

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

**CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES**

FOR

**YERBESTON MOORS SSSI
(Including YERBESTON TOPS SAC)**

Version: 6

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Approved by: Charlotte Gjerlov

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



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PREFACE

This document provides the main elements of CCW's management plan for the sites named. It sets out what needs to be achieved on the sites, the results of monitoring and advice on the action required. This document is made available through CCW's web site and may be revised in response to changing circumstances or new information. This is a technical document that supplements summary information on the web site.

One of the key functions of this document is to provide CCW's statement of the Conservation Objectives for the relevant Natura 2000 site. This is required to implement 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 SSSI, incorporating Yerboston Tops SAC comprises a number of remnant wet pastures, known locally as ‘moors’, scattered across a farmed landscape. These moors will continue to contain good examples of the purple moor-grass pasture that would once have covered a much larger area of the coalfield in south Pembrokeshire. They may no longer be extensive enough to support a viable population of their emblematic species, the marsh fritillary butterfly, but they will continue to hold a range of other characteristic insects, plants and birds. Work will be done in the landscape between the moors to make it easier for marsh fritillaries and other wildlife to survive and disperse.

Molinia meadows will cover at least 4ha of the site and the following plants will be common among the moor-grass: *Carex pulicaris*, *C. hostiana* and devil’s bit scabious *Succisa pratensis*. Soft rush *Juncus effusus* and species indicative of agricultural modification, such as perennial rye grass *Lolium perenne* and white clover *Trifolium repens* will be largely absent from the *Molinia* Meadows as will scrub and trees such as willow *Salix* and birch *Betula*. Other marshy grasslands will cover at least 25ha of the site and support a range of characteristic wetland plants and insects.

Marsh fritillary butterfly larval webs will be found at a density of at least 200 per hectare of optimal breeding habitat. There will be at least 10ha of Good Condition (optimal breeding) habitat on or within 2 km radii the SSSI, set in a matrix of at least 50ha of Suitable Condition habitat. The optimal breeding habitat comprises grassland, with abundant *Molinia*, where the vegetation height is largely within the range of 10 to 20 cm

Neutral Grassland will cover at least 4.5ha and contain few species indicative of agricultural improvement

All factors affecting the achievement of these conditions will be under control.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid reference(s): SN 056 098 (Yerboston Tops SAC)
SN 028 095 (Shortland and Copybush Moors)
SN 042 075 (Big Pencoed Moors)
SN 105 095 (Ramshorn Moors)
SN 039 092 (Tedion Mountain)
SN 039 083 (Tedion Moor)
SN 047 087 (Furzehill Moors)
SN 028 083 (Mountain Park Moors)
SN 068 087 (Yerboston Gate Moors)

