



## Managing for bespoke species/assemblages within Countryside Stewardship – guidance template

<p><b>Species/assemblage name</b></p> <p>Small Pearl-bordered Fritillary (<i>Boloria selene</i>)</p>  <p><b>Image Sam Ellis, Butterfly Conservation</b></p>	<p><b>Conservation status</b></p> <p><i>Section 41</i></p>  <p><b>Damp Grassland habitat (Sam Ellis, Butterfly Conservation)</b></p>
<p><b>Introduction</b></p> <p>Occurs in damp grassland, flushes and moorland (in northern and western Britain); woodland glades and clearings (mainly southern Britain); grassland with bracken and/or patches of scrub; open wood-pasture and wood edges in Scotland. Food-plants are Common Dog-violet <i>Viola riviniana</i> and Marsh Violet <i>V. Palustris</i>. Other violet species may occasionally be used.</p> <p>The Small Pearl-bordered Fritillary was once very widespread but has declined by 52% over the last 20 years. More recently the declines have slowed with a 12% decline in distribution and a 19% decline in population trend between the two periods 1995-99 and 2005-09. The female lays her eggs singly, either on dead vegetation near to violets or sometimes on the food plant itself. Occasionally she even drops them while crawling amongst low vegetation. The caterpillars feed until around September when they hibernate, probably amongst the leaf litter. They emerge to feed again during spring but, unlike the Pearl-bordered Fritillary, they rarely bask and spend most of their time concealed amongst the vegetation, only coming out for short bouts of feeding. They pupate close to the ground, hidden deep within the vegetation. The Small Pearl-bordered Fritillary is similar in size to the Pearl-bordered Fritillary, with which it is often confused, but is more widespread than the latter. The Small Pearl-bordered Fritillary generally prefers more moist conditions containing abundant violets within gassier areas alongside bracken, whilst the Pearl-bordered Fritillary requires bracken on warm dry slopes.</p>	
<p><b>Why a bespoke species/assemblage?</b></p> <p>The Small Pearl-bordered Fritillary requires tailored management for each habitat type that it occurs in to create sunny and sheltered conditions with abundant foodplant. Techniques</p>	

such as coppicing, burning, scrub control, bracken control and creation of ground disturbance should be used. These methods are not characteristic of routine management based on the 'mosaic' approach.

### When and where to apply this guidance

At all sites where the species is present, on historical sites where restoration is undertaken to encourage recolonization or potential new sites within 2km of the nearest occupied site.

### Developing a Countryside Stewardship agreement

#### Relevant CS options

GS6	Management of species rich grassland
GS7	Restoration towards species rich grassland
GS13	Management of grassland for target features
WD2	Woodland improvement
WD7	Management of successional areas and scrub
WD8	Creation of successional areas of scrub
SP6	Cattle grazing supplement
SP8	Native Breeds at Risk supplement
LH1	Management of lowland heathland
UP1	Enclosed rough grazing
UP3	Management of moorland

#### Prescription guidance for GS6/GS7

P42 - [Control/Manage] [scrub/ SPECIES] [in XXXX] [by method] so that [by year [NUMBER]] cover [of the [LOCATION] is no more than [NUMBER] %]. [Remove all cut material.]

P449 - Carry out a controlled burn [in parcels where rank *Molinia* is present in wet grassland habitats XXXX] during January or February in years [XXX] following The Heather and Grass Burning Best Practice Guides.

P455 - Manage [dense Bracken stands / deep Bracken litter layers] rotationally in years [20% in each year 1 to 5] [by cutting/bruising/spraying/]. Cut bracken by hand on [XXXX] historic and archaeological features.

P464 - Maintain the extent of [<15cm deep bracken litter over at least 20% of the area] of interest within the [grassland/bracken mosaic] as identified [XXXX].

P470 - [By year X], [at least 2 moderate/high value indicator species bugle, daisy, ragged robin, for Priority habitat feature XXXX must be frequent/in flower during May and June and 2 high value indicator species *Viola sp.* for Priority habitat feature XXXX occasional (as defined in XXXX (currently the FEP Handbook)]. [By year X], cover of [species XXXX must be less than 10% / between 50% and 90%/frequent].

On wet grassland sites

P667 - [From [year 1] onwards], manage by [grazing with cattle and/or hardy ponies for at least 6 weeks between May and September at a maximum density of 1LU/ha in the first year (if restoring) and thereafter between 0.2 and 0.3LU/ha per annum; stocking rates may need to be adjusted on damp grassland sites if the drier areas become shorter than 8cm or if the ground is too wet;] [to maintain VEGETATION CONDITIONS] [so that sward height is between 8cm and 25cm for wet grassland in August/September].

