CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES

FOR

RHOS TALGLAS SAC
(SPECIAL AREA OF CONSERVATION)

Version: **20**

Date: **17 February 2011**

Approved by: Charlotte Gjerlov

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.

Cyngor Cefn Gwlad Cymru
Countryside Council for Wales

NATURA 2000

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PREFACE

This document provides the main elements of CCW's management plan for the site named. It sets out what needs to be achieved on the site, 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.

The 20 or so enclosures will contain a very wide range of plant communities, which clearly reflect the underlying environmental gradients.

Species-rich neutral grassland will occupy the drier mounds on around one-fifth of the site where, in some years, hundreds of green-winged orchid and greater butterfly-orchid will flower in late spring to early summer. Colourful herbs such as bird's-foot-trefoil and common knapweed will be prominent, with, in some more acidic areas, devil's-bit scabious, heath-grass and tormentil. Elsewhere, there will be areas of true acid grassland containing sheep's fescue and heath bedstraw with some patches containing prominent betony and bitter-vetch where the ground is naturally more lime-rich.

In the damper ground covering nearly half of the site there will be marshy grassland where purple moor-grass, various types of rush and small sedges are prominent. A diverse array of flowering plants will occur here, including devil's-bit scabious and tormentil and the orchids common spotted, heath spotted, and western marsh. In patches where the soil is naturally more lime-rich but still relatively wet, other flowering plants such as meadow thistle will occur.

In wetter areas of flush, fen and swamp, various sedges, including bottle sedge, rushes and bog-mosses are common and marsh valerian will be found here. Two pingos, circular depressions caused by melting ice at the end of the ice age, will contain a range of bog-mosses and the trailing stems of cranberry. Where the ground is fairly well drained on thin, stony soil, there will be wet heath where heather, cross-leaved heath and deer-grass are common.

The sward will be a patchwork of short and tall vegetation, mainly about 8–25cm, the ideal structure for the marsh fritillary butterfly. The tussocky sward of purple moor-grass will be fairly easy to walk through and there is will be no build up of litter from dead leaves. On warm sunny days in late May, June and early July, marsh fritillary butterflies will 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 will be dotted with web-like structures in which tens or even hundreds of tiny black caterpillars spend the winter buried in tussocky vegetation.

Around the margins of some of the enclosures, scrub and woodland will provide shelter for butterflies and other wildlife, but will cover only around 5% of the site and not spread into grassland areas. Similarly, bracken will be confined to the boundaries of a few enclosures and cover less than 1% of the site. Throughout Rhos Talglas SAC there will be few or no signs of agricultural modification, such as the presence of perennial rye-grass or white clover.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid reference: SN552634

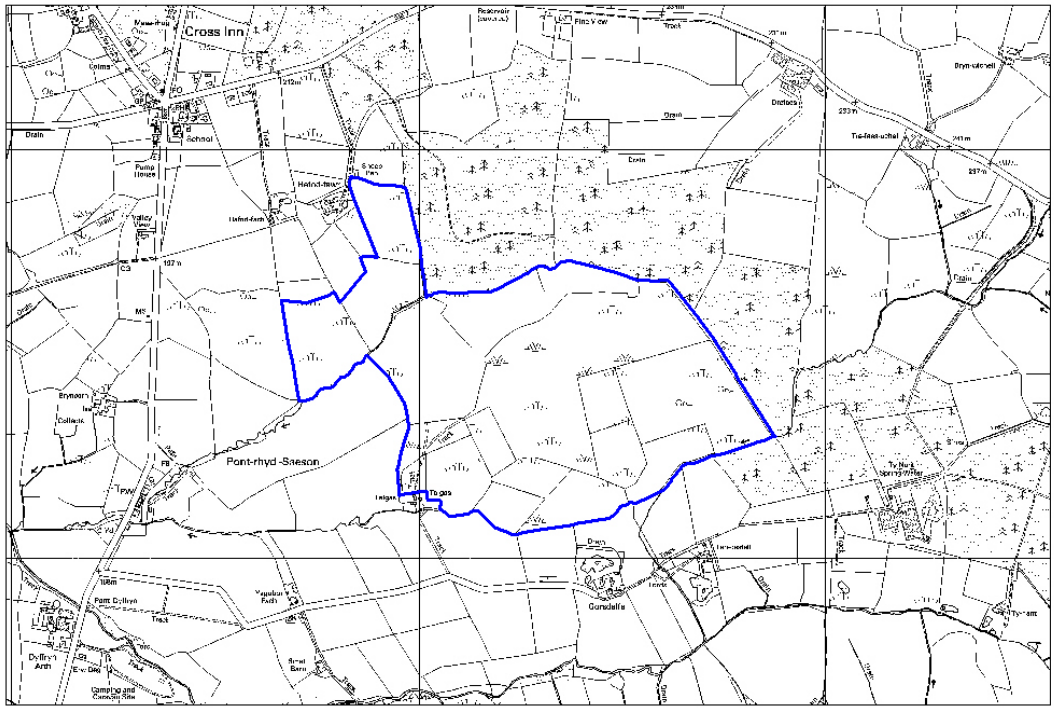
Unitary authority: Ceredigion

Area (hectares): 53.55 ha

Designations covered: The Rhos Talglas SAC is notified as a single SSSI - Rhos Talglas a Chors y Hafod

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 (Map 1).



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2.2 Outline Description

This is one of the sites selected to represent the Molinia meadows in west Wales, one of the major UK strongholds for this habitat type. At this site there are stands of *Molinia caerulea-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 grasses, rushes and small sedges. Transitions to stands of more acidic *Molinia caerulea* and *Juncus* pasture, dry neutral grassland and wet scrub vegetation are well represented.

The **marsh fritillary butterfly** (*Euphydryas aurinia*) is found in a range of habitats in which the larval food plant, devil's-bit scabious (*Succisa pratensis*), grows. Marsh fritillaries are essentially grassland butterflies in the UK, and although most populations occur occasionally on wet heath, bog margins and woodland clearings, most colonies are found in damp acidic or dry calcareous grasslands. Populations of marsh fritillary vary greatly in size from year to year, and at least in part, this is related to cycles of attack from parasitic wasps that use the marsh fritillary larva as a host for their developing offspring. Adults tend to be sedentary and remain in a series of linked metapopulations, forming numerous temporary sub-populations, which frequently die out and recolonise. The density and frequency of occurrence of this species at Rhos Talglas SAC suggest that the site is acting as the former, supporting one of the largest populations of Marsh fritillary butterfly in west Wales. Rhos Talglas is a component site within the series of rhos pasture Marsh fritillary sites of Ceredigion.

Other plant species of interest include Green-winged Orchid (*Orchis morio*), Greater butterfly orchid (*Platanthera chlorantha*) and Marsh valerian (*Valeriana dioica*), the latter at its only location in the county. Rhos Talglas SAC is comprised of a single SSSI: Rhos Talglas a Chors Yr Hafod.

2.3 Outline of Past and Current Management

Despite the site comprising over 20 fields, each ownership is managed as a single unit, with either none of the internal field boundaries stock proof or gates between fields left open. Unit 3 has traditionally been used as grazing pasture for cattle, approximately 30 cattle all year round. This part of the SAC is currently subject to a CCW management agreement, which allows the owner to graze the site with a maximum of 20 suckler/15 cattle units from November to mid-May, and with 60 store cattle/34 cattle units from mid-May to late September. However, this has switched to pony grazing in 2010, when 45 Welsh Mountain Ponies were utilised to graze the site.

