



Grayling

Hipparchia semele

Species Action Plan

1. Introduction

The grayling butterfly has undergone a significant decline in abundance (-58%) and occurrence (-62%) in the UK between 1976 and 2014 and is classed as Near Threatened (Fox *et al*, 2015). It is now considered mainly a coastal species, especially on the western coast, and, to a lesser extent, a species of the southern lowland heaths. Further north, inland sites are now few and far between. It is extinct in Herefordshire, Staffordshire, Warwickshire and, more recently, Gloucestershire. However, the West Midlands holds onto several sites in Shropshire and one on the Malvern Hills in Worcestershire that is, perhaps, the most isolated site in the UK.

2. Current Status

2.1 Ecology and habitat requirements

The grayling forms discrete colonies that may number less than 100 on some inland sites and up to 2000 on some coastal sites. Wandering adults are also occasionally seen (Thomas and Lewington, 2014). The larvae feed on the finer grasses, especially sheep's fescue (*Festuca ovina*), growing in cracks and fissures in the rocks where females often lay eggs. Depending on climatic conditions, males may emerge as early as late June but more usually early-mid July. Males claim territory at 5-10m intervals along rocky ridges; once females emerge courting, mating and egg laying takes place along the ridges before adult sightings decrease rapidly in August.

2.2 Population and distribution

A 2007 habitat survey by Butterfly Conservation reported that in 2006 grayling butterflies were recorded at Gullet Quarry, British Camp, Pinnacle Hill, Perseverance Hill, Summer Hill, Worcestershire Beacon, North Hill and End Hill. However, in 2007 none were recorded south of Worcestershire Beacon except for two sightings at Gullet Quarry. Timed counts show a dramatic reduction in population between 2007 and 2015. Previously occurring as far south as Ragged Stone Hill, occupied habitat on the Malverns is now restricted to the rocky ridges and crags between 230m and 330m on the eastern slopes of North Hill: a north-south range retraction of around 5.5 miles (c.8.5km).

The remaining North Hill colony is now restricted to three parallel east-west ridges (Grayling Ridge, Chat Valley and De Walden Loop) within a 0.5km north-south boundary. Following carefully planned habitat management, timed counts in 2017 and 2018 might indicate a turning point with the highest population for several years and the earliest ever emergence both recorded in June 2017.

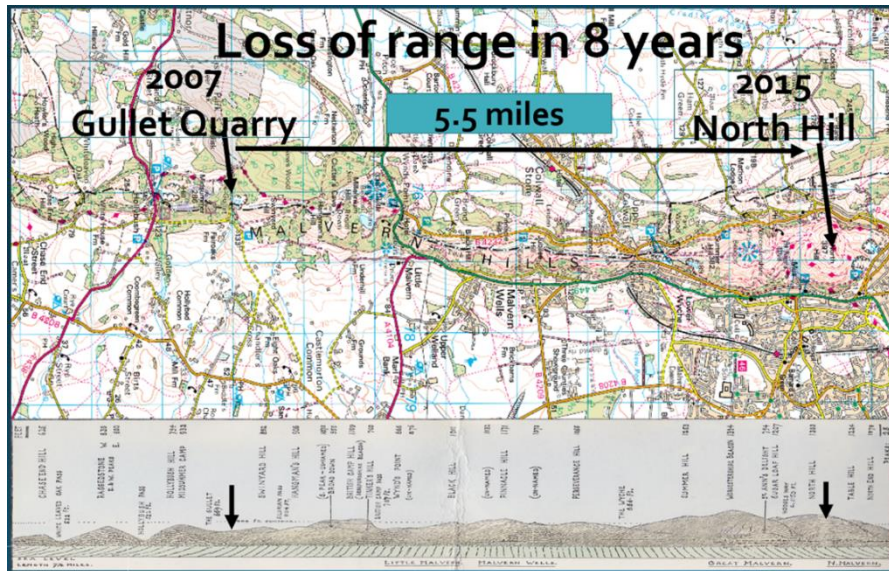


Figure 1. Map illustrating range retraction of the grayling 2007-2015. Produced by Butterfly Conservation.