On bracken sites

P667 - [From [establishment] onwards], manage by [grazing lightly with cattle/hardy ponies in particular early spring and summer, at least 6 weeks grazing between May and September] [to maintain a bracken and grass mosaic] [so that there is a medium height sward with abundant violets with some bare patches from light cattle poaching. Some late winter/early spring cattle grazing is needed to break up the bracken litter].

P706 - Keep a monthly record of stock numbers grazing on [Parcel(s) XXXX]. Make the record available on request.

### **IoS for GS6/GS7**

[By year XX/ in all years], cover of wildflowers in the sward (excluding undesirable species but including rushes and sedges), should be between [20% and 90%]. At least [40%] of wild flowers should be flowering during [May-July].

[By year X/ in all years] [Small Pearl-bordered Fritillary [should be present and maintained] on the site

[By year X/ in all years], the average sward height [between XX and XX/ in spring before closing for hay] should be at least/ between/ less than x cm

[By year X/ in all years], species [Common Dog-violet *Viola riviniana* and Marsh Violet *V. Palustris* should be at least occasional/ (locally) frequent], and flowering during [May to July]

[By year X/ in all years], cover of [species bracken litter <15cm high should be between 20% and 50%]

### **SB4/SB5 can be used for bracken control**

### **Prescription guidance for GS13**

P42 - [Control/Manage] [scrub/ SPECIES] [in XXXX] [by method] so that [by year [NUMBER]] cover [of the [LOCATION] is no more than [NUMBER]%. [Remove all cut material.]

P138 - Retain the full extent of well-established scrub [where cover is below 5%]. [Where the cover is 5% or greater, maintain scrub over at least 5% and a maximum of 10% of the parcel area.] It must be retained as discrete small patches, lines and occasional individual bushes scattered across the site. [Do not cut more than half of the scrub in any one year except on historic and archaeological features.]

P455 - Manage [dense Bracken stands / deep Bracken litter layers] rotationally in years [1 to 5 (only one fifth of the site in any one year)] [by cutting / bruising / spraying /]. Cut bracken by hand on [XXXX] historic and archaeological features.

P470 - [By year X], [at least 2 moderate/high value indicator species XXXX for Priority habitat feature XXXX must be frequent/in flower during May and June and 2 high value indicator species XXXX for Priority habitat feature XXXX occasional (as defined in XXXX (currently the FEP Handbook)]. [By year X], cover of [species XXXX must be less than 10% / between 50% and 90%/frequent].

On wet grassland sites

P667 - [From [year 1] onwards], manage by [grazing with cattle and/or hardy ponies for at least 6 weeks between May and September at a maximum density of 1LU/ha in the first year (if restoring) and thereafter between 0.2 and 0.3LU/ha per annum; stocking rates may need to be adjusted on damp grassland sites if the drier areas become shorter than 8cm or if the ground is too wet;] [to maintain VEGETATION CONDITIONS] [so that sward height is between 8cm and 25cm for wet grassland in August/September].

On bracken sites

P667 - [From [establishment] onwards], manage by [grazing lightly with cattle/hardy ponies in particular early spring and summer, at least 6 weeks grazing between May and September] [to maintain a bracken and grass mosaic] [so that there is a medium height sward with abundant violets with some bare patches from light cattle poaching. Some late winter/early spring cattle grazing is needed to break up the bracken litter].

### **IoS for GS13**

[By year X/ in all years], cover of wildflowers in the sward (excluding undesirable species but including rushes and sedges), should be between [20% and 40%]. At least [40%] of wild flowers should be flowering during [May-July].

[By year X/ in all years], the average sward height [between August and September] should be between 5cm and 25cm]

[By year X/ in all years], species [Marsh and Common Dog Violet should be at least occasional/ (locally) frequent], and flowering during [May to July]

[By year X/ in all years] cover of [species XXXX should be less than 10% / between 50% and 90%]

[By year X/ in all years] outside of dense rushes the cover of tussocks of grass or sedge (year-round) should be between 5 and 60%. (A tussock is a single plant or a clump of plants at least 15cm wide, that is more than 5cm taller than the surrounding vegetation.)

[By year X/ in all years] [Small Pearl-bordered Fritillary breeding habitat] [should be present] on the site

[By year x/ in all years] Cover of bare ground [, including dry crumbly soil, soft damp soil, bare rock, cobbles, gravel and encrusting lichens] must be between [0% and 5%]. [By year

XX, localised patches of bare ground around rabbit warrens must be smaller than 5m x 5m].

