

## Small Pearl-bordered Fritillary



**Scientific Name:**  
*Boloria selene*

### Current factors causing loss or decline

It is likely that direct loss, abandonment and agricultural improvement of unimproved grassland, bracken and other favourable habitats may have resulted in the loss of colonies in the past. These threats are still relevant today, although of some concern are drainage of damp grasslands, encroachment of scrub and the burning of heathlands.

### Current Action

The Small Pearl-bordered Fritillary is listed as a species of conservation concern in the national UK BAP. It is afforded a medium priority for conservation action in the UK, including southwest Scotland, by Butterfly Conservation.

The Small Pearl-bordered Fritillary is listed on Schedule 5 of the 1981 Wildlife and Countryside Act (for sale only); but has no other statutory protection. The four known locations in Glasgow are designated as Sites of Importance for Nature Conservation (SINCs) by Glasgow City Council. The Possil Marsh record occurred within the SSSI boundary.

Population monitoring has occurred on transects sampled at Cathkin Braes since 1998 and at Commonhead Moss since 1999.

### Current status

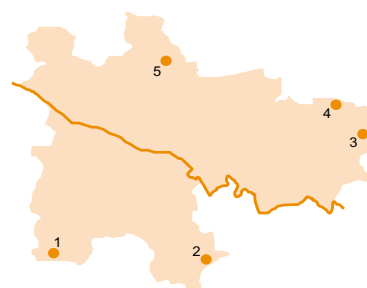
The **Small Pearl-bordered Fritillary** is a relatively widespread species in the UK, but has declined severely in many areas since 1950. This decline has been most marked in the central and eastern counties of England where the species is now almost absent. It is also becoming far more restricted in southern England. In Scotland, northern England and Wales it is still widespread and some large populations can be found.

In Glasgow the Small Pearl-bordered Fritillary is currently known from four sites although not much is known about the butterfly's population sizes. The data that does exist suggests that numbers of individual butterflies recorded at the sites are generally low. It is known to have occurred at one other site within Glasgow (Possil Marsh), but has not been recorded from there since 1988.

The Small Pearl-bordered Fritillary has one generation a year. In Scotland the flight period for adults is usually from mid June to mid July. The earliest date it was recorded in Glasgow was 6 June (1997) and the latest 25 August (2000). The adults feed on a variety of nectar sources but little is known about which species are utilised in Glasgow. Adult females only lay their eggs on violets. Marsh Violet (*Viola palustris*) is the usual preferred host plant, but Common Dog-violet (*V. riviniana*) may also be used, although there are no observations for Glasgow. In Scotland the butterfly typically occurs in non-woodland habitats (woodland being its preferred habitat in much of England), where there is an abundance of violets. Its precise requirements are not well-known, but it favours damp or heathy vegetation where violets are abundant. Breeding colonies are probably best maintained on grassland which is lightly grazed and where scrub is cleared periodically. Colonies breeding in open grassland or moorland may also depend on a light covering of bracken which provides a warm microclimate for caterpillars and helps to sustain violet populations. Such habitats are probably best maintained by cattle or pony grazing.

The mobility of the Small Pearl-bordered Fritillary has been studied in coppiced woodland in southern England, where it appears to be sedentary, but there are no published studies for the more open habitats favoured in northern Britain; anecdotal evidence suggests they are more mobile. There is, therefore, a possibility of limited movement of butterflies between adjoining sites - especially between populations in the northeast of Glasgow and nearby sites in North Lanarkshire.

Locations of Small Pearl-bordered Fritillary in Glasgow



Location	Population Size	Comments
1. Darnley Mill	Unknown	Sighting of individual in 2000
2. Cathkin Braes	Small	-
3. Commonhead Moss	Medium	182 counted in one visit
4. Garnkirk Moss South	Small	Only a few ever recorded
5. Possil Marsh	Extinct	Last seen 1988

### Objectives and targets

This plan aims to ensure that there is no further loss of populations of the Small Pearl-bordered Fritillary within the City of Glasgow. A first stage will be to determine the current status of the butterfly, followed by monitoring of all sites where the butterfly occurs and encouraging appropriate management regimes for the species and liaison with neighbouring authorities.

