



**Species Action Plan**

**DINGY SKIPPER**  
*Erynnis tages*

**2000**

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**THIS PROJECT IS SUPPORTED BY**



This species action plan is an unpublished working document produced by Butterfly Conservation to focus and co-ordinate the conservation of the Dingy Skipper in the UK over the next five to ten years. It has been prepared under the *Action for Butterflies* project which is funded by WWF-UK, English Nature, the Countryside Council for Wales and Scottish Natural Heritage. The Action Plan was prepared in consultation with the following organisations in the hope that they will participate in the actions outlined: English Nature, Countryside Council for Wales, Scottish Natural Heritage, The National Trust, MAFF/FRCA, The Scottish Executive Rural Affairs Department, Department of Agriculture and Rural Development, The Wildlife Trusts Partnership, WWF-UK, Centre for Ecology and Hydrology, National Trust For Scotland, and the RSPB.

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**Butterfly Conservation** (the British Butterfly Conservation Society) has an overriding objective to ensure a future for butterflies, moths and their habitats. In order to achieve this objective its aims are to:

- raise public awareness of the plight of our butterflies and moths and encourage public involvement in conservation.
- halt the decline of butterflies and moths and maintain or improve the present status of threatened species.
- improve the extent and suitability of key lepidoptera habitats and the environmental quality of the countryside as a whole for all lepidoptera species.
- work with and advise other conservation groups, local bodies and agencies on techniques of land management which favour butterflies and moths and related wildlife.
- acquire and manage habitats for butterflies and moths.
- encourage research (both at amateur and professional levels) on butterflies and moths.
- support and encourage butterfly and moth conservation world-wide.

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## Summary

- The Dingy Skipper is a relatively widespread species in the southern half of the UK but it declined substantially in many areas during the 20th century. This decline has been most marked in the eastern counties of England and lowland Scotland where the species is now rare, and it is becoming far more restricted in its remaining English and Welsh strongholds.
- The species is under-recorded in some regions and no thorough survey of the number of colonies has been undertaken in any county. A **medium** priority is afforded to the conservation action in this plan to protect and increase the number of Dingy Skipper colonies in the UK.
- The Dingy Skipper occurs in a wide range of open, sunny habitats including chalk downland, woodland rides and clearings, coastal habitats such as dunes and undercliffs, old quarries, railway lines and waste ground. Eggs are laid on young growth of Bird's-foot-trefoil (*Lotus corniculatus*) and occasionally Horseshoe Vetch (*Hippocrepis comosa*). Suitable conditions occur where the foodplants grow in a sparse sward, often with patches of bare ground in a sunny, sheltered situation. Taller vegetation is also required for shelter and roosting. Waste ground is an important habitat over much of the English midlands: including disused mineral workings, spoil heaps, mines, railway lines, storage depots and even rubbish tips.
- The main threats to the butterfly are: (1) lack of continuity of open spaces in woodlands and inappropriate ride management; (2) agricultural intensification, or over or undergrazing of grassland/scrub habitats; (3) lack of management on disused, artificial (industrial) habitats and the consequent loss of early successional vegetation; and (4) fragmentation and isolation of existing colonies and the intensive use of the surrounding agricultural land.
- In more stable grassland habitats (e.g. downland) suitable conditions can be maintained by grazing regimes (either by cattle or sheep) that produce a range of sward heights including patches shorter than 5cm for breeding and taller areas for roosting and larval feeding. However, heavy summer grazing can be deleterious. Where the butterfly's habitats are transient, the species requires either a cycle of continuous management to maintain early successional stages within a site, or the creation of new areas that can be colonised as existing ones become unsuitable.
- The immediate major objectives of the plan are to halt the rapid decline of this butterfly in the UK, to maintain viable networks of populations throughout its current range and to conduct research on the distribution and ecology of the species to enable its effective conservation. A long term objective of the plan is to restore its 1950 range.
- The objectives of the plan will be achieved by determining current core areas of distribution of the Dingy Skipper; improving information on and dissemination of the habitat requirements and management needs of the species and ensuring sites are managed with the long term maintenance of populations of the Dingy Skipper as a key objective.
- The Action Plan covers the next ten years, will be monitored annually and reviewed as the situation demands. The reviewing procedure within the UK BAP is particularly important for this species, as new knowledge of its distribution and rates of decline thanks to the Millennium Atlas demonstrates that this species should be given a higher priority within the UK BAP.

