CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

CORE MANAGEMENT PLAN
(INCLUDING CONSERVATION OBJECTIVES)

for

Mynydd Llangatwg (Mynydd Llangattock) Site of Special Scientific Interest (SSSI), Siambre Ddu SSSI, Buckland Coach House and Ice House SSSI and Foxwood SSSI, which together comprise Usk Bat Sites Special Area of Conservation (SAC)

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Approved by: **David Mitchell**

A Welsh version of all or part of this document can be made available on request.

Cyngor Cefn Gwlad Cymru
Countryside Council for Wales

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PREFACE

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

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

1. VISION FOR THE SITE

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

Mynydd Llangatwg SSSI

The cave system provides a winter hibernation site for large numbers of lesser horseshoe bats and other bat species, including Brandt's, whiskered, Daubenton's, Natterer's, brown long-eared and, occasionally, greater horseshoe bats. Numbers of roosting bats, particularly lesser horseshoes, are stable or increasing in the system as a whole.

The special underground features are accessible to allow study of the cave system and its many structures of interest, with both scientific and recreational use and cave exploration managed to safeguard the important sediments and cave features, and to prevent harmful disturbance of hibernating bats and other cave life.

There are large funnel-shaped depressions (shake-holes) on the moorland plateau, caused by the collapse of caverns in the limestone below and some of these form swallow-holes allowing surface water to descend underground to feed into the cave system. Some of these are naturally blocked and form peaty pools and bog-filled hollows. Cave-related surface features are protected from physical disturbance or infilling. In places there are crags, pavements and large boulder fields of the acidic quartz-sandstones.

A mixture of blanket bog, wet heath and dry heath habitats cover most of the upland plateau. Most of the bog and heathland is dominated by small shrubs like heather, bilberry, cross-leaved heath and crowberry, which flower freely. Wetter areas have a carpet of bog-mosses, where bog rosemary, a plant more typical of northern Britain, is found. Round-fruited collar-moss is locally abundant on cattle and sheep dung, which decays slowly in the damp acidic, peaty conditions. In early summer the white 'cotton tufts' of hare's-tail cottongrass are prominent in boggy areas, although it is never overwhelmingly dominant. The red and golden yellow hues of common cottongrass and deer-grass leaves mark out areas of bog and wet heath in the autumn. The raised bog at Waun Ddu exhibits a well-marked peat dome and is actively growing and covered with an abundance of peat-forming bog mosses.

There may be a scattering of taller rushes and purple moor-grass in the bog and wet heath areas, but their growth is not so thick as to smother other plants.

The heathland areas have a varied age structure with a mosaic of young heath, mature heath and degenerate heath. Grasses may be present between the dwarf-shrub bushes or on open areas, but they do not make up more than a quarter of the sward in these areas.

The bog, heathland and the associated rock and grassland areas form a valuable habitat mixture for nesting and feeding by upland birds including waders, red grouse and skylarks.

The shaggy tops of the moorland, developed on the acid quartz-sandstone, contrast sharply with the short-grazed, sweet grasslands of sheep's-fescue and bent grasses around the limestone cliffs, where small sedges, the pink of flowers of thyme and variety of colourful grassland fungi are common. Plants indicating disturbance and nutrient enrichment, such as thistles, perennial ryegrass, white clover and creeping buttercup, and those indicating of under-grazing, such as coarse grasses, and tree and shrub seedlings and saplings, are not prominent in the grassland sward. Hawthorn and bramble scrub occurs in places and it

provides valuable habitat for birds and insects but it is not encroaching onto the more open grassland.

The cliffs and rock screes also support patches of open woodland and scrub. Ash is the main canopy tree but there is also small-leaved lime, with some scattered beech and large-leaved lime, with hawthorn and hazel scrub common in places. Several types of rare whitebeam trees thrive on the cliffs. The ungrazed cliffs also provide a refuge for rare hawkweeds. Regeneration of young trees is sporadic as much of the area is common grazing land. As well as living trees with holes, hollows and rotten branches, there are also dead and dying trees providing the essential balance between decay and new growth and creating vital habitat for other wildlife like birds, insects and fungi.

The flora on the cliffs, screes and woodland floor sometimes appears sparse, consisting of mainly grasses, ferns, mosses and liverworts, but it includes uncommon plants like mountain melick, alpine enchanter's-nightshade, angular Solomon's-seal and rare hawkweeds. The scarce limestone fern grows abundantly through some of the limestone screes. Sparsely vegetated soil around the cliffs also supports a number of interesting plants that are adapted to summer drought conditions, including the scarce Hutchinsia. The limestone rocks themselves also have a well-developed lichen and moss flora, including many scarce and rare species. Vigorous plants, such as nettles, bramble and ivy, are nowhere dominant within the woodland and the rock faces, crevices and scattered boulders are free from disturbance.

Wooded habitat is readily accessible to foraging bats, particularly the more flight-line dependant lesser horseshoe, with roost sites being connected to scrub and woodland via strong interconnecting linear habitat features such as hedges and wooded streams.

For each habitat or species of particular interest, the area or population is stable, or increasing and its quality is maintained. The factors that may affect these habitats and species are all under control.

Siambre Ddu SSSI

The cave is maintained in a near natural state, which benefits both wildlife and geological interests.

The peak winter count in Siambre Ddu cave is 50 or more lesser horseshoe bats and, when combined with concurrent counts at other caves in the vicinity, this indicates a stable or rising population trend.

Scientific, recreational use and cave exploration are managed to safeguard the important cave features and to prevent harmful disturbance of hibernating bats and other cave life.

Scattered scrub provides bat feeding habitat within the site and also a connection, or flight-line along which the bats can navigate, between the roost and foraging habitat outside the SSSI.

Buckland Coach House & Ice House SSSI

The coach house is home to a breeding population of at least 400 adult lesser horseshoe bats. The Ice house provides a winter hibernation site, with 300 or more lesser horseshoes using it in most years, although many of these bats may relocate to other associated winter roosts during particularly cold weather. The Ice house also continues to serve as a day time roost and a night time roost by smaller numbers of bats at other times of the year. Numbers of roosting bats should be stable or increasing in both buildings.

Both the coach house and Ice house are maintained in a suitable condition for use by the bats. They are in good repair and the roosting spaces are undisturbed. The correct temperatures and humidity are maintained in both roosting areas. The bats have unhindered access to both structures, with uninterrupted scrubby or wooded flight corridors between the roost entrances and away to foraging areas at Buckland Plantation and elsewhere. All other factors (see issues below) that affect the species are under control.

