

**CYNGOR CEFN GWLAD CYMRU  
COUNTRYSIDE COUNCIL FOR WALES**

**CORE MANAGEMENT PLAN  
(INCLUDING CONSERVATION OBJECTIVES)**

for

**Glaswelltiroedd Cefn Cribwr/ Cefn Cribwr Grasslands  
Special Area of Conservation**

Version: 3

Date: 6<sup>th</sup> March 2008

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**More detailed maps of management units can be provided on request.  
A Welsh version of all or part of this document can be made available on request.**



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### **Preface**

This document contains the main elements of CCW's management plan for the site(s) named. The full management plan consists of this document together with fully expanded Parts 1, 5 and 6. Parts 1, 5 and 6 are or will be accessible via the CCW website.

One of the key functions of this document is to provide CCW's statement of the conservation objectives for the relevant Natura 2000 site(s), for the purposes of implementing the Conservation (Natural Habitats, &c.) Regulations 1994, as amended (Section 4). As a matter of Welsh Assembly Government Policy, the provisions of those regulations are also to be applied to Ramsar sites in Wales.

## **1. VISION FOR THE SITE**

This is a descriptive overview of what needs to be achieved for conservation on the site. It brings together and summarises the Conservation Objectives (part 4) into a single, integrated statement about the site. This statement also reflects the Site Management Statements for the SSSIs concerned:

During the summer, the Cefn Cribwr SSSIs are oases of wildlife amongst the industry and agriculturally improved farmland of the area. Plant communities vary across the four SSSIs, depending on soil conditions, producing a mosaic of vegetation rich in wildlife.

The sward height is between 10 and 30 cm high, but it is still fairly easy to walk through, and large tussocks of purple moor-grass are only found occasionally in the damper ground.

Over most of the damp ground, purple-moor grass and several different sedges and rushes are found, together with the tiny yellow flowers of tormentil. Later in the year the blue, button-like flowers of devils-bit scabious are visited by many bees and butterflies.

Much of the damper grassland has some natural lime-enrichment, and here the vegetation can be particularly species-rich, with up to 30 different species in a square metre. Characteristic plants include meadow thistle (conspicuous in early summer with nodding purple heads) and saw-wort (with sharp-edged leaves, and small purple flowers later in the year). Some of this vegetation also contains plants that indicate more acidic conditions, such as cross-leaved heath, heather and cushions of bog moss.

Particularly wet areas are dominated by tall rushes with water-mint, the yellow pea-like flowers of greater bird's-foot trefoil and the tiny white stars of marsh bedstraw. In a few such places, which are flushed by springs of lime-rich water, the uncommon blunt-flowered rush is dominant and it is here that the rare marsh fern grows.

In drier areas, grasses such as crested dog's-tail and sweet vernal-grass are common, together with more showy flowers such as black knapweed, bird's-foot-trefoil, tormentil and devil's-bit scabious.

By contrast, it is hard to find plants which are common in modern, intensively managed grasslands. In particular, rye-grass and white clover are rarely seen in any of the four SSSIs.

On warm sunny days in late May, June and early July, marsh fritillary butterflies should be a common sight. The females will be searching for large plants of devil's-bit scabious on which to lay their eggs. In autumn, the ground is dotted with the tiny web-like structures in which the caterpillars spend the winter.

## **2. DESCRIPTION OF THE SITE**

### **2.1 Site location & area**

Grid reference: SS870830  
Unitary authority: Pen-y-bont ar Ogwr/ Bridgend  
Area (hectares): 58.35

Detailed maps of the designated sites are available through CCW's web site:  
<http://www.ccw.gov.uk/interactive-maps/protected-areas-map.aspx>

See accompanying map of management units.

## 2.2 Outline description

This is one of four sites selected to represent *Molinia* meadows in south and central Wales, one of the major UK strongholds for this habitat type. At this site, there are extensive stands of *Molinia* – *Cirsium dissectum* fen-meadow (M24), including the heathy sub-type with cross-leaved heath *Erica tetralix* as well as other forms with a stronger representation of native grasses, rushes and small sedges. Transitions to stands of more acidic *Molinia* and *Juncus* pasture, dry neutral grassland and wet scrub vegetation are well represented. Uncommon and declining species associated with the *Molinia* meadows at this site include the nationally rare viper's-grass *Scorzonera humilis* and the nationally scarce soft-leaved sedge *Carex montana*.

The Cefn Cribwr group of SSSIs is also of importance for the presence of marsh fritillary butterflies. This small species, whose wings have an attractive chequerboard pattern of red, brown and cream, is now rare throughout Britain, and is only found where its food plant, devil's bit scabious, grows in abundance. It is mainly on the wing during June. In autumn, the tiny black caterpillars gather together in tens or even hundreds, to spend the winter buried in tussocky vegetation in characteristic webs.

This butterfly is now considered endangered in Europe. Wales (together with Ireland, Scotland and parts of western England) has a special responsibility for its conservation. Recent research has shown that the marsh fritillary will only survive in areas where suitable habitat is plentiful within a short flying distance. Small, isolated fields of marshy grassland, however suitable in other ways, cannot be colonised, and this is one of the reasons that the Cefn Cribwr area is so important.

Marsh fritillary have been recorded in recent years from 3 of the SSSI units – Caeau Cefn Cribwr, Bryn Bach and Pen y Castell, but not Waun Fawr SSSI. Suitable breeding habitat occurs at all four SSSI units but by far the most extensive area is at Bryn Bach. One marsh fritillary web was found at Bryn Bach in 2007, and that was the only record from from this SAC for this year.

### Marshy grassland

Including stands of Eu-molinion, other acid *Molinia* grassland M25, M22, blunt-flowered rush meadow and M23 rush pasture.

### Neutral grassland

Areas of neutral grassland (MG5a & c) are found throughout each of the 4 SSSI units, most extensively in Caeau Cefn Cribwr and Bryn Bach SSSI.

### Vipers grass (*Scorzonera humilis*)

*S. humilis* is frequent to abundant in several hectares of mostly marshy grassland contained in five fields at Caeau Cefn Cribwr SSSI. Using the National Vegetation Classification (NVC), *S. humilis* is most frequent in *Molinia caerulea* - *Cirsium dissectum* fen meadow, **M24**. It also extends into *Molinia caerulea* - *Potentilla erecta* mire, **M25**, *Juncus acutiflorus* rush-pasture, **M23**, *Scirpus cespitosus* - *Erica tetralix* wet heath, **M15**, and *Cynosurus cristatus* - *Centaurea nigra* grassland, **MG5** (Rodwell, 1991). Single plants were seen in two nearby fields of similar habitat.

### **Marsh fern (*Thelypteris palustris*)**

This clonal fern is found in one large area of a field within the Caeau Cefn Cribwr SSSI . It forms a prominent component of an area of blunt-flowered rush pasture (M22). The only other extant site for this species in Glamorgan is at Crymlyn Bog.

### **Bog myrtle (*Myrica gale*)**

Here this species is on the edge of its eastern range in Wales. It is found in three of the component SSSIs of the SAC: Bryn Bach, Caeau Cefn Cribwr and Pen y Castell.

## **2.3 Outline of past and current management**

Typically, the site has been used as grazing pasture for cattle and ponies, although some areas have also been grazed by sheep. Bryn Bach SSSI is grazed by cattle and has been for many years before notification. Caeau Cefn Cribwr is also mostly cattle grazed with some units wholly horse grazed. Pen y Castell is divided between two owners; one half is horse grazed and the other has received no grazing in recent years but used to be cattle grazed. Waun Fawr is cattle grazed but has received some sheep grazing in the recent past.

The three southern fields of Waun Fawr SSSI were limed in 1991. CCW has no other management information on this site before 1991.

## **2.4 SSSIs and Management Units within the site**

### Component SSSIs

The Glaswelltiroedd Cefn Cribwr/Cefn Cribwr Grasslands SAC is notified as four component SSSIs:

- Caeau Cefn Cribwr;
- Pen y Castell, Cefn Cribwr;
- Bryn-bach, Cefn Cribwr; and
- Waun-fawr, Cefn Cribwr.

Each component SSSI may have additional land or features that are not part of the SAC interest features.

### Management Units

The individual SSSIs have been divided into management units. This will allow differentiation between different designations within the SSSI (namely SAC and non-SAC), and where appropriate between different tenure blocks, and between parcels of land that have differing management needs.

