



DEVELOPING REGIONAL AND COUNTRY CONSERVATION STRATEGIES 2025

BACKGROUND

Butterfly Conservation's (BC) UK Conservation Strategy describes our approach to the conservation of butterflies and moths over the next 10 years. The strategy prioritises both species and landscapes across the UK, providing a framework for conservation delivery at UK, country and regional scales. Country and regional conservation priorities were initially set through our National (NAPs) and Regional Action Plans (RAPs) produced in the period 1997-2000 and helped shape the conservation work of BC's staff, Branches and volunteers.

Some action plans were revised during the 2000s but all are now either 10 or 20 years out of date. As part of producing the new UK Conservation Strategy 2025 it has been necessary to update all the previous action plans. These have now been renamed as Regional or Country Conservation Strategies and follow the format of the UK Conservation Strategy and are aligned to BC Branch boundaries:

COUNTRY OR ENGLAND REGION	BC BRANCH
Northern England	Cumbria, Lancashire, Cheshire, North East England, Yorkshire
West Midlands	West Midlands, Warwickshire
East Midlands	Lincolnshire, East Midlands
East England	Norfolk, Suffolk, Cambridgeshire & Essex, Bedfordshire & Northamptonshire, Hertfordshire & Middlesex
South West England	Cornwall, Devon, Somerset & Bristol, Dorset, Wiltshire, Gloucestershire
South East England	Hampshire & Isle of Wight, Upper Thames, Sussex, Surrey & SW London, Kent
Wales	North Wales, South Wales
Scotland	Highlands & Islands, Glasgow & SW Scotland, East Scotland
Northern Ireland	Northern Ireland

These conservation strategies have been designed as working documents which prioritise species, landscapes and sites, and enable recording of conservation progress. It is envisaged the Priority Landscapes and Priority Sites worksheets will be updated at least every five years.

STRUCTURE

Each conservation strategy comprises an assessment of species threats and conservation priority at a regional or country level. These are set against the UK assessment and any historic assessments. Within each region or country priority landscapes or sites have been identified based on this assessment and a map produced showing their location. The key conservation actions for each priority species over the next 10 years within each region or country have also been identified. There are five sections:

TABLE 1: BUTTERFLY PRIORITIES

This worksheet lists all priority butterfly species from the original action plans together with those not considered threatened when the original plan was published. Relevant status assessments from the list below are also provided for each priority species:

- Ecological classification: Habitat Specialist or Wider Countryside Species (see UK Conservation Strategy for definition and discussion of these terms).
- Great Britain Red List status (based on International Union for Conservation of Nature (IUCN) threat criteria).
- Irish Red List status (based on IUCN threat criteria).
- Wildlife and Countryside Act (1981): legal protection.
- UK Biodiversity Action Plan: now superseded by s41, s7, Scottish Biodiversity List and Northern Ireland Priority List.
- Natural Environment and Rural Communities Act (2006) Section 41: England only.
- Environment Act (Wales) (2016) Section 7.
- Scottish Biodiversity List.
- Northern Ireland Priority List.
- EU Red List status (based on IUCN threat criteria).
- Habitats Directive: Annexes 2 (core areas designated SACs) and 4 (strict protection across entire natural range).
- The Conservation of Habitats and Species Regulations 2010 (Large Blue is listed under Schedule 2).
- BC's UK threat priorities in 1997 (Warren et al, 1997 and used in Asher et al, 2001).
- BC's UK threat priorities in 2005 (Bourn et al, 2005).
- BC's UK threat priorities in 2016 from the UK Conservation Strategy.
- BC's UK conservation priorities in 2016 from the UK Conservation Strategy.

In the original action plans species were categorised as high, medium or low priority based on an analysis of rates of decline, rarity or proportion of UK resource within the region. Species which fulfilled one or more of the following criteria qualified for a higher rating than their 1997 UK threat priority: 1) estimated decline >32% 10km² over 25 years, 2) occupied <0.6% tetrads in the region or 3) where the region held >20% of the UK resource for that species.

Priorities for the revised conservation strategies were reassessed primarily through detailed discussion with regional staff and Branch experts. Species were allocated a **High (H)**, **Medium (M)** or **Low (L) Threat Priority** and an explanation of any priority changes from the original action plans is included in the worksheet.

