

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

**CORE MANAGEMENT PLAN  
INCLUDING CONSERVATION OBJECTIVES**

**FOR**

**RHOS GOCH SPECIAL AREA FOR CONSERVATION (SAC)**

**Version: 2**

**Date: 22<sup>nd</sup> January 2008**

**Approved by: David Mitchell**

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



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## **PREFACE**

This document 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 sites. 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.

*Around 95% of the site is wetland, comprising a mosaic of different habitats. The central core of Rhos Goch common, comprising around 20% of the site, consists of fairly open raised bog with a series of pools and hummocks. The drier hummocks support heather, hare's-tail cottongrass, cross-leaved heath and purple moor-grass, while the pools are dominated by common cottongrass and bog-mosses. Purple moor-grass is not overwhelmingly dominant on the raised bog. The scattered birch trees and willow scrub do not form a closed canopy.*

*Most of the core bog area is surrounded by a band of wet woodland. This occupies around 30% of the site in total. About a third of this is "bog woodland" that receives acidic water draining from the raised bog. The canopy here consists of downy birch and rusty willow over a ground layer that is generally dominated by mixtures of purple moor-grass and common reed over carpets of bog-mosses. Other plants found here include marsh cinquefoil, water horsetail, lady fern, bilberry and velvet bent grass. Royal fern is locally abundant in these areas. Most of the remaining woodland is "fen-carr", occupying the "lagg zone" of the raised mire, which receives drainage water from the surrounding fields and some from the raised bog. This woodland is still largely dominated by downy birch and rusty willow but they are joined by frequent alder, with occasional oak, ash and aspen on the slightly drier ground. There are also a few shrubs such as hawthorn and guelder-rose. The ground flora here consists of a variety of wetland plants, including common reed, greater tussock-sedge, purple moor-grass, meadowsweet, hemp-agrimony, bittersweet, soft rush, opposite-leaved golden-saxifrage and marsh marigold. The canopy in the woodland areas is fairly even but there are occasional gaps where trees have died. Standing and fallen dead wood is plentiful. Plants indicating high nutrient levels, such as common nettle, bramble, cleavers and creeping buttercup, are generally absent from the bog woodland. They may be prominent in places within the fen carr but they are never overwhelmingly dominant.*

*On the south-west side, the raised bog grades into a broad zone of basin bog and swamp vegetation that contains patches of rusty willow scrub. There are other small patches of this vegetation in the wettest parts of the surrounding pasture areas. Together they cover around 10% of the site. The open areas closest to the raised bog have vegetation that is characteristic of more acidic conditions, with plants such as sedges, common cottongrass, marsh cinquefoil, soft rush, water horsetail and marsh pennywort over carpets of bog-mosses. As the ground water becomes less acidic the bog-mosses are gradually replaced by others, such as bog groove-moss and spear-mosses, with a greater range of other plants that are typical of "transition mires", including bogbean, water mint, bog pondweed, marsh marigold, lesser spearwort, common marsh-bedstraw and forget-me-nots. The areas furthest from the raised bog support additional plants that are found in more nutrient-rich swamps, including*

*common spike-rush, bulrush, lesser pond-sedge, greater tussock-sedge, gipsywort and the locally rare greater spearwort. The taller swamp plants form a dense canopy during the summer months but the water beneath supports floating plants such as floating club-rush, ivy-leaved duckweed and a thriving population of the bladderwort, which obtains nutrients from tiny insects trapped within its submerged bladders.*

*The edge of the swamp-zone is seasonally waterlogged, supporting tall rushes or a sward of smaller grasses, such as creeping bent and Yorkshire-fog with a scattering of swamp plants including lesser spearwort, water mint, marsh marigold and bladder sedge. Disturbed areas here support floating sweet-grass, bulbous foxtail, the uncommon whorl-grass and a population of the nationally scarce pillwort. Temporary pools and water seepages running out from the swamp zone are the favoured habitat of the scarce blue-tailed damselflies, which can be seen on the wing during the summer months.*

*There are large patches of rusty willow scrub in the swamp zone but they occupy less than 5% of the site in total and the willow and birch trees are not encroaching into the open bog and swamp areas. Plants indicating high nutrient levels and disturbance, such as floating sweet-grass and creeping buttercup, may be prominent at the edges of the common but these plants are uncommon in the central wetland areas. There are poached areas with sparse vegetation, where grazing animals roam, but these cover less than 5% of the swamp zone in total.*

*Marshy grassland borders the swamp zone at the southern end of the common and there are more extensive areas of this habitat in the fields that lie below the spring line in the meadows around the edges of the site. This habitat covers around a quarter of the site in total. It is largely dominated by mixtures of rushes and purple moor-grass, with a good range of typical plants, such as common marsh-bedstraw, greater bird's-foot-trefoil, tormentil, sneezewort, wild angelica, meadowsweet, lesser spearwort, carnation sedge, heath spotted-orchid, water mint, common sorrel, cuckooflower, marsh willowherb, marsh pennywort, common sedge and marsh ragwort. Around 30% of this marshy grassland also has plants that are typical of species-rich fen-meadow, including devil's-bit scabious, meadow thistle, fen bedstraw, marsh valerian, flea sedge, quaking grass, cross-leaved heath, tawny sedge and marsh orchids.*

*There several springs within the meadows, which supply mineral-rich water to a series of boggy flushes. Here there are small sedges and "brown" mosses, with plants such as common butterwort, common cottongrass, few-flowered spike-rush, bulbous rush, marsh arrowgrass, quaking grass, marsh lousewort and bog pimpernel. In places the spring water is more acidic and there are flushes dominated by sharp-flowered rush, over bog-mosses. The drier ground within the meadows at the north-eastern end of the site supports some grassland dominated by common bent, crested dog's-tail, sweet vernal-grass and fescue with a good variety of flowering plants including common bird's-foot-trefoil, common knapweed, red clover, glaucous sedge, tormentil, devil's-bit scabious and betony. There are also some patches of damper grassland dominated by creeping bent at the northern end of the site.*

*Purple moor-grass and rushes are not completely dominant anywhere within the marshy grassland and there is no significant accumulation of dead vegetation from year to year. Plants indicating disturbance and nutrient enrichment, such as Yorkshire*

*fog, floating sweet-grass, rough-meadow grass, marsh thistle, creeping buttercup and cleavers are not prominent in these areas. The marshy grassland is generally free from invading scrub.*

*The site supports a wide range of specialised wetland insects, including rare and scarce flies, beetles and bugs. Generally, for each wetland plant or insect of particular interest, the population is stable, or increasing and is sustainable in the long term, the range is not contracting, sufficient habitat exists to support the species and the factors that may affect the species or its habitat are under control.*

*Rhos Goch also supports a good range of wetland breeding birds including snipe, sedge warbler, grasshopper warbler, reed bunting, lapwing and water rail.*

## **2. SITE DESCRIPTION**

### **2.1 Area and Designations Covered by this Plan**

Grid references: **SO 196 483**

Unitary authority: **Powys**

Area (hectares): **67.6 ha**

Designations covered: **Rhos Goch SAC**, which coincides exactly with:  
**Rhos Goch (Rhos Goch Common) SSSI**

Detailed maps of the designated sites are available through CCW's web site:

<http://www.ccw.gov.uk/interactive-maps/protected-areas-map.aspx>

Map 1 shows the area covered by this plan.

### **2.2 Outline Description**

The central core of the site comprises Rhos Goch National Nature Reserve (NNR), a peat bog that has developed in a small glacial lake basin to the north of Hay-on-Wye in Powys. The site also includes surrounding wet meadows and patches of woodland forming part of the "lagg zone" of the bog. The site is the source of two streams, the Cwm-illa Brook (which flows north-east towards the River Arrow) and the Bach Howey (which flows south-west towards the River Wye).

### **2.3 Outline of Past and Current Management**

The common is subject to grazing rights attached to some of the surrounding farms and houses. Some of the commoners still turn out cattle to graze during the summer months. This practice was more widespread in the past and large numbers of horses were present up to the early 1980's.

There are also common rights to cut rushes, dig peat (turbary) and take brushwood (estovers) but these practices largely ceased in the early 20<sup>th</sup> Century when alternative resources became available locally. Since that time tree cover on the common has increased. The spread of birch may also have been helped by wild fires. The last major fire occurred in the 1950's.

Mechanical ditch cleaning along the edge of the common may have led to a lowering of the water table in the 1970s and '80's but these ditches became blocked in the 1990's causing parts of the common, especially the marshy grassland, to become much wetter.

Water levels are now carefully managed to reduce the risk of significant flooding or drying out of the peat. Willow and birch trees are also cut and treated with herbicide to prevent them from dominating the open bog and fen.

The fields surrounding the common are subject to traditional agricultural management, consisting of summer grazing by cattle and sheep.

## 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 mainly on tenure, but also with reference to features and land management requirements.