The basis for the division of Management Units within the Cefn Cribwr Grasslands SAC and component SSSI was primarily tenure, with reference to features and land management requirements. The unit names follow the letter codes used in the Phase II grassland survey.

Unit no.	Unit name	SAC	SSSI	NNR/ CCW	Other
<b>Caeau Cefn Cribwr</b>					
1	CCC Fields A, B, C, D	✓	✓		
2	CCC Field I	✓	✓		
3	CCC Field L	✓	✓	✓	
4	CCC Field M	✓	✓	✓	
5	CCC Field N	✓	✓		
11	CCC Field P		✓		
12	CCC Fields J & K		✓	✓	
13	CCC Field G		✓		
14	CCC Field H		✓		
<b>Pen y Castell, Cefn Cribwr</b>					
9	PyC Field D & part F	✓	✓		
10	PyC Field E & part F	✓	✓		
17	PyC Field B		✓		
<b>Bryn-bach, Cefn Cribwr</b>					
6	BB Field B, I - O	✓	✓		
15	BB Fields E - G		✓		
7	BB Field D	✓	✓		
16	BB Field A		✓		
<b>Waun-fawr, Cefn Cribwr</b>					
8	Wf Fields A - F	✓	✓		

### 3. CONFIRMATION OF FEATURES

#### 3.1 Confirmation of features, relationship with and other designations & nomenclature, and Conservation Objectives numbering

<i>Designated feature</i>	<i>Relationships, nomenclature etc</i>	<i>CO no.</i>
<i>SAC features</i>		
<i>Annex I habitats that are a primary reason for selection of this site</i>  <b>1. <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) (EU Habitat Code: 6410)</b>	Generally referred to as ‘ <i>Eu Molinion</i> grassland’ throughout this document.	1
<i>Annex II species present as a qualifying feature, but not a primary reason for site selection</i>  <b>2. Marsh fritillary butterfly <i>Euphydryas</i> (<i>Eurodryas</i>, <i>Hypodryas</i>) <i>aurinia</i> (EU Species Code: 1065)</b>		2
<i>SPA features</i>		
Not applicable		
<i>Ramsar features</i>		
Not applicable		
<i>SSSI features</i>		
3. Marshy grassland		3
4. Dry neutral grassland		4
5. Viper’s grass <i>Scorzonera humilis</i>		5
6. Marsh fern <i>Thelypteris thelypteroides</i>		6
7. Bog myrtle <i>Myrica gale</i>		7

#### 3.2 Special Features and Management Units

This section sets out the relationship between the special features and each management unit. This is intended to provide a clear statement about what each unit should be managed for, taking into account the varied needs of the different special features. All special features are allocated to one of seven classes in each management unit. These classes are:

##### **Key Features**

**KH** - a ‘Key Habitat’ in the management unit, i.e. the habitat that is the main driver of management and focus of monitoring effort, perhaps because of the dependence of a key species (see KS below). There will usually only be one Key Habitat in a unit but there can be more, especially with large units.

**KS** – a ‘Key Species’ in the management unit, often driving both the selection and management of a Key Habitat.

**Geo** – an earth science feature that is the main driver of management and focus of monitoring effort in a unit.

##### **Other Features**

**Sym** - habitats, species and earth science features that are of importance in a unit but are not the main drivers of management or focus of monitoring. These features will benefit from management for the key feature(s) identified in the unit. These may be classed as ‘Sym’ features because:

- a) they are present in the unit but may be of less conservation importance than the key feature; and/or
- b) they are present in the unit but in small areas/numbers, with the bulk of the feature in other units of the site; and/or
- c) their requirements are broader than and compatible with the management needs of the key feature(s), e.g. a mobile species that uses large parts of the site and surrounding areas.

**Nm** - an infrequently used category where features are at risk of decline within a unit as a result of meeting the management needs of the key feature(s), i.e. under Negative Management. These cases will usually be compensated for by management elsewhere in the plan, and can be used where minor occurrences of a feature would otherwise lead to apparent conflict with another key feature in a unit.

**Mn** - Management units that are essential for the management of features elsewhere on a site e.g. livestock over-wintering area included within designation boundaries, buffer zones around water bodies, etc.

**x** – Features not known to be present in the management unit.

Background information on Cefn Cribwr SAC

Cefn Cribwr SAC comprises four component SSSIs: Cefn Cribwr SSSI, Pen y Castell SSSI, Bryn Bach SSSI and Waun Fawr SSSI. These sites are included in the Natura 2000 series primarily for the areas of Eu Molinion grassland habitat present, with occasional colonisation by the marsh fritillary butterfly adding to their importance. None of the sites is believed to support a core marsh fritillary colony, but some are known to hold small breeding populations periodically (typically following ‘good’ years at core breeding sites). As such these sites probably play the role of satellite sites within a larger metapopulation, and in most years marsh fritillaries will not be present.

The sites also host five SSSI features, namely marshy grassland (a broad type that can also include Eu Molinion grassland), neutral grassland, viper’s grass, marsh fern and bog myrtle.

In general, where Eu Molinion vegetation is present it is considered to be the main focus of management, not only because it is a threatened and declining habitat in Europe, but also because the marsh fritillary and viper’s grass (the two key species on the site) are strongly associated with this vegetation.

Caeau Cefn Cribwr SSSI is the most complex of the component SSSI in the SAC, with nine discrete management units and all seven SAC and SSSI habitats and species present.

As viper’s grass is found at one of only three UK sites the management of the Eu Molinion and marshy grassland in the three management units where it occurs (Units 1-3) should aim to maintain or increase the population. The marsh fritillary will benefit from sympathetic habitat management in these units, as will the neutral grassland in Unit 1 and the bog myrtle in Unit 3. Elsewhere on the site, in Units 5, 7 and 8, the marshy grassland will be managed to create optimum marsh fritillary habitat. The main focus of the management in Units 4, 6 and 9 is the neutral grassland, though here again, the recommended grazing regime is also sympathetic to requirements of the marshy grassland, marsh fern and bog myrtle.

**Note:** Even if marsh fritillaries bred regularly in Units 1-3, there is a strong case for viper’s grass being selected as the key species to drive the management: Cefn Cribwr supports one of only three populations in the UK, while the marsh fritillary occurs at several hundred known locations.

Caeau Cefn Cribwr	Management unit									
	1	2	3	4	5	11	12	13	14	
SAC	✓	✓	✓	✓	✓					
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	



NNR/CCW owned			✓	✓			9		
<b>SAC features</b>									
1. Eu Molinion meadows	KH	KH	KH	x	KH	x	x	x	x
2. Marsh fritillary butterfly	Sym	Sym	Sym	x	KS	Sym	KS	KS	Sym
<b>SSSI features</b>									
3. Marshy grassland	Sym	Sym	Sym	x	sym	Sym	KH	KH	KH
4. Dry neutral grassland	Sym	x	x	KH	Sym	KH	x	x	x
5. Viper's grass <i>Scorzonera humilis</i>	KS	KS	KS	x	x	x	x	x	x
6. Marsh fern <i>Thelypteris palustris</i>	x	x	x	x	x	x	Sym	x	x
7. Bog myrtle <i>Myrica gale</i>	x	Sym	x	x	x	x	x	Sym	x

Pen y Castell is a relatively small and straightforward site, comprising three management units. The main focus of the management in Unit 1 and Unit 2 is the Eu Molinion vegetation, which will be managed to create optimum marsh fritillary habitat, the marshy grassland in these units will also be under sympathetic management. Neutral grassland is the main management focus in Unit 3, with the marshy grassland again under sympathetic management to benefit marsh fritillary butterflies.

Pen y Castell	Management unit							
	9	10	17					
SAC	✓	✓						
SSSI	✓	✓	✓					
NNR/CCW owned								
<b>SAC features</b>								
1. Eu Molinion meadows	KH	KH	x					
2. Marsh fritillary butterfly	KS	KS	Sym					
<b>SSSI features</b>								
3. Non SAC marshy grassland	Sym	Sym	Sym					
4. Dry neutral grassland	x	x	KH					
5. Bog myrtle	x	sym	x					

Bryn Bach Although the largest SSSI in the SAC, the site was treated as three discrete management units, making unitisation straightforward. Units 1 and 3 are dominated by marshy grassland vegetation (including EU Molinion in Unit 1) and managed to benefit marsh fritillary butterflies. The management of Unit 2 focuses on the neutral grassland habitat, which is restricted to this management unit on the site. Bog myrtle occurs in Unit 1.