2.4 Management Units

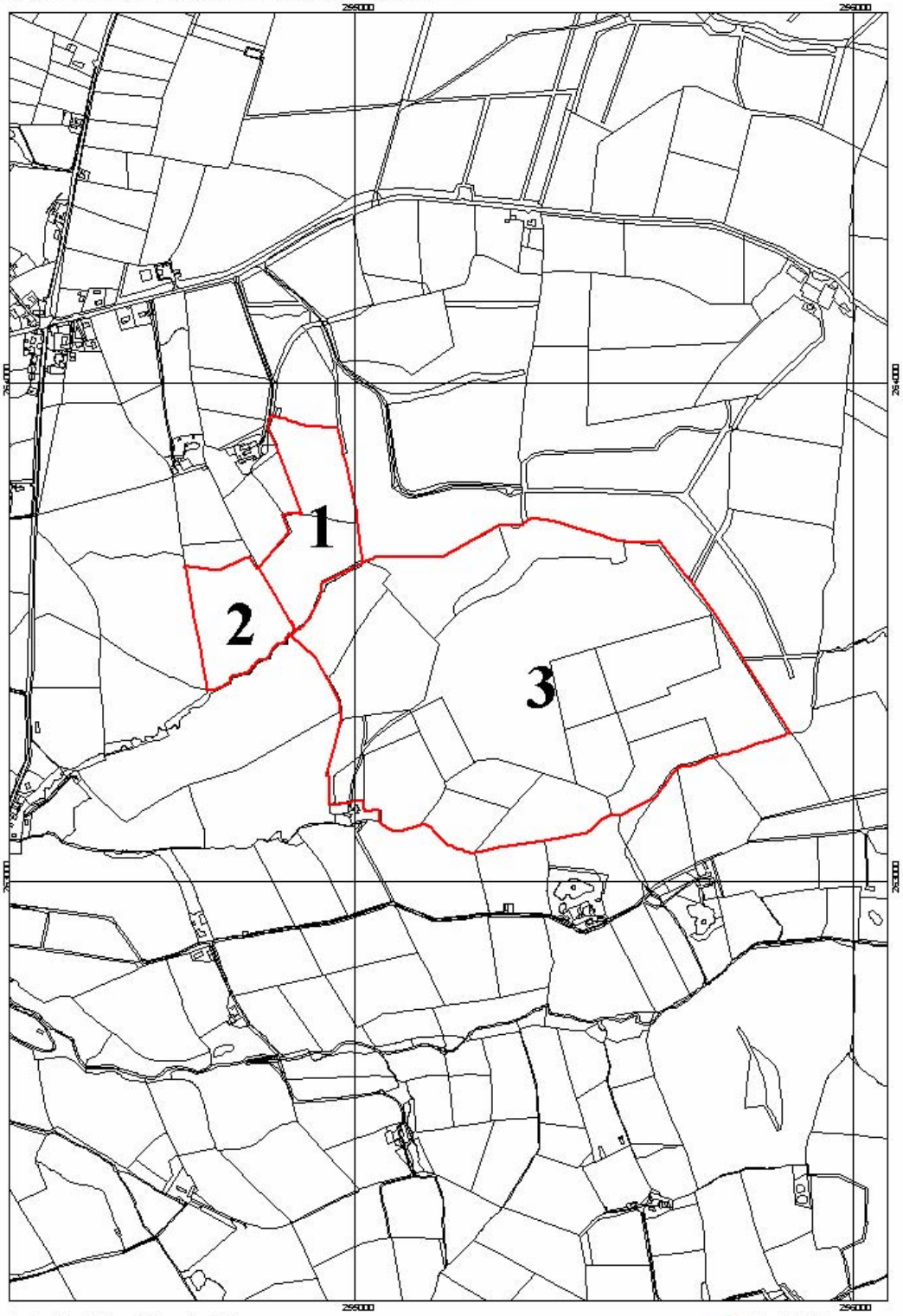
The plan area has been divided into management units to enable practical communication about features, objectives, and management. This will also allow us to differentiate between the different designations where necessary. In this plan the management units have been based primarily on tenure, with reference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

A map showing the management units referred to in this plan is shown below.

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

Unit no.	SAC	SSSI	CCW owned
Rhos Talglas a Chors Yr Hafod			
1	✔	✔	x
2	✔	✔	x
3	✔	✔	x

Map 1: Rhos Talglas SAC Plan Area, showing management units



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3. THE SPECIAL FEATURES

3.1 Confirmation of Special Features

Designated feature	Relationships, nomenclature etc	Conservation Objective in part 4
SAC features		
Annex II species that are a primary reason for selection of this site 1. Marsh fritillary butterfly *Euphydryas* (*Eurodryas*, *Hypodryas*) *aurinia (EU Species Code: 1065)*	Larval food plant *Succisa pratensis* supported by habitats including *Molinia* meadows	1
Annex I habitats that are not a primary reason for selection of this site 2. *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 6410)	**Fen-meadow with purple moor-grass, basiphilous sedges and a variety of other plants (National Vegetation Classification M24).**	2
SPA features		
Not applicable		
Ramsar features		
Not applicable		
SSSI features		
3. Non-SAC marshy grassland	Of principal interest are the *Juncus* and *Molinia caerulea*-dominated communities of M23 and M25 respectively.	3
4. Dry neutral grassland	Only *Cynosurus cristatus* - Centaurea nigra grassland (MG5).	4
5. Mixtures of habitats	Combinations of the wet acidic marshy grassland communities with dry acid and neutral grasslands, and also wet slightly base marshy grassland with the dry acid and neutral grassland.	5
6. Green-winged orchid (*Orchis morio*)	Occurring in dry neutral grassland in Unit 3.	6
7. Greater Butterfly Orchid (*Platanthera chlorantha*)	Found in non-SAC marshy grassland and dry neutral grassland in Unit 3.	7
8. Marsh Valerian (*Valeriana dioica*)	Found in an area of poor fen within Unit 1.	8

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:

- they are present in the unit but may be of less conservation importance than the key feature; and/or
- 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
- 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.

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

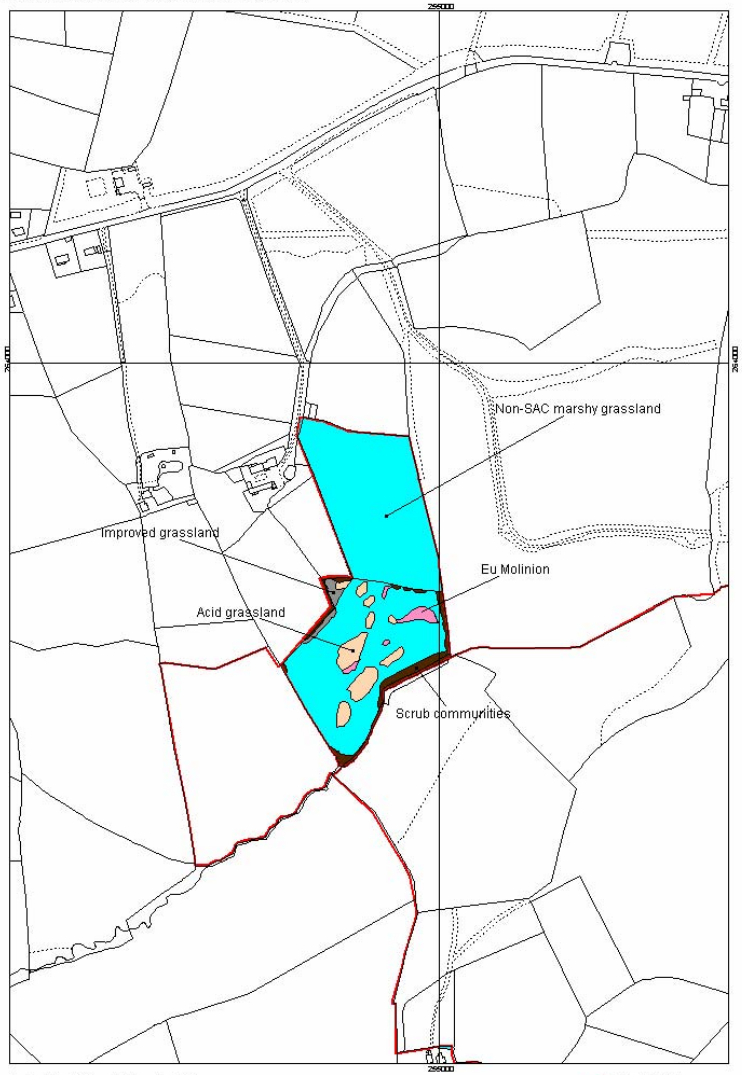
Rhos Talglas SSSI holds three discrete management units, making unitisation straightforward, with each management unit containing the following SAC/SSSI features.