Unitary authority: Pembrokeshire County Council

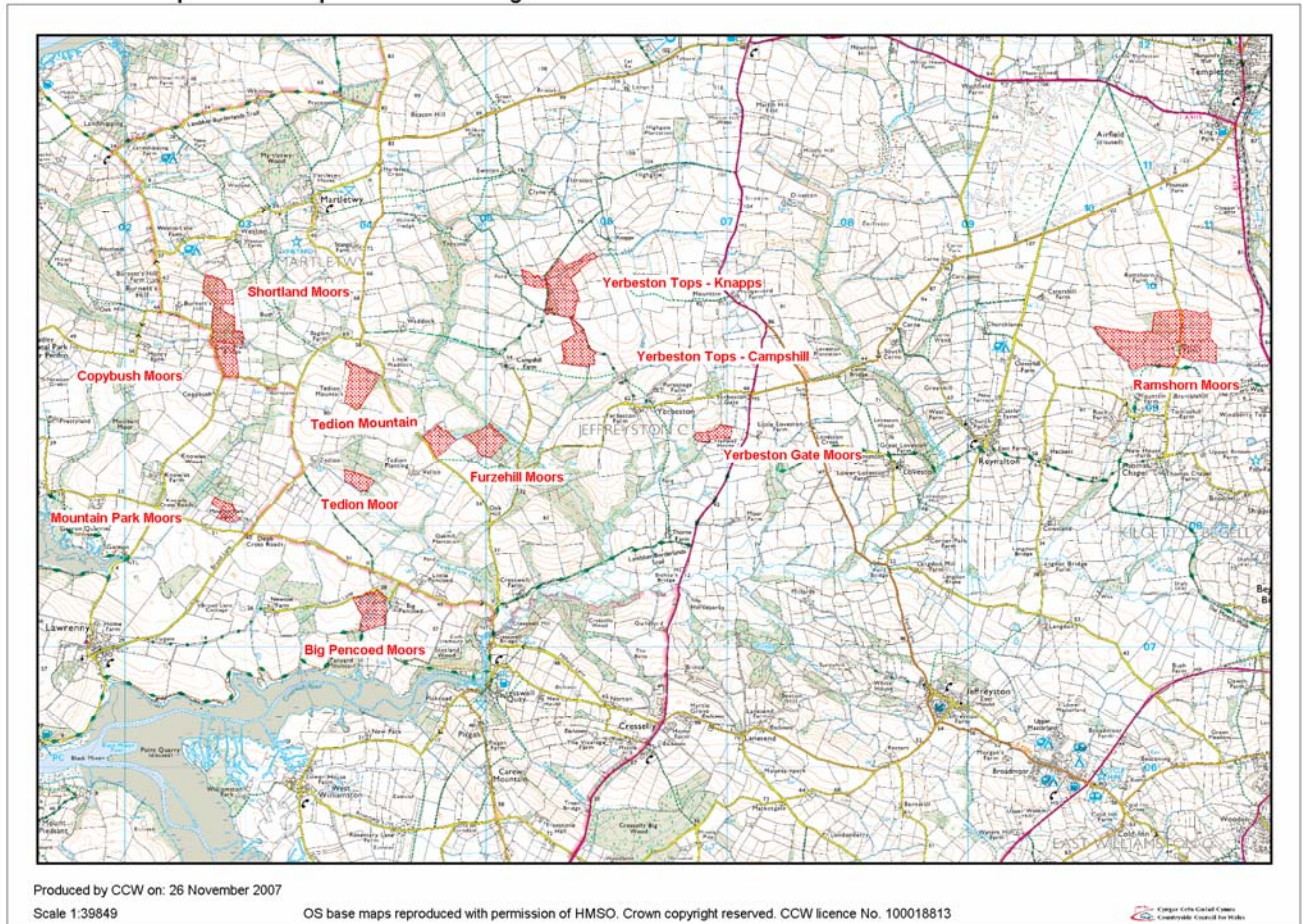
Area (hectares): 90.7

Designations covered: Yerboston Moors SSSI (all above named sites)
Yerboston Tops SAC (single site, covering original core marsh
fritillary population)

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

A summary map showing the coverage of this document is shown below.

Yerboston Tops SAC - component sites/management units



2.2 Outline Description

Yerboston Moors consists of 11 areas of wet, rough land which are known locally as 'moors'. They are scattered around Martletwy, Lawrenny, Yerboston and Templeton, to the east of the Dagleddau estuary in south Pembrokeshire. The moors overlies coal measures, and are mostly on poorly drained soil on valley slopes and bottoms. The SSSI is of special interest for areas of marshy grassland and neutral grassland, and for populations of the rare marsh fritillary butterfly. Some of the moors also have wetter areas with swamp and flush. Most are surrounded by mixtures of broadleaved woodland, scrub and bracken.

2.3 Outline of Past and Current Management

Few details of historic management are available.

All of the component sites are currently grazed with cattle and/or ponies. Management on all sites is supported financially by S15 Management Agreements or Tir Gofal Agreements. Progress with recovery management on neglected sites has been good, but securing stable, sensitive grazing regimes is still a challenge.

Further details of the management of the SAC are as follows:

Yerbeston Tops SAC - Campshill Farm

The previous owner had burned the large enclosure (Gurness Moor) almost annually, and the land was open as a result. Regular burning stopped around 30 years ago. Grazing continued at low levels, with cattle being overwintered and fed on this patch, until about 10 years ago. An accidental burn occurred 4 years ago, but, although this reportedly cleared the area, recovery has been rapid and *Molinia* is strongly dominant. The current owner is re-introducing summer cattle grazing with the aid of a S15 agreement – although poor forage quality, bracken dominance and a suspected case of hemlock water-dropwort poisoning have proved problematic.