Bryn Bach	Management unit							
	6	15	7	16				
SAC	✓		✓					
SSSI	✓	✓	✓	✓				
NNR/CCW owned								
<b>SAC features</b>								
1. Eu Molinion meadows	KH	x	x	x				
2. Marsh fritillary butterfly	KS	Sym	KS	KS				
<b>SSSI features</b>								
3. Non SAC marshy grassland	Sym	Sym	KH	KH				
4. Dry neutral grassland	x	KH	x	x				
5. Bog myrtle	sym	x	x	x				

Waun Fawr Eu Molinion is the main focus of the management effort at Waun Fawr, which is a single management unit comprising several fields. The management across the site aims to create optimum

marsh fritillary habitat, which is also sympathetic management for the remaining areas of marshy grassland and the neutral grassland present on the site.

<b>Waun Fawr</b>	<b>Management unit</b>							
	<b>8</b>							
SAC	✓							
SSSI	✓							
NNR/CCW owned								
<b>SAC features</b>								
1. Eu Molinion meadows	<b>KH</b>							
2. Marsh fritillary butterfly	<b>Sym</b>							
<b>SSSI features</b>								
3. Non SAC marshy grassland	<b>Sym</b>							
4. Dry neutral grassland	<b>Sym</b>							

#### 4. CONSERVATION OBJECTIVES

##### **Outline of the legal context and purpose of the conservation objectives**

Conservation objectives are required by the 1992 ‘Habitats’ Directive (92/43/EEC). The aim of the Habitats Directives is the maintenance, or where appropriate the restoration of the ‘favourable conservation status’ of habitats and species features for which SACs and SPAs are designated (see Box 1).

In the broadest terms, ‘favourable conservation status’ means a feature is in satisfactory condition and all the things needed to keep it that way are in place for the foreseeable future. CCW considers that the concept of favourable conservation status provides a practical and legally robust basis for conservation objectives for Natura 2000 and Ramsar sites.

##### ***Box 1***

##### ***Favourable conservation status as defined in Articles 1(e) and 1(i) of the Habitats Directive***

“The conservation status of a natural habitat is the sum of the influences acting on it and its typical species that may affect its long-term natural distribution, structure and functions as well as the long term survival of its typical species. The conservation status of a natural habitat will be taken as favourable when:

- Its natural range and areas it covers within that range are stable or increasing, and
- The specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- The conservation status of its typical species is favourable.

The conservation status of a species is the sum of the influences acting on the species that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as ‘favourable’ when:

- population dynamics data on the species indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.”

Achieving these objectives requires appropriate management and the control of factors that may cause deterioration of habitats or significant disturbance to species.

As well as the overall function of communication, conservation objectives have a number of specific roles:

- Conservation planning and management.

The conservation objectives guide management of sites, to maintain or restore the habitats and species in favourable condition.

- Assessing plans and projects.

Article 6(3) of the ‘Habitats’ Directive requires appropriate assessment of proposed plans and projects against a site’s conservation objectives. Subject to certain exceptions, plans or projects may not proceed unless it is established that they will not adversely affect the

integrity of sites. This role for testing plans and projects also applies to the review of existing decisions and consents.

- Monitoring and reporting.

The conservation objectives provide the basis for assessing the condition of a feature and the status of factors that affect it. CCW uses ‘performance indicators’ within the conservation objectives, as the basis for monitoring and reporting. Performance indicators are selected to provide useful information about the condition of a feature and the factors that affect it.

**The conservation objectives in this document reflect CCW’s current information and understanding of the site and its features and their importance in an international context. The conservation objectives are subject to review by CCW in light of new knowledge.**

### **Format of the conservation objectives**

There is one conservation objective for each feature listed in section 3. Each conservation objective is a composite statement representing a site-specific description of what is considered to be the favourable conservation status of the feature.

Each conservation objective consists of the following two elements:

- 1 Vision for the feature
- 2 Performance indicators

As a result of the general practice developed and agreed within the UK Conservation Agencies, conservation objectives include performance indicators, the selection of which should be informed by JNCC guidance on Common Standards Monitoring<sup>1</sup>.

There is a critical need for clarity over the role of performance indicators within the conservation objectives. **A conservation objective, because it includes the vision for the feature, has meaning and substance independently of the performance indicators, and is more than the sum of the performance indicators.** The performance indicators are simply what make the conservation objectives measurable, and are thus part of, not a substitute for, the conservation objectives. Any feature attribute identified in the performance indicators should be represented in the vision for the feature, but not all elements of the vision for the feature will necessarily have corresponding performance indicators.

As well as describing the aspirations for the condition of the feature, the Vision section of each conservation objective contains a statement that the factors necessary to maintain those desired conditions are under control. Subject to technical, practical and resource constraints, factors which have an important influence on the condition of the feature are identified in the performance indicators.

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<sup>1</sup> Web link: <http://www.jncc.gov.uk/page-2199>

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**Conservation Objective for Feature 1:**

***Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 6410)**

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**4.1(1) Vision for feature 1**

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- *eu-Molinion* marshy grassland will occupy between 50% and 55% of the total site area.
- The remainder of the site will be other semi-natural habitat or areas of permanent pasture.
- The following plants will be common in the *eu-Molinion* marshy grassland: purple moor-grass *Molinia caerulea*; meadow thistle *Cirsium dissectum*; *Carex hostiana*; *Carex pulicaris*; devil's bit scabious *Succisa pratensis*; carnation sedge *Carex panicea*; saw wort *Serratula tinctoria* and; tormentil *Potentilla erecta*.
- Cross-leaved heath *Erica tetralix* and common heather *Calluna vulgaris* will also be common in some areas.
- Rushes and species indicative of agricultural modification, such as perennial rye grass *Lolium perenne* and white clover *Trifolium repens* will be largely absent from the *eu-Molinion* marshy grassland.
- Scrub species such as willow *Salix* (excluding *Salix repens*) and birch *Betula* will also be largely absent from the *eu-Molinion* marshy grassland.
- All factors affecting the achievement of the foregoing conditions are under control.

**4.2(1) Performance indicators for feature 1** (*Note:* The performance indicators are part of the conservation objective, not a substitute for it)

**Table 1.** Limits for maintenance of the *eu-Molinion* feature at Cefn Cribwr cSAC.

Conservation Objective for maintenance management		To maintain the <i>eu-Molinion</i> grassland at Cefn Cribwr SAC in favourable condition where
Extent	Upper Limit	As mapped (date?)(55% of the site (no encroachment into areas of neutral grassland <i>Myrica gale</i> , wet heath, flushes or swamp))
	Lower Limit	See Map 1 (as mapped during Phase II, apart from two additional areas described as potential habitat at Penycastell and Waun Fawr SSSI).
Quality	Upper Limit	None set
	Lower Limit	70% of the <i>eu-Molinion</i> grassland on <b>each</b> SSSI to be species rich fen meadow (all four SSSI have to pass in order for the SAC feature to be considered favourable).
<i>Site Specific Habitat Definitions</i>		
<b>Eu-Molinion grassland</b>		<i>Molinia caerulea</i> with <i>Cirsium dissectum</i> <b>or</b> <i>Molinia caerulea</i> with <i>Carex hostiana</i> <b>and</b> <i>Carex pulicaris</i>
<b>Species rich fen meadow</b>		Eu-Molinion grassland with <i>Succisa pratensis</i> , <i>Carex panicea</i> , <i>Potentilla erecta</i> and <i>Erica tetralix</i> (Bryn Bach only) within a 50cm radius <b>and</b> <25% in total of mesic grasses ( <i>Holcus lanatus</i> , <i>Nardus stricta</i> and <i>Agrostis sp.</i> ) <b>and</b> <20% <i>Cirsium palustre</i> <b>and</b> <50% <i>Juncus sp.</i> <b>and</b> <i>Trifolium repens</i> , <i>Ranunculus repens</i> , <i>Pteridium aquilinum</i> , <i>Betula</i> , <i>Quercus</i> , <i>Salix</i> (not <i>Salix repens</i> ), <i>Alnus</i> and <i>Rubus</i> are absent <b>and</b> The vegetation height is between 10-50cm when measured with a Boorman's Disc