Foxwood SSSI

The fissures/cavities within the site provide undisturbed day and night-time roosts throughout the year for the lesser horseshoe population. The peak winter count is around 140 or more and indicates a stable or rising population trend. The surrounding woodland is continuous and composed of mixed species native to the site and provides good undisturbed foraging opportunities with flight routes out to other roosts and foraging areas.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid references:
Mynydd Llangatwg/ Mynydd Llangattock SSSI (SO 187148)
Siambre Ddu SSSI (SO 250115)
Buckland Coach House & Ice House SSSI (SO132215)
Foxwood SSSI (SO300217)

Unitary authorities:
Powys
Monmouthshire
Brecon Beacons National Park

Area (hectares): 1686.4

Designations covered:

Usk Bat Sites/Safleoedd Ystlumod Wysg Special Area of Conservation (SAC) consists of four component SSSIs:

Mynydd Llangatwg/ Mynydd Llangattock SSSI
Siambre Ddu SSSI
Buckland Coach House & Ice House SSSI
Foxwood SSSI

Each component SSSI may have additional land or features that are not part of the SAC interest features. Refer to Section 3.

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

A summary map showing the coverage of this document accompanies this plan.

2.2 Outline Description

The site encompasses a series of lesser horseshoe bat roosts, upland habitats, woodlands and cave systems located around the valley of the River Usk near to Abergavenny.

Mynydd Llangatwg is an area of open moorland and bog, with an impressive limestone escarpment along the northeastern edge, and is one of the largest exposures of upland limestone crag in south Wales. The Craig y Cilau National Nature Reserve (NNR) covers a large proportion of this escarpment area, including most of the unquarried scarp, with areas of limestone grassland, scree and quarry spoil, woodland and scrub. A small raised bog (Waun Ddu) bordered by two small streams has developed below the escarpment. An extensive system of caves lies beneath Mynydd Llangatwg and the plateau is peppered with sinkholes.

The main reason for the presence of the NNR is to help control and manage access to the cave system to protect the bat roosts and the underground geology and also the surface habitats, which support an outstanding assemblage of plants. Species include large and small-leaved lime, several species of whitebeam (including least whitebeam (*Sorbus minima*) which is

unique to this area of Brecknock), limestone fern, endemic hawkweeds and alpine enchanter's-nightshade.

The chasmophytic vegetation encompasses the various crevices, nooks and crannies on the cliffs, boulders and partially vegetated unstable slopes of the limestone escarpment. It supports a typical range of ferns, bryophytes and calcareous lichens; these include ferns such as maidenhair spleenwort, mosses like *Tortella tortuosa*, and liverworts like *Scapania aspera.* This site is known to support a number of notable lichen species and provides some of the best examples in the area of calcicolous lichen communities, which include the jelly lichen *Collema cristatum* and examples of lichen communities like the *Leproplacetum chrysodetae* and *Aspicilion calcarea*.

Patches of Tileo-Acerion forest are also scattered along the length of the cliffs on Mynydd Llangatwg and intermixed with beechwood in the Clydach gorge. These areas also support a number of rare whitebeams (*Sorbus* spp.).

2.3 Outline of Past and Current Management

Buckland Coach House and Ice House provides maternity and hibernation sites for the bats. It is privately owned and those areas used by the bats are leased to a nature conservation charity.

The caves at Foxwood and Siambre Ddu provide hibernation sites for the bats and the surrounding habitats provide foraging areas for the bats. Part of Siambre Ddu has been quarried in the past.

Mynydd Llangatwg is mostly common land, generally used for sheep grazing. Part of the northern escarpment comprises the Craig y Cilau NNR. Much of the caving in the important bat caves is controlled and managed by the Mynydd Llangatwg Cave Management Committee, with some cave entrances gated and locked to control the numbers of visitors. The escarpment around much of Mynydd Llangatwg shows evidence of past industrial activities, quarry faces, spoil heaps and tram roads being the most obvious. Most quarries have been unworked for many decades. The whole of the reserve is part of a large urban common, and has a long history of grazing which continues to take place.

The land above Clydach gorge along the southern edge of Mynydd Llangatwg includes enclosed fields that are intensively grazed by farm stock and subject to varying degrees of agricultural improvement. There are also large blocks of enclosed hillside, with old quarries, scrub and woodland, that are only subject to light grazing. Below this are roads, houses and commercial premises in the vicinity of Blackrock village. The land on either side of the main road in the lower gorge is largely un-managed woodland and scrub.

2.4 Management Units

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

See accompanying map showing management units referred to in this plan.

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

Unit number	SAC	SSSI	NNR	Other Add columns as required, e.g. NNR, SPA, Ramsar
Mynydd Llangatwg/ Mynydd Llangattock SSSI				
1	✔	✔	✔	Craig y Cilau National Nature Reserve
2	✔	✔		
3	✔	✔		
4	✔	✔		
5	✔	✔		
6	✔	✔		
7	✔	✔		
8	✔	✔		
9	✔	✔		
10	✔	✔		
11	✔	✔		
12	✔	✔		
13	✔	✔		
14	✔	✔		
15	✔	✔		
16		✔		
17		✔		
18		✔		
Siambre Ddu SSSI				
19	✔	✔		
Buckland Coach House & Ice House SSSI				
20	✔	✔		Leased by the Vincent Wildlife Trust
Foxwood SSSI				
21	✔	✔		

3. THE SPECIAL FEATURES

3.1 Confirmation of Special Features

Designated feature	*Relationships, nomenclature etc*	*Conservation Objective in part 4*
SAC features		
Annex II species present as a primary reason for site selection: **1. Lesser Horseshoe Bat (Rhinolophus hipposideros)**	EU Species Code: **1303.**	1
Annex I habitats that presesnt but that are not a primary reason for selection of this site: **2. Blanket Bog**	EU Habitat Code: **7130,** corresponding to the following National Vegetation Classification (NVC) types: M3, M17, M19 & M20.	2
Annex I habitats that present but that are not a primary reason for selection of this site: **3. Tilio-Acerion forests of slopes, screes and ravines**	EU Habitat Code: **9180,** corresponding to the NVC types: W8 & W9.	3
Annex I habitats that present but that are not a primary reason for selection of this site: **4. Calcareous rocky slopes with chasmophytic vegetation**	EU Habitat Code: **8210,** Natural inland rock exposures corresponding to the NVC type: OV38, grading into calcareous grassland (see 9 below).	4
Annex I habitats that present but that are not a primary reason for selection of this site: **5. Caves not open to the public**	EU Habitat Code: **8310** Defined in terms of the variety of bat species that hibernate in the caves.	5
Annex I habitats that present but that are not a primary reason for selection of this site: **6. Degraded raised bogs still capable of natural regeneration**	EU Habitat Code: **7120** Degraded raised bog corresponding to the following NVC types: M2, M15, M17	6
Annex I habitats that presesnt but that are not a primary reason for selection of this site **7. European dry heaths**	EU Habitat Code: **4030** Dry heath corresponding to the following NVC types: H8, H12 & H18.	7
SPA features		
Not applicable		
Ramsar features		
Not applicable		
SSSI features		
Not yet confirmed		Not written

3.2 Special Features and Management Units

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

Key Features

KH - a 'Key Habitat' in the management unit, i.e. the habitat that is the main focus of management and monitoring effort, perhaps because of the dependence of a key species (see KS below). There will rarely be more than one Key Habitat in a unit.