Rhos Talglas	Management unit		
	1	2	**3**
SAC	✔	✔	✔
SSSI	✔	✔	✔
SAC features			
1. Marsh fritillary butterfly	**KS**	**KS**	**KS**
2**.** Molinia meadows	**KH**	**KH**	**KH**
SSSI features			
3. Non SAC marshy grassland	Sym	Sym	Sym
4. Dry neutral grassland	x	x	Sym
5. Mixtures of habitats	Sym	Sym	Sym
6. Green-winged Orchid	x	x	Sym
7. Greater-butterfly Orchid	x	x	Sym
8. Marsh Valerian	Sym	x	x

The main focus in all management units is the *Molinia* meadows vegetation, which will be managed to create optimum Marsh Fritillary habitat, which will also be provided by the Non-SAC Marshy Grassland under sympathetic management. Areas of Dry neutral grassland in these units will also be under sympathetic management.

The following three maps show the relevant extents of the various habitats present across each management unit.

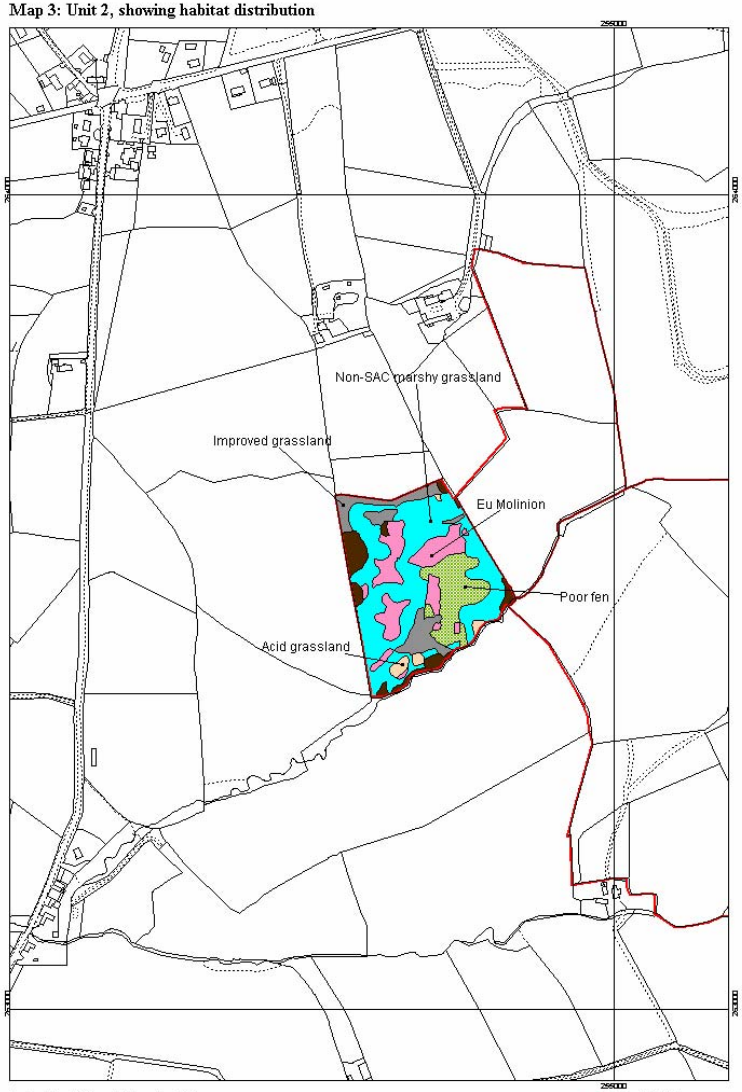
Map 2: Unit 1, showing habitat distribution



Produced by CCW on: 14 November 2007

Scale 1:5000

Map 3: Unit 2, showing habitat distribution



Produced by CCW on: 14 November 2007

Scale 1:5000

Map 3: Unit 3, showing habitat distribution

Produced by CCW on: 14 November 2007 Scale 1:5000

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.

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 Monitoring[1].

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] Web link: http://www.jncc.gov.uk/page-2199

4.1 Conservation Objective for Feature 1: Marsh fritillary butterfly *Euphydryas* (*Eurodryas*, *Hypodryas*) *aurinia* (EU Species Code: 1065)

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:

- The site will support a sustainable metapopulation of the Marsh fritillary in the Rhos Talglas area.
- 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 10 ha of the entire site will be marshy grassland suitable for supporting marsh fritillary, with *Succisa pratensis* present.
- At least 70% of this 10 ha will be good marsh fritillary breeding habitat, dominated by purple moor-grass *Molinia caerulea*, with *S. pratensis* present throughout and a vegetation height of 10–20cm in late summer/autumn.
- The marshy grassland will be well sheltered by hedgerows and mature trees within the field edge.
- Sympathetic management will be extended to suitable marsh fritillary habitat within the landscape boundary of Rhos Talglas (2 km radius) where possible, to ensure the long-term viability of this metapopulation. This action is based on the consideration that Rhos Talglas SAC supports insufficient habitat to independently sustain a viable marsh fritillary population.
- All factors affecting the achievement of the foregoing conditions are under control.

Performance indicators for Feature 1 are presented below

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. As mentioned above, Rhos Talglas SAC does not hold sufficient marshy grassland habitat to sustain a viable marsh fritillary metapopulation. A Performance Indicator is needed for the wider countryside surrounding Rhos Talglas in relation to marsh fritillaries, but presently, all the information required to set this is not available, but will be in the future. Fro example, there is current work identifying land surrounding Rhos Talglas SAC that is suitable as marsh fritillary breeding habitat, to secure longevity of this metapopulation.