<i>Performance indicators for feature condition</i>			
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>	<i>Project code</i>
<b>A1.</b> Extent of <i>Eu Molinion</i> grassland	Monitoring is likely to be a map-based exercise. The area of <i>eu-Molinion</i> marshy grassland will be mapped as a baseline extent and the total area measured. Repeat monitoring will either re-map the site or review the baseline map in the field.  <i>Eu-Molinion</i> grassland is defined	<b>Caeau Cefn Cribwr</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> 30% of Management Units 1, 2, 3 & 5  <b>Pen y Castell</b>	

	<p>as stands of grassland vegetation where <i>Molinia caerulea</i> is present with <i>Cirsium dissectum</i> or with <i>Carex hostiana</i> and/or <i>Carex pulicaris</i> and with:</p> <p><i>Succisa pratensis</i>  <i>Carex panicea</i>  <i>Serratula tinctoria</i>  <i>Potentilla erecta</i></p> <p>Lower limits are based on current extent <i>As mapped by Phase II survey with interpretation of possible expansion into other non SAC habitat i.e. scrub/bracken.</i></p>	<p><i>Upper limit:</i>  As limited by other habitat types  <i>Lower limit:</i>  10% of Management Units 1 &amp; 2</p> <p><b>Bryn Bach</b>  <i>Upper limit:</i>  As limited by other habitat types  <i>Lower limit:</i>  25% of Management Unit 1</p> <p><b>Waun Fawr</b>  <i>Upper limit:</i>  As limited by other habitat types  <i>Lower limit:</i>  60% of Management Unit 1</p>	
<p><b>A2.</b> Condition of the <i>Eu Molinion</i> grassland</p>	<p>Based on the Standard CSM attribute for this feature. Modified according to site-specific requirements.</p> <p>An additional lower limit has been set for the presence of <i>Succisa pratensis</i> as this is the host plant for the marsh fritillary butterfly – a key SAC species on this site. Limits for sward height in the late summer/ autumn have also been modified to ensure marshy grassland with a suitable vegetation structure is also available for the marsh fritillary population.</p>	<p><b>Where <i>Eu Molinion</i> grassland is the Key Habitat in the Management Units,</b>  <b>Caeau Cefn Cribwr - 1, 2, 3 &amp; 5</b>  <b>Pen y Castell - 1 &amp; 2</b>  <b>Bryn Bach - 1</b>  <b>Waun Fawr - 1</b></p> <p><i>Upper limit:</i>  Not required</p> <p><i>Lower limit:</i>  70% of the <i>Eu Molinion</i> grassland is ‘species-rich’ fen meadow in good condition, characterised by:</p> <ul style="list-style-type: none"> <li>• key indicator species - <i>Molinia caerulea</i>, associated with: <i>Cirsium dissectum</i>; <i>Succisa pratensis</i>; <i>Carex panicea</i>; <i>Serratula tinctoria</i>; <i>Potentilla erecta</i> (plus <i>Calluna vulgaris</i>, <i>Erica tetralix</i> – Bryn-bach, Cefn Cribwr only);</li> <li>• negative indicator species – an absence or low frequency/cover of: <i>Holcus lanatus</i>; <i>Cirsium palustre</i>; <i>Trifolium repens</i>; <i>Ranunculus repens</i>; <i>Pteridium aquilinum</i>;</li> <li>• scrub- an absence or low frequency/cover of : <i>Betula</i>; <i>Quercus</i>; <i>Salix</i>(excluding <i>Salix repens</i>); <i>Alnus</i>; <i>Rubus</i>;</li> <li>• vegetation height - should be between 20-50cm in early</li> </ul>	

		<p>summer (Mid-May to end of June);</p> <ul style="list-style-type: none"> <li>• plant litter – should be no more than 10% cover.</li> </ul> <p>In addition and to ensure <b>suitable habitat for marsh fritillary</b> butterfly,</p> <p><i>Lower limit: Succisa pratensis</i> will be present within 1 metre of 40% of sample points</p> <p><i>Lower limit: The sward height</i> in 40% of the marshy grassland will be between 10 and 20 cm in late summer/autumn.</p>	
<b>Performance indicators for factors affecting the feature</b>			
<b>Factor</b>	<b>Factor rationale and other comments</b>	<b>Operational Limits</b>	<b>Project code</b>
<b>F1.</b> Livestock grazing	The <i>eu-Molinion</i> marshy grassland has been maintained through traditional farming practices. Without an appropriate grazing regime, the grassland would become rank and eventually turn to scrub and woodland. Light grazing by cattle and ponies between April and November each year is essential in maintaining the marshy grassland communities.	<p><i>Upper limit:</i> Refer to management agreement</p> <p><i>Lower limit:</i> The <i>eu Molinion</i> grasslands will be subject to light summer grazing by cattle and/or ponies at least 4 in every 5 years.</p> <p>Light summer grazing is defined as - cattle and/or ponies at a rate of 0.4 SU/ha/year for the period April to November</p>	
<b>F2.</b> Hydrological regime	The marshy grassland communities are strongly influenced by the quantity and base status of the groundwater. Reductions in the quality and quantity of the water in the springs and watercourses feeding the site may lead to a loss of marshy grassland or changes in species composition. Conversely, reduced/impeded drainage may lead to ground-water stagnation and a different change in species composition, e.g. increased abundance of rushes.	No limits set. Pending a fuller understanding of current situation and habitat requirements.	
<b>F3.</b> Adjacent land use	Two of the component SSSIs lie close to opencast coal workings and other active mineral workings. These may have indirect effects on the hydrological regime (see above).	No limits set. May need to be considered in the future.	



**Other factors considered include** – Owner/occupier objectives - the owners/occupiers of the land typically have an interest in securing some financial/agricultural benefit from the land. This return could be optimised by the agricultural improvement of the land, e.g. by installing new drainage, fertiliser application, or re-seeding; however these operations would cause significant long-term damage to the *eu-Molinion* marshy grassland. This factor will be controlled through management agreements and the SSSI legislation. An operational limit is not required.

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**Conservation Objective for Feature 2:**

**Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia* (EU Species Code: 1065)**

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**4.1(2) Vision for feature 2**

The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied:

- The site will contribute towards supporting a sustainable metapopulation of the marsh fritillary in the Cefn Cribwr area. This will require a minimum of 50ha of suitable habitat, of which at least 10ha must be in good condition, although not all is expected to be found within the SAC. Some will be on nearby land within a radius of about 2km.
- The population will be viable in the long term, acknowledging the extreme population fluctuations of the species.
- Habitats on the site will be in optimal condition to support the metapopulation.
- At least 40ha within the SAC & associated SSSI will be marshy grassland suitable for supporting marsh fritillary, with *Succisa pratensis* present and only a low cover of scrub.
- At least 8ha will be marsh fritillary breeding habitat in good condition, dominated by purple moor-grass *Molinia caerulea*, with *S. pratensis* present throughout and a vegetation height of 10-20cm over the winter period.
- Suitable marsh fritillary habitat is defined as stands of grassland where *Succisa pratensis* is present and where scrub more than 1 metre tall covers no more than 10% of the stands
- Optimal marsh fritillary breeding habitat will be characterised by grassland where the vegetation height is 10-20 cm, with abundant purple moor-grass *Molinia caerulea*, frequent “large-leaved” devil’s-bit scabious *Succisa pratensis* suitable for marsh fritillaries to lay their eggs and only occasional scrub. In peak years, a density of 200 larval webs per hectare of optimal habitat will be found across the site. (Fowles 2004<sup>2</sup>)
- The marshy grassland will be well sheltered by hedgerows and mature trees.
- All factors affecting the achievement of the foregoing conditions are under control.

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<sup>2</sup> Fowles AP (2004) *Conservation objective for Marsh Fritillaries on marshy grassland*. CCW internal document.