**Objective 1:** Establish the size and location of populations present within the City of Glasgow.  
**Target 1:** Conduct detailed transect and monitoring studies at all sites over the next 5 years.

**Objective 2:** Ensure all known populations are well protected.  
**Target 2:** Ensure no net loss in sites and population sizes.

**Objective 3:** Prevent any further loss of, or damage to, existing butterfly habitat.  
**Target 3:** Ensure sympathetic management is implemented to all known sites.

**Objective 4:** Increase known range of Small Pearl-bordered Fritillary within the City.  
**Target 4:** Carry out wider survey and investigate feasibility for habitat creation or reintroduction at former sites.

## Proposed Action with Lead Authorities

Action	Lead	Delivery	Objective
<b>Policy and Legislation</b>			
Ensure known butterfly localities are protected during planning procedures and developments	BC	GCC-DRS, GCC-LS(CG),SNH	2, 3
<b>Site Safeguard and Management</b>			
Include butterfly habitat and biological needs when drawing up or revising management plans for current or recent sites and adjoining candidate areas. <i>PRIORITY HIGH</i>	BC	BC, FWAG, GCC-LS(CG), SNH, SWT	2
Encourage appropriate management regimes at current or recent localities and adjoining candidate areas. <i>PRIORITY HIGH</i>	BC	BC, FC, FWAG, GCC-LS, SWT	3, 4
Encourage establishment of suitable breeding habitat in areas close to existing sites, to allow natural dispersal <i>PRIORITY MEDIUM</i>	BC	BC, FWAG, GCC-LS	4
Liaise with neighbouring Councils and landowners at nearby sites to encourage species movement and viable local populations. <i>PRIORITY MEDIUM</i>	BC	BC, FWAG, GCC-LS(CG)	4
<b>Advisory</b>			
Advise conservation agencies and site owner/managers on practical habitat management and on habitat restoration techniques on potential and former sites. <i>PRIORITY MEDIUM</i>	BC	BC, FWAG, GCC-LS(CG), SNH	3, 4
<b>Future Research and Monitoring</b>			
Initiate a transect and monitoring programme at the four known Glasgow sites, collating and analysing data to monitor trends. <i>PRIORITY HIGH</i>	BC	BC, GCC-LS	1
Investigate the adult's nectar source food plants and the violet species used for egg-laying at all four Glasgow sites. <i>PRIORITY LOW</i>	BC	BC, GCC-LS	1, 3
Survey other potential sites for the butterfly within Glasgow <i>PRIORITY HIGH</i>	BC	BC, GCC-LS, SNH, SWT	4
Investigate reasons for presumed loss at Possil Marsh and investigate potential for habitat restoration and future species re-establishment. <i>PRIORITY MEDIUM</i>	BC	BC, SNH, SWT	4
<b>Communication and Publicity</b>			
Publicise this Action Plan, the decline of the Small Pearl-bordered Fritillary and measures needed to conserve it. <i>PRIORITY HIGH</i>	BC	BC, GCC-LS(CRS)	1, 2, 3, 4
Liaise with LKead Agency of national SAP	BC	BC	1, 2, 3, 4
Review progress of plan and actions annually. <i>PRIORITY HIGH</i>	BC	BC	1, 2, 3, 4

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Glasgow City Council: Development and Regeneration Services(**GCC-DRS**), Glasgow City Council: Land Services(Conservation Group) (**GCC-LS(CG)**),

Glasgow City Council: Culture and Leisure Services (**GCC-CLS**), Glasgow City Council: Education Services (**GCC-ES**), Glasgow City Council: Land Services Countryside Ranger Service (**GCC-LS(CRS)**),

Scottish Ornithologists' Club (**SOC**), Greenspace for Communities(**GIC**), British Waterways (**BW**), Forestry Commission (**FC**), Farming Wildlife Advisory Group (**FWAG**), The WISE Group (**TWISE**)

Glasgow Natural History Society (**GNHS**), Royal Society for the Protection of Birds (**RSPB**), Scottish Environment Protection Agency (**SEPA**), Scottish Natural Heritage (**SNH**), Scottish Wildlife Trust (**SWT**).

Clyde Amphibian and Reptile Group (**CARG**), Butterfly Conservation (**BC**), Concern for Swifts (**CFS**)