



Species Action Plan: Brown Hairstreak

Introduction

Scope

This species action plan covers the brown hairstreak butterfly (*Thecla betulae*). Many of the actions necessary to conserve brown hairstreak will be directed towards conserving and enhancing the habitats upon which they depend. Reference should therefore be made to the relevant habitat action plans as listed in the related plans and policies section below.

Vision Statement

To maintain and enhance the size, number and distribution of populations of brown hairstreak in Pembrokeshire.

Description of Species

The brown hairstreak is an elusive butterfly of hedgerows and woodland edges. It breeds on blackthorn. Colonies occur at low densities over a wide area of farmland centred on a wood, but egg laying extends over several square miles of the surrounding countryside.

Eggs are laid on young blackthorn twigs at the base of thorns on leading shoots growing proud of the hedge or on suckering or young seeded blackthorn at the base of the hedge, often in sheltered sunny positions. Suitable habitat for oviposition (egg-laying) is generally thought to include 1-3 year old growth with shoots of 20-50cm in length and less than 1cm diameter.

Brown hairstreak eggs hatch at the same time as the leaf buds of the blackthorn are bursting and the larvae feed on these fresh growths. Adults emerge in late July to early August with egg laying starting soon after. They have a long flight season and may still be on the wing into October. The butterflies spend most of their time in the tops of trees or along woodland edges. They tend to congregate around specific groups of trees ('master

Reviewed: January 2015

trees'), particularly when looking for mates. Master trees can be large, bushy ash or oak trees growing on sheltered valley sides, or along wood edges and rides.

The conservation of the brown hairstreak presents a great challenge because a single colony typically breeds over wide areas of land and cannot be conserved by site-based measures alone. It requires the conservation of whole landscapes and sympathetic farm/land management encompassing woods, hedges and field margins.

Distribution

In the UK, brown hairstreak is mainly confined to southern & western areas. In Pembrokeshire, records show that it may be found in the eastern part of Pembrokeshire from the upper reaches of the Cleddau estuary north to Cilgerran. In this area of Pembrokeshire, blackthorn is a major component of hedges and forms a widespread habitat, which could support a large population. The many sheltered wooded valleys provide the vital tree top habitat. Primarily a butterfly of the tree canopy, most records are of females searching for suitable egg laying sites (August to September), of the eggs themselves (autumn to winter), or a small number of larvae records (April to June). The species is therefore difficult to locate and may be under recorded. It is thought that elements of the Pembrokeshire population are part of a wider population covering parts of Carmarthenshire and Ceredigion.

Conservation Status

The long-term trend for this species in the UK shows a severe decline and it is therefore a priority species for conservation efforts.

Brown hairstreak is protected under the Wildlife and Countryside Act (1981), Schedule 5, Sections 9.5a and 9.5b. It is a UK Biodiversity Action Plan priority species and appears on the Natural Environment and Rural Communities Act (2006) Section 42 list of species of principal importance in Wales. The species is listed on the Butterfly Red List for Great Britain (2010) as 'vulnerable' having undergone a 30-49% decline assessed over 25 years.

Threats

Historically the brown hairstreak may have suffered from hedge removal, but other factors now affect its survival including:

- Intensive annual flailing of hedges that contain the over-wintering eggs.
- Lack of traditional management of cutting and laying hedges.
- Elimination or neglect of scrub edges and pockets.
- Damage to young blackthorn growth from browsing animals.
- Climate change may present both risks and opportunities as habitats change in response to trends in climatic conditions. Good ecological connectivity will be essential to enable species to alter their range and

- distribution in response to such changes.
- Tree diseases such as ash dieback (*Chalara fraxinea*) and sudden oak death (*Phytophthora ramorum*) may result in loss of 'master trees' such as oak and ash – either through direct mortality, or felling in order to contain an outbreak.

Related Plans, Policies and Further Information

Other plans / policies directly affecting the management of brown hairstreak in Pembrokeshire and useful additional information includes:

- Brown Hairstreak in Wales. Butterfly Conservation. General information available here: http://butterfly-conservation.org/files/1.bcw_brown-hairstreak_bh_eng.pdf
- A Guide to Blackthorn Management for the Brown Hairstreak at West Williamston Nature Reserve, Pembrokeshire: Available upon request from the Wildlife Trust of South & West Wales, Welsh Wildlife Centre, Cilgerran. Cardigan. SA43 2TB
- Hedgerows for Hairstreaks. Butterfly Conservation. Hedgerow management guidance for Brown Hairstreak conservation. Available here: <https://butterfly-conservation.org/files/habitat-hedgerows-for-hairstreaks.pdf>
- Lowland Farmland Habitat Action Plan:
<http://ukbars.defra.gov.uk/project/show/36387>
- West Williamston Nature Reserve Management Plan: Available upon request from the Wildlife Trust of South & West Wales, Welsh Wildlife Centre, Cilgerran. Cardigan. SA43 2TB
- Woodland Habitat Action Plan:
<http://ukbars.defra.gov.uk/project/show/36390>