**4.2(2) Performance indicators for feature 2** (*Note:* The performance indicators are part of the conservation objective, not a substitute for it)

<b>Performance indicators for feature condition</b>			
<b>Attribute</b>	<b>Attribute rationale and other comments</b>	<b>Specified limits</b>	<b>Project code</b>
<b>A1.</b> Density of larval webs	<p>Larval web density in a ‘good’ year for marsh fritillary has been identified as a measurable performance indicator of the population. During peaks in the population cycle a density of 200 webs per hectare of suitable habitat is an appropriate target to set as defining favourable condition for strong populations.</p> <p>Estimate the density of larval webs via random transects running across the area of suitable habitat, counting all webs up to one metre either side of the transect. For this site, the total transect area should cover a minimum of 5% (1.25ha) of the area of suitable habitat. The transects should also be representative of the proportion of good to suitable habitat (see Feature 1 &amp; 3 – Attribute 2.</p> <p>Wide fluctuations in abundance occur, with dramatic crashes in population size occurring every ten years or so. Recovery from these crashes may take 4 or 5 yrs.</p>	<p><i>Upper limit:</i> not required <i>Lower limit:</i> at least 200 per hectare in at least one year every six years.</p> <p>Recording should be (initially) targeted on those Management Units where the marsh fritillary is a Key Species (KS), these are, <b>Caeau Cefn Cribwr 5, 7 &amp; 8</b> <b>Pen y Castell 1 &amp; 2</b> <b>Bryn Bach 1 &amp; 3</b></p>	
<b>A2.</b> Distribution of larval webs	<p>In most cases the marsh fritillary occurs in metapopulations where dispersal from a core population during good years permits colonisation of nearby patches of habitat. Periodic extinctions and colonisations of patches can be tolerated as long as sufficient habitat overall is in good condition for breeding.</p>	<p><i>Upper limit:</i> not required <i>Lower limit:</i> Larval webs should be present every year on at least three of the four component SSSI.</p> <p>Recording should be (initially) targeted on those Units where the marsh fritillary is a Key Species (KS), these are, <b>Caeau Cefn Cribwr 5, 7 &amp; 8</b> <b>Pen y Castell 1 &amp; 2</b> <b>Bryn Bach 1 &amp; 3</b></p>	
<b>Performance indicators for factors affecting the feature</b>			
<b>Factor</b>	<b>Factor rationale and other comments</b>	<b>Operational Limits</b>	<b>Project code</b>
<b>F1. Extent &amp; quality</b> of the marshy	The marsh fritillary is a highly localised and sedentary butterfly that inhabits unimproved <i>Molinia</i>	Refer to Feature 1 & 3 - Attributes 1 & 2. Any Management Units where marsh fritillary is a Key	

grassland as habitat for marsh fritillary	<p>grassland in the lowlands. It has an annual life-cycle and feeds as a larva on <i>Succisa pratensis</i>, especially on large-leaved plants that are growing amongst vegetation that is between 10 and 20 cms tall in late summer/autumn. The larvae over-winter communally amongst litter in such situations and the shelter provided by leaf litter and tussocks is considered to be important.</p> <p>The conditions stipulated in the conservation objective/performance indicators for Feature 1 (<i>Eu Molinion</i> marshy grassland) and Feature 3 (other nonSAC marshy grassland) will ensure that these requirements are met.</p>	<p>Species (KS) or will benefit from sympathetic management (Sym), these are</p> <p><b>Caeau Cefn Cribwr</b> 1, 2, 3, 5, 6, 7, 8, 9</p> <p><b>Pen y Castell</b> 1, 2 &amp; 3</p> <p><b>Bryn Bach</b> 1, 2 &amp; 3</p> <p><b>Waun Fawr</b> 1</p>	
<b>F2.</b> Livestock grazing	Necessary habitat requirements will met through the appropriate management of Feature 1 ( <i>Eu Molinion</i> marshy grassland) and Feature 3 (other non SAC marshy grassland).	Refer to Feature 1 & 3.	
<b>F3.</b> Shelter belts	Hedgerows, woodland and mature trees in and around the site provide the sheltered conditions which the marsh fritillary require. These should be retained and managed.	<p>On each component SSSI</p> <p><i>Upper limit:</i> As limited by other habitat types</p> <p><i>Lower limit:</i> at any given time least 80% of the existing mature hedgerows (over 4 metres tall) should be retained. The remaining 20% should be subject to a sustainable hedgerow management rotation.</p> <p>The existing blocks of woodland should be retained.</p>	
<b>F4.</b> Hydrological regime	Refer to Feature 1 ( <i>Eu Molinion</i> marshy grassland) and Feature 3 (other nonSAC marshy grassland).	Refer to Feature 1 & 3.	
<b>F5.</b> Burning	Burning is not a sympathetic habitat management tool for maintaining marsh fritillary populations.	<i>Upper limit:</i> Burning should only be employed in the restoration of <i>Eu Molinion</i> /marshy grassland, where marsh fritillaries are <b>known not to breed</b> .	

**Other factors considered include –**

**Owner/occupier objectives** - the owners/occupiers of the land typically have an interest in securing some financial/agricultural benefit from the land. This return could be optimised by the agricultural improvement of the land, e.g. by installing new drainage, fertiliser application, or re-seeding. However these operations would cause significant long-term damage to the marsh fritillary habitat, namely the marshy grassland. This factor will be controlled through management agreements and the SSSI legislation. An operational limit is not required.

**Weather conditions** - Weather conditions have an effect on the breeding success of the marsh fritillary. In particular, poor weather conditions during the adult flight period will reduce opportunities for mating, egg-laying and dispersal from core areas. Weather conditions during early spring influence the rate of larval development of the marsh fritillary and the effects of the parasitic wasp (see below). This factor is outside the influence of the site manager and an operational limit is not required.

**Parasites** - The larvae of marsh fritillaries can be parasitised by species of braconid wasp of the *Cotesia* genus. The parasites can have good years and infect a large number of larval webs, causing a crash in the subsequent adult population of marsh fritillary. This factor is outside the influence of the site manager; and an operational limit is not required.

**Metapopulations** - Some consideration needs to be given to setting the conservation objectives for this marsh fritillary population in the context of other near-by populations

**Conservation Objective for Feature 3:  
Non-SAC marshy grassland**

**4.1(3) Vision for feature 3**

As Feature 1 (*Eu Molinion* marshy grassland) with non-SAC marshy grassland occupying between X and Y %

**4.2(3) Performance indicators for feature 3** (*Note:* The performance indicators are part of the conservation objective, not a substitute for it)

<b>Performance indicators for feature condition</b>			
<b>Attribute</b>	<b>Attribute rationale and other comments</b>	<b>Specified limits</b>	<b>Project code</b>
<b>A1.</b> Extent of marshy grassland	<p>Monitoring is likely to be a map-based exercise. The area of <i>eu-Molinion</i> marshy grassland will be mapped as a baseline extent and the total area measured. Repeat monitoring will either re-map the site or review the baseline map in the field.</p> <p><i>Eu-Molinion</i> grassland is defined as stands of grassland vegetation where at least four of the following species are present:</p> <p><i>Molinia caerulea</i> <i>Cirsium dissectum</i> <i>Succisa pratensis</i> <i>Carex panicea</i> <i>Serratula tinctoria</i> <i>Potentilla erecta</i></p> <p>Lower limits are based on current extent at time of initial Phase II survey plus any scope for quick expansion into other non-qualifying habitat</p>	<p>Where marshy grassland is the Key Habitat (KH) or sym habitat in the Management Units, <b>Caeau Cefn Cribwr</b> - 1, 2, 3, 5 - 9 <b>Pen y Castell</b> - 1 &amp; 2 <b>Bryn Bach</b> – 1 - 4 <b>Waun Fawr</b> - 1</p> <p><b>Caeau Cefn Cribwr</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent?</p> <p><b>Pen y Castell</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent</p> <p><b>Bryn Bach</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent</p> <p><b>Waun Fawr</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent</p>	
<b>A2.</b> Condition of the marshy grassland	As per Feature 1( <i>Eu Molinion</i> grassland)	As per Feature 1( <i>Eu Molinion</i> grassland)	
<b>Performance indicators for factors affecting the feature</b>			
<b>Factor</b>	<b>Factor rationale and other comments</b>	<b>Operational Limits</b>	<b>Project code</b>
AS FEATURE 1			

**Conservation Objective for Feature 4:  
Neutral grassland**

**4.1(4) Vision for feature 4**

**4.2(4) Performance indicators for feature 4** (Note: The performance indicators are part of the conservation objective, not a substitute for it)