## **Part 1 Overview**

### **1.1 PRIORITY STATEMENT**

The Dingy Skipper is widespread but local throughout England and Wales, and also in south west and north east Scotland. In Northern Ireland the species is found on the limestone areas of Co. Fermanagh. There has been a gradual decline with 1175 ten km squares occupied during 1800-1969, compared to 577 ten km squares in 1995-99 a reduction of 49% (Asher et al., 2001). This decline has accelerated in recent decades, particularly in central and eastern counties of England and in Wales and lowland Scotland.

While not listed as a Species of Conservation Concern in Biodiversity: The UK Steering Group Report (DOE, 1995), the recent information on declines suggest that it would now qualify and may even qualify as a Priority species. Thus, based on our current knowledge, **medium** priority should be afforded to conservation action to protect and increase the number of Dingy Skipper colonies in the UK.

### **1.2 BROAD OBJECTIVES**

1. Halt decline in England and Wales.
2. Maintain viable networks of populations throughout its current range.
3. Long term objective to restore its 1950 range.

### **1.3 LEGAL STATUS**

The Dingy Skipper is not currently listed on Schedule 5 of the 1981 Wildlife and Countryside Act and therefore has no statutory protection. It is fully protected under the Wildlife (Northern Ireland) Order (1985)\*.

\* It is a criminal offence to kill, injure or take the species from the wild; possess any live or dead wild specimen, or any part of, or anything derived from them; sell, offer or expose for sale, or possess or transport for the purposes of sale, whether alive or dead, any wild specimen and parts or derivatives of them; or for anyone to publish or cause to be published any advertisement indicating or suggesting that they buy or sell such things, without a license.

## 1.4

### Status and Level of Biological Knowledge

<b>Population</b>	<b>-size</b>	<b>Little information but the majority of populations are thought to be small (&lt;100 at peak) and those on isolated sites are vulnerable to extinction.</b>
	<b>-trend, numbers</b>	<b>The total number of UK colonies is unknown. Many have been lost in the last 20 years. Steady decline also recorded on sites in national Butterfly Monitoring Scheme (BMS).</b>
	<b>-trend, range</b>	<b>Widespread, but local and declining.</b>
<b>Knowledge of</b>	<b>-status</b>	<b>No up-to-date national data have been collated for this species.</b>  <b>Location of large and medium colonies in each habitat type, and core areas need to be identified.</b>
	<b>-trends</b>	<b>Good for recent contraction in range due to Butterflies for the New Millennium Project (1995-99).</b> <b>Monitored on 27 sites in BMS and on many independent transects.</b>
	<b>-conservation requirements</b>	<b>Only moderate ecological knowledge of its requirements and limited research undertaken.</b>

## Part 2 Biological Assessment

### 2.1 INTRODUCTION

This small brown and grey butterfly is extremely well camouflaged. It may be confused with the Grizzled Skipper (*Pyrgus malvae*), the Mother Shipton moth (*Callistege mi*), and Burnet Companion moth (*Euclidia glyphica*), which sometimes occur on the same sites at the same time. The Dingy Skipper is locally distributed throughout Britain and Ireland, but has declined seriously in recent years.

In sunshine, the Dingy Skipper often basks on bare ground with wings spread wide. In dull weather, and at night, it perches on the tops of dead flowerheads in a moth-like fashion with wings curved in a position not seen in any other British butterfly.

### 2.2 ECOLOGY

#### Life Cycle

The Dingy Skipper is univoltine, but in hot summers there may be a partial second generation at some southern sites. Adults usually fly from early May until the end of June but they can begin to emerge as early as mid-April in warm springs such as in 1997. The few second brood adults emerge in August.

Common Bird's-foot-trefoil (*Lotus corniculatus*) is the usual foodplant in all habitats. Horseshoe Vetch (*Hippocrepis comosa*) is also used on calcareous soils, while Greater Bird's-foot-trefoil (*L. pedunculatus*) is used on heavier soils.

Eggs are laid singly on young leaves of the foodplants and a recent study has shown that females chose the longest shoots of large plants growing in sheltered situations (Gutierrez *et al.*, 1999). The larvae hide in tents formed by spinning leaves of the foodplant together and feed through the summer months. When fully grown in August each larva spins more leaves together to form a hibernaculum in which to spend the winter. Pupation occurs the following spring in the hibernaculum, without further feeding.