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Plan Aims

No	Aim	Deadline	Comments
BH01	Raise and maintain public awareness of and engagement with the brown hairstreak butterfly and its conservation requirements	Next review: Jan 2020	
BH02	Establish the size and range of the brown hairstreak population in Pembrokeshire	Next review: Jan 2020	
BH03	Maintain range and/or population of brown hairstreak in Pembrokeshire by appropriate management of known sites	Next review: Jan 2020	
BH04	Expand range and/or population of brown hairstreak in Pembrokeshire by encouraging appropriate management of blackthorn and woodland edge habitats between or adjacent to known sites.	Next review: Jan 2020	

Suggested Action

Code	Action	Report By	Lead Role	Progress / Additional Information
	Brown Hairstreak management at West Williamston NR			
	Brown Hairstreak Recording at West Williamston			
	Carry out a systematic survey of the 'Brown Hairstreak Area' to establish the butterflies present status. The basic requirements for this species are probably met of a wide area of eastern Pembrokeshire.			

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	<p>the only factor limiting its success being the annual flailing of hedges. Existing records of the species (apart from the two sites whose eggs are counted annually, and work in the north of the county) have resulted from casual observation. In Carmarthenshire a more systematic survey has revealed</p>			
	<p>Carry out annual surveys of Brown Hairstreak metapopulations in Pembrokeshire and collaborate with neighbouring LBAP areas where populations cross LBAP boundaries.</p>			
	<p>Designate a 'Brown Hairstreak Area' covering eastern Pembrokeshire from a line joining the upper Cleddau Estuary north to the coast, east to the Carmarthenshire boundary to include all land below 200m. Within this area ensure that the brown hairstreak is considered in management of public land (road verges, schools, housing areas, carparks, agricultural tenancy or similar agreements).</p>			
	<p>Designate colony sites as LNR/SSSI and ensure existing LNR/SSSI/NNR in the 'area' take consideration of the Brown Hairstreak's requirements. Review existing management plans to include scrub/hedge management proposals when appropriate.</p>			
	<p>Develop and promote with partners, a Code of Best Practice on the management of 'Brown Hairstreak hedges'. Ensure that the Code of Best Practice is promoted and implemented by all partners.</p>			
	<p>Ensure agri-environment schemes are sensitive to the needs of the Brown Hairstreak within the 'Brown Hairstreak Area'. - Develop and implement local versions of schemes (all of which, even today, promote farm management that results in the extinction of the Brown Hairstreak)</p>			
	<p>Ensure that brown hairstreak is fully considered in any development that may impact upon the species the 'Brown Hairstreak Area'. (At least three large construction projects (at a landscape scale) are planned for the area:- Bluestone, and the alterations to the A40 West of St Clears, including the provision of by-passes for Robeston Wathen and Llanddewi Velfrey). - Ensure any large construction project provides extensive blackthorn rich hedges and blackthorn scrub features, and that they are</p>			
	<p>Produce and distribute existing guidance on management of hedges for BHS for local landowners – leaflet and website</p>			
	<p>Promote national recording schemes through the Pembrokeshire</p>			

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	<p>Biodiversity Partnership newsletter, whilst also encouraging records to be sent to County Recorders and West Wales Biodiversity Information Centre / National Marine Records Centre. Promote national garden wildlife surveys and competitions e.g. Garden Birdwatch, Feed the Birds Day, WTSWW Great Garden Wildlife Survey, etc.</p>			
	<p>Raise awareness of the brown hairstreak, its habitats, and conservation. Raise awareness of the economic and conservation benefits of low-intensity hedge management practices. Launch event. Set-up community-based projects, hold training days for local authority staff, contractors and communities. Promote via Western Telegraph/ Pembs Radio / Wildlife Trust</p>			
	<p>Through the implementation of Pembrokeshires Biodiversity SPG, ensure all Planning applications are assessed for possible effects on biodiversity resources. Ensure that planning applications which affect LBAP Habitats and Species are addressed and include full ecological surveys which are properly considered, and mitigation measures which significantly addresses potential negative impacts.</p>			
	<p>Target Upper Eastern Cleddau valley and environs for habitat management to improve connectivity between two known populations.</p>			
	<p>Trial Biodiversity marker posts as visual reminders for machinery operators at sensitive sites.</p>			
	<p>Produce 'egg-hunt' survey postcards to engage the public in recording of brown hairstreak.</p>			
	<p>Produce and promote management guidance for landowners/managers</p>			
	<p>Recruit and support 'brown hairstreak champions' in the County to coordinate volunteer surveys and promote good management.</p>			
	<p>Increase diversity of potential 'master trees' at known sites to improve resilience to loss of trees due to disease.</p>			