<b>Performance indicators for feature condition</b>			
<b>Attribute</b>	<b>Attribute rationale and other comments</b>	<b>Specified limits</b>	<b>Project code</b>
<b>A1.</b> Extent of neutral grassland	Monitoring is likely to be a map-based exercise. The area of neutral grassland will be mapped as a baseline extent and the total area measured. Repeat monitoring will either re-map the site or review the baseline map in the field.	Where neutral grassland is the Key Habitat (KH) or sym habitat in the Management Units, <b>Caeau Cefn Cribwr – 4 &amp; 6</b> <b>Pen y Castell – 3</b> <b>Bryn Bach – 2</b> <b>Waun Fawr - 1</b>	
<b>A2.</b> Condition of the neutral grassland	Lower limits are based on current extent at time of initial Phase II survey plus any scope for quick expansion into other non-qualifying habitat  In good condition, the neutral grassland can be identified as ‘species-rich neutral grassland’, characterised by:  <ul style="list-style-type: none"> <li>○ key indicator species – <i>Festuca rubra</i>, <i>Cynosurus cristatus</i> and <i>Agrostis capillaris</i>, associated with: <i>Centaurea nigra</i>; <i>Lotus corniculatus</i>; <i>Succisa pratensis</i>; <i>Potentilla erecta</i>;</li> <li>○ negative indicator species – an absence or low frequency/cover of: <i>Holcus lanatus</i>; <i>Trifolium repens</i>; <i>Ranunculus repens</i>; <i>Pteridium aquilinum</i>; <i>Lolium perenne</i>;</li> </ul>	<b>Caeau Cefn Cribwr</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent <b>Pen y Castell</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent  <b>Bryn Bach</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent  <b>Waun Fawr</b> <i>Upper limit:</i> As limited by other habitat types <i>Lower limit:</i> Current extent	

	<ul style="list-style-type: none"> <li>○ scrub- an absence or low frequency/cover of: <i>Betula</i>; <i>Quercus</i>; <i>Salix</i>; <i>Alnus</i>; <i>Rubus</i>;</li> <li>○ average vegetation height - should be between 10-20cm in early summer (Mid-May to end of June);</li> <li>○ plant litter – should be no more than 10% cover.</li> </ul>		
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**Conservation Objective for Feature 5:  
Viper's grass (*Scorzonera humilis*)**

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**4.1(5) Vision for feature 5**

To be completed

**4.22(5) Performance indicators for feature 5** (*Note:* The performance indicators are part of the conservation objective, not a substitute for it)

<i>Performance indicators for feature condition</i>			
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>	<i>Project code</i>
<b>A1.</b>	<ul style="list-style-type: none"> <li><u>The number and distribution of flowering/fruiting plants is:</u></li> </ul>	Where vipers grass is the Key species(KS) in the Management Units, <b>Caeau Cefn Cribwr - 1, 2, 3</b>  <b>Caeau Cefn Cribwr</b> <b>Upper limit:</b> not required. <b>Lower limit:</b> at least 1000 plants, present in last mapped extent (five fields <i>Upper limit:</i>	

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**Conservation Objective for Feature 6: Marsh fern (*Thelypteris palustris*)**

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**4.1(6) Vision for feature 6**

**To be completed**

**4.22(6) Performance indicators for feature 6** (*Note:* The performance indicators are part of the conservation objective, not a substitute for it)

<i>Performance indicators for feature condition</i>			
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>	<i>Project code</i>
<b>A1.</b>	<ul style="list-style-type: none"> <li><u>The distribution of <i>Thelypteris palustris</i> is:</u></li> </ul>	<p>Where marsh fern is a sym species in the Management Unit,  <b>Caeau Cefn Cribwr – 2</b></p> <p><b>Caeau Cefn Cribwr</b>  <b>Upper limit:</b> not required.  <b>Lower limit:</b> at least 1000+ ramets in at least one location (South east corner of unit 2).</p>	

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**Conservation Objective for Feature 7:  
Bog myrtle (*Myrica gale*)**

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**4.1(7) Vision for feature 7**

**To be completed**

**4.22(7) Performance indicators for feature 7** (*Note:* The performance indicators are part of the conservation objective, not a substitute for it)

<i>Performance indicators for feature condition</i>			
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>	<i>Project code</i>
<b>A1.</b>	<ul style="list-style-type: none"> <li><u>The distribution of <i>Myrica gale</i> is:</u></li> </ul>	<p>Where bog myrtle is a sym species in the Management Units,</p> <p><b>Caeau Cefn Cribwr – 2 &amp; 8</b>  <b>Pen y Castell – 2</b>  <b>Bryn Bach – 1</b></p> <p><b>Bryn Bach</b>  <b>Upper limit:</b> not required.  <b>Lower limit:</b> present in at least fields K and O (ref. Phase II survey)</p>	

## **5.ASSESSMENT OF CONSERVATION STATUS AND RATIONALE: SUMMARY**

This part of the document provides:

- A summary of the assessment of the conservation status of each feature or, (where features are aggregated for the purposes of objective setting), each group of features.
- A summary of the management rationale required to maintain the features in, or restore them to, favourable conservation status.

Part 6 of the document contains a summary of the Action Plan arising from the management rationale

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**Assessment of conservation status and management rationale for Feature 1: *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 6410)**

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**5.1(1) Conservation status assessment for feature 1**

This assessment relates to monitoring results from 2001 and provisional results from monitoring undertaken in 2007.

The current status of the feature is **Unfavourable**

**The status within each management unit where Eu-Molinion is Key Habitat:**

**Caeau Cefn Cribwr SSSI:**

**MU1 Unfavourable**  
**MU2 Unfavourable**  
**MU3 Unfavourable**  
**MU5 Unfavourable**

**Pen y Castell SSSI:**

**MU1 Unfavourable**  
**MU2 Unfavourable**

**Bryn Bach SSSI:**

**MU1 Unfavourable**

**Waun Fawr SSSI:**

**MU1 Unfavourable**

**5.2(1) Management rationale for feature 1**

Habitat management

The *eu-Molinion* marshy grassland has been maintained through traditional farming practices.

Livestock grazing Without an appropriate grazing regime, the grassland would become rank and eventually turn to scrub and woodland. Conversely, overgrazing, or grazing by inappropriate stock (particularly sheep) would also lead to unwanted changes in species composition, through selective grazing, increased nutrient inputs and poaching. Grazing levels (the number of grazing animals and the period of grazing) need to be assessed against feature condition and modified accordingly. The preferred livestock regime is light grazing by cattle and ponies between April and November at a rate of 0.4LSU/ha/yr.

Scrub and rushes Grazing alone may not be sufficient to prevent the gradual encroachment of scrub, woodland or bracken. A scrub control programme may need to be implemented. The abundance of rushes may also increase and may need to be controlled by topping subject to condition assessments.

The habitat management required on this site will be best achieved through management agreements with the owners/occupiers. Agreements should specify grazing periods and levels and other details necessary for the management of the site, namely scrub control, rush topping, and fencing/gates required.

- Secure management agreement/leases with appropriate owners/occupiers on all areas of the SAC;

- Maintain and ensure compliance with management agreements;
- Liaise with owners/occupiers.

#### Hydrology

The *eu-Molinion* marshy grassland is dependent on a number of springs and watercourses feeding the site. Investigation is required to achieve a better understanding of the hydrological regime and to confirm that adjacent mineral workings are having no significant adverse effects.

- In liaison with the Environment Agency, investigate the hydrological regime of the cSAC and the relationship with adjacent mineral workings.

#### Off-site pollution

The effects of the releases of lime dust into the atmosphere from the adjacent works on the SSSI are not known; these emissions are subject to the authorisation of other competent authorities, particularly the Environment Agency. Investigation is required to establish the existence and significance of any adverse effects.

- In liaison with the Environment Agency, investigate the effects of lime deposition on the eu-Molinion marshy grassland.

**Note:** The management requirements for the *Eu-Molinion* marshy grassland (SAC feature) are consistent with those of other SSSI features, namely the SSSI marshy grassland, the dry neutral grassland and the species interests of the site.

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**Assessment of conservation status and management rationale for Feature 2: Marsh fritillary butterfly *Euphydryas (Eurodryas, Hypodryas) aurinia* (EU Species Code: 1065)**

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**5.1(2) Conservation status assessment for feature 2**

Both larvae and adults of marsh fritillary have been recorded on the site more recently, but it is suspected that the site does not currently support the required density of larval webs that would indicate a sustainable metapopulation.