#### Habitat

Colonies occur in a wide range of open, sunny habitats including chalk downland, woodland rides and clearings, coastal habitats such as dunes and undercliffs, heathland, damp grassland, old quarries, railway lines and waste ground. Suitable conditions occur where foodplants grow in a sparse sward, often with patches of bare ground in a sunny, sheltered situation. Taller vegetation is also required for shelter and roosting.

Waste ground is the butterfly's main habitat over much of the English midlands. The range of habitats include disused mineral workings, spoil heaps, mines, railway lines, storage depots and even rubbish tips. Vegetation cover is suitably sparse because of the nature of the substrate and the relatively short period since abandonment. Periodic scrub cutting and Rabbit grazing may prolong the suitability of these sites for the butterfly.

## 2.3 DISTRIBUTION AND POPULATION

### Distribution and trends

The Dingy Skipper is widely distributed throughout western Europe, being absent only from northern Scandinavia, parts of Greece and some of the Mediterranean islands (Higgins & Riley, 1970). A recent review of the status of butterflies in Europe indicates that the species is stable in many countries. However, it is estimated to have declined over the last 25 years by more than 75% in the Netherlands, and by 50- 75% in Belgium, Denmark, and European Turkey. There have been slightly lower rates of decline in Britain, Germany, Ireland, Luxemburg, and Sweden (van Swaay and Warren, 1999).

This is the most widespread skipper in Britain and Ireland, although it is more localised and patchily distributed than the Large (*Ochlodes venata*) and Small Skippers (*Thymelicus sylvestris*). It occurs further north in Scotland than the Chequered Skipper (*Carterocephalus palaemon*) and is the only skipper found in Ireland. In Northern Ireland there are approximately 25 colonies found on the limestone grasslands of Co. Fermanagh and in suitable habitat on roadside cuttings and quarries (Nelson, 1998). In Scotland, there are a few colonies in the north east, mainly occurring on coastal dunes between Inverness and Banff. These are widely separated from colonies in the south west in Dumfries and Galloway. In Wales, they are most often found in coastal habitats and do not often occur above 100m. The stronghold of the species is the central and southern counties of England, extending northwards to Derbyshire, with especially large colonies occurring on extensive areas of chalk downland and undercliff. It is absent from most offshore islands, the Channel Islands and the Isle of Man (see appendix 1).

Because many colonies are small, they may be overlooked, particularly as the butterfly is so inconspicuous. There is no doubt, however, that it has declined considerably in recent years. The national BNM survey (1995-1999) shows that the number of 10km grid squares occupied has decline by 40% since 1970-82 (Asher et al., 2001). The number of colonies has also probably decreased in many 10km squares where the butterfly is still present. Never common in eastern England, this species became extinct in Essex around 1990 and is now very scarce in East Anglia and Lincolnshire.

In its southern stronghold of Wiltshire, Hampshire, Surrey and Sussex, the Dingy Skipper is still widespread on downland, but is scarce and declining in woodland and other habitats. In other areas, especially in Scotland and Wales, there appear to have been losses since the 1980s, though under-recording of the species makes the true situation difficult to interpret. Data from the Butterfly Monitoring Scheme (BMS) sites show a long-term decline in numbers since 1976, greater than for most other species (Pollard and Greatorex-Davies, 1997).

### Population

The Dingy Skipper occurs in discrete colonies, many of which are very small, containing fewer than 50 individuals at the peak of the flight period. It is a sedentary species and unlikely to colonise new areas of habitat unless they are close to existing populations. Although observations of natural colonisations suggest that a few individuals can move several kilometres.

Populations are lower after a cool summer and rise after a warm one, though prolonged drought can reduce population size the following season, as happened after the 1976 drought.

## **2.4 LIMITING FACTORS**

### **Historical**

Loss of woodland clearings through decline in traditional woodland management, especially coppicing.

Loss of unimproved grassland/scrub habitats through agricultural improvement.

Alteration of unimproved grassland/scrub habitats through overgrazing or abandonment.

Fragmentation and isolation of both woodland and grassland sites (break up of metapopulations).

Deterioration of disused artificial habitats through natural succession.

### **Current and Future Limiting Factors**

Continuing changes in woodland management, especially lack of continuity of open clearings, and a reduction in the frequency of sizeable canopy gaps within modern high forest systems, (resulting in an increased distance between new clearings and old ones).

