Managing for bespoke species/assemblages within Countryside Stewardship – guidance template

Species/assemblage name

Duke of Burgundy (*Hamearis lucina*)

Images Butterfly Conservation

Conservation status

Section 41

Introduction

The Duke of Burgundy is found in scattered colonies across southern England and more isolated colonies in the Lake District and the North York Moors. The species occurs in scrubby grassland and sunny woodland clearings, typically in very low numbers. Adults fly from April until late May. The adults rarely visit flowers and most sightings are of the territorial males as they perch on a prominent leaf at the edge of scrub. The butterfly has declined seriously in recent decades and is reduced to around 100 sites. Duke of Burgundy has undergone major declines in distribution with a 52% loss between 1970–82 and 1995-2004, and a 58% loss in abundance since 1995 in Britain (Fox et al., 2006). This decline is ongoing, with distribution losses of 30% and population declines of 46% between 1995–1999 and 2005–2009 (Fox et al., 2011). Due to these significant declines the species was added to the UK BAP list when it was revised in 2007. The significant declines are due to habitat loss and fragmentation; inappropriate management of remaining habitats and decline in woodland management.

Two principal habitats are used: chalk or limestone grassland, with either extensive areas of scrub or topographical shelter; or clearings on ancient woodland sites, either regenerating coppice, young plantations, sizeable glades or wide rides. In both habitats it requires foodplants growing among tussocky vegetation of 5-20 cm. On downland it prefers north- or west-facing slopes, or sites with frequent scrub, possibly because the humid conditions encourage lusher growths of the foodplant. The main foodplants are Cowslip (*Primula veris*) and Primrose (*P. vulgaris*). It occasionally uses the so-called ‘False Oxlip’, the hybrid of these two Primula species. Light to moderate cattle grazing from late summer to winter may be the most suitable regime for long-term maintenance. Regular summer sheep grazing, or heavy sheep grazing at any time is detrimental.

Why a bespoke species/assemblage?

The Duke of Burgundy requires tailored management based on the history and landscape context of the site. Two principal habitats are used where the species requires abundant foodplant growing among tussocky vegetation calcareous grassland and woodland clearings. The management for this species cannot be delivered under generic good

management due to the complex requirements.

When and where to apply this guidance

At all sites where the species is present, on historical sites where restoration is undertaken to encourage recolonization or potential new sites.

Developing a Countryside Stewardship agreement

Relevant CS options

GS6	Management of species rich grassland
GS7	Restoration towards species rich grassland
GS13	Management of grassland for target features
GS14	Creation of grassland for target features
SP4	Control of invasive species supplement
SP6	Cattle grazing supplement
SP8	Native Breeds at Risk supplement
WD2	Woodland Improvement
WD7	Creation of successional areas and scrub
WD8	Management of successional areas and scrub
WD9	Livestock exclusion supplement
BN11	Planting new hedgerows

Chalk and limestone grassland habitats

Aim to maintain a mosaic of open, sunny grassland with abundant *Primula* in medium height swards (5-20cm), with scrub edges or patches comprising up to 20% of the grassland area. Maintain taller vegetation for breeding and shorter vegetation to ensure continuity of foodplant supply.

Prescription guidance for GS6/GS7

P42 - [Control/Manage] [up to a third of the scrub in any one year] [in XXXX] [by cutting] so that [by year [5]] cover [of the [LOCATION] is no more than [30] %]. [Remove all cut material.]

OR

P138 - Retain the full extent of well-established scrub [where cover is below 10%]. [Where the cover is 10% or greater, maintain scrub over at least 10% and a maximum of 30% of the parcel area.] It must be retained as discrete small patches, lines and occasional individual bushes scattered across the site. [Do not cut more than a third of the scrub in any one year except on historic and archaeological features.]

P423 – Establish [Primrose and Cowslip by planting in parcels XXXX / in the areas identified in XXX.]

P428 - [Cut and remove [rank grasses] in the first year for restoration where Duke of Burgundy is not present and breeding.][Do not cut/top before [30 June] and always leave at least 10% uncut. This need not be the same 10% each year. All cuttings must be removed.]

[Exclude livestock for a minimum of [7] weeks before cutting and/or by [15 May] at the latest.] [In years when hay is taken, graze the aftermath.]

P455 - Manage [dense Bracken stands / deep Bracken litter layers] rotationally in years [1 to X] [by cutting/bruising/spraying/]. Cut bracken by hand on [XXXX] historic and archaeological features.

P464 - Maintain the extent of [Duke of Burgundy breeding habitat] of interest within the [grassland/scrub mosaic] as identified [XXXX].