The current status of the feature is **unfavourable**

The status within each management unit where marsh fritillary butterfly is the Key species:

Caeau Cefn Cribwr SSSI:

MU5 **Unfavourable**

MU7 **Unfavourable**

MU8 **Unfavourable**

Pen y Castell SSSI:

MU1 **Unfavourable**

MU2 **Unfavourable**

Bryn Bach SSSI:

MU1 **Unfavourable**

MU3 **Unfavourable**

**5.2(2) Management rationale for feature 2**

Habitat management

All the habitat management requirements for the marsh fritillary will be met through the appropriate management of the *Eu-Molinion* grassland (Feature 1) and the non-SAC marshy grassland (Feature 3).

The links between breeding success of the marsh fritillary, weather conditions and parasite populations are generally accepted, however the management of the site can do little to influence the effects.

The life cycle and population dynamics of the marsh fritillary, particularly the periodic population crashes, make it difficult assess whether the population is in a state to maintain itself in the long-term. In addition, further site specific data is required to establish confidence in the influence of grazing levels on habitat condition for marsh fritillaries. Annual monitoring of larval web densities and habitat condition are required until some confidence on these issues is achieved.

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## Assessment of conservation status and management rationale for Feature 3: Marshy grassland

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### 5.1(3) Conservation status assessment for feature 3

The current status of the feature is **Unfavourable** (as Eu-Molinion is unfavourable)

The status within each management unit where Marshy grassland is the Key Habitat:

Caeau Cefn Cribwr SSSI:

MU5 **Unfavourable**

MU7 **Unfavourable**

MU8 **Unfavourable**

Bryn Bach SSSI:

MU3 **Unfavourable**

### 5.2(3) Management rationale for feature 3

The management requirements of the SSSI marshy grassland are entirely consistent with those of the areas of *Eu-Molinion* marshy grassland (Feature 1) and these two features will be managed collectively.

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## Assessment of conservation status and management rationale for Feature 4: Dry neutral grassland

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### 5.1(4) Conservation status assessment for feature 4

This feature has not been formally monitored but visits and observations over the years suggest that although grazed at correct levels over most of the site there has been some scrub encroachment in Caeau Cefn Cribwr SSSI, Pen y Castell SSSI and Bryn Bach SSSI.

The status within each management unit where Dry neutral grassland is the Key Habitat:

Caeau Cefn Cribwr SSSI:

MU4 **Unfavourable**

MU6 **Unfavourable**

MU9 **Unfavourable**

Pen y Castell SSSI:

MU3 **Unfavourable**

Bryn Bach SSSI:

MU2 **Unfavourable**

### 5.2(4) Management rationale for feature 4

The management requirements of the dry neutral grassland are very similar to those stated in the management rationale for the Eu-Molinion feature above – summer grazing at similar levels but this feature can cope with slightly increased levels. Care should be taken with scrub encroachment.

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## Assessment of conservation status and management rationale for Feature 5: Viper's grass (*Scorzonera humilis*)

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### 5.1(3) Conservation status assessment for feature 5

Provisional monitoring / surveillance was undertaken in 1997 and numbers of individuals were high (1000 +) in management Unit 1. Casual observations over subsequent years and as recently as 2007 suggest that it is present at similar levels. Small populations have been noted in units 2 & 3 of Caeau Cefn Cribwr in the latter recently but not seen in unit 2 for a number of years , no other populations of *Scorzonera* has been noted elsewhere within the SAC.

The status within each management unit where **Viper's grass** (*Scorzonera humilis*) is the Key Species:

Caeau Cefn Cribwr SSSI:

MU1 **Favourable**

MU2 **Unfavourable**

MU3 **Favourable**

### 5.2(4) Management rationale for feature 5

The management requirements of viper's grass are very similar to those stated in the management rationale for the Eu-Molinion feature above – summer grazing at similar levels but this feature can cope with slightly increased levels. Care should be taken with scrub encroachment.

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## Assessment of conservation status and management rationale for Feature 6: Marsh fern (*Thelypteris palustris*)

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### 5.1(3) Conservation status assessment for feature 6

No formal monitoring has been undertaken for this feature but observations since it's discovery in 1994 suggest it is stable within the single area that it occurs within Unit 2 of Caeau cefn cribwr SSSI. The last observation was in 2007.

The status within each management unit where **marsh fern** (*Thelypteris palustris*) is the Key Species:

Caeau Cefn Cribwr SSSI:

MU2 **Favourable**

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## Assessment of conservation status and management rationale for Feature 7: Bog myrtle (*Myrica gale*)

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### 5.1(3) Conservation status assessment for feature 7

No formal monitoring has been undertaken for this feature but observations since it's discovery in 1991 suggest it is stable within the areas that it occurs within Caeau Cefn Cribwr SSSI, Pen y Castell SSSI and Bryn Bach SSSI. The last observation was in 2007.

Caeau Cefn Cribwr SSSI:

MU2 **Favourable**

MU8 **Favourable**

Pen y Castell SSSI

MU2 **Favourable**

Bryn Bach SSSI:

MU1 **Favourable**

## 6. ACTION PLAN: SUMMARY

This section takes the management requirements outlined in Section 5 a stage further, assessing the specific management actions required on each management unit. This information is a summary of that held in CCW's Actions Database for sites, and the database will be used by CCW and partner organisations to plan future work to meet the Wales Environment Strategy targets for sites.

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
2	000827	CCC Field I	Parts of this field are very wet, mostly through base-rich flushing but also in places from a blocked ditch on the southern boundary, in process of being addressed under existing management agreement. It requires only very light grazing, by cattle, in summer. This management is in place under a management agreement. Field is grazed as a unit with an improved field up-slope from it and there is a need to watch for any problems that may arise from this in future.	No
1	000828	CCC Fields A- D	Appropriate grassland management (light summer grazing by cattle) is in place under a management agreement. Viper's-grass also thrives under this regime. A slight reduction in grazing pressure is desirable for the benefit of marsh fritillaries.	Yes
3	000830	CCC Field L	Direct management by CCW is in place following several years without any grazing in the late 1990s. This restoration management is now showing results and needs to be maintained.	No
4	000831	CCC Field M	Direct management by CCW is in place after several years without grazing in the late 1990s. This small field supports neutral grassland (not a SAC feature) and has suffered from encroachment of bramble from all boundaries. Any further spread of bramble must be prevented and this will be an annual task.	Yes
5	000832	CCC Field N-O	These two small fields have been left ungrazed in some recent years and subject to limited horse-grazing and ad-hoc scrub clearance in others. There is a need for CCW to liaise with the owner to ensure that management is more structured.	Yes
6	000843	BB Field B, I-O	A series of several fields, most of which are affected by scrub encroachment, particularly willow. (The most westerly field of this unit is affected only along boundaries.) A programme of scrub clearance has been initiated under an existing management agreement but the work will take several years at current rate of progress and could potentially be intensified. Light summer grazing by cattle is in place and was also the historic management here for at least 15 years before the agreement started. There is an adjacent sandstone quarry, currently not working below the water table. Its existing planning permission includes a condition that before any sub-water-table working takes place, a monitoring borehole must be installed in the SAC and water levels must be recorded for a year. The greatest potential benefit would be obtained by starting water-level recording sooner rather than later, even though there is no intention to work below the water table yet.	Yes

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
7	000845	BB Field D	There is a need for CCW to re-establish contact with the owner of this field and check that grazing levels and type are still appropriate	Yes
8	000848	Wf Fields A-F	Light summer grazing by cattle takes place under existing management agreement. The grassland is recovering from past sheep-grazing before notification (December 2000) and also by stray sheep at intervals since. Fences were repaired in early 2007 so this should not be a problem in future.	No
9	000849	PyC Field D and part F	Currently grazed by horses under an existing management agreement. New owners took over at about the same time the SSSI was notified. They cleared large amounts of scrub after a period of neglect, during which SAC feature grassland had been reduced to 'islands' in each field. This accounts for the current condition of the outer parts of the fields where recovery may be expected to take years.	No
10	000850	PyC Field E and part F	These fields are grazed from time to time by cattle, but not necessarily at the right levels or right time of year. There is a need for CCW to re-establish contact with the tenant and owners to establish a better grazing regime. Some scrub control is also desirable, and would ideally be arranged by CCW under an agreement.	Yes

## **7. GLOSSARY**

This glossary defines the some of the terms used in this **Core Management Plan**. Some of the definitions are based on definitions contained in other documents, including legislation and other publications of CCW and the UK nature conservation agencies. None of these definitions is legally definitive.

