no evidence that the area of bracken has increased significantly in recent decades, but this may be the result of extensive control measures. The reason for increased bracken encroachment in some areas is not well understood, but has been attributed to:

- Climate change reducing the incidence of spring frosts.
- Increased nitrogen deposition.
- Changes in grazing management (particularly increases in sheep and loss of cattle)
- Reduced cutting for livestock bedding.
- Bracken is known to colonise more quickly where the existing vegetation is weakened or suppressed, such as ground disturbed by fire or very tightly grazed.

Planning management

A bracken control programme needs to have clear objectives and be planned carefully. Controlling bracken is often a long-term and expensive undertaking, sometimes requiring the collaboration of organisations and individuals. Things that need to be considered include:

- Is there any existing wildlife interest? The peak time to control bracken may coincide with wildlife activity, especially nesting birds. Survey it first. Does the area have a conservation designation eg SSSI. Discuss with the relevant body.
- What are the long-term objectives for various parts of the site? Complete eradication over a large area should rarely be the aim
- Identify the key target areas, and tackle these first. Targeting the leading edge of bracken stands to slow down colonisation into bracken free areas. Map areas to be targeted by surveying bracken distribution between July and October when bracken is most visible. This will allow future surveys to monitor the effects of management.
- What are the most appropriate methods of primary and follow up control?
- If dense stands with little under storey vegetation are to be managed, consider what vegetation will replace the bracken. Leaving bare ground could cause soil erosion, particularly on steep banks.
- Consider archaeological and access issues in the area.
- Consider the impacts of bracken management on the landscape. Try to create irregular lines that follow natural features, rather than regular shapes with straight edges.
- In some areas, the costs of bracken control will not be justified by the agricultural or environmental gain, and it may be more appropriate to allow these areas to naturally succeed (or be planted) to scrub and woodland.

Methods to control bracken

Grazing

Bracken has low palatability to livestock, and is avoided. However, heavier grazing animals, such as cattle or ponies help control bracken by trampling growing fronds when they graze into stands where there is under-storey vegetation to eat.

Mechanical control

Bracken cut and baled for bedding

Inflicting damage to the fronds through cutting or crushing depletes rhizome reserves. Neither method will achieve eradication, but can be effective at reducing bracken density, and encouraging the recovery of under storey vegetation. Crushing bracken with a roller is generally not as effective as cutting, but may be the only option on land unsuitable for cutting. Ordinary farm rollers can be used, but specific bracken rollers have been developed. Mechanical methods are most effective when the bracken is at, or near, full frond. Fronds are normally mature from mid July. Delay for a couple of weeks if birds have not completed breeding.

Herbicide treatment

Chemicals are generally more effective at killing bracken than mechanical means. Historically, asulam was the main effective herbicide available for bracken control, but its licence was withdrawn in 2012. This leaves glyphosate as the only remaining licensed herbicide for bracken. The main disadvantages of glyphosate compared to asulam are:

- It is a broad-spectrum herbicide that kills almost everything it contacts. Where stands are open, and there is potential to affect non-target flora, targeted application methods such as weed wiping or spot treatment should be considered. Weed wipers work by brushing small amounts of herbicide onto the vegetation they come into contact with. A range of weed wiping tools exist either as hand tools or as tractor/ATV mounted implements.
- It is not licensed for aerial spraying (the most economic way of applying asulam to large bracken stands in the uplands.

For effective treatment, chemical should only be applied to mature fronds before they start to die back, ensuring maximum translocation to the underground rhizomes. Over 90% control can be achieved, but follow up treatments will be necessary to prevent re-infestation.

Contact us

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