Thanks to improved and quicker methods of analysis, regional and country-scale occupancy and population trend data for each species became available in 2018 and the following added to Table 1:

- Occupancy: number of regional or country 1-km squares occupied 2005-14
- Occupancy: proportion (%) of regional or country 1-km squares occupied 2005-14
- Long-term regional or country distribution trend: % change in occurrence 1990-2014
- Long-term regional or country population trend: % change in abundance 1990-2016 (shorter timeline may be applicable for some species)

Distribution and population trends were not produced for species with insufficient regional or country datasets. Distribution analyses were performed only for species with an average of at least 20 records per year at the start of the time series and population analyses only for species monitored on an average of at least four sites per year.

Occupancy and population trend data are highlighted red or yellow where they meet the following high and medium threat priority thresholds, although they are not applied to species which are likely to be either vagrants or unauthorised re/introductions in a region or country:

High Threat Priority (H) species

- *Rarity*: present in <0.5% 1-km squares in the region or country
- *Distribution trend*: >50% decline in occupancy in the region or country over the last 24 years
- *Population trend*: >50% decline in relative abundance in the region or country over the last 26 years

Medium Threat Priority (M) species

- *Rarity*: present in 0.5-1% 1-km squares in the region or country
- *Distribution trend*: >33-49% decline in occupancy in the region or country over the last 24 years
- *Population trend*: >33-49% decline in relative abundance in the region or country over the last 26 years

These assessments were then used to inform the threat priorities previously agreed by staff and Branch experts. However care is needed interpreting this analysis because of the potential impact of under-recording. This particularly applies to species systematically recorded at the beginning of the time series, by for example targeted surveying, but for which there have been no similar follow-up surveys. In these cases, the analysis may overestimate the declines.

In order for BC to utilise its resources for conservation action as effectively as possible, threatened butterfly species were ranked further according to the degree of risk in the region or country, based on the following criteria:

- The species has an especially high threat level due to extreme rarity or very rapid decline or the species is highly conservation dependent and/or globally threatened.
- The chief threat is related to reversible changes in habitat (i.e. through management).
- The 'standard' habitat prescription on key sites is not appropriate or is not sufficient to conserve species without additional intervention.

Species were allocated to one of three conservation action priority categories:

- **Conservation Priority A**: Action urgent across all occupied landscapes/sites.
- **Conservation Priority B**: Action necessary in some occupied landscapes/sites.

- **Conservation Priority C:** Action less urgent regionally or nationally but may be necessary in some landscapes/sites.

In summary each butterfly species therefore has both a Threat Priority and a Conservation Priority.

TABLE 2: MOTH PRIORITIES

This worksheet lists all priority moth species from the original action plans together with those not considered threatened when the original plans were published. Relevant status assessments from the list below are also provided for each priority species:

- Irish Red List status (based on IUCN threat criteria).
- Wildlife and Countryside Act (1981): legal protection.
- UK Biodiversity Action Plan: now superseded by s41, s7, Scottish Biodiversity List and Northern Ireland Priority List.
- Natural Environment and Rural Communities Act (2006) Section 41: England only.
- Environment Act (Wales) (2016) Section 7.
- Scottish Biodiversity List.
- Northern Ireland Priority List.
- EU Red List status (based on IUCN threat criteria).
- Habitats Directive: Annexes 2 (core areas designated SACs) and 4 (strict protection across entire natural range).
- The Conservation of Habitats and Species Regulations 2010 (Fisher's Estuarine Moth is listed under Schedule 2).
- BC's UK threat priorities in 2016 from the UK Conservation Strategy.
- BC's UK conservation priorities in 2016 from the UK Conservation Strategy.

In the original action plans, only high or medium priority moths were included based on expert assessment of UK-wide and where relevant country rarity. Priorities for the revised conservation strategies were reassessed through detailed discussion with regional staff and Branch experts. Species were allocated a **High (H)**, **Medium (M)** or **Low (L) Threat Priority**.