**Action** A recognisable and individually described act, undertaking or **project** of any kind, specified in section 6 of a **Core Management Plan** or **Management Plan**, as being required for the **conservation management** of a site.

**Attribute** A quantifiable and monitorable characteristic of a **feature** that, in combination with other such attributes, describes its **condition**.

**Common Standards Monitoring** A set of principles developed jointly by the UK conservation agencies to help ensure a consistent approach to **monitoring** and reporting on the **features** of sites designated for nature conservation, supported by guidance on identification of **attributes** and monitoring methodologies.

**Condition** A description of the state of a feature in terms of qualities or **attributes** that are relevant in a nature conservation context. For example the condition of a habitat usually includes its extent and species composition and might also include aspects of its ecological functioning, spatial distribution and so on. The condition of a species population usually includes its total size and might also include its age structure, productivity, relationship to other populations and spatial distribution. Aspects of the

habitat(s) on which a species population depends may also be considered as attributes of its condition.

<b>Condition assessment</b>	The process of characterising the <b>condition</b> of a <b>feature</b> with particular reference to whether the aspirations for its condition, as expressed in its <b>conservation objective</b> , are being met.
<b>Condition categories</b>	<p>The <b>condition</b> of <b>feature</b> can be categorised, following <b>condition assessment</b> as one of the following<sup>3</sup>:</p> <ul style="list-style-type: none"><li>Favourable: maintained;</li><li>Favourable: recovered;</li><li>Favourable: un-classified</li><li>Unfavourable: recovering;</li><li>Unfavourable: no change;</li><li>Unfavourable: declining;</li><li>Unfavourable: un-classified</li><li>Partially destroyed;</li><li>Destroyed.</li></ul>
<b>Conservation management</b>	Acts or undertaking of all kinds, including but not necessarily limited to <b>actions</b> , taken with the aim of achieving the <b>conservation objectives</b> of a site. Conservation management includes the taking of statutory and non-statutory measures, it can include the acts of any party and it may take place outside site boundaries as well as within sites. Conservation management may also be embedded within other frameworks for land/sea management carried out for purposes other than achieving the conservation objectives.
<b>Conservation objective</b>	The expression of the desired <b>conservation status</b> of a <b>feature</b> , expressed as a <b>vision for the feature</b> and a series of <b>performance indicators</b> . The conservation objective for a feature is thus a composite statement, and each feature has one conservation objective.
<b>Conservation status</b>	A description of the state of a <b>feature</b> that comprises both its <b>condition</b> and the state of the <b>factors</b> affecting or likely to affect it. Conservation status is thus a characterisation of both the current state of a feature and its future prospects.
<b>Conservation status assessment</b>	The process of characterising the <b>conservation status</b> of a <b>feature</b> with particular reference to whether the aspirations for it, as expressed in its <b>conservation objective</b> , are being met. The results of conservation status assessment can be summarised either as 'favourable' (i.e. conservation objectives are met) or unfavourable (i.e. conservation objectives are not met). However the value of conservation status assessment in terms of supporting decisions about <b>conservation management</b> , lies mainly in the details of the assessment of feature <b>condition</b> , <b>factors</b> and trend information derived from comparisons between current and

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<sup>3</sup> See JNCC guidance on Common Standards Monitoring <http://www.jncc.gov.uk/page-2272>

previous conservation status assessments and condition assessments.

<b>Core Management Plan</b>	A CCW document containing the conservation objectives for a site and a summary of other information contained in a full site <b>Management Plan</b> .
<b>Factor</b>	Anything that has influenced, is influencing or may influence the <b>condition</b> of a <b>feature</b> . Factors can be natural processes, human activities or effects arising from natural process or human activities, They can be positive or negative in terms of their influence on features, and they can arise within a site or from outside the site. Physical, socio-economic or legal constraints on <b>conservation management</b> can also be considered as factors.
<b>Favourable condition</b>	See <b>condition</b> and <b>condition assessment</b>
<b>Favourable conservation status</b>	See <b>conservation status</b> and <b>conservation status assessment</b> . <sup>4</sup>
<b>Feature</b>	The species population, habitat type or other entity for which a site is designated. The ecological or geological interest which justifies the designation of a site and which is the focus of conservation management.
<b>Integrity</b>	See <b>site integrity</b>
<b>Key Feature</b>	The habitat or species population within a <b>management unit</b> that is the primary focus of <b>conservation management</b> and <b>monitoring</b> in that unit.
<b>Management Plan</b>	The full expression of a designated site's legal status, <b>vision, features, conservation objectives, performance indicators</b> and management requirements. A complete management plan may not reside in a single document, but may be contained in a number of documents (including in particular <b>the Core Management Plan</b> ) and sets of electronically stored information.
<b>Management Unit</b>	An area within a site, defined according to one or more of a range of criteria, such as topography, location of <b>features</b> , tenure, patterns of land/sea use. The key characteristic of management units is to reflect the spatial scale at which <b>conservation management</b> and <b>monitoring</b> can be most effectively organised. They are used as the primary basis for differentiating priorities for conservation management and monitoring in different parts of a site, and for facilitating communication with those responsible for management of different parts of a site.
<b>Metapopulation</b>	<b>A group of distinct populations of a species, separated by areas of either unoccupied, or unsuitable, habitat. These populations can support one another, so that when one population becomes extinct, the species can recolonise from a nearby population.</b>
<b>Monitoring</b>	An intermittent (regular or irregular) series of observations in time, carried out to show the extent of compliance with a formulated standard or degree of deviation from

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<sup>4</sup> A full definition of favourable conservation status is given in Section 4.

an expected norm. In **Common Standards Monitoring**, the formulated standard is the quantified expression of favourable **condition** based on **attributes**.

<b>Operational limits</b>	The levels or values within which a <b>factor</b> is considered to be acceptable in terms of its influence on a <b>feature</b> . A factor may have both upper and lower operational limits, or only an upper limit or lower limit. For some factors an upper limit may be zero.
<b>Performance indicators</b>	The <b>attributes</b> and their associated <b>specified limits</b> , together with <b>factors</b> and their associated <b>operational limits</b> , which provide the standard against which information from <b>monitoring</b> and other sources is used to determine the degree to which the <b>conservation objectives</b> for a <b>feature</b> are being met. Performance indicators are part of, not the same as, conservation objectives. See also <b>vision for the feature</b> .
<b>Plan or project</b>	<b>Project:</b> Any form of construction work, installation, development or other intervention in the environment, the carrying out or continuance of which is subject to a decision by any public body or statutory undertaker. <b>Plan:</b> a document prepared or adopted by a public body or statutory undertaker, intended to influence decisions on the carrying out of <b>projects</b> . Decisions on plans and projects which affect Natura 2000 and Ramsar sites are subject to specific legal and policy procedures.
<b>Site integrity</b>	The coherence of a site's ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it is designated.
<b>Site Management Statement (SMS)</b>	The document containing CCW's views about the management of a site issued as part of the legal notification of an SSSI under section 28(4) of the Wildlife and Countryside Act 1981, as substituted.
<b>Special Feature</b>	See <b>feature</b> .
<b>Specified limit</b>	The levels or values for an <b>attribute</b> which define the degree to which the attribute can fluctuate without creating cause for concern about the <b>condition</b> of the <b>feature</b> . The range within the limits corresponds to favourable, the range outside the limits corresponds to unfavourable. Attributes may have lower specified limits, upper specified limits, or both.
<b>Unit</b>	See <b>management unit</b> .
<b>Vision for the feature</b>	The expression, within a <b>conservation objective</b> , of the aspirations for the <b>feature</b> concerned. See also <b>performance indicators</b> .
<b>Vision Statement</b>	The statement conveying an impression of the whole site in the state that is intended to be the product of its <b>conservation management</b> . A 'pen portrait' outlining the <b>conditions</b> that should prevail when all the <b>conservation objectives</b> are met. A description of the site as it would be when all the <b>features</b> are in <b>favourable condition</b> .

## **8.     REFERENCES**

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Woodman J & Mockridge, C 1994. CCW Phase II Lowland Grassland Survey, Pen y Castell (Site Code: SS88/10) site pack. Countryside Council for Wales.