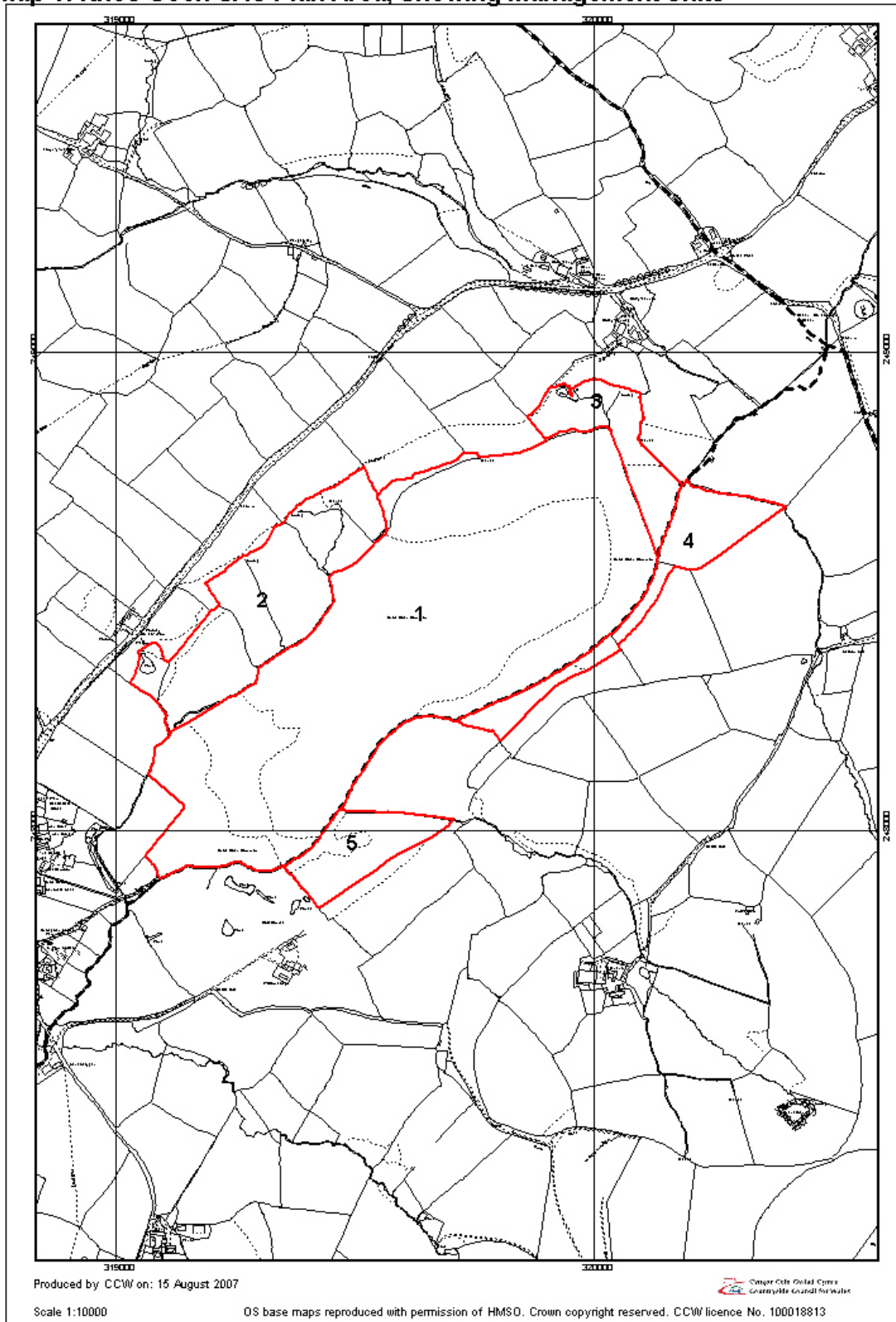
Map 1 shows the boundaries of the management units with the site.

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

| Unit number | SAC | SSSI | CCW owned | Other |
|-------------|-----|------|-----------|-------|
| Rhos Goch   |     |      |           |       |
| 1           | ✓   | ✓    | ✓         | NNR   |
| 2           | ✓   | ✓    |           |       |
| 3           | ✓   | ✓    |           |       |
| 4           | ✓   | ✓    |           |       |
| 5           | ✓   | ✓    |           |       |



**Map 1: Rhos Goch SAC Plan Area, Showing Management Units**



### 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>  |  |   |
| 1. Active raised bogs  | A type that has affinities with dry, “heathy” blanket bog vegetation, wet heath and “heathy” marshy grassland, with purple moor-grass and cross-leaved heath.  | 1                                       |
| 2. Transition mires and quaking bogs   | “Poor fen” vegetation corresponding to a variety of National Vegetation Classification (NVC) mire and swamp types.   | 2                                       |
| 3. Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i> ) | Wet woodland dominated by alder birch and willow. The ground flora consists of a variety of swamp and fen plants including common reed, meadowsweet, purple moor-grass, soft rush, greater tussock sedge and opposite-leaved golden-saxifrage. | 3                                       |
| 4. Bog woodland  | Dominated by alder, birch and willow but with a more acidic ground flora that includes bog mosses.   | 4                                       |
| 5. <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> )  | Fen meadow with purple moor-grass, meadow thistle and a variety of other plants (NVC type: M24).   | 5                                       |
| <i>SPA features</i>  |  |   |
| Not applicable   |  |   |
| <i>Ramsar features</i>   |  |   |
| Not applicable   |  |   |
| <i>SSSI features</i>   |  |   |
| Broadleaved Semi-natural Woodland  | See SAC features 3 & 4 above.  | 3 & 4                                   |
| Marshy Grassland   | Of principle interest are the <i>Molinion caeruleae</i> (see SAC feature 5 above) and the tall herb variant of purple moor-grass mire (National Vegetation Type M25c).   | 6                                       |
| Basin Mire   | See transition mires and quaking bogs SAC feature 2 above  | 2                                       |
| Swamp  | See SAC feature 2 above  | 2                                       |
| Lowland Raised Mire  | See active raised bogs SAC feature above   | 1                                       |
| Bladderwort <i>Utricularia australis</i>   | Found in transition mire areas   | 7                                       |
| Wetland invertebrates  | Including flies, beetles, bugs and damselflies (see below).  | 8                                       |
| Scarce blue-tailed damselfly <i>Ischnura pumilio</i>   | Occurs within the transition mire and wetter marshy grassland areas.   | 9                                       |

### 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.

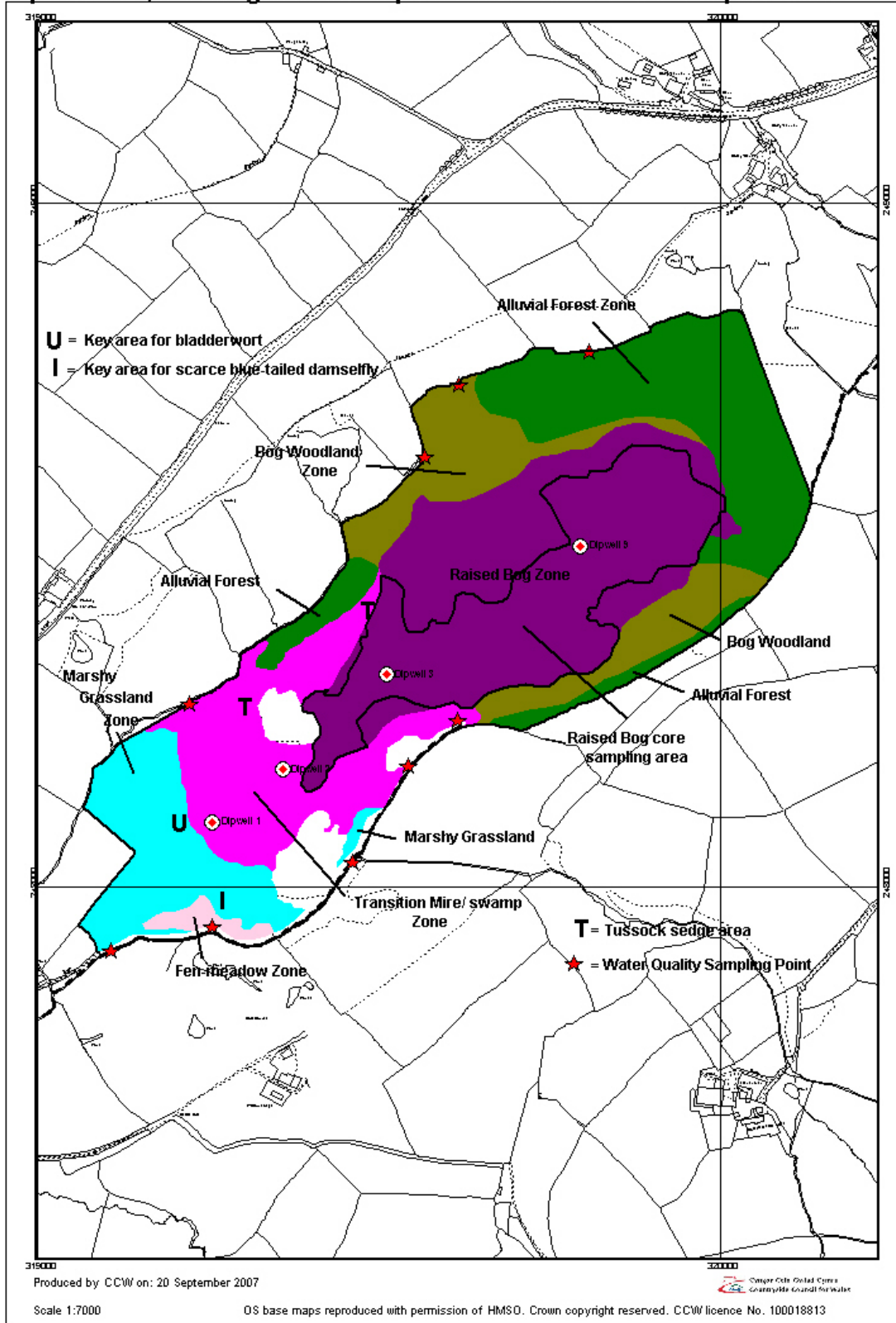
**Mn** - Management units that are essential for the management of features elsewhere on a site e.g. livestock over-wintering area included within designation boundaries, buffer zones around water bodies, etc.

