

## I-A1 SILVER-WASHED FRITILLARY BUTTERFLY *Argynnis paphia* SPECIES ACTION PLAN

### 1. Introduction

The silver-washed fritillary is a large and spectacular butterfly, often seen flying along woodland tracks and pausing to feed on bramble flowers. It is orange with many black spots and black streaks along the veins of the forewings. The undersides of the hind wings are washed with green and have silvery stripes. Males are brighter than females. The caterpillars are black and brown with a yellow stripe and long black spines; they feed on the leaves of common dog violet *Viola riviniana* and other *Viola* species.

The butterfly is unlikely to be confused with any other species as it is larger than the somewhat similar and more widespread comma butterfly *Polygona c-album* and does not have the scalloped edges to the wings of the comma. It is also larger and a brighter orange than the dark green fritillary *Argynnis aglaja* or the rare high brown fritillary *A. adippe*, which probably does not now occur in Monmouthshire. The pearl-bordered fritillary *Boloria euphrosyne* and small pearl-bordered fritillary *B. selene* are much more delicate species and are probably extinct in woodlands in eastern Monmouthshire.

Silver-washed fritillaries need sunny woodland rides and glades with an abundance of violets (for the larvae) in the ground flora, and numerous brambles and other food plants in close proximity (for the adults). Adults fly from mid June to late August. They lay their eggs on tree bark or moss 1-2 m above the ground and as soon as the caterpillars hatch, they hibernate. Early in the spring they emerge to seek out violets on which to feed but need sunny areas to first warm up.

### 2. Current status

Silver-washed fritillary is a UK BAP species of conservation concern. Its British range is mainly southern England and SW, central and SE Wales. Nationally, the number of squares where breeding occurs has declined by 38% since the 1970-1982 survey. It has however, expanded its range north and east in Britain in recent decades, following a marked decline and a contraction in range in the early 20<sup>th</sup> century. The spread of the species northwards is probably due to warmer periods recently experienced, possibly associated with global warming.

In Wales, it is a medium priority species in the Butterfly Conservation Wales Action Plan. It occurs, if sparsely, in all the unitary authority areas in Gwent.

In Monmouthshire, it is found throughout most large woods in the county. The size of the population is unknown but the butterflies occur mainly in the east though a few individuals have been recorded from the west. Slade Wood, near

Caldicot, has been the best site in recent years but the Hendre Woods near Monmouth are also important. The species has also been recorded in the county from 1995 to as recent as 2004 at Caerwent, Croes Robert, Penallt and Whitestone.

### 3. Associated habitats

Silver-washed fritillaries may occur in either broad-leaved or conifer woods as well as on nearby farmland, on farmland they favour mixed, tall, overgrown hedgerows with an abundance of brambles, provided that sunny open ground containing violets is also adjacent.

### 4. Associated species

One other UK BAP species of conservation concern, the wood white *Leptidea sinapis*, also occurs in woodlands in the east of the county where they are rare or declining. The small pearl-bordered fritillary, an UK Species of Conservation Concern, is locally common in the north and west of Monmouthshire; occurring in damp, light bracken areas, often on moor lands (it has not been recorded in woodlands in Monmouthshire for many years, but there were records from Gloucestershire in SO 50 for the Millennium Atlas project). The pearl-bordered fritillary, also a UK BAP priority species, has been recorded in East Monmouthshire in the period pre 1970-1982. Management of woodland to produce more glades with more light reaching the woodland floor would benefit wood white and may even encourage pearl-bordered fritillary back into woodlands in the county, (it still occurs in Herefordshire in SO 51). Whilst other woodland butterflies such as the white admiral *Limentis camilla* are more shade-tolerant and can survive in close canopy woodlands (such as those with neglected coppice), the adults still need sunny glades and clearings for feeding.

### 5. Current factors affecting the species

Factors affecting or threatening the species in Monmouthshire include:

- 5.1 Inappropriate management or lack of management of woodlands and hedges and cessation of coppicing is the most important factor. Adult silver-washed fritillaries require sunny glades and rides with numerous bramble flowers but the caterpillars, which feed early in the year, also need warm, sunny conditions, to maintain body temperatures. Where the canopy is closed, violets are shaded out and no sunlight reaches the floor and so butterflies are few. They are more abundant in actively coppiced woods, in well-thinned woods with 70-90% canopy cover where dappled light reaches the floor, or where there are extensive edges along broad rides or around glades. Rides that become shady due to scrub growth and overhanging trees will not be suitable. Rides need to be wide and they need regular mowing and cutting back at the sides every 3-6 years so that sunlight reaches the edges and violets can grow at the shadier

edges. Hedgerows that are tightly trimmed in the late summer will have few bramble flowers whereas sprawling dense hedges with a profusion of brambles are ideal for feeding adult butterflies.