Continuing deterioration of unimproved grassland/scrub and disused artificial habitats through lack of management, natural succession and re-development of such 'brown-field' sites.

Continuing fragmentation and isolation of habitats.

## **2.5 RESUME OF CONSERVATION TO DATE**

### **Ecology and Conservation Requirements**

Many colonies have been lost due to agricultural intensification while changes in forestry practices have led to shadier woods without suitable open areas. Many colonies in woodland are now very small and further extinctions are likely without active management. In southern counties of England, development of scrub on downland has led to some losses while more intensive grazing in recent years may have caused additional declines. Colonies have also been lost when disused artificial habitats such as old quarries have been filled in, succession has advanced and/or the site has been developed.

A recent study in north Wales has demonstrated that the species occurs as a metapopulation with large patches of suitable habitat that are close together being more likely to be occupied than small, isolated habitat patches (Guitierrez *et al.*, 1999). The conservation of this species may depend on maintaining networks of suitably managed habitat patches over large areas, so

that extinctions, which may be expected to occur in such small populations, may be balanced by recolonisations.

Apart from naturally disturbed coastal areas such as undercliffs and dunes, the habitats used by the Dingy Skipper require active management, usually grazing of grassland or active management of rides, glades and felled areas in woodland. Scrub clearance on remaining fragments of chalk downland has extended the habitat on some sites, but this has done little to offset the losses elsewhere. Management should aim to maintain and increase sparse vegetation and especially bare ground, which is readily colonised by Bird's-foot-trefoil, while retaining some taller vegetation for shelter and roosting.

The need for long, ungrazed shoots of Bird's-foot-trefoil mean that constant heavy grazing is deleterious for the Dingy Skipper. Rotational grazing, which provides a fresh supply of successional habitats, but allows development of the required growth form of the foodplants, is the best regime. Alternatively, grazing concentrated in autumn and winter (and light grazing in spring and summer) may be preferable though research is urgently needed to confirm this. In north Wales, colonies have been found to be restricted to relatively ungrazed areas and it has been suggested that livestock may inadvertently eat eggs and larvae on prominent shoots. Most BMS sites are being actively managed for conservation and the declines shown by this scheme may be due partly to increased grazing since monitoring began.

Despite the declines seen during the twentieth century, much remains to be learnt about its ecology and the most beneficial management regimes. Until 2000 its conservation priority was considered low (except in Northern Ireland) but this has been revised in the light of the rapid declines identified in the BNM survey 1995-1999 (Asher et al. 2001). The recent research on its mobility and habitat requirements sheds some light on why the Dingy Skipper is far less widely distributed than the Common Blue, which uses the same foodplant.

### **Monitoring**

The Butterfly Monitoring Scheme now has transect data from 27 occupied sites, although only 13 sites have been monitored for longer than 7 years (used to calculate an annual index) and 10 for 15 years. However this coverage is mainly on the southern chalk and other areas and habitats are poorly monitored. Many other sites are monitored independently by Butterfly Conservation, and other volunteers, but these data are not yet collated nationally, although a project to develop this is currently underway.

### **Current Studies**

The first detailed ecological study of this species, undertaken in north Wales, has recently been published (Güiterrez *et al.*, 1999). No other detailed studies are currently being carried out on this species, but some monitoring and conservation management is being implemented on several sites.

### Part 3 Actions and Work Programme

*This section has been divided into the standard headings Policy and Legislative; Site Safeguard and Acquisition; Land Management; Species Protection and Licensing; Advisory; International; Future Research and Monitoring; Communications and Publicity; Review. Actions are given a low, medium or high priority. The lead organisation(s) concerned for each action is/are named.*

Definition of Colony Size: Large = >100 adults; medium = 30-100 adults, small = <30 adults. For key to abbreviations see page 15.