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

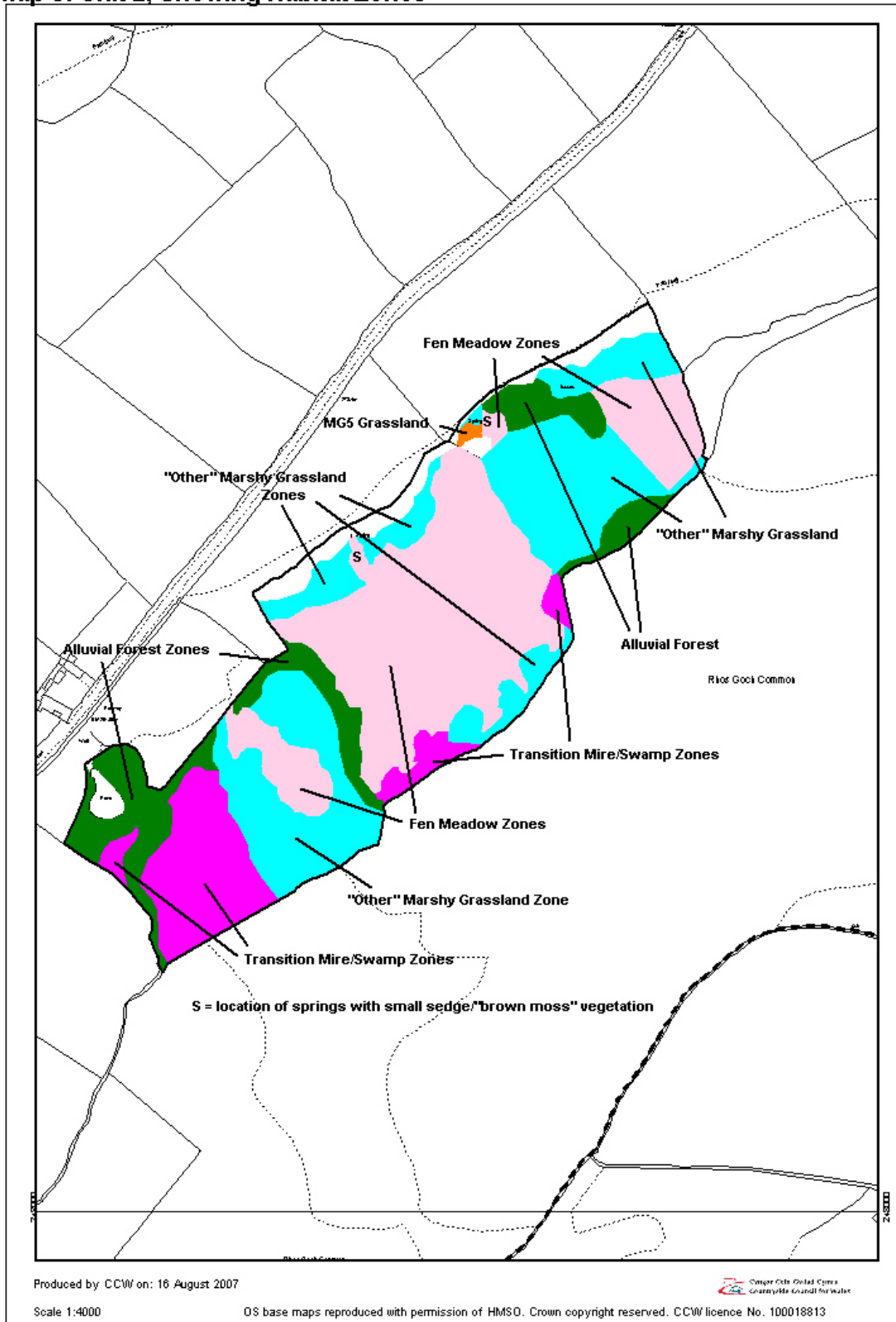
The table below sets out the relationship between the special features and management units identified in this plan:

| Rhos Goch                            | Management unit |            |            |            |            |
|--------------------------------------|-----------------|------------|------------|------------|------------|
|                                      | 1               | 2          | 3          | 4          | 5          |
| <b>SAC features</b>                  |                 |            |            |            |            |
| 1. Active raised bogs                | <b>KH</b>       | <b>x</b>   | <b>x</b>   | <b>x</b>   | <b>x</b>   |
| 2. Transition mires and quaking bogs | <b>KH</b>       | <b>Sym</b> | <b>x</b>   | <b>x</b>   | <b>x</b>   |
| 3. Alluvial forests                  | <b>KH</b>       | <b>Sym</b> | <b>Sym</b> | <b>x</b>   | <b>Sym</b> |
| 4. Bog woodland                      | <b>KH</b>       | <b>x</b>   | <b>x</b>   | <b>x</b>   | <b>x</b>   |
| 5. Eu Molinion meadows               | <b>Sym</b>      | <b>KH</b>  | <b>x</b>   | <b>KH</b>  | <b>KH</b>  |
| <b>SSSI features</b>                 |                 |            |            |            |            |
| 6. Non SAC marshy grassland          | <b>Sym</b>      | <b>KH</b>  | <b>KH</b>  | <b>Sym</b> | <b>Sym</b> |
| 7. Bladderwort                       | <b>KS</b>       | <b>x</b>   | <b>x</b>   | <b>x</b>   | <b>x</b>   |
| 8. Wetland invertebrates             | <b>KS</b>       | <b>KS</b>  | <b>KS</b>  | <b>Sym</b> | <b>Sym</b> |
| 9. Scarce blue-tailed damselfly      | <b>KS</b>       | <b>x</b>   | <b>x</b>   | <b>x</b>   | <b>x</b>   |

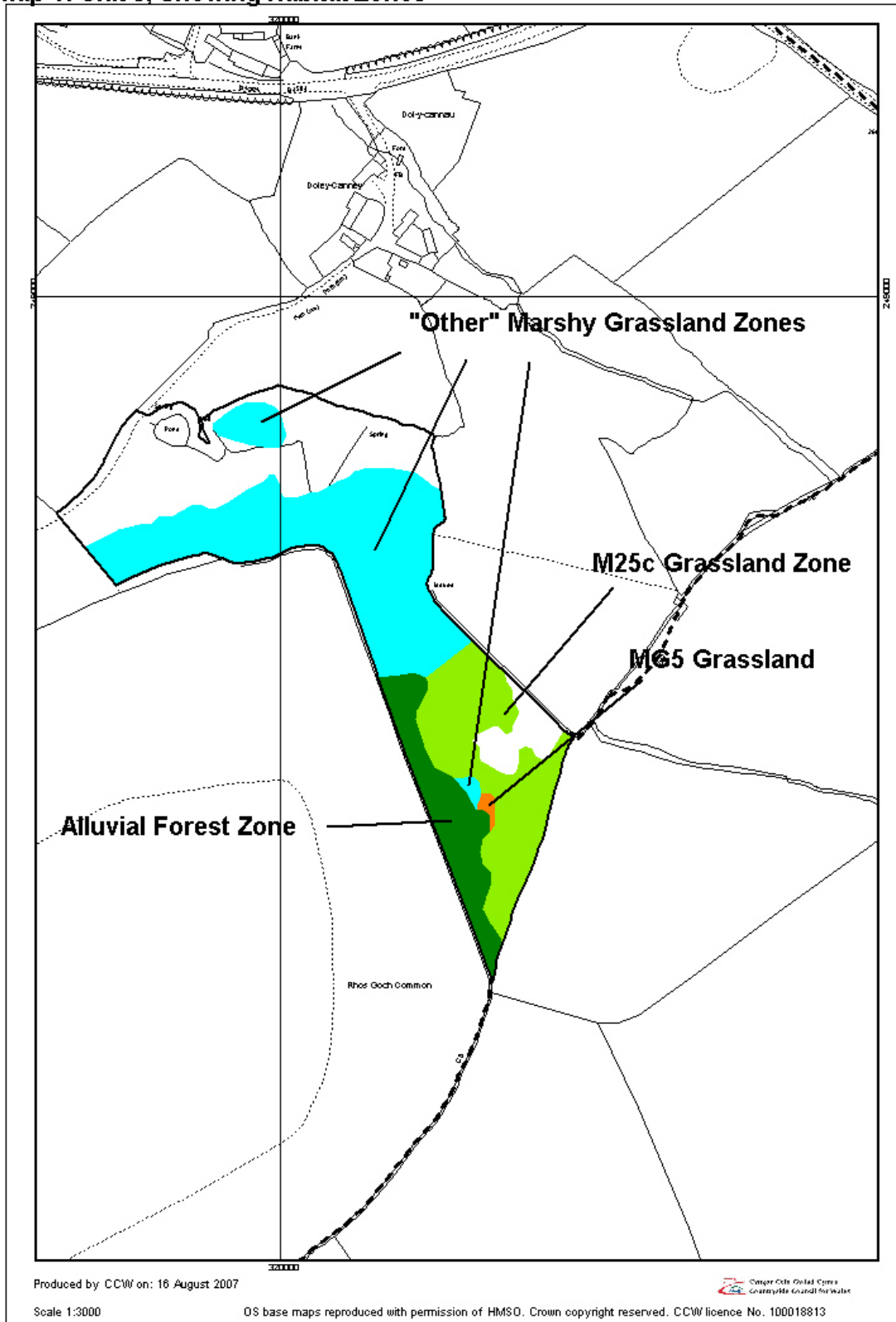
**Map 2: Unit 1, Showing Habitat & Species Distribution and Sample Points**



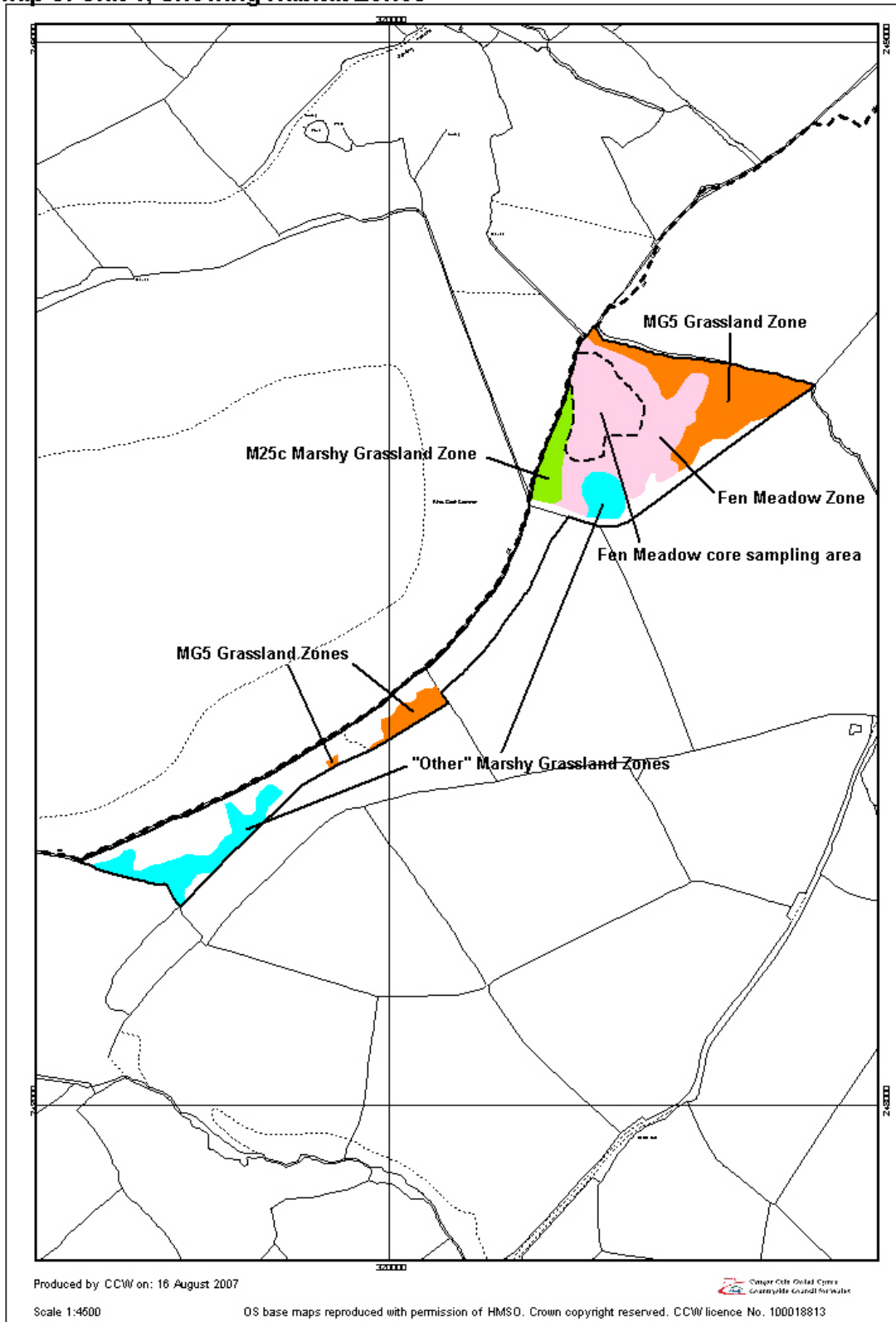
**Map 3: Unit 2, Showing Habitat Zones**