Performance indicators for Feature 1

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Density of larval webs	The performance indicators were developed by Tracey Lovering (WR SAC Monitoring Officer) based on in-house generic guidance provided by Adrian Fowles (2005) in the absence of CSM guidance. 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. This target may be revised in future years following site-specific assessment. Methodology requires estimation of 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 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.	*Upper limit:* not required *Lower limit:* at least 200 webs per hectare in at least one year every six years. Recording should occur in all management units, as the marsh fritillary is a Key Species (KS) in all. Rhos Talglas currently supports 10 ha of suitable habitat of which 7 ha is required to be in good condition. Total larval webs in one year in six should be c. 1400. N.B. 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
A2. Distribution of larval webs	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.	*Upper limit:* not required *Lower limit:* In any one year in six the minimum total webs per unit should be: • Unit 1: 106 webs (0.76 ha i.e. 70% suitable habitat) • Unit 2: 109 webs (0.78 ha i.e. 70% suitable habitat) • Unit 3: 1190 webs (8.5 ha i.e. 70% suitable habitat)

Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	***Operational Limits***
F1. Condition of the *Molinia* meadows marshy grassland and other non SAC marshy grassland	The marsh fritillary is a highly localised and sedentary butterfly that inhabits unimproved *Molinia* grassland in the lowlands. It has an annual life-cycle and feeds as a larva on *Succisa pratensis*, 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. The conditions stipulated in the conservation objective/performance indicators for Feature 1 (*Molinia meadows* marshy grassland) and Feature 3 (other non SAC marshy grassland) will ensure that these requirements are met.	Refer to Feature 1 & 3 - Attributes 1 & 2. All Management Units have marsh fritillary as a Key Species (KS) and will benefit from sympathetic management (Sym).
F2. Livestock grazing	Necessary habitat requirements will be met through the appropriate management of Feature 1 (*Molinia* meadows marshy grassland) and Feature 3 (other non SAC marshy grassland).	Refer to Feature 1 & 3.
F3. 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.	*Upper limit:* As limited by other habitat types. *Lower limit:* at any given time at 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.
F4. Hydrological regime	Refer to Feature 1 (Molinia Meadows) and Feature 3 (other non SAC marshy grassland).	Refer to Feature 1 & 3.

4.2 Conservation Objective for Feature 2:
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 6410)

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:

- *Molinia* meadows will occupy a minimum of 0.9 ha or 1.7% of the total site area, of which 70% will be described as **good condition *Molinia* meadows**.
- The remainder of the site will be other semi-natural habitat or areas of permanent pasture.
- The following plants will be common: purple moor-grass *Molinia caerulea*; devil's bit scabious *Succisa pratensis*; carnation sedge *Carex panicea;* and tormentil *Potentilla erecta*.
- Flea sedge *Carex pulicaris* and tawny sedge *Carex hostiana* will be frequent.
- Cross-leaved heath *Erica tetralix* and common heather *Calluna vulgaris* will be common in some areas.
- Accumulation of dead vegetation/leaf litter no more than 10% in any year.
- Rushes and species indicative of agricultural modification, such as perennial rye-grass *Lolium perenne* and white clover *Trifolium repens* cover no more than 5%.
- Scrub species such as willow *Salix* and birch *Betula* cover no more than 5%.
- All factors affecting the achievement of these conditions are under control.

Performance indicators for Feature 2

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent	Based on the Common Standards Monitoring guidance for this feature with site-specific modifications. Developed by Tracey Lovering (WR SAC Monitoring Officer).	*Upper limit*: None specified as naturally limited by localised base-enrichment *Lower limit*: Extent mapped in 1991: 1992 and 1999 (0.9 ha) by CCW Phase II Lowland Grassland Survey team, or 1.8% of the site.
A2. Habitat Quality	Based on the Common Standards Monitoring guidance for *Molinia* meadows with site-specific modifications: 1. *Cirsium dissectum,* an indicator species for M24, does not occur at Rhos Talglas 2. The feature will be managed as suitable habitat for marsh fritillary	*Upper limit*: Not required. *Lower limit*: at least 70% of the *Molinia* meadows is attributable to **good condition *Molinia* meadows**
A3. Sward structure	3. 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.	*Upper limit*: Not required. *Lower limit*: At least 70% of the *Molinia* meadows has a vegetation height between 5 and 40cm.
Site specific habitat definition		
Good condition *Molinia* meadows	Where: • *Molinia caerulea*, *Carex panicea*, *and Potentilla erecta* are all present within a 0.5 metre radius of any sample point, and *Succisa pratensis* will be present at >5% within 1 metre of sample points, and • at least one of *Carex hostiana*, *Carex pulicaris* is present within 21–60% of sample points, and • a minimum of two of the following species should be frequent throughout the sward: *Anagallis tenella*, *Angelica sylvestris*, *Calluna vulgaris*, *Centaurea nigra*, *Cirsium dissectum*, *Erica tetralix*, *Eupatorium cannabinum*, *Filipendula ulmaria*, *Galium uliginosum*, *Mentha aquatica*, *Narthecium ossifragum*, *Orchidaceae* spp., *Pedicularis sylvatica*, *Potentilla erecta*, *Salix repens*, *Serratula tinctoria*, *Sphagnum* spp., *Succisa pratensis* and *Valeriana dioica*, and • <10% of sward represented by agricultural species: *Cirsium arvense*, *Cirsium vulgare*, *Ranunculus repens*, *Rumex crispus*, *Rumex obtusifolius*, *Trifolium repens* and *Urtica dioica*, rank grasses and rushes *Holcus lanatus*, *Dactylis glomerata*, *Deschampsia cespitosa*, *Juncus* spp. bracken and woody species • <25% plant litter Or where the above vegetation forms a mosaic with other grassland/heath/mire vegetation.	

Performance indicators for factors affecting the feature		
Factor	***Factor rationale and other comments***	Operational Limits
F1. Livestock grazing	The *Molinia* meadows have 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/or ponies between April and November each year is essential in maintaining the marshy grassland communities. Light summer grazing is defined as - cattle and/or ponies at a rate of 0.4 SU/ha/year for the period April to October.	*Upper limit*: Refer to management agreement. *Lower limit*: The *Molinia Meadows* will be subject to light summer grazing by cattle and/or ponies at least 4 in every 5 years.
F2. Bare ground	Limits to prevent large scale poaching damage but to preserve bare ground for plants to seed into.	*Upper limit*: 10% bare ground *Lower limit*: bare ground present in some samples.
F3. Woody shrubs (greater than 1.5 metres high)	Prevention of shading and habitat loss through a slow drying out of the site.	*Upper limit*: Trees and scrub (saplings) should be less than 20 cm in height and no more than two fronds of bracken should be present. Lower limit: None set
F4. 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 the current situation and habitat requirements.

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

Vision for feature 3

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

- As Feature 1 vision (*Molinia* meadows) with non-SAC marshy grassland occupying a minimum of 22.6 ha or 45.2% of the total site area.
- The remainder of the site will be *Molinia* meadows and other semi-natural habitat or areas of permanent pasture.
- The following plants will be common in the non-SAC marshy grassland: purple moor-grass *Molinia caerulea*; sharp-flowered rush *Juncus acutiflorus*; soft rush *Juncus effusus*; devil's bit scabious *Succisa pratensis*; greater bird's-foot trefoil *Lotus pedunculatus*; marsh bedstraw *Galium palustre*; lesser spearwort *Ranunculus flammula*; marsh willowherb *Epilobium palustre*; carnation sedge *Carex panicea;* tawny sedge *Carex hostiana* and tormentil *Potentilla erecta*.
- Purple moor-grass and rushes will cover 25–80%, with no more than 25% litter layer
- Species indicative of agricultural modification, such as perennial rye-grass *Lolium perenne* and white clover *Trifolium repens* will be absent
- Scrub species such as willow *Salix* and birch *Betula* will be absent
- Bracken will be rare within this feature
- All factors affecting the achievement of these conditions are under control.