#### 3.1 POLICY AND LEGISLATIVE

	<b>Lead organisation(s) concerned</b>
<b>Action 1 PRIORITY: HIGH</b>	
Include habitat requirements of Dingy Skipper, and the potential for habitat restoration when drawing up or revising prescriptions in relevant land management schemes and grants e.g. Environmentally Sensitive Areas (ESAs), Tir Gofal, Rural Stewardship Scheme, Wildlife Enhancement Scheme (WES), Countryside Stewardship.	<b>MAFF/FRCA, CCW, DARD, EN, SNH, SERAD</b>
<b>Action 2 PRIORITY: HIGH</b>	
Improve financial incentives for maintaining open spaces in woodland, especially appropriate ride and glade management.	<b>FC (+ LAs)</b>
<b>Action 3 PRIORITY: MEDIUM</b>	
Encourage the provision of suitable low-input permanent grass margins around occupied woodlands (e.g. with targeting of Countryside Stewardship and Countryside Management Scheme (NI)).	<b>MAFF/FRCA, DARD, EHS, EN, CCW, SNH, FC</b>
<b>Action 4 PRIORITY: HIGH</b>	
Include habitat requirements of Dingy Skipper when drawing up mitigation or restoration measures in the development control process for defunct quarries, pits, clay workings, etc. which are located near to existing colonies.	<b>LAs</b>

### **Action 5 PRIORITY: MEDIUM**

Include habitat requirements (i.e. seeding new road verges, cuttings etc. with *Lotus corniculartus*) of the Dingy Skipper in the management of public open space (e.g. disused railway networks, roadside verges and parks,) in regions where the butterfly occur. **LAs, DRD(NI)**

## **3.2 SITE SAFEGUARD AND ACQUISITION**

### **Action 6 PRIORITY: MEDIUM**

Designate as SSSI/ASSI two strongest search area (or as many as exist if less than two), where this will help improve habitat management. **EN, CCW, SNH, EHS**

### **Action 7 PRIORITY: HIGH**

Encourage protection of all large/medium colonies through management agreements and/or reserve acquisition. **All**

## **3.3 LAND MANAGEMENT**

### **Action 8 PRIORITY: HIGH**

Incorporate needs of the Dingy Skipper in management plans/site management statements on all SSSIs/ASSIs and agri-environment scheme agreement land with colonies. **EN, CCW, SNH, EHS, MAFF/FRCA, SERAD, DANI**

### **Action 9 PRIORITY: HIGH**

Encourage appropriate grazing, mowing, and scrub management regimes in grassland and disused habitats in regions where the Dingy Skipper occurs. **All**

### **Action 10 PRIORITY: HIGH**

Maintain/restore active woodland management throughout range (especially measures that will increase the frequency of large canopy gaps near existing populations and linking wide rides). **All**

### **Action 11 PRIORITY: MEDIUM**

Encourage restoration or creation of suitable breeding habitat where there is potential for re-establishing viable networks of populations, concentrating on regions where the Dingy Skipper still occurs.

**EN, EHS,  
MAFF/FRCA,  
CCW, DANI,  
NT, WT, BC,  
WTs.**

### **3.4 SPECIES PROTECTION AND LICENSING**

No action proposed

### **3.5 ADVISORY**

#### **Action 12 PRIORITY: HIGH**

Advise conservation agencies, agri-environment scheme staff and site owner/managers on the location of occupied and other suitable (but unoccupied) sites and on practical habitat management for the Dingy Skipper and how to incorporate this with other management priorities and interests.

**BC, CCW,  
EN, SNH,  
EHS**

#### **Action 13 PRIORITY: MEDIUM**

Advise on habitat restoration techniques on potential sites.

**All**

#### **Action 14 PRIORITY: MEDIUM**

Produce a brief, practical guide on habitat management for the Dingy Skipper, once requirements are better known, incorporating this with management for other wildlife.

**BC, EN,  
CCW,  
SNH, EHS**

#### **Action 15 PRIORITY: HIGH**

Ensure the conservation importance and management requirements of the Dingy Skipper are incorporated into any relevant national and local Biodiversity Action Plans.

**JNCC,  
CCW, EN,  
SNH, LAs,  
BC, WTs**

### **3.6 INTERNATIONAL**

No action proposed.

### **3.7 FUTURE RESEARCH, SURVEY AND MONITORING**

#### **Action 16 PRIORITY: HIGH**

Collate all recent records and determine core regions of distribution.

**BC, CEH,  
JNCC.**

#### **Action 17 PRIORITY: HIGH**

Identify location of all large/medium colonies.

**BC, EN, EHS,  
CCW, SNH.**

#### **Action 18 PRIORITY: HIGH**

Conduct further research on habitat requirements, ecology and management techniques on all habitat types but especially in disused artificial habitats, sand-dunes and acid grassland/heathland.

**BC, CEH,  
Univs, CCW,  
EHS, EN,  
SNH,**

#### **Action 19 PRIORITY: HIGH**

Continue monitoring on a range of sites representing each habitat type throughout the UK.