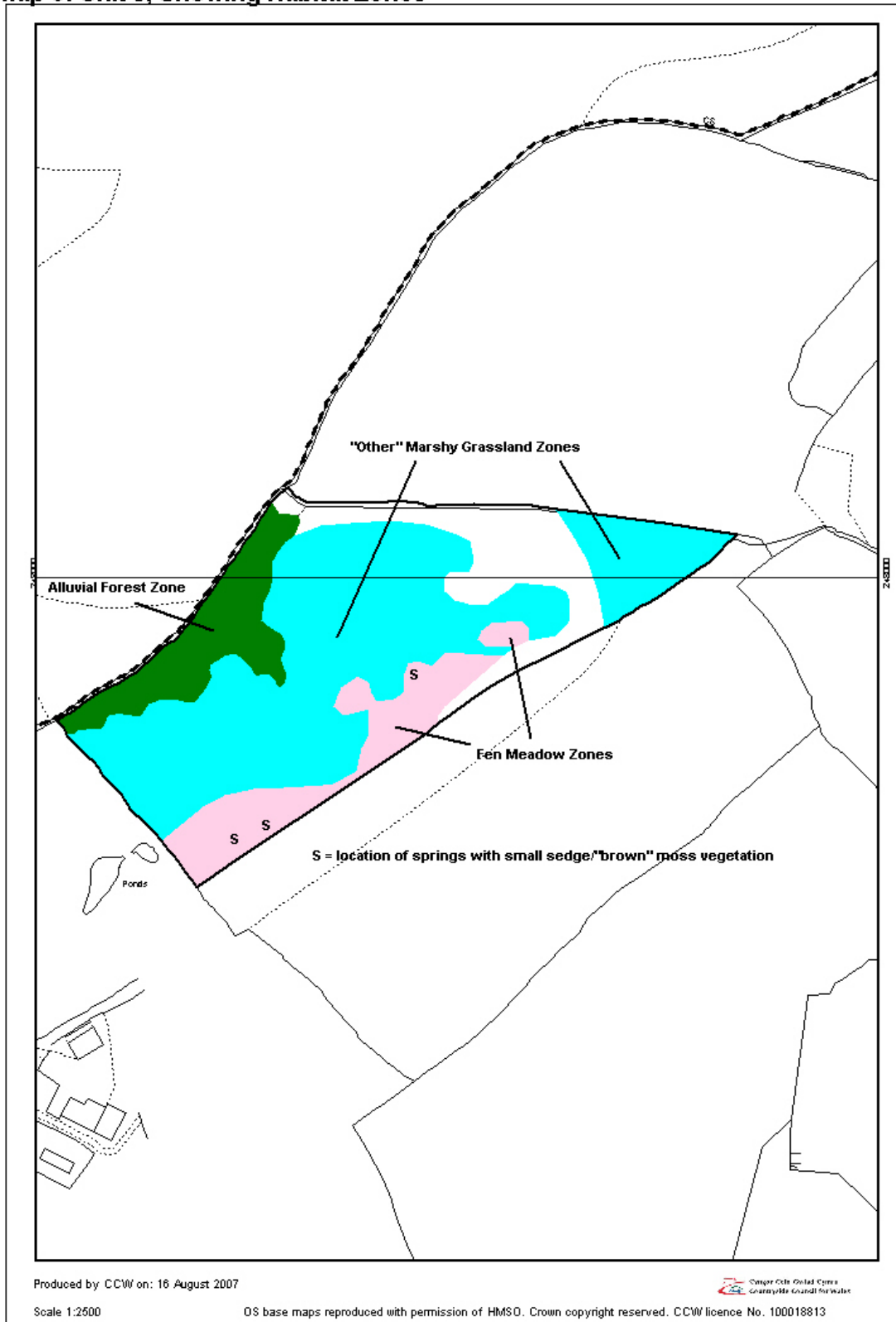
**Map 4: Unit 3, Showing Habitat Zones**



**Map 5: Unit 4, Showing Habitat Zones**



**Map 6: Unit 5, Showing Habitat Zones**





## 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.

Each conservation objective consists of the following two elements:

1. Vision for the feature
2. Performance indicators

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

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

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

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

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#### 4.1 Conservation Objective for Feature 1: - Active raised bogs (EU Habitat Code: 7110)

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##### Vision for feature 1

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

1. Raised bog habitat with only a few scattered trees covers at around 20 % of the site.
2. The bog surface consists of a series of pools and hummocks.
3. The drier hummocks support heather, hare's-tail cottongrass, cross-leaved heath and purple moor-grass, while the pools are dominated by common cottongrass and bog-mosses.
4. Purple moor-grass is not overwhelmingly dominant on the raised bog.
5. Scattered birch trees and willow scrub, where present, do not form a closed canopy.
6. There is no significant bracken encroachment around the bog edges or on the bog dome.
7. Water levels on the bog remain high throughout the year.
8. The vegetation is not affected by atmospheric pollution.
9. All other factors affecting the achievement of the foregoing conditions are under control.

##### 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.

| <i>Performance indicators for feature condition</i>                  |  |  |
|--|--|--|
| <i>Attribute</i>   | <i>Specified limits</i>  | <i>Comments</i>  |
| A1. Extent   | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> 10 ha   | No upper limit required because maximum extent is constrained by hydrological conditions. Lower limit allows for some bog woodland on the raised mire.   |
| A2. Location   | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> unit 1, as shown on map 2   |  |
| A3. Habitat Quality  | <i>Upper limit:</i> n/a<br><i>Lower limit :</i> 80% (70%?) of the raised bog surface will support bog-mosses, (recorded as presence in 1x1 m samples). | Cover of bog-mosses is the best indicator to the condition of active raised bog, because without them there will be minimal active peat growth. No upper limit required because bog moss cover is limited by natural conditions. The lower limit is a <b>recovery target</b> . |
| <i>Performance indicators for factors affecting the feature</i>      |  |  |
| <i>Factor</i>  | <i>Operational Limits</i>  | <i>Comments</i>  |
| F1. Presence of Birch and Willow (living trees greater than 2m high) | <i>Upper limit:</i> at least 25 m between individuals within the core sampling area shown in map 2<br><i>Lower limit:</i> n/a                          | Birch and willow expansion will result in increased water loss and a further drying of the bog. Due to the presence of a seed source around the edges, they will always be present on the bog. The upper limit set should keep water loss and shading at                       |

|  |   |   |
|--|---|---|
|  |   | acceptable levels.  |
| F2. Presence of Scots Pine (and other non-native trees and shrubs) | <i>Upper limit:</i> no seed bearing trees<br><i>Lower limit :</i> n/a   | Large pine trees can contribute significantly to surface drying (see above).  |
| F3. Bracken Cover  | <i>Upper limit:</i> patches of 25 m <sup>2</sup> with a closed canopy, or a single cluster of 1000 fronds within the core sampling area shown on map 2, whichever is the lesser<br><i>Lower limit :</i> n/a | Bracken cover is another indication of surface drying and any more than minimal cover can shade out the bog vegetation.   |
| F4. Water Levels (measured at dipwell 9 – see map 2)               | <i>Upper limit:</i> n/a<br><i>Lower limit :</i> level higher than 257.5m above sea level for at least 40% of the year for three in every five consecutive years   | Levels set initially may need periodic review, especially once the bog grows significantly, or if long-term surveillance indicates the need for a more appropriate level.   |
| F5. Air Quality  | <i>Upper limits:</i> <b>to be determined</b><br><i>Lower limits:</i> N/A  | The level of atmospheric deposition should meet current guideline values for the habitat (see Air Quality Technical Advice Group Guidance) until such time that further information, or evidence of damage, is available. |

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#### 4.2 Conservation Objective for Feature 2:

##### - Transition mires and quaking bogs (EU Habitat Code: 7410)

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#### Vision for feature 2

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

1. “Transition mire”, comprising basin bog and swamp vegetation, with some scattered trees and scrub, covers at around 10% of the site.
2. There is a broad zone of “transition mire” extending to at least 6 ha on the southwest side of the raised bog dome (unit 1), with smaller patches of similar vegetation close to the main ditches in Portway meadows (unit 2).
3. Areas closest to the raised bog have vegetation that is characteristic of more acidic conditions, with plants such as sedges, common cottongrass, marsh cinquefoil, soft rush, water horsetail and marsh pennywort over carpets of bog-mosses.
4. In the central zone of this transition mire, bog-mosses are gradually replaced by others, such as bog groove-moss and spear-mosses, with a greater range of other typical “poor-fen” plants, including bogbean, water mint, bog pondweed, marsh marigold, lesser spearwort, common marsh-bedstraw and forget-me-nots.
5. The areas furthest from the raised bog support additional plants that are found in more nutrient-rich swamps, including common spike-rush, bulrush, lesser pond-sedge, greater tussock-sedge, gipsywort and the locally rare greater spearwort. Here the taller swamp plants form a dense canopy during the summer months but the water beneath supports floating plants such as floating club-rush, ivy-leaved duckweed and bladderwort.

6. There are large patches of rusty willow scrub but they occupy less than 10% of the south western bog transition zone in total and the willow and birch trees are not encroaching into the open bog and swamp areas.
7. Plants indicating high nutrient levels and disturbance, such as floating sweet-grass and creeping buttercup, may be prominent at the edges of the common but these plants are uncommon in the central wetland areas.
8. There are poached areas with sparse vegetation, where grazing animals roam, but these cover less than 5% of the swamp zone in total.
9. Water levels are maintained so that surface water is present throughout the year.
10. There is no significant input of nutrient-rich water from ditches and surrounding land.
11. All other factors affecting the achievement of the foregoing conditions are under control.
12. There are good populations of wetland breeding birds, including water rail, snipe, sedge warbler and reed bunting.