Performance indicators for Feature 3

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent	Monitoring will be a map-based exercise. The area of non-SAC marshy grassland (National Vegetation Communities M23 & M25) was mapped in 1991–92 and 1999 by the CCW Phase II team. The extent and the total area were measured. Repeat monitoring will either re-map the site or review the baseline map in the field.	*Upper limit:* As limited by other habitats. *Lower limit*: Extent mapped in 1991–1992 and 1999 (22.6 ha) or 45.2% of the site.
A2. Habitat Quality	Based on the Common Standards Monitoring guidance for marshy grassland with site-specific modifications: 1. *Cirsium dissectum*, an indicator species for **M24**, does not occur at Rhos Talglas 2. The feature will be managed as suitable habitat for marsh fritillary	*Upper limit*: not required. *Lower limit*: at least 70% of all non-SAC marshy grassland meets the following criteria: For: • **M23 non-SAC marshy grassland**: at least three positive indicator species should be present in a 1-metre radius. • **M24:** see definition of **Good quality *Molinia* meadows** • **M25 non-SAC marshy grassland**: at least two positive indicator species should be present in a 1-metre radius. **AND** • Frequency of *Molinia caerulea* and bulky *Juncus* spp. 25–80% • Agricultural weeds are absent • The combined cover of rank grasses and sedges e.g. *Dactylis glomerata* and *Arrhenatherum elatius* is less than 10%, and the combined cover of bulky wetland grasses and sedges should be no more than 10% in a 1-metre radius. • scrub (excluding *Salix repens* and *Myrica gale)*, tree species and saplings (over 20-cm tall) is absent • no more than two fronds of bracken are present within a 1-metre radius.

Performance indicators for feature condition (cont.d)		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A3. Sward structure structure as for Feature 2	This attribute is not mandatory within Common Standards Monitoring but is included here since the marshy grassland habitat at Rhos Talglas is managed for Marsh Fritillary. 3. 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. Sward height measured with a Borman's Disc. N.B. Marsh fritillaries require a variable sward height of 8-25 cm	*Upper limit*: Not required. *Lower limit*: • at least 70% of the *Molinia* meadows has a vegetation height between 5 and 40cm • at least 70% of both **M23a** and **M25c** vegetation has a height of 10–80 cm • at least 70% of both **M25a** and **M25b** vegetation has a height of 5–40 cm.
A4. Extent of leaf litter	This attribute is not mandatory within Common Standards Monitoring but is included here since the marshy grassland habitat at Rhos Talglas is managed for Marsh Fritillary.	**No more than 25% of feature area with continuous litter layer**

Site specific habitat definitions	
M25 non-SAC *Molinia*-dominated marshy grassland	Non-SAC *Molinia caerulea*-dominated marshy grassland (**M25**) will support frequent *Molinia caerulea* and *Potentilla erecta*. **M25a** has frequent *Erica tetralix*, *Calluna vulgaris*, *Eriophorum angustifolium*, *Carex echinata* and *Polytrichum commune*. M25b is grassier containing frequent *Anthoxanthum odoratum*, *Agrostis capillaris*, *Deschampsia flexuosa* and *Danthonia decumbens*. M25c holds frequent *Angelica sylvestris* and *Cirsium palustre*. <u>Positive indicator species:</u> *Angelica sylvestris, Calluna vulgaris, Carum verticillatum, Centaurea nigra, Erica tetralix, Eupatorium cannabinum, Filipendula ulmaria, Narthecium ossifragum, Orchidaceae spp., Pedicularis sylvatica, Potentilla erecta, Serratula tinctoria, Sphagnum spp., Succisa pratensis, Viola palustris, Valeriana dioica* and *Vaccinium oxycoccos*.
M23 non-SAC *Juncus*-dominated marshy grassland	Non-SAC *Juncus*-dominated marshy grassland will support mixtures of *Juncus acutiflorus* and *Juncus effusus* with poor-fen forbs such as *Lotus pedunculatus*, *Ranunculus flammula*, *Galium palustre* and *Lychnis flos-coculi*. <u>Positive indicator species:</u> *Achillea ptarmica, Angelica sylvestris, Caltha palustris, Carum verticillatum, Filipendula ulmaria, Galium palustre, Hydrocotyle vulgaris, Lotus pedunculatus, Lychnis flos-coculi, Lythrum salicaria, Mentha aquatica, Orchidaceae spp.* and *Viola palustris*.

Site specific habitat definitions (cont.d)	
Good quality *Molinia* meadows (M24)	Where: • *Molinia caerulea*, *Carex panicea*, *and Potentilla erecta* are all present within a 0.5 metre radius of any sample point, and *Succisa pratensis* will be present at >5% within 1 metre of sample points, and • at least one of *Carex hostiana*, *Carex pulicaris* is present within 21–60% of sample points, and • a minimum of two of the following species should be frequent throughout the sward: *Anagallis tenella*, *Angelica sylvestris*, *Calluna vulgaris*, *Centaurea nigra*, *Cirsium dissectum*, *Erica tetralix*, *Eupatorium cannabinum*, *Filipendula ulmaria*, *Galium uliginosum*, *Mentha aquatica*, *Narthecium ossifragum*, *Orchidaceae* spp., *Pedicularis sylvatica*, *Potentilla erecta*, *Salix repens*, *Serratula tinctoria*, *Sphagnum* spp., *Succisa pratensis* and *Valeriana dioica*, and • <10% of sward represented by agricultural species: *Cirsium arvense*, *Cirsium vulgare*, *Ranunculus repens*, *Rumex crispus*, *Rumex obtusifolius*, *Trifolium repens* and *Urtica dioica*, rank grasses and rushes *Holcus lanatus*, *Dactylis glomerata*, *Deschampsia cespitosa*, *Juncus* spp. bracken and woody species • <25% plant litter Or where the above vegetation forms a mosaic with other grassland/heath/mire vegetation.

Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	***Operational Limits***
As for feature 2	As for feature 2	As for feature 2

4.4 Conservation Objective for Feature 4: Dry neutral grassland

Vision for feature 4

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

- Dry neutral grassland will occupy 9.0 ha or 18% of the total site area
- The following plants will be common in the dry neutral grassland: crested dog's tail *Cynosurus cristatus*; common bent *Agrostis capillaris*; sweet vernal grass *Anthoxanthum odoratum*; bird's-foot trefoil *Lotus corniculatus*; common knapweed *Centaurea nigra* and red clover *Trifolium pratense*. In heathier parts it will also include devil's-bit scabious *Succisa pratensis*; tormentil *Potentilla erecta* and heath grass *Danthonia decumbens*.
- Species indicative of agricultural modification, such as perennial rye-grass *Lolium perenne* and white clover *Trifolium repens* will be absent or rare small component of the dry neutral grassland.
- Scrub species such as willow *Salix* and birch *Betula* will also be largely absent from the dry neutral grassland as will bracken and bramble.
- All factors affecting the achievement of these conditions are under control.