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

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

Other Features

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

a) they are present in the unit but are of less conservation importance than the key feature; and/or
b) they are present in the unit but in small areas/numbers, with the bulk of the feature in other units of the site; and/or
c) their requirements are broader than and compatible with the management needs of the key feature(s).

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

Mn - Management units with no special feature present but which are of importance for management of features elsewhere on a site e.g. livestock over-wintering area included within designation boundaries.

x – Features not present in the management unit.

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

Usk Bat Sites/ Mynydd Llangatwg SSSI	Management Unit							
SAC features	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1. Lesser Horseshoe Bat	**KS**	**KS**	x	**x**	**KS**	x	x	x
2. Blanket Bog	**KH**	**KH**	x	x	x	x	x	x
3. Tilio-Acerion forests of slopes, screes and ravines	**KH**	**KH**	x	x	**KH**	x	x	x
4. Calcareous rocky slopes with chasmophytic vegetation	**KH**	**KH**	x	x	x	x	x	x
5. Caves not open to the public	**KH**	**KH**	x	x	**KH**	x	x	x
6. Degraded raised bogs still capable of natural regeneration	**KH**	x	x	x	x	x	x	x
7. European dry heaths	?	**KH**	x	x	x	x	x	x

Usk Bat Sites/ Mynydd Llangatwg SSSI	Management Unit							
SAC features	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1. Lesser Horseshoe Bat	x	x	x	**KS**	**KS**	x	x	x
2. Blanket Bog	x	x	x	x	x	x	x	x
3. Tilio-Acerion forests of slopes, screes and ravines	x	x	x	**sym**	**sym**	x	x	x
4. Calcareous rocky slopes with chasmophytic vegetation	x	x	x	**sym**	x	x	x	x
5. Caves not open to the public	x	x	x	**KH**	**KH**	x	x	x
6. Degraded raised bogs still capable of natural regeneration	x	x	x	x	x	x	x	x
7. European dry heaths	x	x	x	x	x	x	x	x

Usk Bat Sites/ Mynydd Llangatwg SSSI	Management Unit							
SAC features	**17**	**18**	**19**	**20**	**21**			
1. Lesser Horseshoe Bat	**x**	**x**	**KS**	**KS**	**KS**			
2. Blanket Bog	x	x	x	x	x			
3. Tilio-Acerion forests of slopes, screes and ravines	x	x	x	x	x			
4. Calcareous rocky slopes with chasmophytic vegetation	x	x	x	x	x			
5. Caves not open to the public	x	x	**sym?**	x	**?**			
6. Degraded raised bogs still capable of natural regeneration	x	x	x	x	x			
7. European dry heaths	x	x	x	x	x			

As lesser horseshoe bat is the primary reason for the selection of the SAC, it is a key species in all units in which it is found. It is possible that the species roosts in cave system beneath some of the other units, but the units indicated here are mainly those with cave entrance at the surface. Habitats are key habitats when they are present in sufficient proportion to drive management in units, but are otherwise considered as being in sympathetic management.

4. CONSERVATION OBJECTIVES

Background to Conservation Objectives:

a. Outline of the legal context and purpose of conservation objectives.

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

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

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

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

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

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

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

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

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

- Conservation planning and management.

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

- Assessing plans and projects.

Article 6(3) of the 'Habitats' Directive requires appropriate assessment of proposed plans and projects against a site's conservation objectives. Subject to certain exceptions, plans or projects may not proceed unless it is established that they will not adversely affect the integrity of sites. This role for testing plans and projects also applies to the review of existing decisions and consents.

- Monitoring and reporting.

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

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

b. Format of the conservation objectives

There is one conservation objective for each feature listed in part 3. Each conservation objective is a composite statement representing a site-specific description of what is considered to be the favourable conservation status of the feature. These statements apply to a whole feature as it occurs within the whole plan area, although section 3.2 sets out their relevance to individual management units.

Each conservation objective consists of the following two elements:

1. Vision for the feature
2. Performance indicators

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

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

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

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

4.1 Conservation Objective for Feature 1: Lesser Horseshoe Bat *Rhinolophus hipposideros* (EU species code:1304)

Vision for Feature 1

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

- The site will support a sustainable population of lesser horseshoe bats in the River Usk area.
- The population will viable in the long term, acknowledging the population fluctuations of the species.
- Buildings, structures and habitats on the site will be in optimal condition to support the populations.
- Sufficient foraging habitat is available, in which factors such as disturbance, interruption to flight lines, and mortality from predation or vehicle collision, changes in habitat management that would reduce the available food source are not at levels which could cause any decline in population size or range
- Management of the surrounding habitats is of the appropriate type and sufficiently secure to ensure there is likely to be no reduction in population size or range, nor any decline in the extent or quality of breeding, foraging or hibernating habitat.
- There will be no loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines - there will be no loss of foraging habitat use by the bats or decline in its quality, such as due to over-intensive woodland management
- All factors affecting the achievement of the above 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.

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A.1 Pre-parturition population in the maternity roost	The is the target for the number of adult bats required each year during early summer, when females gather to give birth and numbers are likely to be at their highest. The figure of 320 bats is based on the lowest number of bats at Buckland between 2000 and 2006.	On at least one occasion between 29th May and 17th June of every year, there will be: • 320 or more bats at Buckland Coach House and 600 bats to be recorded at Buckland Coach House in at least one year during the six year monitoring cycle
A.2 Population in hibernation roost	There are a large number of hibernation sites within the SAC, and also a number outside the SAC, which all contribute towards maintaining the SAC population of lesser horseshoe bats. For the performance indicators for the SAC, counts will therefore be undertaken at five key sites. Buckland Ice House, closely associated with the maternity roost, is the easiest	During at least one surveillance visit between 1st January and 28th February of every year, there will be: • 270 or more lesser horseshoe bats at Agen Allwedd cave, and 500 (this figure may need revising as 500 is close to the maximum recorded, although current trends show an increasing

