

NORFOLK BIODIVERSITY ACTION PLAN

SILVER-STUDED BLUE (*Plebejus argus*)

In Norfolk, this is a butterfly characteristic of lowland heathland. It was once widespread across the UK, but is now confined to southern England with outposts in East Anglia, Shropshire and Wales. As a caterpillar, it feeds on heathers and gorse and has a complex relationship with black ants.

Ref 2/S3	Tranche 2	Species Action Plan 3
Plan Author:	English Nature	
Plan Co-ordinator:	Heathland Topic Group	
Plan Leader:	Butterfly Conservation	
Date: June 2006	Stage: Final draft	

1. CURRENT STATUS

National Status

- The silver-studded blue has undergone a severe decline in range in the last 100 years, estimated at 80 per cent. It has become extinct in Scotland and northern England, and throughout most of central, eastern and south-eastern England. It remains widespread only on the heaths of Dorset and Hampshire, although strong populations also occur in North Wales. It occurs throughout Europe (except Scandinavia), in a wide range of habitats, including alpine grassland, meadows, forest clearings and xerophytic scrubland. However, it is declining in the west of Europe (e.g., Belgium, the Netherlands and Denmark).
- In Great Britain, the silver-studded blue is classified as *Nationally Scarce*. It is protected under Schedule 5 of the Wildlife and Countryside Act 1981, with respect to sale only.

Norfolk Status

- The species was formerly present on heaths in the north and north-west of the county and possibly in the Brecks. It has recently come to light that silver-studded blues may also have existed on the dune-slacks of the north Norfolk coast.
- The silver-studded blue currently exists at only five colonies in the region: Horsford Woods; Horsford Rifle Range; Kelling Heath; Buxton Heath; and East Ruston Common. The colony at Buxton was the result of re-introduction in 1985; the colony at Kelling was established following a formal, successful re-introduction in 2001; and the colony at East Ruston appears to be the result of a recent private re-introduction and requires further investigation. A formal attempt to re-establish a colony at Marsham in 1998 was unsuccessful.
- Data collected over the last several years indicate that the silver-studded blue population is growing at Buxton and extending its range at Kelling. Numbers were slightly lower at Horsford Rifle Range in 2005 than in previous years, probably as a result of the extensive bracken and scrub removal that had been carried out during the winter; however, it is anticipated that this will be a short-term decrease and that future counts will demonstrate a rise in numbers now that the habitat has been enhanced.

2. CURRENT FACTORS CAUSING LOSS OR DECLINE IN NORFOLK

- Loss of heathland to development, forestry and agriculture has been an important factor in the past, but is currently less of a concern.
- The fragmentation/isolation of suitable heathland habitat has also been a significant factor contributing to past declines.
- Inappropriate heathland management, including cessation of management, continues to be a concern.

3. CURRENT ACTION IN NORFOLK

- All five sites at which the species currently exists have been accorded national or local designations, as summarised in the table below:

	Site	Designation
1	Buxton Heath	Site of Special Scientific Interest
2	East Ruston Common	Site of Special Scientific Interest
3	Horsford Rifle Range	County Wildlife Site
4	Horsford Woods	Most (but not all) of the wood has been designated a County Wildlife Site
5	Kelling Heath	Site of Special Scientific Interest

- An action plan (Harris, 2000) brought together historical information regarding silver-studded blue in Norfolk and reviewed the suitability of both current and potential sites for the species. The plan also identified a number of actions for the period 2001–2003, several of which were subsequently implemented. These included the re-introduction to Kelling Heath in 2001, and monitoring of all colonies in the county by volunteers from the Norfolk branch of Butterfly Conservation.
- The Horsford Rifle Range is a privately owned site, leased to and largely managed by the Smallburgh and District Gun Club. It forms part of a Countryside Stewardship agreement and over the past five years, the Norfolk Wildlife Trust and the Norwich Urban Fringe Project have worked with the Gun Club and Butterfly Conservation to ensure that the site is managed in a way appropriate to the needs of the butterflies.
- One of the rides within Horsford Wood (which lies adjacent to the Horsford Rifle Range) also supports a colony of silver-studded blue butterflies. Forest Enterprise has carried out management work to improve the heather structure of the ride. More recently, Forest Enterprise has also agreed to fell a small area of planted conifers in order to develop a connection between this ride system and the nearby rifle range.
- Butterfly Conservation has played an important role in promoting the conservation of silver-studded blues. In 2005, the Norfolk branch of Butterfly Conservation organised ten public training days and site visits, and also commissioned a detailed survey of existing, potential and failed sites (including ant surveys). The head office of Butterfly Conservation has published a species and habitat management fact sheet on silver-studded blues, for distribution to land managers. A species leaflet for both land managers and the public has been produced by Butterfly Conservation's Regional Officer.

4. ACTION PLAN OBJECTIVES AND TARGETS

National

- Maintain populations at all known sites.
- Restore populations to former sites occupied post-1970 by 2010, using reintroductions if necessary.

Norfolk

- Maintain, and enhance through appropriate management, populations at all five sites where the species is currently present.
- Increase the number of colonies by two by 2010 (thereby bringing the total to seven).