Performance indicators for Feature 4

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent	Monitoring will be a map-based exercise. The area of **dry neutral grassland** was mapped in 1991–92 and 1999 by the CCW Phase II team. The extent and the total area were measured. Repeat monitoring will either re-map the site or review the baseline map in the field.	*Upper limit:* As limited by other habitats. *Lower limit*: Extent mapped in 1991–1992 and 1999 (9.0 ha) or 18% of the site.
A2. Habitat Quality	Based on the Common Standards Monitoring guidance for marshy grassland with site-specific modifications.	*Upper limit*: Not required. *Lower limit*: at least 70% of all **MG5** grassland mapped at least 30% herb (and sedge) cover in a 50 cm radius • For **MG5a** at least two positive indicator species should be present in a 50 cm radius. • For **MG5c**, at least three positive indicator species should be present in a 50 cm radius. • No more than five plants of *Senecio jacobaea* should be present, and other agricultural weed species should be absent in any 1-m radius • The collective cover of agriculturally favoured species should be no more than 20%, and cover of *Lolium perenne* no more than 5% in any 50 cm radius. • The combined cover of *Dactylis glomerata* and *Arrhenatherum elatius* should be no more than 10% in any 50 cm radius. • The combined cover of bulky wetland species should normally be no more than 25% in any 50 cm radius. • Trees, scrub and saplings (over 20cm tall) should be absent; no more than two fronds of bracken should be present in any 1-metre radius

Site specific habitat definitions		
Dry neutral grassland (MG5)	Dry neutral grassland (**MG5**) is defined as containing four out of five of the following **positive indicator species** within a 2-metre radius: *Cynosurus cristatus*, *Centaurea nigra*, *Lotus corniculatus*, *Trifolium pratense*, *Dactylis glomerata,* with one of the following sub-community indicators for **MG5c**: *Succisa pratensis, Danthonia decumbens, Potentilla erecta*. *Lolium perenne* is permitted at low levels, but never in the absence of either *Lotus corniculatus* or *Centaurea nigra*. The vegetation should then be mapped as **MG6**.	
Performance indicators for factors affecting the feature		
Factor	**Factor rationale and other comments**	***Operational Limits***
As for Feature 2		

4.5 Conservation Objective for Feature 5: Mixtures of habitats

Vision for feature 5

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

- The areas covered by natural and semi-natural habitat mapped in 1991–92 and 1999 will remain with no loss to improved and/or scrub habitats.
- The relative proportions within the above habitats may vary slightly with gains in the mixture type containing **M24** preferable, but no individual habitat will be 'lost' from the site.
- Species indicative of agricultural modification, such as perennial rye-grass *Lolium perenne* and white clover *Trifolium repens* will be largely absent from the mixtures of natural and semi-natural vegetation.
- Scrub species such as willow *Salix* and birch *Betula* will also be largely absent from the mixtures.
- All factors affecting the achievement of these conditions are under control.

Performance indicators for Feature 5

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent	Monitoring will be a map-based exercise. The area of component habitats within the mixtures was mapped in 1991–92 and 1999 by the CCW Phase II team. The extent and the total area were measured. Repeat monitoring will either re-map the site or review the baseline map in the field. Mixtures of unimproved dry neutral grassland (MG5) should be retained in Unit 3. Mixtures containing *Molinia* meadows together with other wet and dry grassland communities of neutral to mildly acidic soils should be retained in all three Units. Mixtures of **M24** and grassy and tall-herb forms of **M25** (**M25b** and **M25c** respectively) are characteristic. Mixtures of dry and wet grassland vegetation occurring on more acidic substrates than that characteristic of the above mixture types should be retained in all three Units. Various sub-communities of **M23** and **M25** generally constitute the bulk of the ground cover with dryer areas occupied by dry acid grassland (**U4**). Mixtures of heathy *Molinia*-dominated communities in which ericoids and Sphagna are prominent should be retained in Unit 3. Wet heath (**M15**) is very frequent, occasionally forming large stands, but more characteristically, in a grassland setting, occurring as small patches in mosaic with other vegetation types. Mixture containing the presence of *Filipendula* fen-meadow (**M27**), a widespread community in most parts of lowland Britain but decidedly local in Ceredigion should be retained in Unit 1. Characteristic associates with the **M27** are other vegetation types in which tall herbs can be prominent, in particular **M23a** and **M25c**.	*Upper limit:* Not required. *Lower limit*: Extents mapped in 1991–92 within unit 3. Minimum extent mapped in 1991–92 and 1999 within all three units. Of all the mixture types, this one would be most preferable to increase in area. Extents mapped in 1991–92 and 1999 within all three units, though losses to the above mixture type will be tolerated. Extents mapped in 1991–92 within unit 3. Extents mapped in 1999 within unit 1.
A2. Habitat Quality	As for Features 2, 3 and 4. Marsh fritillary is a Key Species (KS) and will benefit from sympathetic management (Sym) within these three units.	Refer to Feature 2: Attribute 2 and 3; Features 3: Attributes 2–6 and Feature 4: Attributes 2–5.
Performance indicators for factors affecting the feature		

Factor	**Factor rationale and other comments**	*Operational Limits*
As for Features 2, 3 and 4	As for Features 2, 3 and 4	As for Features 2, 3 and 4

4.6 Conservation Objective for Feature 6: Green-winged orchid *Orchis morio*

Vision for Feature 6

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

- There will be a thriving population of green-winged orchid in the dry neutral grassland in unit 3.
- As Feature 4 (dry neutral grassland).
- The condition of the dry neutral grassland will be fairly open and short without any increase in tussocky grasses and/or scrub.
- The green-winged orchid population will be stable, or increasing, and is sustainable in the long-term, the range is not contracting and that sufficient habitat exists to support the species.
- Factors that may affect the species or its habitat are under control.

Performance indicators for Feature 6

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Population of Green-winged orchid	The population will be defined as the number of plants present in the Dry neutral grassland.	*Upper limits:* Not applicable *Lower limits*: Within unit 3, to remain present in the localities it was noted during the 1991–92 survey.
Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	***Operational Limits***
F1. Condition of the Dry neutral grassland	The conditions stipulated in the conservation objective/performance indicators for Feature 4 (Dry neutral grassland) will ensure that the necessary requirements for Green-winged orchid are met.	Refer to Feature 4: Attributes 1 & 2. Marsh fritillary is a Key Species (KS) in unit 3 and will benefit from sympathetic management (Sym) of the Dry neutral grassland feature.
As Feature 4		

4.7 Conservation Objective for Feature 7: Greater Butterfly Orchid *Platanthera chlorantha*

Vision for feature 7

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

- There will be a thriving population of greater butterfly orchid in the dry neutral grassland and non-SAC marshy grassland in unit 3.
- As Feature 3 (Non-SAC marshy grassland) and Feature 4 (Dry neutral grassland)
- The condition of the dry neutral grassland will be fairly open and short without any increase in tussocky grasses and/or scrub.
- The greater butterfly orchid population will be stable, or increasing, and is sustainable in the long-term, the range is not contracting and that sufficient habitat exists to support the species.
- Factors that may affect the species or its habitat are under control

Performance indicators for Feature 7

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Population size.	The population will be defined as the number of plants present in the non-SAC marshy grassland and the Dry neutral grassland.	*Upper limit*: Not applicable Lower limit: In unit 3, to remain present in the three localities it was noted in the 1991–92 survey.
Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	***Operational Limits***
F1. Condition of the non-SAC marshy grassland + dry neutral grassland	The conditions stipulated in the conservation objective/performance indicators for Feature 3 (other non-SAC marshy grassland) and Feature 4 (Dry neutral grassland) will ensure that the necessary requirements for Greater butterfly orchid are met.	Refer to Feature 3: Attributes 2–6; and Feature 4: Attributes 2–5. Marsh fritillary is a Key Species (KS) in unit 3 and will benefit from sympathetic management (Sym).
As for feature 2		