	site to count. The numbers in the performance indicators are based on maximum counts between 2000 and 2006, and have been devised using the same rationale as for the maternity site. However, there are some difficulties in timing of counts at Buckland Ice House. The site is used by large numbers of bats during relatively mild winters. In cold weather the ice house becomes unsuitable, and the bats relocate to another site not within the SAC, (Ogof Cynnes). For this reason counts for this hibernaculum will be accepted between 1st November and 28th February. Counts at cave sites are technically very difficult. Bats are often difficult to see and also frequently move hibernation site, within the cave and between caves. They may use parts of the cave inaccessible to humans. There are also specific problems at the Usk Bat Sites hibernation sites. Agen Allwedd is a large cave system with a number of passages. One section particularly favoured by bats is known as Angel's Roost. However, it is occasionally impossible to survey this section, because bats are hibernating in the passage to it, and it cannot be reached without disturbing these bats. The Clydach Gorge sites consist of more than 10 caves, not all of which are continually used, but which collectively support a significant part of the wintering bat population. Foxwood is a drift cave with holes in the cave roof. This allows warm air in the cave to escape during the winter. As a result, bats frequently leave this site when it becomes too cold. The internal temperature when the site is surveyed is therefore critical to gaining an accurate picture of the importance of this site for lesser horseshoe bats. The numbers of bats expected at each site have been calculated using the same rationale as that used for the maternity site. An alternative lower number is provided for situations in which the Angel's Roost section of Agen Allwedd cannot be accessed. This count should	population) or more present at least once during the six year monitoring cycle OR 220 or more lesser horseshoe bats at Agen Allwedd Cave excluding the Angel's roost section (see rationale below), AND • A total of 18 or more lesser horseshoe bats at the Clydach Gorge cave sites, and 47 to be recorded at least once during the six year monitoring cycle, AND During at least one surveillance visit between 1st November and 28th February of each year, • 280 or more lesser horseshoe bats at Buckland Ice House and 470 to be recorded at least once during the six year monitoring cycle AND During at least one surveillance visit between 1st November and 28th February of each year, when the internal temperature of the cave is 6°C or above there will be: • 60 lesser horseshoe bats at Foxwood cave AND There is continued use by lesser horseshoe bats at Siambre Ddu (data collected from this site requires further examination in order to devise population limits).

	not be used in years when Angel's Roost is accessible. Siambre Ddu is another large roost. Data recently collected from this site requires further examination in order to devise population limits. It is expected that the lower limit would be in the region of several 10s of bats. The performance indicator for this site at present requires only that bats be present. Droppings will not be used to make assumptions about bats using the site. Once more data is collected, it is possible that a moving (6yearly) average could be calculated, such that a fall in numbers of say 10% could flag up a potential decline in health of the population.	
Performance indicators for factors affecting the feature		
Buckland House Maternity Roost (may also apply to other non-SAC maternity roosts)		
Factor	***Factor rationale and other comments***	***Operational Limits***
F.1 Site security	Derived from Common standards Monitoring advice.	Access to the site under the control of the owner/occupier or site secured against unauthorised access. Doors, gates or security fences in sound condition and able to resist unauthorised access attempts
F.2 External condition of building	As above.	Fabric of building sufficient to maintain roost conditions internally with: • Weatherproof roof. The roof covering materials (slates, tiles etc.) in weatherproof condition with no significant gaps, slippage or damage. • No holes large enough to allow soaking of roof timbers, excessive heat loss or high light levels in the roost area • Walls sound, rainwater goods in adequate condition. The building is structurally stable. No significant deterioration in overall condition of the building
F.3 Roost entrance – buildings and underground	As above.	• Unobstructed roost entrance large enough for bats to fly through unimpeded. Normal minima: 300 x 200 mm

sites		No artificial lights shining on access or associated flight paths
F.4 External Disturbance	As above.	Disturbance levels acceptable to bats with: • No increase since previous visit Human access to roost controlled and limited
F.5 Internal condition of building/ underground site in roost area	As above.	• Low light levels with no through draught. No toxic substances present, which would adversely affect the health of the bats (e.g. chemical timber treatment within inappropriate substances).
F.6 Temperature of roost area	As above.	• Range of temperatures available to bats with mean temperature in July greater than 20°C
F.7 Internal disturbance	As above.	• Human access to roost area controlled and limited Disturbance is kept to a minimum
Hibernation Sites		
F.8 Site entrance	As above.	• Existing entrances unobstructed. • No human-influenced new entrances causing a change to ventilation. No change in size sufficient to affect airflow and internal temperature.
F.9 External conditions of site	As above.	• Vegetation present close to entrance (s) but not obstructing it (them). No artificial lights shinning on entrance(s).
F.10 Internal conditions	As above.	• The temperature should remain constantly cool (8-12°C) and dark, once beyond the entrance zone • No significant man-induced changes to ventilation or temperature regime. No toxic substances present (dumping of oil or other substances).
F.11 Internal disturbance	As above.	• Human access to roost area controlled and limited (at Agen Allwedd the number of visitors is already controlled) Disturbance is kept to a minimum.

Foraging areas and links to roosts		
F.12 Habitat Quality	The bats mainly feed along the edges of woodland, large hedges and tree-lined rivers within and around the SAC areas and land situated between the SSSIs in the Usk valley area between Llangorse and Abergavenny.	There should be no nett loss of suitable woodland, scrub and hedgerows within the SAC or adjoining areas used by the bats.
F.13 Connectivity	The bats appear to prefer not to like crossing large areas of open ground and therefore retaining or providing new cover would be beneficial. Links between foraging areas, maternity roosts and hibernacula, are provided by hedgerows, woodland, scrub and lines of trees. There are quite a few maternity roosts in buildings in the Usk valley area that are not within in the SAC, so connectivity is important here too.	Major gaps in the continuity of these habitats should not be created. See also F12 above.
The extent of these habitats shown on aerial photographs taken in 2006 forms a baseline to measure habitat cover.		

4.2 Conservation Objective for Feature 2: Blanket bog

Vision for Feature 2

- The extent, quality and species richness of the blanket bog vegetation is maintained and, where possible, degraded bog is restored to good condition so that this habitat occupies its full potential range within the site.
- The bog vegetation is largely a mixture of dwarf shrubs, hare's-tail cottongrass and mosses, including bog-mosses.
- Extensive areas of purple moor-grass or hare's-tail cottongrass show signs of recovery towards a more mixed dwarf shrub sward.
- The natural hydrological regime is maintained and there is continued peat formation and thus carbon storage.
- Areas of bare peat are not extensive and most areas show signs of recovery.
- Peat profiles containing important pollen records are maintained.
- All factors affecting the achievement of the above conditions are under control.