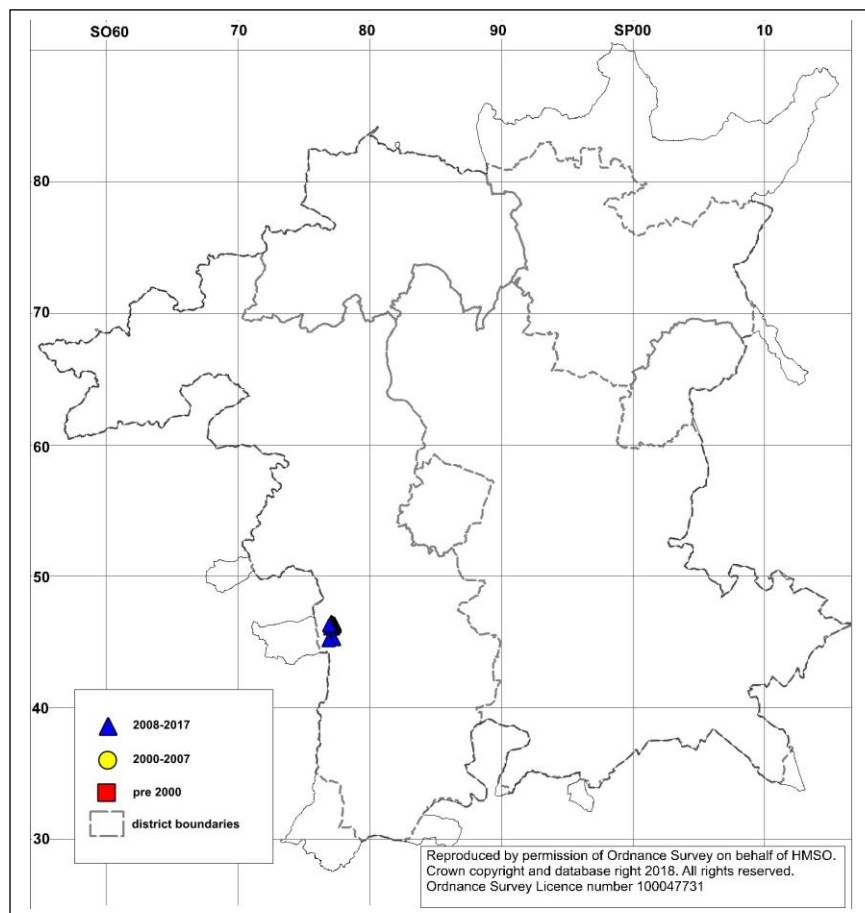


Figure 2. Records for the grayling in Worcestershire. Data provided and maps produced by Worcestershire Biological Records Centre.

2.3 Legislation

The grayling is listed in Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

2.4 Summary of important sites

North Hill on the Malvern Hills ridge is now the most important site for the species within Worcestershire.

3. Current Factors Affecting the Species

- Insufficient habitat management outside of North Hill that would allow a successful expansion of the remaining population to former strongholds.
- Lack of grazing in priority areas of habitat to maintain low scrub levels: the terrain makes access to the area difficult for cattle and sheep and grazers that would find access easier, such as goats, are difficult to manage.
- Low population size limits the butterfly's ability to take advantage of any new areas of habitat recovered from former strongholds.

4. Current Action

4.1 Local protection

The Malvern Hills is a designated Area of Outstanding Natural Beauty (AONB) and receive protection under the National Parks and Access to the Countryside Act 1949 and the Countryside and Rights of Way Act 2000.

The main ridge of the Malvern Hills is designated as a Site of Special Scientific Interest (SSSI).

4.2 Site management and programmes of action

The Malvern Hills Trust (MHT) and West Midlands Butterfly Conservation (WMBC) organise a mix of staff, contract and volunteer work during the autumn and winter months (Oct-Feb) to implement the MHT Management Plan 2016-2021 at the grayling sites on North Hill. The majority of habitat management depends on the goodwill of volunteers. MHT organise a very successful programme of volunteer work parties on the principal North Hill and Worcestershire Beacon sites, which in 2017 contributed the equivalent of 90 days labour.

Management work is focused on:

- Reducing scrub and exposing rocky ridges, boulders and areas of bare ground and finer grasses.
- Limited grazing to manage the spread of scrub in more open areas, however grayling sites are largely too difficult for livestock to access or provide less nutritious grazing. MHT trialled goats in 2017 but management and containment in a restricted area proved to be too problematic.

4.3 Survey, research and monitoring

Habitat monitoring

WMBC completed a survey of the habitat around the northern hills in 2015 to compare with a similar survey completed in 2007 by Butterfly Conservation. The

2015 survey took place on four sites during the peak emergence of adult grayling in July. In summary, it showed that mean vegetation height was too high across all sites, the finer grasses are being replaced by scrub, bare ground is very limited and shade is preventing sunshine reaching areas around the rocky ridges, particularly Grayling Ridge.