4.8 Conservation Objective for Feature 8: Marsh valerian *Valeriana dioica*

Vision for Feature 8

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

- There will be a thriving population of marsh valerian in the non-SAC marshy grassland in Unit 1.
- As Feature 3 (Non-SAC marshy grassland)
- Generally the marsh valerian population will be stable, or increasing, and is sustainable in the long-term, the range will not be contracting and sufficient habitat exists to support the species.
- Factors that may affect the species or its habitat are under control

Performance indicators for Feature 8

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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Population of Marsh valerian	The population will be defined as the number of plants present on the site.	*Upper limit*: Not applicable Lower limit: Only known from unit 1, and the population is not to decrease from that recorded in the 1991/92 vegetation survey.
Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	***Operational Limits***
F1. Condition of the non-SAC marshy grassland	The conditions stipulated in the conservation objective/performance indicators for Feature 3 (other non-SAC marshy grassland) will ensure that the necessary requirements for Marsh valerian are met.	Refer to Feature 3: Attributes 1 & 2. Marsh fritillary is a Key Species (KS) within this Unit and will benefit from sympathetic management (Sym).
As for feature 2		

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

Conservation Status of Feature 1

Unfavourable: declining (October 2007)

A web-count in 2000 recorded 194 webs in management unit 1, 11 webs in management unit 2 with no survey conducted in management unit 3. The web-counts were made during a site visit by CCW district staff (J. Higgins & J. Turner) and were not therefore planned survey. Nonetheless the counts provide an indication of the health of the population in 2000. A walk-about larval web survey during marsh fritillary habitat monitoring in 2002 recorded no webs in 1, despite exhaustive searching, 1 web in 2, and only 30 webs across 3. Since assessment of the marsh fritillary habitat was unfavourable and casual web-searches recorded very low web numbers it was concluded that sufficient data had been collected in 2002 to confirm that the condition of the feature was **Unfavourable:declining**. The latest re-survey in 2007 recorded only eight larval webs, found in two of the eleven fields, confirming the long-term trend of **Unfavourable:declining**.

The condition of marsh fritillary at Rhos Talglas SAC was assessed as **Unfavourable: declining in 2002**. For the habitat to be assessed as favourable 7 ha of Good Condition marsh fritillary habitat would have to be mapped. In 2002, 10 ha of Suitable Habitat were mapped of which none could be described as Good Condition. The estimate for the number of webs supported within Good Condition habitat would have to be at least 1400 for the marsh fritillary feature to be assessed as favourable. In 2002, only 31 webs were counted. This may have been a poor year for marsh fritillary, however no larval webs were recorded in areas of under-grazed Suitable Habitat (> 25 cm), where previously the greatest numbers were recorded in 2000.

The site was originally mapped for condition class in 2007, it was remapped in 2009. In 2009, the majority of the site did not provide suitable habitat for marsh fritillary (21.33 ha Not Suitable). However, there were quite a number of modest-sized patches of Good Condition habitat (5.44 ha) scattered through the southern part of the site, a dramatic increase from 2002. These were augmented by slightly larger patches of Suitable Under-grazed (9.87 ha) and Suitable Sparse (4.38 ha) and Suitable Over-grazed (0.81 ha). This is a doubling of the area of Suitable Habitat at the site since 2002. Within the plot, all but two of the sample points contained *Succisa pratensis* and 77% of sample points held abundant *Succisa*. Vegetation height was within the correct height range at 83% of points, of those that failed, all bar one, were situated within the northern fragment of the plot and were too short. In 2009, the monitoring plot achieved an overall 63% pass rate, meaning that the plot narrowly failed, and the habitat is assessed as being **Unfavourable : recovering**.

The management agreements were revised in 2005 for management Unit 3, and in 2006 for management units 1 & 2. These have been subsequently revised in 2010 replacing cattle with 45 Welsh Mountain Ponies as the grazing stock.

Monitoring in 2007 suggests that management is beginning to meet the requirements of the marsh fritillary habitat, but unfortunately this was not reflected in the larval web counts. It is possible that

change may not be picked up at this early stage of changes in management. An incidental count in late August 2006 recorded 14 webs in management unit 2 (Field 1B) where prior records in 2000 (when the highest records were recorded across the site of 215), recorded 11 webs. It is unfortunate that counts (eight larval webs) were so low in 2007.

Ideally monitoring of larval webs should take place in the autumn following a peak year for adults but early spring monitoring should provide a good indication of the condition of this sub-population. A proportion of caterpillars are likely to have been killed by the parasitic braconid wasps of the genus *Cotesia* (= *Apanteles sensu lato*, in part). Comparison of data with Rhos Llawr Cwrt SAC would provide additional support for condition assessment.

Future monitoring

In future years of monitoring, (commenced in 2007), marsh fritillary larval web-counts will be systematically recorded with condition of habitat. Flexibility, in the timing of monitoring will be required, to allow for larval web monitoring visits in the autumn following a very good year for adult butterflies. Methodology and distribution of search are to be determined following specialist advice. Ideally CCW should look to setting up and supporting a local voluntary warden who could carry out annual adult and larval web counts from 2007. Annual counts will inform site-specific target setting which is currently based on generic guidance.

Management Requirements of Feature 1

Habitat management:

See livestock grazing section for Feature 2 below. All the habitat management requirements for the marsh fritillary will be met through the appropriate management of the *Molinia* meadows grassland (Feature 2) and the non-SAC marshy grassland (Feature 3). Management objectives will seek a good distribution of marsh fritillary across the site and an expansion of good condition habitat within identified areas of suitable habitat. Any increase through positive management of the extent of suitable habitat, both within and external to the site, offer greater opportunities for the viability/conservation status of the meta-population supported by Rhos Talglas SAC. Following Fowles (2005) there is an identified need to consider future experimental management to increase the area of good condition habitat within the SAC and to support positive management of adjacent land.

In 2002, management unit 3 all sample points fail to meet the Performance indicator (PI) limits for the presence of *Molinia caerulea* within 50-cm radius of any sampling point and 45 points fail due to percentage *Succisa pratensis* cover <5%. The revised 2005 PIs require 'Grassland where, for at least 80% of sampling points, the vegetation height is within the range 12–25 cms and *Succisa pratensis* is present at >5% within a 50-cm radius and scrub (>0.5 metres tall) covers no more than 10% of the area. The 2009 monitoring records much higher levels of *Succisa pratensis*, with 98% of sample points containing sp and 73% containing abundant *Succisa*. Once again the monitoring plot passes the PI for vegetation height.

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.

5.2 Conservation Status and Management Requirements of Feature 2: *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 6410)

Conservation Status of Feature 2
Unfavourable: recovering (August 2007)

The *Molinia* meadows feature, in management units 2 and 3, were monitored in July 2003 by Tracey Lovering (WR SAC Monitoring Officer). The assessment on all both these management units was that they were **Unfavourable: recovering**, the plot size was limited by the small extent of the *Molinia* Meadows. All management units were again monitored in 2007, under contract, by ADAS, and all units were again assessed as in **Unfavourable: recovering** condition; recovering since management agreements are now in place for all units.

The reasons for failure of the Performance Indicators in relation to the *Molinia* meadows within management unit 2 are:

- Cover of *Molinia caerulea* and bulky rushes exceeds 80%
- Low frequency of positive indicators
- Scrub, trees and bracken present.

The remaining *Molinia* meadows sample points in management units 000553 and 000555 were found only to meet the Performance Indicator in 52% and 16% of cases in M24b/c and M24c respectively, the reasons for failure are:

- Cover of *M. caerulea* and bulky rushes exceeds 80% in 29% of sample points
- Low frequency of positive indicator species in 14% of points
- Scrub, trees and bracken present
- Cover of *M. caerulea* and bulky rushes was less than 25% at one sampling point.