The rush-pasture alongside the stream (Long Moor) was rather hard-grazed (0.6-0.7lu/ha) during the 10 years while it was supported by a Habitat Scheme Agreement. Summer grazing was prohibited, and grazing late in the year caused poaching problems. The farm sold its beef cattle in 2007, and under-grazing is currently more of a threat.

Yerbeston Tops SAC - Knapps Farm

Beef cattle were grazed here until approximately ten years ago, mostly in summer. The farm was exclusively dairy during the 1990s, and grazing in this period was with dry cows from the Friesian herd only. This was on a fairly ad hoc basis, with small herds or isolated individuals present intermittently during the summer. A Habitat Scheme Agreement was commenced in 1999. This grant-aided the management of the enclosures as species-rich grassland with marsh fritillaries. The agreement specified a cattle-grazing regime at 0.4lu/ha. A S15 Agreement was used to 'top-up' the Habitat Scheme, providing money for fencing, mowing with a cut-and-collect machine and an additional financial incentive for re-instatement of grazing with beef cattle. From 2000-2007, grazing has been with a combination of Section A Welsh Mountain ponies (a herd of up to 5 for much of the year) and Hereford cross cattle (generally around 6 for the summer months only)

2.4 Management Units

The plan area has been divided into management units to enable practical communication about features, objectives, and management. This will also allow us to differentiate between the different designations where necessary. In this plan the management units have been based on tenure and enclosure pattern.

The site map shows the management units referred to in this plan.

The following table confirms the relationships between the management units and the designations covered:

Unit number	SAC	SSSI	Unit name
1	✓	✓	Yerbeston Tops - Knapps
2	✓	✓	Yerbeston Tops - Campshill
3	✓	✓	Yerbeston Tops - Campshill Long Moor
4		✓	Yerbeston Gate Moors
5		✓	Ramshorn West
6		✓	Ramshorn East
7		✓	Big Pencoed
8		✓	Mountain Park
9		✓	Tedion Moor
10		✓	Furzehill West
11		✓	Furzehill East
12		✓	Tedion Mountain
13		✓	Copybush
14		✓	Shortland Moors

3. THE SPECIAL FEATURES

3.1 Confirmation of Special Features

<i>Designated feature</i>	<i>Relationships, nomenclature etc</i>	<i>Conservation Objective in part 4</i>
<i>SAC features</i>		
<i>Annex I habitats present as a qualifying feature but not a primary reason for site selection</i> 1. Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) (EU Habitat Code: 6410)	Generally referred to as ‘Molinia meadows’ throughout this document. Part of Marshy Grassland SSSI feature, NVC: M24	1
<i>Annex II species that are a primary reason for site selection</i> 2. Marsh fritillary butterfly Euphydryas (Eurodryas, Hypodryas) aurinia (EU Species Code: 1065)		2
<i>SSSI features</i>		
<i>Primary Features</i>		
Marshy Grassland	NVC: M23, M24, M25	
Neutral Grassland	NVC: MG5	

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 focus of management and monitoring effort, perhaps because of the dependence of a key species (see KS below). There will rarely be more than one Key Habitat in a unit.

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 focus of management and 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 focus of management or 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 are 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 with no special feature present but which are of importance for 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 present in the management unit.

The table below sets out the relationship between the special features and management units identified in this plan:

Yerbeston Moors	Management unit													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SAC	✓	✓	✓											
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAC features														
1. Molinia meadows	KH	x	x	x	KH	KH	KH	x	x	sym	sym	x	KH	KH
2. Marsh fritillary butterfly	KS	KS	KS	KS	KS	KS	KS	KS	KS	KS	KS	KS	KS	KS
SSSI features														
3. Non SAC marshy grassland	sym	sym	sym	KH	sym	sym	sym	KH	KH	KH	KH	Sym	sym	sym
4. Dry neutral grassland	sym	x	x	sym	sym	sym	x	x	x	x	x	KH	sym	x

4. CONSERVATION OBJECTIVES

Background to Conservation Objectives:

a. Outline of the legal context and purpose of 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.

b. Format of the conservation objectives

There is one conservation objective for each feature listed in part 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. These statements apply to a whole feature as it occurs within the whole plan area, although section 3.2 sets out their relevance to individual management units.

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 Monitoring¹.

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.

¹ Available through www.jncc.gov.uk and follow links to Protected Sites and Common Standards Monitoring.

