

Brown Hairstreak Butterfly Action Plan

Introduction and Vision Statement

The brown hairstreak (*Thecla betulae*) is an elusive butterfly, living almost exclusively in tree canopy, and thus seldom seen without binoculars, telescope or a lot of luck. Adults are however on the wing from late July through to early October, but it is usually only females that are ever seen low down, usually whilst egg laying on young blackthorn bushes in August or September. In practice, its presence is most easily detected by searching for the white, roughly pin-head sized eggs on young blackthorn shoots in winter, after the leaves have fallen. Fortunately the eggs are laid at less than 5ft (1.5 m) above ground level.



After emergence in mid–late summer, the males and females congregate in ‘assembly trees’, often tall ash trees, with sheltered canopy in low-lying basins, and here mating takes place. Females venture out into surrounding habitat, sometimes up to 25 km distant, where they search for young shoots of blackthorn on which to lay eggs, normally singly, although one or more may be found on the same shoot. Growth of 1–4 years old is preferred for egg laying and populations have been shown to peak 3 years after the last hedge trimming. Larvae emerge in late April to early May and feed, initially on unfurled leaf buds and subsequently fresh leaf growth, mostly at night. In June or early July, larvae darken in colour and crawl to the ground in search of pupation sites. As pupae, the species is apparently highly attractive to ants, despite whose protection pupae fall prey to small mammals in particular.

Its preferred habitat is where blackthorn is allowed to grow freely in abundance. This could be in hedgerows, scrub or woodland edges or clearings often on low-lying heavy soils, often in the river floodplains or valley bottoms of middle or mature stages of rivers. Typically, it can thrive in small, hedged field situations with scattered woods or copses where suitable ‘assembly trees’ occur. To persist, a population needs substantial amounts of uncut **young blackthorn every year**. Colonies may be small but are often spread over a wide area. Most populations are centred on low-lying land below 350ft (100 m) above sea level and eggs are rarely found on land above 500ft (150 m) .

Carmarthenshire has roughly 60% of the recently (since 1995) recorded sites in Wales. Its known range runs roughly north of the line of the main A40 road, with a handful of sites marginally to the south, mostly in Tywi valley. During the period 1995 to early 2008, over 100 sites are known to have been occupied, covering 21 different 10-km squares of the OS grid system in the county. However, only 18 major sites have been recorded where 40+ eggs per 1-km square. The best-known concentrations are in the Tywi valley between Llandovery and Carmarthen (eight major sites) and the Teifi valley and its tributaries running close to the boundary with Ceredigion (four major sites). There are also scattered populations along a line running north-east from Llanfallteg on the Pembrokeshire border towards Abergorlech, including parts of the Cynnen, Gwili and Cothi valleys.

There appears to have been a significant contraction in range (up to 35% from 1970s to 2000) and there is evidence that this contraction may be continuing. The principal factor thought to be affecting the species is undoubtedly the annual routine mechanical flailing of hedges - although removal of hedgerows as field boundaries, over zealous trimming of young and sucker growth inside field boundaries, changes in woodland management, including loss of woodland edge habitat, and neglect of thickets and older growth are also factors. Weather and predation can affect annual populations.

Within Carmarthenshire the vision is to work to increase both the strength of remaining populations and the regularly occupied range of the butterfly (to once again inhabit its natural range), by working with landowners/managers to modify their hedge/scrub management so that it is closer to optimal for the butterfly.

Action Plan Objectives

BHS1SP To maintain and increase the population and range of brown hairstreak butterflies in Carmarthenshire

BHS2DCM To continue to survey and monitor the distribution and status of brown hairstreaks in Carmarthenshire

BHS3RA To raise awareness of the presence of brown hairstreak butterfly in Carmarthenshire and the importance of its habitat and correct management

**Actions
Actions**

CODE	TEXT	START/ END DATE	Lead partner	Action goal	Key partners	Funding	Priority L,M,H	Report Jan–Dec 2010		
BHS1SP1	Enter management agreements with landowners to maintain effective habitat management	2010–ongoing	BC	At least 5 new management agreements	Landowners	✓	H	One verbal agreement established at Cwmduhén. (SN344216)		
BHS1SP2	Initiate a scheme to manage important hedges/scrub for brown hairstreaks and mark them appropriately	2010–ongoing	BC	3 schemes started/verge markers produced	Landowners CCC Tir Gofal	✓	H	Three of these established in Carms: <ul style="list-style-type: none"> • Cwmduhén - Fencing of an area of about 1 ha of mainly blackthorn scrub adjacent to assembly trees. Blackthorn also planted 5 year rotational coppicing regime to be implemented 400m of installed. (SN344216) • Bontfaen (SN442381) • Museum of Childhood. (SN362398) Hedge markers have been produced.		
BHS1SP3	Maintain active management of hedges for brown hairstreak butterfly at NBGW and undertake annual monitoring for this species (SN 521183)	2010–ongoing	NBGW	Annual monitoring Management scheme produced	Volunteers		H	Clearing scrub areas around blackthorn of best sites on going and coppicing of large old blackthorn		
POL1BHS1	Promote use of blackthorn in landscaping schemes as part of the planning process	2010–ongoing	CCC	100% of relevant applications	Applicants BC		H	Commented on 3 applications in 2010 requesting use of blackthorn in landscaping schemes. Recommended use of native species in 28 landscaping schemes. No mechanism at moment to assess area or whether this was carried out.		
BHS2DCM1	Continue annual monitoring of selected major sites (“transects”)	2010–ongoing	BC	10 transects surveys	Volunteers Landowners	✓	H	Ten transects established. Details available		
BHS2DCM2	Continue at least bi-annual monitoring of selected strategic range marker sites (“transects”)	2010–ongoing	BC	Bi-annual monitoring of 8 sites	Volunteers Landowners	✓	H	Nine transects established. Details available		
BHS2DCM3	Survey identified potential new sites to enhance survey coverage of suitable habitat in county	2010–ongoing	BC	At least 5 x 1-km squares/year surveyed	Volunteers Landowners	✓	H	Four target areas to be looked at this winter, consisting of blocks of tetrads with no records between tetrads with records. Following areas to be considered. <ul style="list-style-type: none"> • North of Whitland • North of Carmarthen • Dryslwyn to Pantglas • Llanwrda to Llandoverly • Llanllwni to Llanybydder • Llangeler area 		
BHS2DCM4	Produce annual updated map of all new records and pass on to WWBIC	2010–ongoing	BC	Annual GIS layer			H	RS maintains records list and sends to county recorders.		
BHS3RA1	Write an article for <i>Natur Cymru</i>	2010–	BC	1 article produced	CCC		M	Appeared in <i>Natur</i> 35, summer edition.		

		2011								
BHS3RA2	Write an article on each year's survey for Biodiversity Newsletter	2010–ongoing	CCC	1 article produced/year	BC		M	Article written in the November and December issues of the Carms Biodiversity newsletter.		
BHS3RA3	Through TAYO project hold BHS event within project area with BC	2010–2011	TAYO	1 event in TAYO area	BC	✓?	M	No event held.		
BHS3RA4 (link to LF plan)	Provide and distribute existing guidance on management of hedges for BHS for local landowners – leaflet and website	2010–ongoing	BC	Information on to website Provision of leaflets for landowners	CCC		H	Leaflet produced – and put on website.		