Management Requirements of Feature 2

The quality of the *Molinia* meadows marshy grassland will be enhanced through traditional farming practices.

Livestock grazing:

A SSSI Management Plan is held on file. The three owner/occupiers manage the site extensively under Section 15 management agreements. The prime management objectives are to graze the site with cattle (or ponies) to attain a varied vegetation structure keeping the vegetation height, in the main, below 15 cm to benefit the marsh fritillary population, the primary feature of the site. Scrub management may be required to provide extensive open areas of grazing within each unit. Grazing occurs freely within management units 2 and 3 with old boundaries derelict. Management unit 1 is divided into two enclosures 1 A and 1B. In 2007 Management unit 1 appeared undergrazed, being grazed by four cattle. However, the owner would like to put more cattle in the field but is concerned that the wet conditions would lead to a large amount of poaching. The two fields were apparently heavily grazed until the onset of BSE when they were then ungrazed for a couple of year. Horses were then used to knock the vegetation back a bit, but this may have led to the loss of *Genista tinctoria*. The cattle that were grazing the fields were left out all winter. Problems meant that the fields were ungrazed in 2006. In 2007, Management unit 2 and Management Unit 3 were also both undergrazed, primarily due to the very wet summer and the owner feeling that it was too wet to allow livestock onto the field.

Hydrology:

Drainage patterns should remain and feeding areas restricted to agreed areas. Fertiliser should not be applied.

5.3 Conservation Status and Management Requirements of Feature 3: Non-SAC marshy grassland

Conservation status of Feature 3

Unfavourable (August 2007)

All Management units were monitored in 2007 by ADAS and all Management units were found to be in **unfavourable** condition. Reasons for failure are:

- the low frequency of positive indicator species in all three management units with 81% of sample points in 1 failing, 40% in 2 and 14% in 3;
- presence of scrub, trees and bracken in Management units 2 and 3;
- cover of negative species > 10% in Management unit 1 with 33% of sample points failing
- cover of *M. caerulea* and bulky rushes at sampling points was less than 25% in management unit 1 with 26% of sample points failing this PI;
- cover of *M. caerulea* and bulky rushes was greater than 80% in both management units 2 and 3 with over 50% of sample points failing in 2 and 28% of points in 3.

From this the condition of the non-SAC marshy grassland at Rhos Talglas SAC is currently assessed as **Unfavourable**. To reach **Good Condition**, the non-SAC marshy grassland is required to meet the performance indicator at 70% of points. Units 1 and 2 fail primarily due to sample points failing the performance indicator 'cover of *Molinia caerulea* and bulky *Juncus* between 25–80%' and additionally, only 15% and 40% of sample points held positive indicator species. Both these units also failed on the presence of scrub, trees and bracken present – generally the presence of encroaching bramble was perceived as the problem. Unit 3 differed slightly in that failure was due to the performance indicator 'cover of *Molinia caerulea* and bulky *Juncus* between 25–80%' (27% of sample points failed) and also the cover of negative grasses and sedges >10% criteria (46% of sample points failed).

All three units were recorded as being under grazed this year, but the landowners concern over the very wet conditions of this summer and the potential result of a large amount of poaching has led to a reduced stocking rate in units 2 (Unique unit ref. no. 000554) and 3 (Unique unit ref. no. 000555) and no grazing in unit 1 (Unique unit ref. no. 000553). This will presumably be remedied in future years, but careful monitoring of the vegetation is paramount as is adjustment of the present Section 15 agreements when necessary.

Management requirements (2007)

The management requirements of the non-SAC marshy grassland are entirely consistent with those of the areas of *Molinia* Meadows marshy grassland (Feature 2). These two features will be managed collectively.

5.4 Conservation Status and Management Requirements of Feature 4: Dry neutral grassland

Conservation status of Feature 4

Unknown (2007)

Feature condition has not been assessed.

Management requirements (2007)

A suitable grazing regime should be maintained in Management unit 3 using cattle or ponies, to discourage the growth of scrub species and also tussocky grasses.

5.5 Conservation Status and Management Requirements of Feature 5: Mixtures of habitats

Conservation status of Feature 5

Unknown (2007)

Feature condition has not been assessed.

Management requirements (2007)

The management requirements of the Mixtures of habitats are entirely consistent with those of the areas of *Molinia* meadows (Feature 2), non-SAC marshy grassland (Feature 3) and Dry neutral grassland (Feature 4). These four features will be managed collectively.

5.6 Conservation Status and Management Requirements of Feature 6: Green-winged orchid

Conservation status of Feature 6

Unknown (2007)

Feature condition has not been assessed using performance indicators.

Management requirements (2007)

The management requirements of the Green-winged orchid are entirely consistent with those of the areas of Dry neutral grassland (Feature 4). These two features will be managed collectively.

5.7 Conservation Status and Management Requirements of Feature 7: Greater butterfly orchid

Conservation status of Feature 7

Unknown (2007)

Feature condition has not been assessed..

Management requirements (2007)

The management requirements of the Greater butterfly orchid are entirely consistent with those of the areas of Dry neutral grassland (Feature 4). These two features will be managed collectively.

5.8 Conservation Status and Management Requirements of Feature 8: Marsh valerian

Conservation status of Feature 8

Unknown (2007)

Feature condition has not been assessed.

Management requirements (2007)

The management requirements for the marsh valerian are entirely consistent with those of the areas of *Molinia* meadows marshy grassland (Feature 2) and non-SAC marshy grassland (Feature 3). These three features will be managed collectively.

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.

For the 2007/08 programme of work to produce these documents for all SAC/SPA, this table will be generated automatically from the data collected in the Actions Database.

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
1	000553	Hafod Fach	There is a current Section 15 agreement that should deliver the correct management. The unit was unmanaged in 2002 and dominated by rank tussocky Molinia caerulea with scrub encroaching into previously surveyed open areas. The prime management objective is to graze the unit with cattle (or ponies) to attain a varied vegetation structure, keeping vegetation height predominantly below 15 cm, to benefit the marsh fritillary population. The results of the non-SAC marshy grassland monitoring in 2007 showed that 28% of sampling points failed due to the cover of Molinia and Juncus and 14% of points failed due to the absence of positive indicator species. The unit was ungrazed in 2007 due to the wet conditions.	Yes
2	000554	Felin Llwyn Owen	There is a current Section 15 agreement that should deliver the correct management. The unit was unmanaged in 2002 and dominated by rank tussocky Molinia caerulea with scrub encroaching into previously surveyed open areas. The prime management objective is to graze the unit with cattle (or ponies) to attain a varied vegetation structure, keeping vegetation height predominantly below 15 cm, to benefit the marsh fritillary population.	Yes
3	000555	Talyrnau	This unit has traditionally been grazed by approximately 30 cattle all year round. It is currently managed under the same Section 15 agreement as unit 000554. On the initial SAC monitoring round in this unit, the marsh fritiallary habitat failed to meet the performance indicators at all sampling points. The non-SAC marshy grassland inn 2007 also failed at 80% of sample points for frequency of positive indicators and 50% of points for the cover of negative grasses and sedges. The unit was said to be under-grazed during 2007.	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.

Additional terms used in individual plans can be added to these definitions, but these definitions should not be changed or removed.

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]:

- 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.

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

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.

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**.

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

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 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

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