Performance indicators for Feature 2

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

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***

A1. Extent	There have been past losses and degradation, so it is essential to maintain the current (2003) extent of the habitat and to restore degraded areas where possible.	*Upper limit:* 280 ha, constrained by site topography and hydrology. *Lower limits:* 150 ha (c 90% of extent as measured in 2003).
A2. Quality of the Blanket bog	The key attributes are presence and frequency of positive (listed below) and negative indicator species and the lack of significant grazing damage to the dwarf shrubs (where present). These conditions should be met in 90% of the blanket bog.	*Upper Limits:* No more than 75% cover of purple moor-grass, hare's-tail cottongrass, deergrass or common haircap moss (*Polytrichum commune*). AND: Less than 1/3 of shoots of all dwarf shrub species collectively showing signs of browsing. AND: *Lower limits:* 6 positive indicator species present. AND: 50% of vegetation cover comprising 3 or more of the positive indicators. AND: flat-topped bog-moss (*Sphagnum fallax*) should not be the only bog-moss present. Ideally S. capillifolium and other true 'bog' species would be present. (further work required to elucidate the species present or likely to be present at this locality).
Performance indicators for factors affecting the feature		
Factor	***Factor rationale and other comments***	***Operational Limits***
F1. Peat Erosion	There is a natural cycle of peat erosion and deposition but the balance can be upset by burning, heavy grazing, pollution and vehicle damage. The process is best measured across the whole plan area using aerial photography, backed by ground checks, where necessary.	*Upper limit:* The total extent of active erosion over a 5-year period should not exceed the total extent of areas showing signs of peat accumulation and re-vegetation. *Lower limit:* There are always some areas of bare peat present as a result of natural erosive processes.
F2. Burning	Blanket bog is adversely affected by burning, which leads to surface drying and the replacement of bog-mosses by purple moor-grass and common haircap.	*Upper limit:* No evidence of significant burning (patches larger than 1ha) in any areas of blanket bog. *Lower limit:* N/A.
F3. Drainage	Significant new drains within the bog areas could cause surface drying and peat erosion. Most old drains are now blocked with peat.	*Upper Limit:* No evidence of new drains or major clearance of old drains or deepening of bog outlet streams. *Lower limit:* N/A.

F4. Air Quality	High levels of air pollution are believed to be damaging and there may be combined effects. Increased cover of hare's-tail cottongrass and flat-topped bog-moss may be symptoms, as could increased levels of peat erosion. The Environment Agency has set critical levels for these pollutants in relation to various types of vegetation (Refer to the APIS database at *www.airquality.co.uk*). Monitoring stations located at grid location: 319097.79 214637.88	*Upper limits:* No exceedence of critical loads for Sulphur dioxide – 20µg/m³ Nitrous Oxides – 30µg/m³ Ozone – 3000 ppb ammonia – 1µg/m³ N – 5-10 kg/ha/yr acid – 0.35keq/ha/yr *Lower limits:* None.
Positive indicators for blanket bog quality: Bog rosemary (*Andromeda polifolia*); heather (*Calluna vulgaris*); round-leaved sundew (*Drosera rotundifolia*); cross-leaved heath (*Erica tetralix*); crowberry (*Empetrum nigrum*); common cottongrass (*Eriophorum angustifolium*); hare's-tail cottongrass (*E. vaginatum*); bog asphodel (*Narthecium ossifragrum*); non-crust-forming lichens (count together); other mosses (count together as one); bog-mosses (*Sphagnum spp.* – count each species*); deergrass (*Trichophorum cespitosum*); bilberry (*Vaccinium myrtillus*); cowberry (*V. vitus-idaea*). * flat-topped bog-moss only counts if at least other species (further survey required) of bog-moss is present.		
Definition of blanket bog vegetation: Generally occurs where the peat is deeper than half a metre and conforms with National Vegetation Classification types M17, M19 & M20b.		

4.3 Conservation Objective for Feature 3: Tilio-Acerion forests of slopes, screes and ravines

Vision for Feature 3

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

- There are extensive patches of semi-natural woodland on the cliffs of the Llangatwg escarpment and hillsides in the Clydach gorge.
- The woodland canopy is dominated by locally native species, including lime ash *Fraxinus excelsior, Tilia* spp., pedunculate oak *Quercus robur*, hazel *Corylus avellana*, birch *Betula* spp., whitebeams *Sorbus* spp. and, in the Clydach gorge, beech *Fagus sylvatica*. Rare whitebeams are a significant component of the canopy.
- Saplings of locally native species dominate the tree regeneration and there is evidence of sufficient regeneration to maintain the canopy in the long term.
- There is an accumulation of standing and fallen deadwood as the woodland develops.
- The woodland ground flora is composed of a range of typical native plants including enchanters-nightshade *Circaea lutetiana*, dog's-mercury *Mercurialis perennis*, wood-sorrel *Oxalis acetosella*, hart's-tongue *Phyllitis scolopendrium* and wood sage *Teucrium scorodonia.*
- The populations of rare whitebeams are stable or increasing.

- Young sycamore *Acer pseudoplatanus* trees are rare, as are beech *Fagus sylvatica* in areas away from the Clydach gorge.
- Plants indicating disturbance and nutrient enrichment, such as nettles, cleavers and weeds, are not dominant in the ground flora of the woodland.
- All factors affecting the achievement of the above conditions are under control.

Performance indicators for Feature 3

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

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent of and distribution	To be assessed using aerial photography and ground checking. The total area of broadleaved semi-natural woodland, screes and ravines has been mapped as a baseline but extent of ash dominated types has been estimated as they can be intermixed with other types. Tilio-Acerion forests of slopes, screes and ravines is defined as: any area where there is a more-or-less continuous cover of shrubs over 3 metres tall, with or without woodland canopy trees such as ash. In the long-term, when a better woodland community has developed, then these objectives will need to be revisited.	*Lower limit:* 13.5 ha, of which units 1 & 2 support at least 10 ha and unit 5 supports at least 3.5 ha. Small areas are also present in units 12 & 13. *Upper limit:* N/A
A2. Canopy cover	The woodland is scattered over the lower slopes of Craig y Cilau and extends onto the cliff areas. The latter is secure from the effects of grazing and is probably more or less self-sustaining. The remaining woodland on the grazed slopes has been developing for sometime, and at present it is assumed that this development will continue, provided that the grazing is at a level to permit gradual regeneration. In the long-term (at least 50 years hence), when a better woodland community has developed, then these objectives will need to be revisited.	*Upper limits:* 90% canopy cover OR: 60% on the south-west facing slopes of unit 1 *Lower limits:* 75% canopy cover OR: 30% on the south-west facing slopes of unit 1
Attributes A3 –A7 below apply to the main woodland stands in units 1, 2 & 5 (see maps in Annex 1).		
A3. Regeneration	In the Clydach gorge on the southern slopes of Mynydd Llangatwg there are	*Upper limit*: N/A *Lower limit*: Canopy forming