## 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.

| <b>Performance indicators for feature condition</b>   |  |   |
|---|--|---|
| <b>Attribute</b>  | <b>Specified limits</b>  | <b>Comments</b>   |
| A1. Extent  | <i>Upper limit:</i> No more than 1 ha should comprise communities dominated by large sedges<br><i>Lower limit:</i> 6.0 ha within unit 1  | Upper limit set to maintain community and species diversity. Lower limit is based on extent of open mire and swamp in 2006.   |
| A2. Location  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> As shown on maps 2 & 3  |   |
| A3. Habitat Quality   | <i>Upper limit:</i> n/a<br><i>Lower limit :</i> In areas not dominated by large sedges, 80% of the vegetation conforms to one of the habitat definitions below, (assessed in 10 x 10 m samples)                    | Provided that the vegetation fits at least one set of attributes given for the transition mire, it is considered likely that the important communities of the transition will still exist on the site. The amount of each community is not important. |
| <b>Performance indicators for factors affecting the feature</b>                                       |  |   |
| <b>Factor</b>   | <b>Operational Limits</b>  | <b>Comments</b>   |
| F1. Woody Scrub (bushes greater than 2m high measured within the transition mire zone shown in map 2) | <i>Upper limit:</i> 10% canopy cover, no clumps greater than 25m in their major dimension and gaps of at least 25m between clumps<br><i>Lower limit:</i> 5% canopy cover, all points within 50m of a bush or clump | The presence of birch and willow may lower the water table and reduce light levels, but scrub is important for breeding birds and wetland invertebrates. Limits may need reviewing after impact assessments.  |
| F2. Water Levels (measured at dipwells 1 and 2 – see map 2)   | <i>Upper limit:</i> At summer minimum, levels should not exceed 256.3m above sea level for at least 2 out of 5 consecutive years<br><i>Lower limit :</i> At winter maximum, levels should be at                    | Levels set initially may need periodic review if long-term surveillance indicates the need for a more appropriate level.  |

|                   |  |   |
|-------------------|--|---|
|                   | least 256.5m above sea level each year   |   |
| F3. Water Quality | <i>Upper limit:</i> Conductivity of 450 micro-Siemens<br><i>Lower limit :</i> n/a<br>(measured at major inflows – see map 2) | Long term measurements indicate that the “natural” conductivity does not exceed this level. |

|                               |   |
|-------------------------------|---|
| Definition of transition mire | EITHER bottle-sedge at cover of at least 10% and /or spikey bog-moss, bog groove-moss and spear-mosses at cover of at least 50%; Ericoids absent.<br>OR<br>Bog-mosses, bottle-sedge and common cottongrass at cover of at least 50% and Ericoids present.<br>OR<br>The cover of the following species, alone or in combination, is at least 30%: bottle sedge; common spike-rush; water horsetail; water mint; bogbean; bog pondweed; marsh cinquefoil<br>AND<br>Phragmites australis at less than 25% cover. |
| Sampling approach             | Grid sampling   |

#### 4.3 Conservation Objective for Feature 3:

- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (EU Habitat Code: 91E0)

#### Vision for feature 3

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

1. Around 20% of the site supports alluvial forest.
2. The majority of this woodland is found in the “lagg zone” of the raised bog around the north-eastern edge of the common (unit 1). With small patches within the meadows at Portway (unit 2), Dol-y-cannau (unit 3) and Cefn-y-blean (unit 5).
3. The tree canopy consists of mixtures of downy birch, alder and rusty willow, with some ash and aspen in places.
4. The ground flora consists of a variety of wetland plants, including common reed, greater tussock sedge, purple moor-grass, meadowsweet, hemp-agrimony, bittersweet, soft rush, opposite-leaved golden-saxifrage and marsh marigold.
5. The woodland is maintained as far as possible by natural processes.
6. The canopy is fairly even but there occasional gaps where trees have died.
7. The location of open glades varies over time.
8. Standing and fallen dead wood is plentiful.
9. Non native trees and shrubs, such as Scots pine and sycamore, are rare.
10. Plants indicating high nutrient levels, such as common nettle, bramble, cleavers and creeping buttercup, occur locally but are nowhere overwhelmingly dominant.
11. Plants indicating surface drying, such as purple moor-grass, bracken and bramble, do not dominate the woodland ground flora.
12. Grazing is light enough to allow regeneration of trees and shrubs.
13. Water levels are maintained so that surface water is present throughout the year.
14. There is no significant input of nutrient-rich water from ditches and surrounding land.

15. All other factors affecting the achievement of the foregoing conditions are under control.  
 16. The woodland supports populations of typical breeding birds.

### 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.

| <i>Performance indicators for feature condition</i>             |   |  |
|---|---|--|
| <i>Attribute</i>  | <i>Specified limits</i>   | <i>Comments</i>  |
| A1. Extent  | <i>Upper limit:</i> 12.6 ha<br><i>Lower limit:</i> 10.3 ha  | Upper limit set to prevent encroachment into other key habitats. Lower limit is based extent mapped in 2006.   |
| A2. Location  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> As shown on maps 2, 3, 4 & 6   |  |
| A3. Habitat Quality   | <i>Upper limits:</i><br>In at least 90% of the wet woodland designated area:<br>The canopy is present<br><b>AND</b><br>The ground cover of each of cleavers and bracken does not exceed 10%<br><b>AND</b><br>cover of each of creeping buttercup, nettle, purple moor-grass does not exceed 30%<br><b>AND</b><br>bramble does not exceed 50%<br><br>(all within a radius of 10m of sample points)<br><br><i>Lower limits:</i> above plants are absent | Upper limits based on abundance of plants indicating high nutrient inputs, or surface drying. Lower limits for plants that are “positive indicators” not set because they are assumed to be present if all other indicators are positive |
| <i>Performance indicators for factors affecting the feature</i> |   |  |
| <i>Factor</i>   | <i>Operational Limits</i>   | <i>Comments</i>  |
| F1. Presence of non-native trees and shrubs                     | <i>Upper limit:</i> no seed bearing trees<br><i>Lower limit :</i> n/a   | These can displace the native trees and shrubs, lead to surface drying and suppress the ground vegetation.   |

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#### 4.4 Conservation Objective for Feature 4: - Bog woodland (EU Habitat Code: 91D0)

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##### Vision for feature 4

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

1. Around 10 - 15 % of the site supports bog woodland.
2. All of this woodland occurs in patches around the edges of the raised bog or in the adjacent “lagg zone” around the north-eastern edge of the common.
3. The tree canopy consists of mainly downy birch on the bog surface and mixtures of downy birch, rusty willow and alder in the lagg zone.
4. The ground flora generally consists of purple moor-grass and common reed over carpets of bog-mosses. Other typical plants found here include marsh cinquefoil, water horsetail, lady fern, bilberry and velvet bent grass. Royal fern is abundant in some areas.
5. The woodland is maintained as far as possible by natural processes.
6. The canopy may be fairly open, particularly on the raised bog dome, with large glades.
7. The location of open glades may vary over time.
8. Standing and fallen dead wood are common in places.
9. Non native trees and shrubs, such as Scots pine, are rare.
10. Plants indicating high nutrient levels, such as common nettle, bramble, cleavers and creeping buttercup are absent.
11. Plants indicating surface drying, such as bracken, do not dominate the ground flora.
12. Grazing is light enough to allow some regeneration of trees and shrubs.
13. Water levels are maintained so that water table is at or close to the surface throughout the year.
14. All other factors affecting the achievement of the foregoing 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.

| <i>Performance indicators for feature condition</i> |  |   |
|---|--|---|
| <i>Attribute</i>                                    | <i>Specified limits</i>  | <i>Comments</i>   |
| A1. Extent  | <i>Upper limit:</i> 12.4 ha within unit 1<br><i>Lower limit:</i> 5.0 ha within unit 1  | Upper limit set to prevent excessive encroachment onto the open raised bog. Lower limit is based on extent mapped in 2006.  |
| A2. Location  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> Lagg zone and raised bog, as shown on map 2   |   |
| A3. Habitat Quality                                 | <i>Upper limits:</i><br>In at least 90% of the bog woodland designated areas:<br>Common nettle, cleavers and creeping buttercup are absent<br><br><b>AND</b><br>The ground cover of of bramble does not exceed 10% | Upper limits based on abundance of plants indicating high nutrient inputs, or surface drying. Provided that the vegetation fits at least one set of attributes given, it fulfils the definition of bog woodland. The amount of each community is not important. |



|   | <p><b>AND</b></p> <p>The ground cover of bracken does not exceed 25% (within a radius of 10m)</p> <p><i>Lower limits:</i> In areas designated as bog woodland, 80% of the vegetation conforms to one of the habitat definitions below (assessed in 10 x 10 m samples)</p> |  |
|---|---|--|
| <i>Performance indicators for factors affecting the feature</i> |   |  |
| <i>Factor</i>   | <i>Operational Limits</i>   | <i>Comments</i>  |
| F1. Presence of Scots pine                                      | <i>Upper limit:</i> no seed bearing trees<br><i>Lower limit :</i> n/a   | Can displace the native trees and shrubs, lead to surface drying and suppress the ground vegetation. |

|                            |  |
|----------------------------|--|
| Definition of bog woodland | EITHER canopy dominated by downy birch and willows, bog-mosses and purple moor-grass at a ground cover of at least 50% and royal fern and/or ericoids present.<br>OR<br>common reed and bog-mosses at cover of at least 50% and alder present in the canopy. |
| Sampling approach          | ?  |

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#### 4.5 Conservation Objective for Feature 5:

- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 7410)

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#### Vision for feature 5

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

1. Species-rich “fen-meadow” vegetation occupies between 6 and 10% of the site in total.
2. A large part of Portway meadows (unit 2) support this vegetation and there are other patches on the drier ground at the south-west end of the common (unit 1), Llanshiver (unit 4) and Cefn-y-blaen (unit 5).
3. The vegetation consists of mixtures of purple moor-grass and sharp-flowered rush, with a wide variety of other plants, including devil’s-bit scabious, meadow thistle, fen bedstraw, marsh valerian, flea sedge, quaking grass, cross-leaved heath, tawny sedge and marsh orchids.
4. Purple moor-grass and rushes are not completely dominant and there is no significant accumulation of dead vegetation from year to year.
5. Plants indicating disturbance and nutrient enrichment, such as Yorkshire fog, floating sweet-grass, rough-meadow grass, marsh thistle, creeping buttercup and cleavers are not prominent in these areas.