### **Note Supplement capital items SB4 and SB5 available for bracken control**

### **Prescription guidance for SP6/SP8**

See further information

### **Prescription guidance for WD7/WD8 (Bracken habitat)**

P30 - Do not plough, cultivate or re-seed. – *Both Tiers*

P42 - [Control/Manage] [scrub/ SPECIES] [in XXXX] [by method] so that [by year [NUMBER]] cover [of the [LOCATION] is no more than [NUMBER]%. [Remove all cut material.] - *Higher Tier*

P455 - Manage [dense Bracken stands / deep Bracken litter layers] rotationally in years [1 to X] [by cutting / bruising / spraying /]. Cut bracken by hand on [XXXX] historic and archaeological features. – *Higher Tier*

P579 - Graze in years [1 to 5] to maintain areas of [up to 15cm deep bracken litter layer over 40% of the area so that the bracken grass mosaic is maintained with plenty of edge habitat and livestock paths in the summer]. – *Higher Tier*

### **IoS for WD7/WD8**

[By year X] shallow (<15cm deep) bracken litter extends over at least [10%] of the total area.

[By year X] Violets growing in areas of shallow (<15cm deep) bracken litter are [at least occasional] during [late winter/ early spring].

[In each year] fresh gaps/ pathways through bracken stands (that result in the exposure of bracken litter to direct sunlight) are at least [occasional] in June and July.

[By year 2] one or more of species [bugle, daisy, XXXX] are in flower during May and June, and at least [occasional] across the target area.

[By year XX], the following desirable species [plant or animal] are [present / frequent / at least occasional.]

[By year XX], the area of bare ground is between [5% and 10%].

[By year 2], the following undesirable species [ragwort / creeping thistle / XXXX] are no more than occasional.

### **Prescription guidance for WD2**

**A woodland management plan (PA3) would be required for the site following the ideal management described below:** Aim to ensure a supply of flower-rich, sunny, open clearings and rides, especially where soils are damp and the vegetation lush. Traditional coppice management, where adjacent woodland plots are cut in succession, produces ideal conditions for the butterfly. Glade creation and ride widening can help to sustain populations.

**IoS: A network of rides and open ground should cover between 10-30% of the area.**

### **Prescription guidance for LH1 on Lowland Heathland**

P455 - Manage [dense Bracken stands / deep Bracken litter layers] rotationally in years [1 to X] [by cutting / bruising / spraying /]. Cut bracken by hand on [XXXX] historic and archaeological features.

P106 - Either: Only burn/cut the following areas [XXXX] [as shown on MAP REF] [in years XXXX] [between DATES]. Or: Do not cut or burn.

P105 - Graze [to the site boundaries / the areas identified in MAP REF] to maintain [VEGETATION STRUCTURE]. [When grazing is not possible manage by cutting / METHOD.]

P42 – [Control/Manage] [scrub/SPECIES] [in XXXX] [by method] so that [by year [NUMBER]] cover [of the [LOCATION]] is no more than [NUMBER]%. [Remove all cut material.]

P107 - Provide between [2 - 10%] bare ground [by METHOD][in the areas shown in MAP REF]. Do not create bare ground on historic or archaeological features. Do not disturb bare ground with [vehicles and/or xxxx].

P122 - Monitor [FEATURE/SPECIES] [annually] from year [x] following the [METHOD] and submit records to [NAME/ORGANISATION] by [DATE].

### **IoS for LH1**

Cover of dwarf shrubs (including ericaceous species and dwarf gorse) [at least 2 species] should be between [25% and 90%].

[By year XX], at least [2 high-value indicator species XXXX for BAP acid grassland habitat and / or heathland should be frequent and 2 occasional].

[By year 2 / 5], cover of invasive trees and shrubs [birch / Cotoneaster / Bramble / XXXX] [but excluding Bog Myrtle / Juniper / Creeping Willow / XXXX] should be [1% - 15%]

"In most years, populations of [nationally rare / nationally scarce / locally significant species / XXXX] should be stable or increasing, except in cases of unforeseen circumstances such as wildfires or extreme weather events.

### **Prescription guidance for UP3 to be used above the moorland line**

P42 – [Control/Manage] [scrub/SPECIES] [in XXXX] [by method] so that [by year [NUMBER]] cover [of the [LOCATION]] is no more than [10]%. [Remove all cut material.]