	stands of ungrazed woodland, which are unlikely to ever be grazed. Therefore the same performance indicators can be applied to all areas. Regeneration to be met in at least 50% of significant gaps in canopy. Such gaps should be recorded at each monitoring visit.	shrubs, trees or coppice re-growth at least 1.5m high present (should be evident in at least one location within each woodland block).
A4. Woodland structure	A functioning woodland system will have trees of all ages present. Veteran trees provide particularly important habitat for birds and invertebrates. 75% of the woodland should meet the criteria for an understorey.	*Upper limit:* N/A *Lower limits:* An understorey at a height of 2–5m over at least 20% of the stand, composed of locally native species, such as yew, wych elm, whitebeams, hawthorn, limes, rowan, hazel and ash. AND: In grazed areas there should be evidence of an understorey developing.
A5. Canopy composition	In some areas non-native trees, such as sycamore, will be tolerated, as long as they are not freely re-generating to form large saplings in the understorey, which would likely change the canopy composition over time. Consequently, only 70% of the woodland need comply with the limits set.	*Upper limit:* None *Lower limit:* 95% of tree cover is composed of locally native species, such as ash, whitebeams, wych elm, rowan, field maple, hazel, or beech.
A6. Ground flora	The ground flora is naturally quite sparse in the rocky areas of units 1 and 2, but a few typical ash woodland plants should be evident in all areas. Brambles and ivy can be locally abundant in ungrazed ash woodland but other indicators of disturbance and nutrient enrichment should not be. Limits should be met for 80% of the woodland.	*Upper limit:* The cover of nettles should not exceed 10%. *Lower limit:* Typical ground flora species (see list below) should be evident throughout the woodland.
A7. Deadwood	Deadwood will be retained. The limits given here should be met in at least 50% of existing woodland.	*Upper limit:* None *Lower limit:* Presence of standing and/or fallen deadwood.
Typical ash woodland plants: Dog's-mercury; Bramble; Violets; Lesser celandine; Barren strawberry; Ivy; Herb-Robert; Hart's-tongue fern; Chalk comb-moss *Ctenidium molluscum*; Wild garlic; Wood false-brome; Wood sage; Wood Melick; Shield ferns; Enchanter's-nightshade; Wood avens; Lords-and-ladies and Male fern.		
Performance indicators for factors affecting the feature		

Factor	*Factor rationale and other comments*	*Operational Limits*
F1. Grazing	The present structure and species composition of the northern escarpment woodland, excluding the cliff ledges, is a result of natural regeneration. The cliff ledges are inaccessible to stock, have developed naturally and are not actively managed. The greatest influence on the woodland, and its continued regeneration, is grazing. In units 1 & 2, the woodland has developed on common land and parts are subject to high grazing levels by sheep. The woodland in units 5, 12 & 13 is now largely un-grazed and the ground flora is noticeably more luxuriant in these areas.	*Upper limit:* Sufficient to allow regeneration in the long term, as defined by the regeneration attribute above. *Lower limit:* None required.
F2. Non-native species	Beech is at the edge of its range in this part of Wales. In units 5, 12 and 13 the beech wood appears to be natural, but the spread of beech over much of Units 1 & 2 may not be desirable, as it would replace the ash woodland. Limits should be met in 70% of the woodland.	*Upper limits:* 5% cover of non-native trees in the canopy. AND: No cotoneaster (or other invasive non-native shrubs) in the understorey or shrub layer. *Lower limit:* None.
F.3 Woodland Management	Natural ecological processes should be allowed to operate as far as possible. In many areas, these are gradually creating greater structural diversity. Most of the woodland on the site is not actively managed (indeed much occurs on cliffs and will never have been managed).	There should be no evidence of tree felling or coppicing within the past five years. (Tree surgery for safety reasons excluded).

4.4 Conservation Objective for Feature 4: Calcareous rocky slopes with chasmophytic vegetation

Vision for Feature 4

- Sufficient vegetation within crevices remains free from disturbance to support typical plants, including mosses, ferns and rare hawkweeds (*Hieracium* spp.) and allow them to sustain their populations into the future.
- Areas accessible to grazing animals should free from being smothered by ivy or heavily shaded by trees.
- All factors affecting the achievement of the above conditions are under control.

Performance indicators for Feature 4

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

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent and Distribution	The distribution of calcareous rocks (including old quarries) as been mapped as a baseline. However, it has not been possible to accurately map or measure the extent of the chasmophytic vegetation itself. Calcareous rocky slopes with chasmophytic vegetation is defined as: plant species capable of colonising cracks and fissures of rock faces, and the type of plant community depends on the base-status of the rock face.	*Lower limit:* 11ha of suitably open cliffs and scree and old quarry faces, mainly located in units 1 & 2, with outliers in unit 13.
A2. Condition	Many of the cliff areas are inaccessible to grazing stock, and therefore it is reasonably certain that the communities are self-sustaining, assuming that they are not at risk from ivy growing up from below. The species composition is beyond the influence of management, so all that is required is to assume the habitat is not threatened by land use of changes in management. Condition attributes should apply to the key areas of open rocky ground in units 1 & 2, as shown on the maps in Annex 1 of this plan.	*Upper limits:* Alien species should be absent, especially cotoneasters. AND: Brambles, nettles, bracken, ivy and shrubs should remain scattered and subdued by grazing, where accessible to livestock. *Lower limits:* Chasmophytic and ledge vegetation should be diverse and abundant in available crevices and ledges. AND: Crevices support a mixture of mosses and higher plants.

Performance indicators for factors affecting the feature		
Factor	***Factor rationale and other comments***	***Operational Limits***
F1. Grazing	Low grazing levels are important in controlling the growth of ground-smothering species such as ivy, which have the potential to smother boulders and cliff faces that are important for their lower plant communities. Tree growth at the base of the cliffs may shade out important calcareous chasmophytic habitat, so should be controlled within limits outside the areas of agreed woodland. Surveillance of grazing levels and type should be maintained so that changes that may influence the features on the site are identified and recorded.	*Upper limit:* To be set in relation to the requirements of the limestone grassland. *Lower limits:* Sufficient to prevent the development of scrub or spread of ivy and tall vegetation. NB. Limits apply to the key areas in units 1 & 2.
F2. Quarrying	Any quarrying in the key areas would lead to habitat loss.	No quarrying in the key areas as shown on the maps in Annex 1.
F3. Rock Climbing	Intensive use can dislodge plants and disturb breeding birds. These impacts may be avoided if climbing is subject to specific agreements, which include a code of conduct.	No rock climbing in the key areas of units 1 & 2 without agreement**.**

4.5 Conservation Objective for Feature 5: Caves not open to the public

Vision for Feature 5

- The cave system provides a winter hibernation site for large numbers of lesser horseshoe bats and other bat species, including Brandt's, whiskered, Daubenton's, Natterer's, brown long-eared and, occasionally, greater horseshoe bats.
- Numbers of roosting bats are stable or increasing in the system as a whole.
- All factors affecting the achievement of the above conditions are under control.

Also see the vision for lesser horseshoe bats.