Timed counts

The range of the grayling has diminished dramatically since 2001 along with a consequent reduction in population. Careful monitoring since 2010 shows a significant decline in population between 2013 and 2015. Following several years of intensive habitat management on the principal sites around North Hill the population increased in 2017 and 2018 to the highest levels for several years.

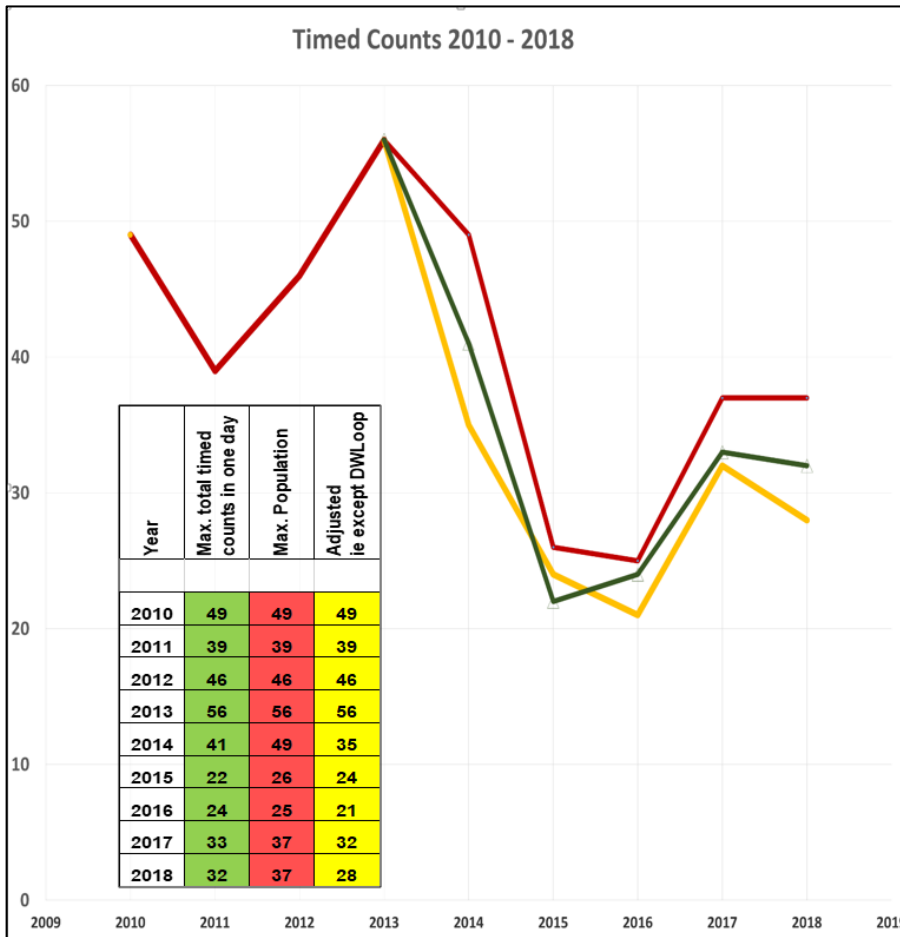


Figure 3. Results of timed counts for grayling 2009-2018. Data collected and graph prepared by Butterfly Conservation. [NB. Prior to 2014 sightings were recorded on four sites; in 2015 this increased to 5 sites with the addition of the De Walden Loop. The adjusted count (in yellow) compares the original four sites i.e. excluding the De Walden Loop].

5. Associated Plans

Scrub, Woodland, Grassland.

6. Conservation Aim

The number of occupied grayling butterfly sites in the Malvern Hills has increased due to an expanded programme of habitat management, as evidenced by continued close monitoring of the butterfly and its habitat by Malvern Hills Trust and Butterfly Conservation volunteers.

7. Conservation Objectives

- Include policies within the Malvern Hills Trust and the Malvern Hills AONB Management Plans that will support grayling population recovery efforts
- Continue annual monitoring of the grayling on the Malvern Hills by transects and timed counts and the publication of results
- Continue the collaboration between the Malvern Hills Trust and West Midlands Butterfly Conservation to deliver a volunteer work party programme to maintain existing breeding habitat
- Look for further opportunities to bring additional sites on the Malvern Hills into suitable management
- Engage the public with the conservation of the grayling butterfly through continued profile-raising in local media and a programme of annual walks
- Repeat assessment of grayling breeding habitat by 2025 to determine if management is effective

References and further information

Butterfly Conservation Grayling Species Fact Sheet <https://butterfly-conservation.org/sites/default/files/1grayling-species-factsheet.pdf>

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