**BC, CEH,  
EHS, EN,  
CCW, FE,  
SNH.**

#### **Action 20 PRIORITY: MEDIUM**

Collate transect data annually and calculate annual index of abundance to compare trends on individual sites.

**BC, CEH,  
JNCC.**

#### **Action 21 PRIORITY: HIGH**

Investigate dispersal ability of the Dingy Skipper, the effect of habitat loss and isolation of colonies on population viability.

**BC, EN,  
CCW, SNH,  
CEH, Univs**

#### **Action 22 PRIORITY: LOW**

Conduct research on parasitoids and species associated with Dingy Skipper habitats.

**BC, Univs,  
CEH, CCW,  
EN, SNH.**

### **Action 23 PRIORITY: MEDIUM**

Investigate role of Rabbit grazing in maintaining habitats and extent of species reliance on Rabbit grazing.

**BC, EN, EHS  
CCW, SNH,  
CEH.**

## **3.8 COMMUNICATIONS AND PUBLICITY**

### **Action 24 PRIORITY: HIGH**

Publicise this action plan, the decline of the Dingy Skipper and measures needed to conserve it.

**All**

## **3.9 REVIEW**

### **Action 25 PRIORITY: HIGH**

Review this action plan annually and update in ten years if necessary.

**EN, CCW,  
SNH, EHS,  
BC**

#### **Key to abbreviations**

All	= All organisations listed
BC	= Butterfly Conservation
CCW	= Countryside Council for Wales
DARD	= Department of Agriculture and Rural Development (Northern Ireland)
EHS	= Environment and Heritage Service (Northern Ireland)
EN	= English Nature
FC	= Forestry Commission
FRCA	= Farming and Rural Conservation Agency
CEH	= Centre for Ecology and Hydrology (formerly Institute of Terrestrial Ecology)
JNCC	= Joint Nature Conservation Committee
LAs	= Local Authorities
MAFF	= Ministry of Food and Fisheries
NT	= National Trust
SERAD	= Scottish Executive Rural Affairs Department
SNH	= Scottish Natural Heritage
Univs	= Universities
WOAD	= Welsh Office Agricultural Department
WTs	= Wildlife Trusts

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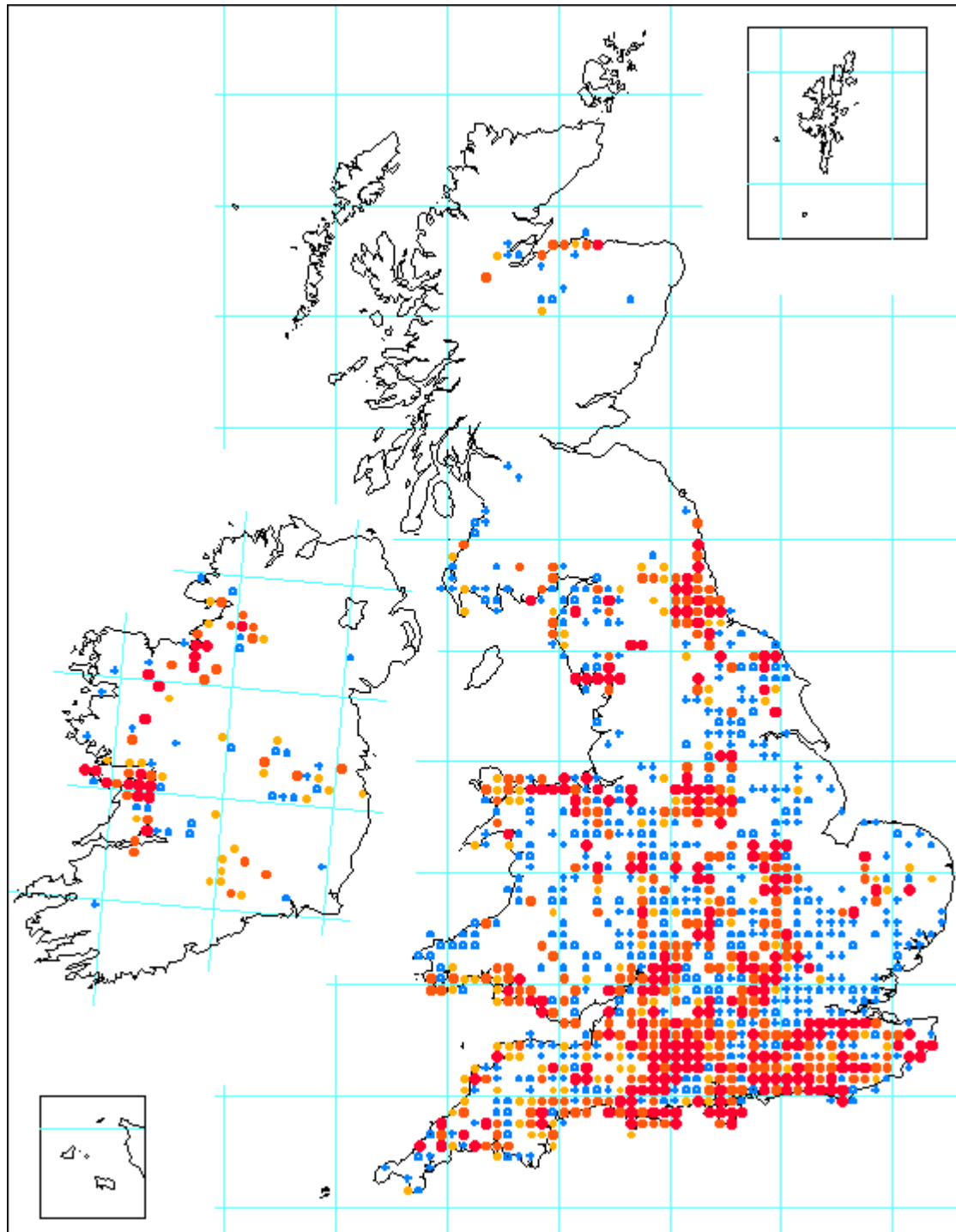
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## Appendix 1 The distribution of the Dingy Skipper