6. The fen meadow areas may have scattered trees or bushes but are generally free from dense or invading scrub.
7. Some bare ground is present but cattle poached areas are not extensive.
8. Water levels are maintained so that the water table is close to the surface throughout the year but these areas are not subject to regular flooding.
9. There is no significant input of nutrient-rich water from ditches and surrounding land.
10. All other factors affecting the achievement of the foregoing conditions are under control.
11. There are good populations of wetland breeding birds, such as snipe and lapwing.

### 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.

| <i>Performance indicators for feature condition</i>             |   |  |
|---|---|--|
| <i>Attribute</i>  | <i>Specified limits</i>   | <i>Comments</i>  |
| A1. Extent  | <i>Upper limits:</i> 4 ha in unit 2<br>1 ha in unit 4<br>0.4 ha in unit 5<br><i>Lower limits:</i> 3.5 ha in unit 2<br>0.5 ha in unit 4<br>0.2 ha in unit 5  | Upper limits allow for recovery of purple moor-grass pasture that may formerly been of this type. Lower limits are based on the extent mapped in 1995. |
| A2. Location  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> As shown on maps 2, 3, 5 & 6   |  |
| A3. Habitat Quality   | <i>Upper limit:</i> Cover of purple moor-grass less than 50% (not forming large tussocks)<br><b>AND</b><br>Cover of rushes, less than 30%<br><b>AND</b><br>Less than 30% dead vegetation<br><i>Lower limit:</i> At least 65% of the marshy grassland in each of units 2, 4 and 5, contains:<br>Purple moor-grass and sharp-flowered rush and at least 5 of the typical plants listed below<br><br><b>AND</b><br>Some dead vegetation in most samples<br>(measured in 1x1m quadrats) | Limits set to define good quality “fen meadow” habitat.  |
| <i>Performance indicators for factors affecting the feature</i> |   |  |
| <i>Factor</i>   | <i>Operational Limits</i>   | <i>Comments</i>  |
| F1. Woody Shrubs (greater than 1.5m high)                       | <i>Upper limit:</i> 3 bushes per ha in fen-meadow areas of units 2, 4 & 5<br><i>Lower limit:</i> none present   | Limit set to prevent shading and habitat loss.   |
| F2. Bare Ground   | <i>Upper limit:</i> 10% bare ground<br><i>Lower limit:</i> bare ground present  | Limits set to prevent large scale poaching damage but to preserve bare   |

|                   |   |  |
|-------------------|---|--|
|                   | in some samples<br>(measured in 1x1m quadrats)                                | ground for plants to seed into and provide invertebrate habitat.   |
| F3. Water Levels  | <i>Upper limit: to be determined</i><br><i>Lower limit : to be determined</i> | Lower limit should keep the water table close to the surface whilst upper limit should prevent regular flooding. |
| F4. Water Quality | See 4.2 above   |  |

|   |   |
|---|---|
| Typical plants of species-rich fen meadow (National Vegetation Classification Type M24) | Tormentil, devil's-bit scabious, meadow thistle, carnation sedge, fen bedstraw, marsh valerian, flea sedge and tawny sedge. |
|---|---|

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#### **4.6 Conservation Objective for Feature 6: - Other Marshy Grassland (and associated habitats)**

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##### **Vision for feature 6**

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

1. Pasture dominated by rushes and/or purple moor-grass, or meadowsweet (including species-rich fen-meadow – see feature 5 above) occupies between 25 and 30% of the site in total.
2. This vegetation is widespread in the surrounding meadows (units 2–5) and also occurs at the south-west end of the common (unit 1).
3. Portway meadows (unit 2) and Dol-cannau (unit 3) supports a large patches of purple moor-grass pasture containing tall herbs, such as wild angelica, meadowsweet and common valerian. A small patch of similar vegetation occurs at Llanshiver (unit 4).
4. Purple moor-grass and rushes are not completely dominant and there is no significant accumulation of dead vegetation from year to year.
5. Plants indicating disturbance and nutrient enrichment, such as Yorkshire fog, floating sweet-grass, rough-meadow grass, marsh thistle, creeping buttercup and cleavers may be locally abundant but are not prominent across large areas.
6. There are mineral rich springs, with associated small sedge and brown moss vegetation, in Portway meadows and at Cefn-y-blaen (units 2 & 5) and transitions to areas of unimproved neutral grassland at Portway and Llanshiver (units 2 & 4).
7. The marshy grassland areas may have scattered trees or bushes but are generally free from dense or invading scrub.
8. There are large patches open ground where cattle pass through regularly or congregate but these poached areas do not make up more than 5% of the total grassland area.
9. Water levels are maintained so that the water table is close to the surface throughout the year and areas bordering the swamp margin on the common, or close to the meadow ditches, are subject to seasonal flooding.
10. There is no significant input of nutrient-rich water from ditches and surrounding land.
11. All other factors affecting the achievement of the foregoing conditions are under control.
12. There are good populations of wetland breeding birds, such as snipe and lapwing.

## 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.

| <i>Performance indicators for feature condition</i>                     |   |  |
|---|---|--|
| <i>Attribute</i>  | <i>Specified limits</i>   | <i>Comments</i>  |
| A1. Extent of purple moor-grass pasture with tall herbs (NVC type M25c) | <i>Upper limits:</i> 1 ha in unit 2<br>1 ha in unit 3<br><i>Lower limits:</i> 0.7 ha in unit 2<br>0.5 ha in unit 3  | Upper limits allow for scrub clearance and recovery of purple moor-grass pasture that may formerly been of this type. Lower limits are based on the extent mapped in 1995. |
| A2. Location of marshy grassland  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> As shown on maps 2 - 6   |  |
| A3. Location of associated habitats of interest                         | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> Distribution of National Vegetation Classification types M10 and MG5, as shown on maps 3 – 6   | May require sampling to confirm that the vegetation still conforms to type.  |
| A4. Quality of NVC type M25c  | <i>Upper limits:</i> Cover of purple moor-grass less than 50% (not forming large tussocks)<br><br><b>AND</b><br><br>Cover of rushes, less than 30%<br><br><b>AND</b><br><br>Less than 30% dead vegetation<br><i>Lower limits:</i> At least 65% of the type M25c grassland in each of units 2 and 3, contains:<br>Purple moor-grass and sharp-flowered rush and at least 5 of the typical plants listed below<br><b>AND</b><br>Some dead vegetation in most samples<br>(measured in 1x1m quadrats) | Limits set to define good quality habitat.   |
| <i>Performance indicators for factors affecting the feature</i>         |   |  |
| <i>Factor</i>   | <i>Operational Limits</i>   | <i>Comments</i>  |
| F1. Woody Shrubs (greater than 1.5m high)                               | <i>Upper limit:</i> 3 bushes per ha in marshy grassland areas of units 2, 4 & 5<br><i>Lower limit:</i> none present   | Limit set to prevent shading and habitat loss.   |

|                   |  |   |
|-------------------|--|---|
| F2. Bare Ground   | <i>Upper limit:</i> 5% bare ground (across entire sample area)<br><i>Lower limit:</i> to be determined | Limits set to prevent large scale poaching damage but to preserve sufficient bare ground habitat for plants like bladderwort, pillwort and invertebrates. |
| F3. Water Levels  | <i>Upper limit:</i> to be determined<br><i>Lower limit :</i> to be determined                          | Lower limit should keep the water table close to the surface and allow for localised seasonal flooding.   |
| F4. Water Quality | See 4.2 above  |   |

|  |  |
|--|--|
| Typical plants of purple moor-grass pasture with tall herbs (National Vegetation Classification Type M25c) | Tormentil, common sorrel, wild angelica, common marsh-bedstraw, meadowsweet, devil's-bit scabious, common sedge and common valerian. |
|--|--|

#### 4.7 Conservation Objective for Feature 7:

##### - Bladderwort

##### Vision for feature 7

1. There is a thriving population of bladderwort along the margins of the swamp zone and in adjacent marshy grassland at the south-west end of the common (unit 1).
2. Vegetation in these areas is fairly open and there is minimal scrub cover.
3. Associated plants include floating club-rush, ivy-leaved duckweed and pillwort.
4. There is standing water present in these areas for much of the year and patches of bare mud in the summer, providing suitable habitat for these plants.
5. Generally, the bladderwort population is stable, or increasing and is sustainable in the long term, the range is not contracting, sufficient habitat exists to support the species and the 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.

| <i>Performance indicators for feature condition</i>             |   |  |
|---|---|--|
| <i>Attribute</i>  | <i>Specified limits</i>   | <i>Comments</i>  |
| A1. Distribution  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> As shown on map 2  | Should be present centred on this location.  |
| A2. Population Size   | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> 50 scattered locations found at least 5m apart within the area defined above during a one hour search by a single person at least once in every five-year period | Limits are difficult to determine. A different method of sampling might be needed if the clumps grow large and start to join together. |
| <i>Performance indicators for factors affecting the feature</i> |   |  |
| <i>Factor</i>   | <i>Operational Limits</i>   | <i>Comments</i>  |
| F1. Woody Shrubs  | <i>Upper limit:</i> 3 bushes per ha in  | Limit set to prevent shading and   |

|  |  |   |
|--|--|---|
| (greater than 1.5m high)                               | the area defined above<br><i>Lower limit: none present</i>   | habitat loss.   |
| F2. Bare Ground<br>(measured at the end of October)    | <i>Upper limit: to be determined (limit individual patch size or path width)</i><br><i>Lower limit: to be determined (larger patches could mapped)</i> | Subject to ongoing surveillance, realistic limits need setting to prevent large scale poaching damage but to preserve sufficient bare ground habitat. |
| F3. Water Levels<br>(measured at dipwell 1– see map 2) | <i>Upper limit: to be determined</i><br><i>Lower limit : to be determined</i>  | Lower limit should ensure that surface water is present for much of the year.   |

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#### 4.8 Conservation Objective for Feature 8: - Assemblage of wetland invertebrates

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##### Vision for feature 8

1. There are thriving populations of invertebrates associated with bogs, wet woodland, marshy grassland, fen open water and bare mud/peat, such as beetles, bugs, flies, spiders and molluscs, including many rare and scarce species.
2. Sufficient plants, such as sedges, reeds and cottongrass, are available to support insects that are dependent on specific food plants.
3. Vegetation structure throughout the site is varied and complex providing shelter for the full range of typical invertebrates.
4. Water levels vary, bare ground is present and other physical features provide suitable habitat for particular species of interest.
5. Generally, for key species, the population is stable, or increasing and is sustainable in the long term, the range is not contracting, sufficient habitat exists to support the species and the 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.