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.1	Policy and Legislation			
5.1.1	Where appropriate, include the requirements of the silver-studded blue when preparing or revising prescriptions for agri-environment schemes.	Ensure the species is targeted in Environmental Stewardship applications, where appropriate.	NE	NWT, BC
5.2	Site Safeguard and Management			
5.2.1	Where possible, ensure that all occupied habitat is appropriately managed by 2008, for example through SSSI or agri-environment scheme management agreements.	Ensure that all occupied habitat is appropriately managed by 2008.	NE, NWT, BC, FC	Landowners
5.2.2	Where possible, ensure that existing populations do not become fragmented by management practices or development.	Where possible, ensure that existing populations do not become fragmented by management practices or development.	NE, LPAs, NWT, BC, FC	Landowners
5.2.3	Where possible, increase the available habitat at known sites and adjacent areas, and attempt to link up existing fragments of habitat.	Where possible, increase the available habitat at known sites and adjacent areas, and attempt to link up existing fragments of habitat (eg, Horsford).	NE, NWT, BC, FC	
5.2.4	Restore suitable habitats in the English part of former range, initially concentrating on areas close to existing populations (south-east, south-west, eastern and midland England).	Support the re-establishment of heathland from afforested and agricultural land, where appropriate to the conservation of the silver-studded blue (eg, Horsford).	NE, NWT, FC	BC, FWAG
5.2.5	Ensure that the habitat requirements of this species are taken account of in relevant development policies, plans and proposals.	Ensure that the habitat requirements of this species are taken into account by relevant development policies, plans and proposals.	LPAs, NE, FC	NWT

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.2.6	Ensure that the species is included in site management documents for all relevant SSSIs.	Ensure that the species is included in site management documents for all relevant SSSIs and CWS.	NE, NWT	
5.3	Species Management and Protection			
5.3.1	Consider reintroducing the silver-studded blue to a series of sites within its former range.	Following appropriate research and habitat surveys (including an assessment of former dune-slack habitat), seek to reintroduce SSB at two former sites.	BC, NE, NWT	
5.4	Advisory			
5.4.1	Advise landowners and managers of the presence of the silver-studded blue and the importance of beneficial management for its conservation.	Ensure that landowners and managers are aware of the presence of SSB and the importance of appropriate management.	NE, BC, NWT	
5.4.2	As far as possible, ensure that all relevant agri-environment project officers, and members of regional agri-environment consultation groups, are advised of locations of this species, its importance, and the management needed for its conservation.	Organise training days to view successful colonies. Organise training days for agri-environment project officers and consultation groups. Prepare and distribute SSB management notes.	BC NE BC	
5.5	Future Research and Monitoring			
5.5.1	Undertake surveys to determine the current status of the silver-studded blue.	Continue annual monitoring of all colonies.	BC	
5.5.2	Conduct targeted autecological research to inform habitat management.	Carry out additional habitat assessments and black ant surveys as required, at both existing and potential sites.	BC	

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NATIONAL ACTION		NORFOLK ACTION	ACTION BY:	PARTNERS:
5.5.3	Collate transect and management data from all monitored sites (in addition to Butterfly Monitoring Scheme sites) annually, and calculate an annual index to compare trends on individual sites. Review and extend series of monitored sites if necessary.	Collate data from all monitored sites annually and assess trends.	BC	
5.5.4	Pass information gathered during survey and monitoring of this species to a central database for incorporation in national and international databases.	Pass information gathered during survey and monitoring of this species to NBRC and other appropriate centres, for incorporation in local, regional, national and international databases.	BC	
5.6	Communications and Publicity			
5.6.1	Promote opportunities for the appreciation of the silver-studded blue and the conservation issues associated with lowland heathland and lowland calcareous grassland.	Distribute information leaflets and other awareness materials Organise training days on silver-studded blue identification.	BC BC	
5.7	Links with Other Action Plans			
5.7.1	Implementation of this plan could benefit other species of lowland heathland and grasslands, including the silky wave moth <i>Idaea dilutaria</i> .	Implementation of this plan could benefit other species of lowland heathland/dry acid grassland.	Heathland Topic Group	Norfolk Heaths Forum
5.7.2	This plan should be considered in conjunction with those for lowland calcareous grassland, and lowland heathland.	This plan should be considered in conjunction with that for lowland heathland/dry acid grassland.	Heathland Topic Group	Norfolk Heaths Forum

Abbreviations and Acronyms

BC	Butterfly Conservation
CWS	County Wildlife Site
FC	Forest Commission
FWAG	Farming and Wildlife Advisory Group
LPA	Local Planning Authority
NE	Natural England
NWT	Norfolk Wildlife Trust
SSB	Silver-studded blue
SSSI	Site of Special Scientific Interest

NORFOLK DISTRIBUTION

There are colonies at five sites: Buxton Heath; Horsford Rifle Range; Horsford Woods; Kelling Heath; and East Ruston Common.

MANAGEMENT GUIDANCE

(This guidance is a general summary; for more detailed information or advice, please consult the references or contacts below.)

What do silver-studded blues need?

In Norfolk, the species requires heathland on light sandy soils, in an early stage of development characterised by short vegetation growth and patches of bare soil. These preferred conditions produce warm microclimates at ground level for the larvae, a factor that is especially important where the species is at the north of its range, as in Norfolk. Most heathland colonies exist on sites that have been either recently disturbed, such as sand pits, quarries and firebreaks, or burnt where conditions usually become suitable after two to five years of re-growth. In the absence of ongoing traditional management (such as the cutting of heather and invasive scrub, grazing of domestic animals, or burning to encourage young growth for livestock) suitable conditions on heathlands are short-lived, perhaps lasting only five to ten years. Because mature heather is needed for feeding adults, it is necessary to manage sites as a mosaic of successional stages. Since the butterflies are slow to disperse and re-colonise new areas, it is usual to find the silver-studded blue in meta populations, ie in patches of slowly shifting suitable habitat created by the occasional dispersal of adults. In all habitats, the species requires the presence of ant species of the genus *Lasius*.

REFERENCES

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