



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

<p>Species/assemblage name</p> <p>Brown Hairstreak (<i>Thecla betulae</i>)</p> 	<p>Conservation status</p> <p>Section 41</p> 
<p>Introduction</p> <p>The Brown Hairstreak breeds mainly on Blackthorn <i>Prunus spinosa</i>, only at times using other shrubs in the plum family. Their colonies usually occur at low densities and spread over wide areas of countryside. It is a butterfly that needs blackthorn hedgerows and thickets of scrub on open grassland or along woodland edges for its survival. The species has undergone a 40% decline between 1995 and 2009 although its distribution trend is more stable. The main reasons for decline are unsuitable hedgerow and woodland management.</p> <p>Colonies are normally centred on a wood, but egg laying usually extends over several square kilometres of the surrounding countryside. Eggs are usually laid in the second half of August and overwinter on young Blackthorn growth in sunny, sheltered positions, so are very susceptible to winter hedge cutting and extensive scrub management. Adults tend to congregate around specific (assembly) trees, particularly in mid August when they are seeking mates. The same trees, usually prominent Ashes, are used for this purpose from year to year. Where these trees can be identified they should be retained whenever woodland management occurs. The overall aim is to maintain a continuous supply of young Blackthorn stands along the woodland edge, in rides and in hedgerow thickets.</p>	
<p>Why a bespoke species/assemblage?</p> <p>The Brown Hairstreak requires sensitive management of hedgerow and woodland habitats which are not catered for under generic mosaic management.</p>	
<p>When and where to apply this guidance</p>	

At all sites where the species is present, on previously occupied sites where restoration is undertaken to encourage recolonization or potential new sites. The species occurs at low densities over large areas with females egg laying over several square kilometres therefore sensitive management within 2km of a known site would be beneficial. There may be local target areas within NE teams.

Relevant CS options and capital items

WD2	Woodland improvement
WD7	Management of successional areas and scrub
WD8	Creation of successional areas and scrub
WD9	Livestock exclusion supplement – scrub and successional areas
BE3	Management of hedgerows
BN11	Planting new hedges
SB1	Scrub control and felling of diseased trees
SW1	4-6m buffer strip on cultivated land
SW2	4-6m buffer strip on intensive grassland

Woodland and scrub/successional habitats

Prescription guidance for WD2

Under WD2, a woodland management plan (PA3) would be required for the site following the ideal management described. The best practice management within woodlands is outlined in the next section (Further information).

Prescription guidance for WD7/WD8

P42 - [Control/Manage] [scrub/ SPECIES] [in XXXX] [by method] so that [by year [NUMBER]] cover [of the [LOCATION] is no more than [30]%. [Remove all cut material.] - *Higher Tier*

P365 – Only cut to maintain the scrub and grass mosaic and for the control of injurious weeds and invasive non-native species. – *Both Tiers*

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). – Both Tiers

IoS for WD7/8

[By year XX], the following desirable species [Brown Hairstreak] are [present.]

[By year XX], cover of shrub species [Juniper / Box / Hawthorn / Blackthorn / XXXX] is between [20% and 50%] of the area. The vegetation within [2 m] of the edge of the scrub is taller than 30 cm.

[By year XX], shrub species [XXXX] have a diverse age and height structure. No more than [50%] of the scrub area is mature, or over-mature.

[By year XX], tree species [Birch / Ash / XXXX] are present at irregular spacings, with an overall canopy of between [5 - 10%] of the area. [~~By year XX, there are no trees above 4 m tall.~~]

Prescription guidance for WD9

To be used with WD7/WD8 to create areas of scrub or protect woodland edges and hedgerows.

Hedgerows and edges

Prescription guidance for BE3

P71(Higher tier) –Allow [hedge X / hedges XXXX] to reach and then maintain a minimum height of [2 m] and a minimum width of [0.75 m measured from the centre of the hedge] by year [2]. [Sections that have been gapped up, layed or coppiced during the term of the agreement are excluded].

P72 – All woody cuttings must be removed from the area within 2 m of the centre of the hedge after trimming.

P73 (Higher tier) – Either:

[Cut [hedgerow X / hedgerows XXXX] no more than one year in three or five if possible between [1 August] and [15 August] or [if the august dates are not possible then between 31 December] and [28 February]. Leave at least two thirds of hedges untrimmed each year.]

P77 – Leave [layed hedgerow X / Ash trees (assembly trees)] to grow uncut. *(based on a hedge laying rotation of 7 years – thus longer than the life span of the agreement)*

P79 (Higher tier) – Do not remove any tree limbs including the lower limbs and /or mature ivy growth [from hedgerow trees [xxxx]].

P80 – Do not remove any standing deadwood.

P82 – [Do not cut/Cut] the herb layer within 2 m of the centre of [hedgerow X / hedgerows XXXX] [annually / 1 year in 2] after [31 August].

P622 – Gap up any length of hedge with more than 10% gaps within the first two years.

Informal indicators of success (none formally required for BE3)

Each year, there should be some uncut hedgerows on the holding.

By year 3, hedges under this option should be at least 2m in height and 0.75m in width (measured from the centre of the hedge).

Each year there should be some freshly cut blackthorn on the specified hedges, but also some undisturbed 1st and 2nd year blackthorn suckers, to provide suitable egg laying plants for brown hairstreak butterflies.