| <i>Performance indicators for feature condition</i>             |   |  |
|---|---|--|
| <i>Attribute</i>  | <i>Specified limits</i>   | <i>Comments</i>  |
| A1. Quality   | <i>Upper limit: n/a</i><br><i>Lower limit: All key species of invertebrate listed below are recorded as present on the site in every 10 year period</i> | Key species have been selected as readily identifiable indicators of the quality of the complete assemblage associated the full range of wetland habitats. |
| <i>Performance indicators for factors affecting the feature</i> |   |  |
| <i>Factor</i>   | <i>Operational Limits</i>   | <i>Comments</i>  |
| F1. Habitat Extent  | As set for key habitats (see objectives above)  | May need additional limits for pools and streams.  |
| F2. Habitat Distribution  | As mapped for key habitats (see above)  |  |

|                             |   |   |
|-----------------------------|---|---|
| F3. General Habitat Quality | As defined for key habitats (see above)   | May need specific limits for certain key food plants, eg. Sedges, common reed, marsh cinquefoil, water-cress and cottongrass. |
| F4. Sedge Tussocks          | <i>Upper limit:</i> Confined to areas shown on map 2<br><i>Lower limit:</i> Large sedge tussocks frequent in these areas  | Lower limit set to ensure that there are sufficient refuges for several species that depend on such tussocks.                 |
| F5. Dead Wood and Fungi     | <i>Upper limits:</i> n/a (within wooded areas)<br><i>Lower limits:</i> limits to be determined for the more mature woodland on the north-eastern edge of the common | Lower limit should ensure survival of a variety of fungus gnats and other invertebrates dependent on dead wood.               |
| F6. Bare Ground             | As defined for key habitats and species   |   |
| F7. Water Levels            | As defined for key habitats and species   |   |
| F8. Water Quality           | As defined for key habitats (see above)   |   |

### 39 Key invertebrate species:

#### MOLLUSCA

*Vertigo antivertigo*

#### ARACHNIDA

*Argyroneta aquatica*

#### HEMIPTERA

*Chartoscirta cocksi*

*Pachybrachius fracticollis*

#### COLEOPTERA

*Actenicerus sjaelandicus*

*Agonum marginatum*

*Anisostictus*

*novemdecimpunctatus*

*Blethisa multipunctata*

*Cantharis thoracica*

*Carabus granulatus*

*Chlaenius nigricornis*

*Coccinella hieroglyphica*

*Donacia simplex*

*Enochrus affinis*

*Gymnetron beccabungae*

*Longitarsus holsaticus*

*Pelemonus comari*

*Philonthus atratus*

*Plateumaris discolor*

*Psammoecus bipunctatus*

*Thryogenes nereis*

*Trichocellus placidus*

#### DIPTERA

*Anasymia contracta*

*Erioptera nielseni*

*Helius pallirostris*

*Hybomitra montana*

*Neoscasia meticulosa*

*Ochthera mantis*

*Odontomyia tigrina*

*Oplodontha viridula*

*Pherbellia griseola*

*Phylidorea abdominalis*

*Pilaria fuscipennis*

*Pilaria meridiana*

*Pogonota barbata*

*Psacadina verbekei*

*Psacadina zernyi*

*Sepedon sphegea*

*Tipula melanoceros*

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#### 4.9 Conservation Objective for Feature 9: - Scarce blue-tailed damselfly *Ischnura pumilio*

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##### Vision for feature 9

1. There is a thriving population of scarce blue-tailed damselfly associated with shallow pools or streams with muddy margins.
2. Temporary pools and water seepages running out from the swamp zone at the south-west end of the common are the favoured areas for this species, which can be seen on the wing during the summer months.
3. Vegetation structure close these patches of aquatic habitat consists of tall emergent plants where adult damselflies can perch.  
These areas are not heavily shaded but nearby trees and scrub provide some shelter from the wind.
4. There is standing water present in these areas for much of the year and patches of bare mud in the summer.
5. The water in these areas is not highly acidic and there no significant nutrient pollution.
6. Generally, the damselfly population is stable, or increasing and is sustainable in the long term, the range is not contracting, sufficient habitat exists to support the species and the factors that may affect the species or its habitat are under control.

##### Performance indicators for feature 9

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>Specified limits</i>   | <i>Comments</i>  |
| A1. Population Size (transect is located along 100m of swamp drainage channels and pool edges in the vicinity of point I – see map 2) | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> An annual population index of 10 (maximum number of adult males seen on one transect count)                | It is difficult to define what constitutes a viable population for this species, but recorded adult males over the years suggests that in good summers the maximum number of males counted should approach at least ten individuals. |
| <i>Performance indicators for factors affecting the feature</i>   |   |  |
| <i>Factor</i>   | <i>Operational Limits</i>   | <i>Comments</i>  |
| F1. Habitat Extent  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> to be determined   |  |
| F2. Habitat Distribution  | <i>Upper limit:</i> n/a<br><i>Lower limit:</i> shown on map 2 (key area for the species)  | Particular pools and streams known to be associated with this species need mapping.  |
| F3. Habitat structure (measured adjacent to key pools and ditches)  | <i>Upper limits:</i> 75% tall vegetation<br>25% short/bare<br><i>Lower limits:</i> 25% tall vegetation<br>75% short/bare<br>(in key area for the species) | Allows for a variety of structural elements as required by the species.  |
| F4. Bare Ground (measured adjacent to key pools and ditches)  | <i>Upper limit:</i> 50% bare mud<br><i>Lower limit:</i> 20% bare mud<br>(in key areas for the species)  | Set with reference to habitat conditions in the preferred areas.   |
| F6. Water Levels  | As defined for key habitats and species (see objectives above)  |  |



|                   |   |  |
|-------------------|---|--|
| F7. Water Quality | As defined for key habitats (see above) |  |
|-------------------|---|--|

## **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.

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### **5.1 Conservation status and management requirements of Feature 1: Active raised bogs (EU Habitat Code: 7110)**

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#### **Conservation status**

##### **Favourable (June 2005)**

Feature condition was assessed in unit 1 using three performance indicators:

A1. Extent, shown on 2002 air photograph: **Favourable**.

A2. Location, shown on 2002 air photograph: **Favourable**.

A3. Habitat Quality, based on field assessment: **Unfavourable – recovering**, insufficient cover of bog-mosses on the bog surface.

The feature is assumed to be recovering because remedial measures to restore the surface wetness have been implemented. That is, regulating site drainage and removing tree cover from the bog surface. Therefore, overall conservation status for the feature within the site is deemed to be favourable.

#### **Management requirements (2007)**

##### **Grazing**

Maintain a suitable grazing regime on the common (unit 1) using cattle (and possibly ponies) during the summer months, so that, ideally, there is sufficient grazing pressure on the raised bog area to prevent tree and shrub re-generation. In practice this may be difficult to achieve as stock access is difficult except in very dry periods. Grazing pressure should not be high enough to suppress the growth of heather or cause significant poaching.

##### **Water levels**

Maintain a high water table beneath the raised bog by removing birch (see below) carefully managing water levels (see 5.2 below).

##### **Scrub Encroachment**

Continue to manage birch and willow on the raised bog by cutting and removal and/or chemical treatment with approved herbicide, as necessary. The few scattered Scot's Pine may also need to be removed to ensure they do not seed onto the raised bog. Clearance should leave an uneven boundary with the adjacent woodland to provide sheltered areas for wetland invertebrates.

##### **Atmospheric pollution**

Pollution from distant sources may be having a detrimental effect on the sensitive bog vegetation. Background levels, arising from emissions by traffic, agriculture and major point sources, should be reduced below target thresholds.

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## **5.2 Conservation status and management requirements of Feature 2: Transition mires and quaking bogs (EU Habitat Code: 7410)**

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### **Conservation status**

#### **Favourable (August 2005)**

Feature condition was assessed in unit 1 using one performance indicator:

F1.Woody Scrub, based on 2002 air photograph: **Unfavourable - recovering**, high cover of woody scrub within the transition zone.

The feature is assumed to be recovering because remedial measures to reduce scrub cover are already in progress. That is, cutting and removing willow and birch, herbicide treatment and regulating water levels. Therefore, overall conservation status for the feature within the site is deemed to be favourable.

#### **Management requirements (2007)**

##### **Grazing**

Maintain a suitable grazing regime on the common (unit 1) using cattle (and possibly ponies) during the drier months, so that, ideally, there is sufficient grazing pressure on the transition mire and swamp areas to prevent tree and shrub re-generation, prevent a build-up of dead vegetation and In practice this may be difficult to achieve sufficient grazing during wet summers when stock access is more difficult.

Grazing pressure should not be high enough to suppress the growth of tall swamp plants in the wetter areas or cause widespread poaching.

##### **Water levels**

Maintain a high water table with significant amounts of surface water throughout the year by maintaining inflows (see 5.5 below) and carefully managing water levels in the main boundary ditches around the common. Control the level of outflows using dams and sluices if necessary. Ditch cleaning should not over-deepen the channel and dredgings should not be dumped in areas with sensitive vegetation.

##### **Scrub Encroachment**

Continue to manage willow and birch in the transition mire and swamp areas, as necessary, by cutting and removal or chemical treatment through injection. Sufficient scrub should be retained to provide shelter and breeding habitat for wetland invertebrates and birds.

##### **Pollution**

Prevent pollution from nutrient run-off (see 5.5 below).

---

**5.3 Conservation status and management requirements of Feature 3:  
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*,  
*Salicion albae*) (EU Habitat Code: 91E0)**

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**Conservation status**

**Favourable (June 2005)**

Feature condition was assessed in unit 1 using three performance indicators:

- A1. Extent, based on field checking: **Favourable**
- A2. Location, based on 2002 air photograph: **Favourable**
- A3. Habitat Quality, field sampling: **Favourable**

Overall conservation status for the feature within the site is deemed to be favourable because current management practices are likely to maintain favourable feature condition.

**Management requirements (2007)**

**Grazing**

Anything other than occasional light grazing could damage the wet woodland areas. However, the main woodland areas are located on the parts of the common (unit 1) that are fairly inaccessible to stock and it is neither practical nor desirable to erect fencing to achieve total exclusion.

**Water levels**

Maintain a high water table with significant amounts of surface water in the wooded lagg zone throughout the year by maintaining inflow (see 5.5 below) and carefully managing water levels (see 5.2 above).

**Woodland Management**

It is unlikely that any management of the wet woodland will be necessary. Due to the instability of the ground, the trees reach a limited height before collapsing and regenerating naturally. This natural process is expected to continue. Dead wood is also accumulating naturally. Holders of common rights may wish to remove brushwood but are unlikely to do so in the wettest areas where access is so difficult. Some small-scale cutting for firewood around the margins would probably be acceptable, so long as re-growth is protected from grazing stock.