Butterflies for the New Millennium project (2001).

Copyright of Butterfly Conservation/Biological Records Centre.

(Dark full spot all records from 1995-1999; open circles all records between 1970-1982; cross all pre 1970 records).



## **Appendix 2 Conservation requirements of the Dingy Skipper**

### **Habitat**

Colonies occur in a wide range of open, sunny habitats including chalk downland, woodland rides and clearings, coastal habitats such as dunes and undercliffs, heathland, damp grasslands, old quarries, railway lines and waste ground. Suitable conditions occur where foodplants grow in a sparse sward, often with patches of bare ground in a sunny, sheltered situation. Taller vegetation is also required for shelter and roosting.

Waste ground is the butterfly's main habitat over much of the English midlands. The range of habitats include disused mineral workings, spoil heaps, mines, railway lines, storage depots and even rubbish tips. Vegetation cover is suitably sparse because of the nature of the substrate and the relatively short period since abandonment. These sites deteriorate for the butterfly due to natural succession and positive management such as periodic scrub cutting is needed. Rabbit grazing may also help prolong the suitability of these sites for the butterfly.

### **Management**

Apart from naturally disturbed coastal areas such as undercliffs and dunes, the habitats used by the Dingy Skipper require active management, usually grazing of grassland or management of rides, glades and felled areas in woodland. On such sites these activities are often carried out for conservation purposes. Scrub clearance on remaining fragments of chalk downland has extended the habitat in some regions, but this has so far done little to offset the losses elsewhere. Management that maintains and increases sparse vegetation and especially bare ground, which is readily colonised by Bird's-foot-trefoil, is especially beneficial for this species. The retention of taller vegetation for shelter and roosting is also important.

The need for long, ungrazed shoots of Bird's-foot-trefoil mean that constant heavy grazing is deleterious for the Dingy Skipper. Rotational grazing, which provides a fresh supply of successional habitats, but allows development of the required growth form of the foodplants, is the best regime. Alternatively, grazing concentrated in autumn and winter (and light grazing in spring and summer) may be preferable though research is urgently needed to confirm this. In north Wales, colonies have been found to be restricted to relatively ungrazed areas and it has been suggested that livestock may inadvertently eat eggs and larvae on prominent shoots. Most BMS sites are being actively managed for conservation and the declines shown by this scheme may be due partly to increased grazing since monitoring began.

On post industrial sites, livestock grazing is preferable but may be difficult to arrange. On several sites rabbit grazing, periodic scrub clearance and occasional ground disturbance may maintain suitable conditions but the exact way to manage these sites is not well understood.

Much remains to be learned about the Dingy Skipper's ecology and the most beneficial management regimes required to conserve the species in all habitats.