4.1 Conservation Objective for Feature 1: *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 6410)

Vision for *Molinia* meadows

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

- *Molinia* meadows will cover at least 4ha
- The following plants will be common in the *Molinia* meadows: purple moor-grass *Molinia caerulea*; small sedges including *Carex pulicaris* and *hostiana*, and devil's bit scabious *Succisa pratensis*.
- Soft rush *Juncus effusus* and species indicative of agricultural modification, such as perennial rye grass *Lolium perenne* and white clover *Trifolium repens* will be largely absent from the *Molinia* meadows.
- Scrub species such as willow *Salix* and birch *Betula* will also be largely absent from the *Molinia* meadows
- All factors affecting the achievement of these conditions will be under control.

Performance indicators for *Molinia* meadows

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Extent of <i>Molinia</i> Meadows	Lower limit is based on current extent	<i>Upper limit:</i> As limited by other habitats. <i>Lower limit:</i> 4ha
A2. Condition of <i>Molinia</i> Meadows	Based on the Standard CSM attribute for this feature. Modified according to site-specific requirements.	<i>Upper limit:</i> Not required <i>Lower limit:</i> 70% of the <i>Molinia</i> Meadows is in good condition, characterised by: <ul style="list-style-type: none"> • At least three of the following positive indicator species are present: <i>Succisa pratensis</i>, <i>Anagallis tenella</i>, <i>Calluna</i>, <i>Carum</i>, <i>Erica tetralix</i>, <i>Lathyrus montanus</i>, <i>Orchidacea sp.</i>, <i>Pedicularis sylvatica</i>, <i>Potentilla erecta</i>, <i>Serratula tinctoria</i>, <i>Genista anglica</i>, <i>Viola palustris</i>; • <i>Molinia</i> between 25 and 80% cover • Litter <25% • Agricultural weeds absent and, agriculturally favoured species such as <i>Holcus lanatus</i> and <i>Trifolium repens</i> jointly comprising no more than 5% cover of the sward; • Bracken absent, and no more than 1 sapling or bush (over 20cm) is present.

Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	Operational Limits
F1. Livestock grazing	The <i>Molinia</i> Meadows feature 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 or ponies between April and November each year is essential for maintaining the marshy grassland communities.	<i>Upper limit:</i> Refer to management agreement <i>Lower limit:</i> The <i>Molinia</i> Meadows will be subject to light summer grazing by cattle and/or ponies at least 4 in every 5 years. Light summer grazing is defined as - cattle and/or ponies at a rate of 0.4 LSU/ha/year for the period April to October.
F2. Scrub cutting	A key attribute, as grazing levels required to keep sward structure suitable for marsh fritillaries may be too low to prevent scrub encroachment. Bracken currently absent from the feature. Generic standard is for woody species and bracken to form no more than 5% cover. Translated into structured recording – requirement for no more than one sapling, and no bracken frond in each sample.	<i>Upper limit:</i> scrub levels on each component site not to exceed 10% <i>Lower limit:</i> scrub to be present at least around margins of each site
F3. Burning	Burning can damage the bryophyte layer and encourage a vigorous re-growth of purple moor-grass and other fire-resistant species.	<i>Upper limit:</i> none set <i>Lower limit:</i> no burning
F2. Water Quality	The habitat may be in part groundwater dependent. Groundwater could be subject to pollution from agricultural activities such as fertiliser application. The habitat could also be affected by airborne pollutants such as nitrous oxides from vehicle exhausts.	<i>Upper limit:</i> levels of pollutants must not exceed critical thresholds for vegetation types according to JNCC guidance <i>Lower limit:</i> none set
F3. Water Quantity	The habitat could be affected by any changes to groundwater flows or surface drainage works – for example due to abstraction from boreholes. 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.	<i>Upper limit:</i> none set <i>Lower limit:</i> groundwater flows must remain at current levels. Loss of groundwater flows will affect the type of vegetation supported at these sites. Therefore loss can be monitored through the continued presence and distribution of typical species associated with this habitat (as given above).