In some conservation strategies the reassessment was preceded by prioritising species at the county (South East England) or regional (Scotland) level. However, in others (Northern England, West Midlands, East Midlands, East England, South West England, Northern Ireland) the reassessment was informed by recording the status in each constituent county using the following categories:

- P = Present post-2000 (i.e. more widespread than a few sites).
- PO = No records post-2000 but may still be resident (i.e. likely to be under-recorded).
- P? = Present post-2000 but breeding status doubtful (i.e. either vagrant records or no longer breeding).
- UNC = Uncommon (i.e. present but only a handful of records and probably not just under-recorded).
- E = Extinct.
- NRR = No recent records post-2000.
- RR = Recent record (e.g. record in last c.10 years but more detailed assessment not possible to enable placement in higher categories above).
- R = Record in database but status very uncertain.

- LR = Year last record (e.g. only for species whose status is ambiguous, may be in decline or under-recorded).
- FR – Year first record (e.g. only for species whose status is ambiguous such as new colonists or under-recorded).
- UC = status uncertain (e.g. species without confirmed records but included in county lists, suspected to occur, recorded just outside county boundaries, hard to find or do not readily come to light.)
- V = Vagrant.

As with the butterflies, in order for BC to utilise its resources for conservation action as effectively as possible, threatened moth species were ranked further according to the degree of risk in the region or country, based on the following criteria:

- The species has an especially high threat level due to extreme rarity or very rapid decline or the species is highly conservation dependent and/or globally threatened.
- The chief threat is related to reversible changes in habitat (i.e. through management).
- The 'standard' habitat prescription on key sites is not appropriate or is not sufficient to conserve species without additional intervention.
- The life history of some species is poorly understood (and will require considerable effort to address this lack of knowledge).
- Some species are elusive and require considerable effort to locate, and a few species, despite effort, are difficult to find/have not been found in the early stage.

Species were allocated to one of three conservation action priority categories:

- **Conservation Priority A:** Action urgent across all occupied landscapes/sites.
- **Conservation Priority B:** Action necessary in some occupied landscapes/sites.
- **Conservation Priority C:** Action less urgent regionally or nationally but may be necessary in some landscapes/sites.

Each moth species therefore has both a Threat Priority and a Conservation Priority.

TABLE 3: PRIORITY LANDSCAPES

BC increasingly works to conserve butterflies and moths at the landscape-scale. Within each region or country, landscapes were identified and mapped (Figure 1) which encompassed networks of sites supporting one or more high and medium priority species. However, because of the large number of moths listed, only species of the highest conservation priority (A) are included in the landscape assessment for England regional strategies. Priority landscapes were selected to ensure that most, or in some cases all, of the distribution of the high priority species is encompassed by the landscape boundaries.

Landscapes which supported 1) a high number of priority species, 2) a significant proportion of the distribution or number of occupied sites for one or more high priority species, 3) networks of occupied, former and potential sites for one or more high priority species which lend themselves to a landscape-scale conservation approach or 4) one or more semi-natural habitat types which lend themselves to appropriate management intervention, were designated **High Priority Landscapes**.

Where appropriate existing landscape boundaries (e.g. National Parks, Areas of Outstanding Natural Beauty) were adopted, but in most instances these were drawn by knowledgeable staff and volunteers using linear geographical features such as roads, rivers or railway lines or by buffering around species records where this was more appropriate.

The occurrence of priority species in each landscape was noted using the appropriate priority rating (H or M). Priority species which had become **Extinct (E)**, been **Re/introduced (R)** or whose **Status is uncertain (?)** were also noted. In some instances the priority was raised or decreased for a particular landscape, where expert opinion deemed the species was especially threatened or considered stable.

When landscapes crossed Branch, regional or country boundaries separate assessments were compiled for each relevant strategy. However, if only small area crossed these boundaries then the landscape was allocated to the strategy encompassing the majority of the area.

For each landscape a traffic light system was used to qualitatively assess the progress BC has made towards conserving those species under threat, so that we can plan where we need to maintain our efforts or, for example, develop new projects:

Grey = Unknown.

Red = No conservation delivery:

- Occasional recording of target species.
- Target species monitored on few sites.