Use capital item BN11 to link existing farm woodlands and suitable hedges

following the advice below:

Specifications

S1 Do not block or restrict access to CRoW land.

Timing

S2 Carry out work between 1 January and 31 March or 1 November and 31 December.

Ground Preparation

S4 Prepare the ground along a 1.5 m wide strip to provide good soil conditions and as little competition from other vegetation as possible.

S5 Any herbicide must be applied to the 1.5m wide strip in the August or September prior to planting.

Planting

S6 Plant two-year old transplants, at least 450-600 mm high and of the following species [a mix of locally common native hedge plants should be used, (such as blackthorn, hawthorn, ash, oak, elder, wild service, field maple, holly, spindle, and guilder rose) but a good proportion of the mix should be made up of **blackthorn** to benefit brown hairstreak butterflies.], with no one species comprising more than [80%] of the total. – *Higher Tier*

S7 Plant in a [staggered double row [xx] cm apart/single row] with a minimum of [6] plants per metre. – *Higher Tier*

Weed Control

S8 Keep plants clear of weeds until they are established by [hand weeding/mulching/spot spraying/XXXX]. – *Higher Tier*

Protection

S9 Prevent damage from livestock and grazing animals. Set fencing at least 1.2 m from the centre of the hedge or where a bank is present, as close to the base of the bank as possible.

S10 Remove individual guards/tree shelters once the plants are established.

Follow-up Management

S11 Replace all failures in the following planting season.

S12 Trim the newly planted hedge in a least the first two years to encourage bushy growth, allowing the hedge to become taller and wider at each cut.

Use capital item BN5 to lay hedges

Prescription guidance for SW1/SW2

Use SW1 and SW2 to retain uncultivated/ un sprayed margins where possible.

(The 3 metres next to the hedge should only be cut when the hedge is cut, to allow some blackthorn suckers to develop for Brown Hairstreak butterfly.)

P2 - Do not apply any fertilisers or manures. - *Both Tiers*

P10 - Only use pesticides, including herbicides, to spot-treat or weed-wipe for the control of injurious weeds, invasive non-natives, nettles or bracken. - *Both Tiers*

P96 - Where hedgerow trees over 30 cm diameter at breast height are present do not remove tree limbs, including lower limbs. Leave fallen timber beneath the canopy. Stack if necessary to allow management of the buffer strip. - *Both Tiers*

P97 - Establish or maintain a 4- 6 m wide grass buffer strip during the first 12 months of your agreement. - *Both Tiers*

P99 - After establishment of the buffer strip, cut between 1 and 3 m next to the crop edge annually after 15 July. Only cut the remaining width to control woody growth. Do not cut areas with fallen timber. - *Both Tiers*

P677 - Do not use the buffer or grassed area for vehicle or stock access routes. - *Both Tiers*

Monitoring

Winter egg counts

Further information

Woodland edges and rides: Broad-leaved woods are essential to most Brown Hairstreak colonies and can be managed for their benefit. Maintain all farm woods and broad-leaved wood edges and retain trees identified as key mating sites and congregation points. Adults tend to congregate around specific groups of trees, particularly in mid August when seeking mates. The same trees, usually prominent ashes, are used for this purpose from year to year. Where these trees can be identified they should be retained whenever woodland management occurs. Coppice or fell trees in rotation. Spread any clearing or coppicing work over several years and leave some belts of woodland intact to act as focal points for the colony. Manage woodland edges and rides in rotation as for hedges. Woodland edges and wide, sunny rides can also form important areas for egg laying. Any blackthorn should be cut on rotations of 3-5 years, similar to that for hedgerows. Creating new east-west rides within woods can be valuable, especially where they link existing egg laying areas. When creating new woods or rides plant blackthorn along sunny sheltered edges.

Blackthorn scrub in glades and rides: Cut on rotations of more than 3 years and do not cut entire ride sections or glades in a single year. Creating new east-west rides within

woods can be valuable, especially where they link existing egg-laying areas.

Blackthorn in hedgerows and wood edges: As eggs and caterpillars occur on Blackthorn twigs for much of the year, hedge or wood edge trimming at the wrong time will remove a large proportion of the population, and annual cutting will have a greater impact on egg survival rates. Appropriate cutting regimes are essential if this species is to survive at a site and these can be considerably cheaper than annual cutting: Trim hedges only once every 3 to 5 years and do not cut all the hedges in any one area in the same year. This will provide blackthorn suckers at 3 different growth stages. The butterflies will use the 1st and 2nd year suckers for egg laying and these eggs will overwinter on the hedge.

As an absolute minimum, hedges should be left uncut every other year. Cut between 1-15th August (prior to egg laying) or when an August cut is not possible, cut as late as possible in the winter, ideally in January or February. Late winter cutting will also make shelter and hedgerow fruit available to other wildlife such as small mammals and birds. Hedge laying on a rotation of over 7 years is highly suitable. It produces the young growth that provides good egg laying sites and avoids the annual cutting that can remove both caterpillars and eggs. Avoid chemical spraying into hedge and wood edge habitat, leaving an uncultivated margin if possible. Heavy browsing of Blackthorn by livestock such as ponies can have a negative impact on the butterfly, as can rabbit and deer browsing on young shoots. Retain any mature ash trees in the hedge as these may act as assembly trees for the butterfly.

A factsheet is available at <http://butterfly-conservation.org/files/habitat-hedgerows-for-hairstreaks.pdf>

Authorship/version control

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