4.2 Conservation Objective for Feature 2: Marsh Fritillary

Vision for Marsh Fritillary

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

- Density of larval webs during sampling is at least 200 per hectare of optimal breeding habitat
- There are at least 10ha of Good Condition (optimal breeding) habitat on or within 2 km radii the SSSI
- There are at least 50ha of Suitable Condition habitat on or within 2km radii of the SSSI
- Optimal breeding habitat comprises grassland, with *Molinia* abundant, where the vegetation height is within the range of 10 to 20 cm, and where, for at least 80% of sampling points, *Succisa pratensis* is present within a 1 m radius. Scrub (>1 metre tall) covers no more than 10% of area.
- The factors influencing the breeding habitat are under control.
- Trees, bracken, scrub and saplings are of no more than scattered occurrence within the marshy grassland.
- A range of characteristic wetland plants and insects are present.
- Species indicating agricultural improvement are rare or absent.

Performance indicators for *Marsh fritillary butterfly*

The performance indicators are part of the conservation objective, not a substitute for it. Assessment of plans and projects must be based on the entire conservation objective, not just the performance indicators.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Density of larval webs	See Fowles, A.P. (2005)	<i>Upper limit:</i> None set <i>Lower limit:</i> In one year in 6 the total number of larval webs is estimated to be 200 per hectare of optimal breeding habitat
A2. Habitat extent & quality	Fowles, A.P. (2005)	<i>Upper limit:</i> None set <i>Lower limit:</i> 10 hectares of optimal marsh fritillary breeding habitat within 2Km radii of SSSI Definition of optimal marsh fritillary breeding habitat Grassland, with <i>Molinia</i> abundant, where the vegetation height is within the range of 10 to 20 cm, and where, for at least 80% of sampling points, <i>Succisa pratensis</i> is present within a 1 m radius. Scrub (>1 metre tall) covers no more than 10% of area.

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A2. Habitat extent & quality (Cont.d)	Fowles, A.P. (2005)	Definition of suitable marshy grassland Stands of grassland where <i>Succisa pratensis</i> is present at lower frequencies but still widely distributed throughout the habitat patch and in which scrub (>1 metre tall) covers no more than 20% of area. Alternatively, <i>Succisa</i> may be present at high density in close-cropped swards.
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Refer to feature 1 for factors		Refer to feature 1 for limits

4.3 Conservation Objective for Feature 3: Marshy Grassland

Vision for Marshy Grassland

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

- Marshy Grassland (excluding *Molinia* meadows) will cover at least 25ha
- A range of characteristic wetland plants will be common in the marshy grassland
- Soft rush *Juncus effusus* and purple moor-grass *Molinia* will not dominate to the level where they exclude smaller herbs and sedges
- Species indicative of agricultural modification, such as perennial rye grass *Lolium perenne* and white clover *Trifolium repens* will be largely absent.
- Scrub species such as willow *Salix* and birch *Betula* will not be of more than scattered occurrence
- All factors affecting the achievement of these conditions will be under control

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Extent of marshy grassland	Lower limit is based on current extent	<i>Upper limit:</i> As limited by other habitats. <i>Lower limit:</i> 25ha
A2. Condition of marshy grassland	Based on the Standard CSM attribute for this feature. Modified according to site-specific requirements.	<i>Upper limit:</i> Not required <i>Lower limit:</i> 70% of the marshy grassland is in good condition, characterised by sample points with: <ul style="list-style-type: none"> • At least three positive indicator species • The frequency and cover of <i>Molinia</i> and bulky <i>Juncus</i> spp. is between 25 and 80% • Litter <25% • Agricultural weeds absent, and agriculturally favoured species such as <i>Holcus lanatus</i> and <i>Trifolium repens</i> jointly comprising no more than 5% cover of the sward; • Coarse grasses other than <i>Molinia</i> form <10% cover • Bracken absent, and no more than 1 sapling or bush (over 20cm) is present.

Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	Operational Limits
F1. Livestock grazing	The 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 or ponies between April and November each year is essential for maintaining the marshy grassland communities.	<i>Upper limit:</i> Refer to management agreement <i>Lower limit:</i> The marshy grasslands will be subject to light summer grazing by cattle and/or ponies at least 4 in every 5 years. Light summer grazing is defined as - cattle and/or ponies at a rate of 0.4 LSU/ha/year for the period April to October.
F2. Scrub cutting	A key attribute, as grazing levels, required to keep sward structure in good condition, may be too low to prevent scrub encroachment. Bracken currently absent from the feature. Generic standard is for woody species and bracken to form no more than 5% cover. Translated into structured recording – requirement for no more than one sapling, and no bracken frond in each sample.	<i>Upper limit:</i> scrub levels on each component site not to exceed 10% <i>Lower limit:</i> scrub to be present at least around margins of each site
F3. Burning	Burning can damage the bryophyte layer and encourage a vigorous re-growth of purple moor-grass and other fire-resistant species.	<i>Upper limit:</i> none set <i>Lower limit:</i> no burning
F2. Water Quality	Groundwater and surface run-off could be subject to pollution from agricultural activities such as fertiliser application. The habitat could also be affected by airborne pollutants such as nitrous oxides from vehicle exhausts.	<i>Upper limit:</i> levels of pollutants must not exceed critical thresholds for vegetation types according to JNCC guidance <i>Lower limit:</i> none set
F3. Water Quantity	The habitat could be affected by any changes to groundwater flows or surface drainage works – for example due to abstraction from boreholes. See Feature 1.	<i>Upper limit:</i> none set <i>Lower limit:</i> groundwater flows must remain at current levels. See Feature 1.

4.4 Conservation Objective for Feature 4: Neutral Grassland

Vision for Neutral Grassland

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

- Neutral Grassland (MG5) will cover at least 4.5ha
- Species indicating agricultural improvement are rare or absent
- A range of characteristic plants and insects will be present
- Trees, bracken, scrub and saplings are of no more than scattered occurrence

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Extent of neutral grassland	Lower limit is based on current extent	<i>Upper limit:</i> As limited by other habitats. <i>Lower limit:</i> 4.5ha
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Livestock grazing	The neutral 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. Late cutting and/or light grazing by cattle or ponies between April and December each year is essential for maintaining the neutral grassland communities.	<i>Upper limit:</i> Refer to management agreement <i>Lower limit:</i> The neutral grasslands will be subject to light grazing by cattle and/or ponies at least 4 in every 5 years. Light grazing is defined as - cattle and/or ponies at a rate of 0.7 LSU/ha/year for the period April to December.
F2. Scrub cutting	A key attribute, as grazing levels required to keep sward structure in good condition, may be too low to prevent scrub encroachment. Generic standard is for woody species and bracken to form no more than 5% cover. Translated into structured recording – requirement for no more than one sapling, and no bracken frond in each sample.	<i>Upper limit:</i> scrub levels on each component site not to exceed 10% <i>Lower limit:</i> scrub to be present at least around margins of each site

5. ASSESSMENT OF CONSERVATION STATUS AND MANAGEMENT REQUIREMENTS

This part of the document provides:

- A summary of the assessment of the conservation status of each feature.
- A summary of the management issues that need to be addressed to maintain or restore each feature.

5.1 Conservation Status and Management Requirements of Feature 1: *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 6410)

Conservation Status of *Molinia* Meadows

2005: Unfavourable recovering

Surveillance of this feature on the SAC has been regular and ongoing since 2000. Preliminary monitoring was carried out in July 2005. All significant stands of *Molinia* Meadows on the SAC were sampled. A point-based assessment was used. The performance indicators as detailed in table 2 were recorded at 10m intervals along a 'w-walk' transect. A total of 30 points were recorded. The results indicate that the *Molinia* Meadows within the SAC is currently in unfavourable condition. 50% of points met the criteria for good condition, some way short of the 70% specified for favourable condition. Poor condition was generally due to excessively tall swards, with presence of young scrub also a common reason for point failure.

Elsewhere in the SSSI, monitoring at Copybush Moor found a 90% pass-rate and concluded that the feature here was clearly in favourable condition. Surveillance at Shortland Moor, Ramshorn and Big Pencoed, the other management units with key areas of the habitat suggests that these would perhaps still fail the objectives for the same reasons as the SAC. Monitoring will be undertaken to confirm this in the next reporting round.

Management Requirements of *Molinia* Meadows

Tighter control on grazing would be required to recover the condition of the *Molinia* meadows.