Yellow = Limited conservation delivery:

- Co-ordinated surveys undertaken enabling distribution of target species across the landscape to be mapped.
- Co-ordinated monitoring undertaken across several sites, enabling assessment of target species abundance trend.
- Management advice provided on some sites.
- Recovery management implemented on some sites (e.g. work parties).

Green = Full conservation delivery:

- Co-ordinated monitoring programme established on many sites enabling assessment of target species abundance trend and effectiveness of conservation action.
- Management advice given to landowners across whole site networks.
- Co-ordinated programme of recovery management implemented across whole site networks.
- Long-term sustainable management (e.g. agri-environment schemes) implemented across sites.

This analysis is a subjective assessment of conservation action and does not measure species responses. Therefore, a 'favourable' assessment does not imply that the species does not require further conservation action in that landscape.

TABLE 4: PRIORITY SITES

Not all sites supporting priority species fall within defined landscapes, especially those species known from only one or two locations in a region, country or the UK. There are also sites with important assemblage of species that do not fit in to a key landscape. These sites are identified and mapped as **Priority Sites** in the regional and country conservation strategies. Some strategies (South West England, Scotland) do not include a list of priority sites.

FIGURE 1: PRIORITY LANDSCAPE AND SITES MAP

The map included in each regional or country conservation strategy shows the location of priority landscapes and priority sites identified in Tables 3 and 4. For some strategies we plan to produce more detailed landscape maps which highlight those priority species that occur there, together with a short statement of the most appropriate management for that species. These will be made available as they are produced.

TABLE 5: PRIORITY ACTIONS

At the heart of our regional and country conservation strategies is the aim that for all species we try to move them further along the species recovery curve (see section 6 of BC's UK Conservation Strategy for an illustration and description of the curve) towards sustainable management and a more positive conservation status.

This worksheet assigns high and medium priority species (only high priority species in English regions) to one (or more if there are regional or country variations) of the five species recovery curve categories:

- Stage 1: Status assessment: distribution and population data are used to assess geographical extent and trends.
- Stage 2: Diagnosis: species ecology research is undertaken and drivers of decline identified.
- Stage 3: Solution testing: potential recovery solutions (e.g. habitat management) are tested and the most effective identified.
- Stage 4: Recovery management: recovery solutions are applied, usually at the landscape-scale.
- Stage 5: Sustainable management: long-term management solutions (e.g. agri-environment schemes) are identified and implemented.

For each high and medium priority species (only high priority species in English regions) the key conservation actions that need implementing in order to move (or maintain) that species along the recovery curve are identified and described:

- Survey: Existing level of surveying insufficient to ascertain either the current regional or country distribution (though it may be complete in some parts of the range) or distribution trend of that species.
- Monitoring: Existing level of monitoring insufficient to ascertain the regional or country abundance trend of that species. However, monitoring may be underway on a sample of populations covering at least part of the species range which can provide an insight to site, landscape or regional trends.
- Research: Research needed to identify the ecological requirements of that species, the drivers of decline and test potential recovery solutions, especially habitat management.
- Bespoke Management: The targeted application, at a site or landscape-scale, of tailored habitat management to meet the specific ecological requirements of the species.
- Mosaic Management: The application of generic or best practice habitat management which integrates the ecological requirements of a suite of species.

These conservation actions were initially derived from those listed in BC's UK Conservation Strategy for that species and adapted to regional or country requirements. Where possible

an indication is also provided whether those conservation actions should be led principally by BC staff (S) or volunteers (V) either independently or with support from staff.

REFERENCES

Asher J, Warren M S, Fox R, Harding P, Jeffcoate G, Jeffcoate S (2001) *The Millennium Atlas of Butterflies in Britain and Ireland*. Oxford University Press, Oxford.

Bourn N A D, McCracken M E, Wigglesworth T, Brereton T, Fox R, Roy D and Warren M S (2005) *Proposed changes to the BAP priority species list: butterflies*. Butterfly Conservation report S05-23, Wareham, Dorset.

Warren MS, Barnett LK, Gibbons DW and Avery MI (1997) Assessing national conservation priorities: an improved red list of British butterflies. *Biological Conservation*, 82, 317-328.