P137 – Control rush so that dense stands do not cover more than [20%] of the parcel area. Manage by grazing and/or cutting every year to achieve a sward height of [less than 20 cm by 30 September]. [Do not cut between [15 March and 31 July].] [Cut no more than [a third of the area] of rushes [in each field or XXX]. Do not cut rushes [in wet flushes or XXX].]

P573 – In years 1 to 5] M/manage [SPECIES] scrub by rotational cutting [every 5 years] [as shown on REF] to achieve cover of [at least 5%/between 1% and 5%]. [Do not cut more than

x% of the scrub in any one year.][Never completely eradicate scrub from the site.]

P593 – Only graze [Parcel(s) XXXX] in accordance with the stocking calendar which includes minimum and maximum stocking rates by grazing animal type by month.

P697 – Carry out the management for [priority s41 species] [so that by year [X] [VEGETATION CONDITIONS]] as set out in XXXX/Implementation Plan/Feasibility Study produced by [name, organisation] dated [date]].

### **Prescription guidance for UP1 (Enclosed rough grazing) to be used above the moorland line**

P134 - Maintain a sward with a range of heights during the growing season so that at least 20 per cent of the sward is less than 7 cm and at least 20 per cent is more than 7 cm. You do not need to maintain this height variation when the field is closed up for a cut of hay or silage. – *Both Tiers*

P137 - Control dense rush so that stands do not cover more than [20%] of the parcel area. Manage by grazing and/or cutting every year to achieve a sward height of [less than 20 cm by 30 September]. [Do not cut between [15 March and 31 July].] [Cut no more than [a third of the area] of rushes [in each field or XXX]. Do not cut rushes [in wet flushes or XXX].] – *Higher Tier*

P138 - Retain the full extent of well-established scrub [where cover is below 5%]. [Where the cover is 5% or greater, maintain scrub over at least 5% and a maximum of 10% of the parcel area.] It must be retained as discrete small patches, lines and occasional individual bushes scattered across the site. [Do not cut more than half of the scrub in any one year except on historic and archaeological features.] – *Higher Tier*

### **IoS for UP1/UP3**

None specified

#### **Monitoring:**

Timed count/transect

### **Further information**

Fritillary Butterflies of Dartmoor leaflet:

[https://butterfly-conservation.org/files/habitat-fritillary\\_butterflies\\_of\\_dartmoor.pdf](https://butterfly-conservation.org/files/habitat-fritillary_butterflies_of_dartmoor.pdf)

### **Damp grassland, flushes and moorland habitats**

Aim to maintain damp or heathy vegetation where violets are often abundant in medium height swards and suitable nectar sources are available. Waterlogged sites can be unsuitable especially under very acidic conditions.

#### Grazing

Extensive light cattle grazing is ideal, as some poaching encourages violet regeneration. Heavy grazing, especially by sheep, is detrimental. Where grazing is impractical autumn mowing and raking can be effective in maintaining suitable habitat. Aim to achieve a varied sward height of between 5cm and 20cm with a tussocky structure. This provides sheltered

warm habitat for adults to rest in and larvae to overwinter in

#### Scrub Clearance

Scrub clearance can be undertaken as required, especially when acting as a barrier to colonisation. On open, exposed sites some planting of perimeter shelterbelts will increase habitat suitability. On afforested stream edges clearance of conifers and brash 5-10m back can create ideal habitat.

#### **Grassland with Bracken and/or scrub**

Aim to maintain abundant violets in medium height swards, in association with Bracken or scrub edges.

#### Grazing

Bracken/grassland mosaics encourage an abundant supply of violets by suppressing grass growth. Aim to maintain a light Bracken cover. Extensive cattle or pony grazing is ideal, especially in winter and early spring, as the trampling helps break up the dense standing trash which suppresses violet and grass growth. Some sites may be maintained by sheep grazing, though they are not as effective at trampling Bracken.

#### Bracken cutting and bruising

In areas where dense Bracken is established it may be necessary to control through cutting or bruising. Small-scale autumn and winter raking and disturbance of dense Bracken litter can also be beneficial. Periodic (3-10 year rotation) Bracken cutting by swipe in late May or early June can be used on ungrazed or too lightly grazed sites. Bruising by machine or by hand in June may also reduce Bracken densities. Scrub clearance (or burning) on a 5-10 year rotation can be undertaken, but scrub should not be eliminated as it often provides shelter.

#### **Woodland glades and clearings**

Aim to ensure a supply of flower-rich, sunny, open clearings and rides, especially where soils are damp and the vegetation lush. Traditional coppice management, where adjacent woodland plots are cut in succession, produces ideal conditions for the butterfly. Glade creation and ride widening can help to sustain populations.

#### **Authorship/version control**

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