P470 - [By year X], [at least 2 moderate/high value indicator species Cowslip *Primula veris* and Primrose *P. vulgaris* for Priority habitat feature Lowland calcareous grassland must be frequent/in flower between April and June ~~and 2 high value indicator species XXXX for Priority habitat feature XXXX occasional (as defined in XXXX (currently the FEP Handbook)]. [By year X], cover of [species XXXX must be less than 10% / between 50% and 90%/frequent].~~

P667 - [From [establishment] onwards], manage by [light cattle grazing from mid/late summer to winter; light winter sheep grazing may be acceptable [to maintain areas of medium height swards] so that [the average sward height is 10cm (within a range 5cm-25cm) over 80% of the site]. Avoid poaching by managing stock carefully when ground conditions are wet.].

IoS for GS6/GS7

[By year XX/ in all years], cover of wildflowers in the sward (excluding undesirable species but including rushes and sedges), should be between [20% and 90%]. At least [50%] of wild flowers should be flowering during [May-June].

[By year X/ in all years], the average sward height [between April and June] should be at an average sward height of 10cm (within a range 5cm- 25cm).

[By year X/ in all years], species [Cowslip *Primula veris* and Primrose *P. vulgaris* frequent], and flowering during [April to June]

[By year X/ in all years] [Duke of Burgundy] [should be present and maintained] on the site

In non-priority grassland areas, GS13/GS14 should be used following the prescriptions and IoS for GS6/GS7.

Other options

Where additional scrub cover is required, BN11 (Planting new hedges) could be used.

Where invasive species such as cotoneaster are present, SP4 (Control of invasive species) could be used.

Woodland clearings habitats

Aim to ensure a continuous supply of clearings with abundant *Primula* in open, sunny conditions through coppicing, glade creation and ride management.

WD2 Woodland Improvement
WD7 Creation of successional areas and scrub
WD8 Management of successional areas and scrub
WD9 Livestock exclusion supplement

Prescription guidance for WD2

Woodland management plan required (PA3) - see further information.

Prescription guidance for WD7/8

P42 - [Control/Manage] [up to a third of the scrub in any one year] [in XXXX] [by cutting] so that [by year [5]] cover [of the [LOCATION] is no more than [30] %]. [Remove all cut material.]

P366 - Cut no more than a third of the shrubby growth in any one calendar year. Do not cut during the bird breeding season (1 March to 31 August).

P455 - Manage [50% of dense Bracken stands / deep Bracken litter layers] rotationally in years [1 to 5] [by cutting / bruising / spraying /]. Cut bracken by hand on [XXXX] historic and archaeological features.

P579 - Graze years [1 to 5] to maintain areas of [average sward height 10cm turf interspersed with taller tussocks (up to 25cm)].

SP9 and FM2 should be used where possible on a site by site basis.

Monitoring:
Timed Count/Transect

Further information

Fox, R., Asher, J., Brereton, T., Roy, D & Warren, M., 2006. *The State of Butterflies in Britain and Ireland.* Pisces Publications, Berkshire.
Fox, R., Brereton, T.M., Asher, J., Botham, M.S., Middlebrook, I., Roy, D.B. & Warren, M.S., 2011. *The State of the UK's Butterflies 2011.* Butterfly Conservation and the Centre for Ecology & Hydrology, Wareham.
Priority Species Factsheet: http://butterfly-conservation.org/files/duke-of-burgundy-psf.pdf

Management guidance:

1. **Chalk and limestone grassland habitats**

Grazing
Extensive light cattle grazing is ideal. Light to moderate cattle grazing from late summer to winter may be the most suitable regime for long-term maintenance. Regular summer sheep grazing, or heavy sheep grazing at any time of year is detrimental, as this produces an unsuitably tight sward with low foodplant density. Where there is no alternative, rotational sheep grazing can be used, but only up to 25% of the site should be grazed each season. Domestic livestock grazing regimes should take account of rabbit populations which can have a significant deleterious impact.

Scrub Control
Scrub should be cut on long rotations (e.g. 20 years) and targeted at younger, scattered scrub over relic grassland or at bays in scrub edges. Cutting dense mature scrub is not

usually immediately beneficial, as Primulas regenerating in an open sward or amongst flushes of Wood False Brome *Brachypodium sylvaticum* are unsuitable for breeding. Scrub control without grazing is rarely sufficient to maintain colonies in the long-term.

2. Woodland clearings

Glades

Permanent glades can be maintained by controlling scrub regrowth, brambles and coarse grasses, ensuring all cut material is removed. As well as hand tools, strimmers and clearing saws, using a mower set at 10cm every two or three years has been found to be very effective.

Coppicing

A regular cutting sequence of woodland blocks in close proximity will ensure rapid colonisation of new habitat, particularly where open rides permit movement between clearings. Ideal conditions are provided in woodland regrowth a few years after clearance when sheltered areas develop between coppice stools. On thin soils or where deer browsing delays initial regrowth these microhabitats can be prolonged for several seasons.

Rides

Breeding success is likely to be highest in east-west rides. Open rides can be maintained by short-rotation coppice (5-8 years), cutting back the woodland edge to 5-8m depending on the vigour of regrowth. Herb-rich grassland can be maintained by annual mowing or strimming.

Authorship/version control

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