5.2 Conservation Status and Management Requirements of Feature 2: Marsh Fritillary

Conservation Status of Marsh Fritillary

2005: Unfavourable

Surveillance of this feature has been regular and ongoing since 1999. A larval web count was undertaken in 1999 when the newly discovered population was clearly peaking. 820 webs were counted. The neglect of the site meant, however, that areas of good condition habitat were in short supply (significantly less than 1ha). Between 2000 and 2005, the area of good condition habitat slowly increased, but webs were either absent or found in very low numbers (<10). None were seen in 2005. Habitat condition was mapped in 2005, as part of an assessment of the whole meta-population (Hudson, 2005). This concluded that at Yerboston Tops there was 1.28ha of suitable habitat available, with 0.68 of this classed as 'good condition'. Across the meta-population as a whole, there was only 15.3ha of suitable habitat available, with a mere 6.5ha classed as 'good condition'. This is clearly a long way short of the suggested minimum of 50 ha of suitable habitat (including 10 ha of Good Condition habitat) that is needed to support a viable population into the long-term.

Management Requirements of Marsh Fritillary

Tailored grazing regimes need to be delivered in key management units. Cattle and/or ponies focussed on the early part of summer (May – early July) when *Molinia* is at its most nutritious and palatable are preferable. Some late summer grazing, particularly with ponies (which generally avoid flowering *Succisa*) will often help create the ideal sward structure. ‘Mob-stocking’ should only be employed in recovery management of rank *Molinia*, and care should be taken in the early season grazing to leave plenty of flowering plants for the adult butterfly to feed on.

5.3 Conservation Status and Management Requirements of Feature 3: Marshy Grassland

Conservation Status of Marshy Grassland

2007: Favourable?

No monitoring of this feature has taken place, but ongoing surveillance suggests that the feature is perhaps likely to be in favourable condition.

Management Requirements of Marshy Grassland

Close control on grazing will be required to maintain or recover the condition of the marshy grassland. This will need to be backed up by periodic cutting of tall vegetation and scrub.

5.4 Conservation Status and Management Requirements of Feature 4: Neutral Grassland

Conservation Status of Neutral Grassland

2007: Unfavourable recovering

Initial NVC survey in 2000 suggested that 66% of the area of the MG5 was of passable quality, although this was not sampled using performance indicators. Surveillance since then suggests that the feature is still unfavourable recovering, but under continuing management could be expected to move to favourable condition in the next reporting round.

Management Requirements of Neutral Grassland

Close control on grazing will be required to maintain or recover the condition of the marshy grassland. This will need to be backed up by periodic cutting of tall vegetation and scrub.

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?
1	000153	Knapps	Management assisted by CCW management agreement. Successful programme of recovery management has been implemented since 2000, and Molinia meadows feature is almost back in favourable condition after a long period of neglect. Marsh fritillary has disappeared though. Re-appearance would depend on chance recolonisation from small surviving populations elsewhere on the SSSI, or deliberate re-introductions.	No
2	000154	Yerbeston Tops - Campshill	Management assistance is provided here through a CCW Management Agreement. The one enclosure containing small areas of Molinia meadows has suffered years of neglect, and grazing with beef cattle is cautiously being re-introduced. The management agreement has provided fencing, water supply and mowing of bracken areas. One animal has died of suspected hemlock water dropwort or bracken poisoning.	No
3	002788	Campshill Long Moor	None	No
4	003225	Yerbeston Gate Moors	A Tir Gofal agreement is in place, which aims to deliver an idealised grazing regime	No
5	003226	Ramshorn West	A Tir Gofal agreement is in place, which aims to deliver an idealised grazing regime	No
6	003227	Ramshorn East	A Tir Gofal agreement is in place, which aims to deliver an idealised grazing regime	No
7	003228	Big Pencoed	Management here is supported by a CCW S15 agreement, which aims to tackle under-grazing issues and scrub encroachment. Ponies are now grazed on previously neglected enclosures.	No
8	003229	Mountain Park	<p>A CCW s15 is in place that ensures the site is grazed by a neighbours organic beef cattle. In 2009 the grassland was in unfavourable condition but the current grazing levels seem to be sufficient to maintain, and probably restore, the vegetation condition here.</p> <p>Scrub control, if undertaken regularly, will help to increase the habitat extent (which appears to have decreased since phase 2 mapping).</p> <p>On this basis it is assumed that the condition assessment is Unfavourable recovering.</p>	No

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
9	003230	Tedion Moor	A Tir Gofal agreement is in place, which aims to deliver an idealised grazing regime and associated scrub management. Grazing has been erratic however, and a period of heavy stocking appears to have led to the demise of the marsh fritillary from this small site.	Yes
10	003231	Furzehill West		No
11	003232	Furzehill East		No
12	003233	Tedion Mountain		No
13	003234	Copybush		No
14	003235	Shortland Moors	Management assistance is provided here through a CCW Management Agreement. This is addressing issues of undergrazing and scrub encroachment.	No

7. GLOSSARY

This glossary defines 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.