- 5.2. Over-grazing in woodlands and along hedgerows by stock or fallow deer can affect the presence of violets as larval food.
- 5.3. Fragmentation of woodlands prevents movement of butterflies resulting in strongholds for silver-washed fritillary being restricted to the major blocks of woodland (such as along the Wye Valley).
- 5.4. The use of herbicides and insecticides along woodland rides or at the base of hedgerows can eliminate or reduce violet plants.

## **6. Current action**

- 6.1. Surveys have been undertaken for the Millennium Butterfly Atlas.
- 6.2. Local surveys and monitoring are undertaken by volunteers from Butterfly Conservation and Gwent Wildlife Trust.
- 6.3. Enhancement work for silver-washed fritillary can be eligible for a Monmouthshire County Council Biodiversity Grant.

## **7. Objectives and proposed targets**

### **7.1 UK objectives and targets**

A species of conservation concern, no UK action plan yet prepared.

### **7.2 Greater Gwent objectives and targets**

No BAP has yet been prepared at the Greater Gwent level.

### **7.3 Monmouthshire objectives and proposed targets**

- 1 Maintain existing populations of silver washed fritillary in Monmouthshire.
- 2 Enhance populations through appropriate management.
- 3 Establish and monitor the distribution of silver washed fritillary in Monmouthshire

**8. Proposed action and key partners for silver-washed fritillary**

| Action  | Key Partners      |   | Timescale                       | Meets Target |
|---|-------------------|---|---------------------------------|--------------|
|   | Lead              | Partners  |                                 |              |
| <b>1. Policy and legislation</b>  |                   |   |                                 |              |
| 1.1. Ensure Policies and Strategies do not adversely affect existing breeding populations.  | GWT, FCW<br>MCC   | CCW   | Ongoing                         | 1            |
| 1.2. Consider the requirements of the silver-washed fritillary when planning any forest management.   | FCW               | CCW, BC<br>GWT  | Ongoing                         | 1<br>2       |
| <b>2. Site Protection and management</b>  |                   |   |                                 |              |
| 2.1. Ensure that important sites are designated as SINC's or LNRs.  | CCW<br>MCC        | GWT, BC   | At least one by the end of 2005 | 1            |
| 2.2. Seek to secure appropriate management for this species in 5 woodlands and adjacent hedgerows within its range.   | FCW               | Landowners<br>GWT, MCC                                      | At least one by the end of 2005 | 2            |
| 2.4 Ensure silver washed fritillary is fully considered when assessing any development, which may impact upon the species, paying particular attention to its protection under UK and European legislation. | MCC               | CCW, MCS,<br>Dev Plans, Dev control                         | Ongoing                         | 1            |
| 2.5 Ensure opportunities for appropriate mitigation during development are used when avoidance is not an option.  | MCC               | MCS,<br>Dev Plans, Dev control                              | Ongoing                         | 1            |
| 2.6 Ensure opportunities for enhancing habitat for silver washed fritillary are used during the planning process.   | MCC               | MCS,<br>Dev Plans, Dev Control                              | Ongoing                         | 1<br>2       |
| <b>3. Species protection and management</b>   |                   |   |                                 |              |
| 3.1. Assess the effects of specimen collecting in the region.   | BC                | CCW, GWT  | 2005                            | 1            |
| <b>4. Advisory</b>  |                   |   |                                 |              |
| 4.1. Raise awareness of forest owners and managers of silver-washed fritillary requirements in order to promote appropriate management for this species.  | FCW<br>Coed Cymru | BC, MCC<br>CCW, GWT   | Ongoing                         | 2            |
| <b>5. Research and monitoring</b>   |                   |   |                                 |              |
| 5.1. Monitor silver-washed fritillary populations in the county annually to improve baseline data and monitor trends. Ensure monitoring   | BC                | GWT,<br>Gloucestershire<br>Wildlife Trust,<br>Herefordshire | Ongoing                         | 3            |

|   |    |              |         |   |
|---|----|--------------|---------|---|
| is co-ordinated with the Neighbouring counties Wildlife Trusts in the Wye Valley Woodlands. |    | Nature Trust |         |   |
| 5.2. Surveys to find new sites for Silver-washed Fritillaries                               | BC | GWT          | Ongoing | 3 |

## 9. Links with other plans

The plan should be considered in conjunction with any future plans prepared for Woodlands or hedgerows or other species of butterfly using the same resources.

## 10. SOURCES OF INFORMATION

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## 11. CONSULTATIONS

Dr Martin Anthoney (BC Recorder for VC35) and Brian Gregory were consulted during the preparation of this plan.