**Pollution**

Prevent pollution from nutrient run-off (see 5.5 below).

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**5.4 Conservation status and management requirements of Feature 4:  
Bog woodland (EU Habitat Code: 91D0)**

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**Conservation status**

**Favourable (June 2005)**

Feature condition was assessed in unit 1 using three performance indicators:

- A1. Extent, based on field checking: **Favourable**
- A2. Location, based on 2002 air photograph: **Favourable**

A3. Habitat Quality, field sampling: **Unfavourable - recovering**, less than 90% of samples conformed to the standards set (indicators of surface drying).

The feature is assumed to be recovering because measures to restore the surface wetness have been implemented (see 5.1 & 5.2 above). Therefore, overall conservation status for the feature within the site is deemed to be favourable.

### **Management requirements (2007)**

#### **Grazing**

Keep grazing pressure in these areas to a minimum (see 5.3 above).

#### **Water levels**

Maintain a high water table throughout the year by maintaining inflow (see 5.5 below) and carefully managing water levels (see 5.2 above).

#### **Woodland Management**

Keep management to a minimum (see 5.3 above).

#### **Atmospheric pollution**

Reduce atmospheric pollution to protect sensitive vegetation (see 5.1 above).

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### **5.5 Conservation status and management requirements of Feature 5:**

***Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) (EU Habitat Code: 7410)**

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#### **Conservation status**

##### **Favourable (July 2005)**

Feature condition was assessed in unit 2 using three performance indicators:

A1. Extent, based on field checking: **Unfavourable – recovering**, some of the areas mapped in 1995 no longer correspond entirely to this marshy grassland type.

A2. Location, based on field checking: **Unfavourable** (see above)

A3. Habitat Quality, field sampling: **Unfavourable – recovering**, too many samples dominated by purple moor-grass and rushes and/or lacking key indicator species.

Feature condition in units 4 and 5 has not been assessed using performance indicators but subjective observations made on recent visits have been used to estimate likely conservation status:

Unit 4: Unfavourable – recovering (2005), grazing pattern has been adjusted to promote recovery.

Unit 5: Favourable (2003), current management regime is known to be favourable.

The feature is assumed to be recovering in units 2 & 4 because remedial measures have been implemented. That is, the grazing regime has been adjusted accordingly. Management practices are considered to be appropriate for maintaining the habitat in the long term. Therefore, overall conservation status for the feature within the site is deemed to be favourable.

## **Management requirements (2007)**

### **Grazing**

The previous history of light to moderate cattle grazing has been an important factor in determining the present character of the meadow vegetation. Therefore, a suitable grazing regime should be maintained in units 2, 4 & 5 using cattle and some sheep.

Grazing fen meadow areas in spring and late summer/autumn prevents overwhelming domination by rushes and purple moor-grass, maintains the diversity of plant species and prevents the spread of scrub. Grazing pressure should be sufficient to maintain a varied habitat structure in the fen meadow areas (with some areas less than 10 cm high for at least part of each year) but not be too heavy, as this could lead to the loss of sensitive plants, and could cause poaching damage in places, leading to invasion by weeds.

### **Water levels**

Maintain a fairly high water table throughout most of the year whilst avoiding regular flooding, by protecting natural springs and inflow ditches and carefully maintaining ditches within the meadow areas of units 2, 4 & 5, as necessary. Ditch cleaning may have to be done by hand. It should not over-deepen the channel and dredgings should not be dumped in areas with sensitive vegetation.

### **Mowing**

In the absence of sufficient grazing by the correct type of stock, mowing in late summer might be a useful method of preventing overwhelming domination of the fen meadow areas by coarse vegetation such as rushes and purple moor-grass. Ideally cuttings should be removed. Patches of tall vegetation should be retained to for the benefit of wetland invertebrates.

### **Pollution**

Nutrient run-off from agriculturally improved land and via drains from farmyards and roads could be damaging. Ideally fertiliser should not be spread in fields immediately adjacent to site boundary or next to watercourses in the site catchment area. Road and farmyard drains should not discharge into watercourses that feed directly into the site. It may be desirable to divert contaminated drainage water around the site or create ponds where nutrients can be intercepted.

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## **5.6 Conservation status and management requirements of Feature 6: Other Marshy Grassland (and associated habitats)**

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### **Conservation status**

#### **Unknown (2007)**

Feature condition has not been assessed using performance indicators. Subjective observations made in unit 2 in August 2002, unit 4 in September 2005 and unit 5 in September 2003, suggested that 'non-SAC' marshy grassland and associated habitats in these areas were all in favourable condition. However, unit 3 has not been visited recently and so no overall assessment of feature condition and conservation status can be made.

## **Management requirements (2007)**

### **Grazing**

A suitable grazing regime should be maintained in units 2, 3, 4 & 5 using cattle and some sheep.

Grazing marshy grassland areas in spring and late summer/autumn prevents overwhelming domination by rushes and purple moor-grass, maintains the diversity of plant species and prevents the spread of scrub. In the flushes containing short sedges and mosses and drier grassland areas, light to moderate grazing during the summer helps to maintain the characteristic low growing plants. However, “resting” these areas for a few weeks in mid summer allows plants to flower and set seed. Light winter grazing with sheep may also be appropriate on the drier ground if sufficient grass is available and without requiring supplementary feeding. However, cattle should be removed in the winter in order to prevent poaching damage.

Grazing pressure should be sufficient to maintain a varied habitat structure in the marshy grassland areas, prevent a build-up of dead vegetation and maintain a shorter sward in the drier areas but should not suppress the growth of tall herbs, such as meadowsweet and common valerian.

### **Water levels**

Maintain a fairly high water table throughout most of the year whilst avoiding regular flooding, by protecting natural springs and carefully maintaining ditches within the marshy grassland areas of units 2, 3, 4 & 5, as necessary (see 5.5 above).

### **Pollution**

Prevent damage from nutrient run-off into units 2, 3, 4 & 5 (see 5.5 above).

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## **5.7 Conservation status and management requirements of Feature 7: Bladderwort**

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### **Conservation status**

#### **Favourable (2006)**

Surveillance in 2006 found 200 scattered locations within the key area of unit 1, indicating favourable condition. Conservation status is assumed to be favourable because current management practices are considered likely to maintain the population in the long term.

## **Management requirements (2007)**

### **Grazing**

Maintain a suitable grazing regime on the common (unit 1) using cattle (and possibly ponies) during the drier months, so that, ideally, there is sufficient grazing pressure on the swamp zone and adjacent areas that are periodically flooded to prevent tree and shrub re-generation, maintain areas of open vegetation with standing water and create patches of bare ground in the summer. Grazing pressure should not be high enough to cause widespread poaching.

### **Water levels**

Maintain a high water table with significant amounts of surface water throughout the year (see 5.2 above).

## **Scrub Encroachment**

Continue to manage willow and birch in the swamp areas, as necessary (see 5.2 above).

## **Pollution**

Prevent pollution from nutrient run-off (see 5.5 above).

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### **5.8 Conservation status and management requirements of Feature 8: Assemblage of wetland invertebrates**

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#### **Conservation status**

##### **Unknown (2003)**

Insufficient monitoring and surveillance is in place for a meaningful statement to be made.

##### **Management requirements (2007)**

A variety of habitat types, plant species, hydrological conditions and structural elements are required to maintain the full range of wetland invertebrates. These should continue to be available if the various management requirements for grazing, water levels, scrub and woodland management, mowing and pollution prevention, described in sections 5.1 to 5.7 above can all be met.

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### **5.9 Conservation status and management requirements of Feature 9: Scarce blue-tailed damselfly**

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#### **Conservation status**

##### **Favourable (2003)**

Feature condition was assessed in unit 1 using one performance indicator:

A1. Population size, based on transect sampling: **Unfavourable - recovering**, index threshold not yet achieved. Therefore, overall conservation status for the feature within the site is deemed to be favourable.

The feature is assumed to be recovering because remedial measures have been implemented. That is, water levels are regulated and the grazing regime has been adjusted accordingly. Therefore, overall conservation status for the feature within the site is deemed to be favourable.

##### **Management requirements (2007)**

##### **Grazing**

Maintain a suitable grazing regime on the common (see 5.7 above).



## Water levels

Maintain a high water table on the common with significant amounts of surface water throughout the year (see 5.2 above). It may also be necessary to create new pools at the boundary between the swamp zone and marshy grassland if there is insufficient open water present in the summer months.

## Scrub Encroachment

Continue to manage willow and birch in the swamp areas, as necessary (see 5.2 above).

## Pollution

Prevent pollution from nutrient run-off (see 5.5 above).

## **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. The information here is also held in CCW's Actions Database for sites and will be used by CCW and partner organisations to plan future work to meet the Wales Environment Strategy targets for sites.

| <b>Unit Number</b> | <b>CCW Database Number</b> | <b>Unit Name</b>     | <b>Summary of Conservation Management Issues</b>  | <b>Action needed?</b> |
|--------------------|----------------------------|----------------------|---|-----------------------|
| 001                | 000506                     | Rhos Goch Common NNR | Targets for airborne pollutants are currently (2007) being exceeded, which may be damaging the raised bog vegetation. Continuing tree and scrub management are also required, together with maintenance sensitive maintenance of ditches and sluices. | Yes                   |
| 002                | 000507                     | Portway Meadows      | A suitable grazing regime is being maintained via a CCW Management Agreement (2007 -2012).  | No                    |
| 003                | 000508                     | Dol-y-cannau         | A suitable grazing regime is maintained via an Environmentally Sensitive Area (ESA) scheme agreement but this will expire in 2008.  | Yes                   |
| 004                | 000509                     | Upper Llanshiver     | A suitable grazing regime is maintained via a CCW Management Agreement (2005 - 2010).   | No                    |
| 005                | 000510                     | Cefn-y-blaen         | A suitable management regime is currently maintained by an Environmentally Sensitive Area (ESA) scheme agreement (2000 - 2010).   | 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<sup>2</sup>:
- Favourable: maintained;
  - Favourable: recovered;
  - Favourable: un-classified
  - Unfavourable: recovering;
  - Unfavourable: no change;
  - Unfavourable: declining;
  - Unfavourable: un-classified
  - Partially destroyed;
  - Destroyed.

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

- 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.
- 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**.<sup>3</sup>

**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 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**.

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<sup>3</sup> A full definition of favourable conservation status is given in Section 4.

**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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