Condition assessment	The process of characterising the condition of a feature with particular reference to whether the aspirations for its condition, as expressed in its conservation objective , are being met.
Condition categories	The condition of feature can be categorised, following condition assessment as one of the following ² : <ul style="list-style-type: none"> Favourable: maintained; Favourable: recovered; Favourable: un-classified Unfavourable: recovering; Unfavourable: no change; Unfavourable: declining; Unfavourable: un-classified Partially destroyed; Destroyed.
Conservation management	Acts or undertaking of all kinds, including but not necessarily limited to actions , taken with the aim of achieving the conservation objectives 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.
Conservation objective	The expression of the desired conservation status of a feature , expressed as a vision for the feature and a series of performance indicators . The conservation objective for a feature is thus a composite statement, and each feature has one conservation objective.
Conservation status	A description of the state of a feature that comprises both its condition and the state of the factors affecting or likely to affect it. Conservation status is thus a characterisation of both the current state of a feature and its future prospects.
Conservation status assessment	The process of characterising the conservation status of a feature with particular reference to whether the aspirations for it, as expressed in its conservation objective , 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 conservation management , lies mainly in the details of the assessment of feature condition , factors and trend information derived from comparisons between current and previous conservation status assessments and condition assessments.

² See JNCC guidance on Common Standards Monitoring <http://www.jncc.gov.uk/page-2272>

Core Management Plan	A CCW document containing the conservation objectives for a site and a summary of other information contained in a full site Management Plan .
Factor	Anything that has influenced, is influencing or may influence the condition of a feature . 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 conservation management can also be considered as factors.
Favourable condition	See condition and condition assessment
Favourable conservation status	See conservation status and conservation status assessment . ³
Feature	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.
Integrity	See site integrity
Key Feature	The habitat or species population within a management unit that is the primary focus of conservation management and monitoring in that unit.
Management Plan	The full expression of a designated site's legal status, vision, features, conservation objectives, performance indicators 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 the Core Management Plan) and sets of electronically stored information.
Management Unit	An area within a site, defined according to one or more of a range of criteria, such as topography, location of features , tenure, patterns of land/sea use. The key characteristic of management units is to reflect the spatial scale at which conservation management and monitoring 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.
Monitoring	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 an expected norm. In Common Standards Monitoring , the formulated standard is the quantified expression of favourable condition based on attributes .
Operational limits	The levels or values within which a factor is considered to be acceptable in terms of its influence on a feature . 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.
Performance indicators	The attributes and their associated specified limits , together with factors and their associated operational limits , which provide the

³ A full definition of favourable conservation status is given in Section 4.

standard against which information from **monitoring** and other sources is used to determine the degree to which the **conservation objectives** for a **feature** are being met. Performance indicators are part of, not the same as, conservation objectives. See also **vision for the feature**.

- Plan or project** **Project:** 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.
Plan: a document prepared or adopted by a public body or statutory undertaker, intended to influence decisions on the carrying out of **projects**. Decisions on plans and projects which affect Natura 2000 and Ramsar sites are subject to specific legal and policy procedures.
- Site integrity** 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.
- Site Management Statement (SMS)** 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.
- Special Feature** See **feature**.
- Specified limit** The levels or values for an **attribute** which define the degree to which the attribute can fluctuate without creating cause for concern about the **condition** of the **feature**. 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.
- Unit** See **management unit**.
- Vision for the feature** The expression, within a **conservation objective**, of the aspirations for the **feature** concerned. See also **performance indicators**.
- Vision Statement** The statement conveying an impression of the whole site in the state that is intended to be the product of its **conservation management**. A 'pen portrait' outlining the **conditions** that should prevail when all the **conservation objectives** are met. A description of the site as it would be when all the **features** are in **favourable condition**.

8. REFERENCES

Hudson, 2005 An Assessment of Marsh Fritillary Habitat around Yerboston Tops SAC, Pembrokeshire. CCW Contract Science Report no. 708.

Fowles, A.P. (2005) Habitat quality mapping for marsh fritillary populations. CCW staff science report no. 05/5/1