As outlined in the JNCC description of this feature, the cavernicolous fauna is considered to be impoverished throughout the UK and this feature is not a primary reason for selection of any SAC in the UK (www.jncc.gov.uk).

There is however significant bat interest associated with many of the caves within this SAC, particularly Lesser Horseshoe Bat. Great Horseshoe Bat has also been recorded in very small numbers. Several other bat species are recorded, particularly from the genus *Myotis*, but their habit of hibernating deep within crevices in the caves (rather than hanging freely from the cave roof, like horseshoe species) makes them extremely difficult to record.

Performance indicators for Feature 5

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

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent and Distribution of the habitat	Within Mynydd Llangatwg SSSI, many of the same cave passages used by lesser horseshoe bats are also used by other hibernating bat species.	No loss of suitable bat hibernating areas in units 1, 2, 5, 12, 13 and 19.
A2. Species of bat using the caves	Records of other bats using the caves in total at least seven species. These have included Lesser Horseshoe, Greater Horseshoe, Brandt's, Whiskered, Natterer's, Daubentons and Brown Long-eared.	*Upper Limit:* N/A *Lower limit:* At least 6 of the species listed are recorded as using the caves as hibernation site in Unit 1. AND: At least 3 of the species listed are recorded as using the caves as hibernation site in Unit 2.

Performance indicators for factors affecting the feature		
F1. Condition of the habitat	It is assumed that the condition of the hibernating areas should be much the same for all bat species, although most of the myotid species require less open space as the hibernate in small crevices.	See factors F1-F13 for lesser horseshoe bats in 4.1 above.

4.6 Conservation Objective for Feature 6: Degraded raised bogs still capable of natural regeneration

Vision for Feature 6

- The extent, quality and diversity of raised bog vegetation is maintained and, where possible, restored to good condition, with active moss and peat growth across the raised bog surface.
- The vegetation consists of a mixture of dwarf shrubs, hare's-tail cottongrass, deergrass and bog mosses, grading at the edges into acid and alkaline flushes influenced by acidic water draining from the bog and springs rising in the limestone catchment.
- All factors affecting the achievement of the above conditions are under control.

Performance indicators for Feature 6

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

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent	Monitoring is likely to be a map-based exercise. The area of degraded raised bog will be mapped as a baseline extent and the total area measured. Repeat monitoring will either re-map the site or review the baseline map in the field.	*Upper Limit*: None, constrained by governed by site topography. *Lower limit*: 3.4 ha
A2. Condition	The important attributes for degraded raised bog on this site are considered to be: • Ericaceous shrub cover • Species compliment • Height of vegetation • Cover of bog-mosses, grass cover and bare ground • Indicators of grazing pressure The invasion of trees and scrub is not an issue on the site. Consequently, no performance indicator is required for this element. If this becomes a problem in the future then this can be addressed by adding additional performance indicators. At least 80% of the feature must fall within the limits.	*Upper Limit*: The total cover of grasses is less than 50% AND: Dwarf shrub cover is less than 70% AND: Cover of bare peat is less than 10% *Lower limits*: Cover of hummock forming bog-mosses is at least 10% AND: Vegetation must support at least 5 of the following plants: Heather, sundews, cross-leaved heath, common cotton-grass, hare's-tail cottongrass, bog asphodel, non-crustose lichens, bog-mosses, deer-grass and bilberry. AND: Vegetation is at least 10cm high.

Performance indicators for factors affecting the feature		
Factor	***Factor rationale and other comments***	***Operational Limits***
F1. Grazing	This area of bog has been damaged by heavy grazing in the past and current (2008) grazing levels are still to high to enable the re-generation of the bog habitats. Most of the bog is on commonland and therefore it is difficult to control grazing without agreement and fencing.	*Upper limits:* Overall grazing pressure of 0.05 livestock units/ha/year on the bog area. AND: Minimal winter grazing. AND: no stock feeding *Lower limit:* Sufficient to prevent the establishment of trees and shrubs in the long term
F2. Burning	Burning will damage the feature and could encourage dominance by purple-moor grass if grazing is significantly reduced and result in a decline in the cover of bog mosses. At present there is generally insufficient vegetation to be burnt here.	There should be no evidence of recent burning.
F3. Drainage	See blanket bog 4.2 above.	See 4.2 above.

F4. Air Quality	See 4.2 above.	See 4.2 above.

4.7 Conservation Objective for Feature 7: European dry heaths

Vision for Feature 7

- The extent, quality and diversity of heath vegetation within the constituent sites is maintained and, where possible, degraded heath is restored to good condition.
- The main heathland areas have a varied age structure with a mosaic of young heath, mature heath and degenerate heath.
- All factors affecting the achievement of these conditions are under control.

Performance indicators for Feature 7

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

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent and Distribution	The area of European dry heaths has been mapped as a baseline extent and the total area measured (based on the latest habitat survey information from 2003). Repeat monitoring will either re-map the site or review the baseline map in the field. There should be no discernable decline in extent from those areas defined above.	*Upper limit:* N/A, constrained by site topography and hydrology. *Lower limits:* 385 ha, largely confined to the drier areas of unit 2 and the top of the escarpment in unit 1.
A2. Quality of the habitat	Based on the presence and cover of typical heathland plants and 'negative indicator' species. At least 90% of the dry heath within unit 2 should fall within the specified limits. Unit 1 should be managed primarily to suit its other habitats. Recently burnt areas should be avoided when sampling but see also F1 below. The invasion of trees and scrub is not an issue on the site. Consequently, no performance indicator is required for this element. If this becomes a problem in the future then this can be addressed.	*Upper Limits:* Cover of Western gorse *Ulex gallii* no more than 50 %. AND: Cover of non-native plants and/or agricultural weeds is less than 1%. AND: cover of Bracken is less than 10%. AND: Less than 1/3 of shoots of all mature dwarf shrub plants collectively showing signs of browsing. OR: Less than 2/3 of young pioneer plants collectively showing signs of browsing. *Lower limits:* At least 50% of vegetation cover made up of at least 2 dwarf shrub species and the height of the shrub canopy is at least 15cm. AND:

		1 species of moss, liverwort or non-crustose lichen present (excluding hair-cap mosses and *Campylopus* mosses - associated with burning).
Performance indicators for factors affecting the feature		
Factor	***Factor rationale and other comments***	***Operational Limits***
F1. Burning	Areas burnt may be measured by aerial photography.	*Upper limits:* In areas subject to any burning plan, only a maximum of up to 15% of the total heathland area should be burnt in any one year. *Lower limit:* N/A.
F2. Erosion/Bare Ground	Is generally caused by uncontrolled fires (see above) or heavy trampling. Assessments should not be made in areas that have been recently been subject to planned burning.	*Upper Limit:* 10% bare ground *Lower limit:* N/A.
F3. Air Quality	Increased cover of grasses and de-generate heather may be symptomatic of air pollution, as there is evidence that pollution makes heather plants more susceptible to damage by frost and heather beetles. The Environment Agency has set critical levels for these pollutants in relation to various types of vegetation. Monitoring station located at grid location: 319097.79 214637.88	*Upper limits:* No critical loads are exceeded. Sulphur dioxide – 20µg/m³ Nitrous Oxides – 30µg/m³ Ozone – 3000 ppb ammonia – 1µg/m³ N – 10-20 kg/ha/yr acid – 0.35keq/ha/yr *Lower limits:* None required.
Dwarf shrub species are: Heather (*Calluna vulgaris*); crowberry (*Empetrum nigrum*); bilberry (*Vaccinium myrtillus*); cowberry (*V. vitus-idaea*);		
Definition of dry heath vegetation: Generally occurs over thin peat on hilltops or mineral soils and conforms with National Vegetation Classification types H8, H10, H12& H18. Can occur intermixed with dense bracken stands, rock and scree but these areas should be avoided when sampling for vegetation condition.		

5. ASSESSMENT OF CONSERVATION STATUS AND MANAGEMENT REQUIREMENTS

This part of the document provides:

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

5.1 Conservation Status and Management Requirements of Feature 1: Lesser horseshoe bat *Rhinolophus hipposideros* (EU species code 1303)

Conservation Status of Feature 1

The conservation status of this feature within the site is considered to be **Favourable** (2006).

Based on annual counts made at all locations between 2000 and 2006, the lesser horseshoe bat feature is considered to be in **favourable condition**. The results are as follows:

Maternity Roost Counts, Buckland House, 2000 - 2006

2000	2001	2002	2003	2004	2005	2006
338	327	355	455	414	607	606

Hibernation Roost Count Agen Allwedd

2000	2001	2002	2003	2004	2005	2006
269[2]	324[3]	453	273	376	501	No Count

Hibernation Roost Count Clydach Gorge

2000	2001	2002	2003	2004	2005	2006
18	20	25	33	47	46	No Count

Hibernation Roost Count Buckland Ice House

1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
266	327	284	304	355	327	478

Hibernation Roost Count Foxwood

1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006
94	62	No Count	40[4]	144	130	No Count

All of the factors affecting the species at this site are believed to be under control.

Management Requirements of Feature 1 (2008)

Buildings or structures used by bats

[2] Data does not specify if Angel's Roost counted or not. Assumption is that this does include Angel's Roost
[3] Angel's Roost not counted.
[4] Count below the temperature threshold, therefore not used to assess site condition.

The nursery roost sites need to be maintained in a suitable condition. This entails ensuring that bats have continued access to the buildings, and that the buildings themselves good repair, for example, by ensuring that the roofs are weatherproof. Alterations/neglect to the structure of the buildings could result in the site becoming unsuitable as a nursery roost by causing changes to the internal conditions of the roost. A vital element of the bats' behaviour involves extensive flight within a roost prior to emergence, which occurs shortly after dusk. Therefore the bats require fairly large open areas within the coach house roof and first floor voids to fly before they emerge. It is important that these areas are unobstructed and that the flying space (volume) is not significantly reduced. Areas used for pre-emergence flight should not be used for storage.

There should be no likelihood of the icehouse at Buckland collapsing due to instability of material or damage from tree roots. Vegetation close to entrances should be maintained, but should not obstruct them. The grill on the icehouse should be maintained to control the risk of disturbance. Any Forestry or other work near the icehouse must be assessed to ensure there is no risk of damage to the Ice House. Usage by machinery of the track in the forestry above the Ice House should be discouraged.

Lesser horseshoe bats prefer to enter roosts through holes large enough for unimpeded flight. It is important that bat access points into the roost sites remain open and unaltered. If access holes are too small or become blocked it could result in the abandonment of the site by the colony. Ideally access holes should be 30 cm high by 40-50 cm wide. Vegetation close to entrances should be maintained, but should not obstruct them.

If any works are required to the maternity roosts, or Buckland icehouse, the methods and timing of works will need to minimise disturbance to the bats. January and February are likely to be the best months for such works at the coach house, whilst at the icehouse any essential repairs will be best carried out during the May to September period. At both roosts the exact method and timing will need to be assessed carefully based on the detail. In areas where bats roost the materials used, any treatments and any fumes created or residues left will need to be non-toxic to bats. Likewise operations outside the roost will also need to avoid the creation of fumes that may enter the roost areas or persist in areas that the bats use.

Cave structures used by bats

Lesser horseshoe bats prefer to enter roosts through holes large enough for unimpeded flight. It is important that bat access points into the roost sites remain open and of suitable size. Vegetation close to entrances should be maintained, but should not obstruct them.

It is important that access to the cave systems is managed to protect the bats. Lesser horseshoe bats are very sensitive to disturbance and even the presence of a single person in close proximity can cause problems. Cavers and geologists should avoid areas where bats are likely to be disturbed during the winter months. Where there is a risk of disturbance by unauthorised persons, grilling the cave entrances should be considered. Any structures placed at cave entrances to prevent unauthorized access should not hinder the passage of bats.

Cave management should involve and build on existing measures which are principally voluntary mechanisms implemented by cavers, such as marking through routes, use of agreed codes of practice and provision of information on key areas used by bats.

Occasionally excavation may be required to maintain cave entrances and clear debris that has fallen in the caverns and passages. Any excavation or clearance work needs to be carefully controlled. Early July is likely to be the best time for any works are required to the cave itself, with a higher chance of no bats being resident in day time hours. Any materials or treatments used and any fumes created or residues left will need to be non-toxic to bats. Likewise operations outside the roost will also need to avoid the creation of fumes that may enter the roost areas or persist in areas that the bats use.

Underground hibernation roosts should be dark, cool and humid with stable temperature (8 -12^{0}C) beyond the entrance zone. However, the boulder roof of the Foxwood cave is gappy and internal temperatures are dependant on external temperatures, unlike the situation in many true caves. The consequence is that declining winter ambient temperature leads to a decline in roost temperature and in the colder winter months roost temperature falls below the required temperature range, triggering departures of bats to other unknown roosts. These may be within deeper unknown cave within the SSSI or elsewhere. By reducing the amount of airflow through the roof at Foxwood, it should be possible to increase temperature stability and winter temperatures. This is potentially of benefit to winter survival rates. As with any changes to the roost, works should only occur after careful consideration of the risks involved and with certainty of no adverse effect.

Habitat management

Connectivity of woodland, hedgerows, linear habitat and field boundary features should be maintained as lesser horseshoe bats tend to feed in wooded areas and use linear features to navigate their way between roosts and foraging habitat. Some management of woodlands and hedgerows and trees will be necessary to preserve these features in the landscape but such work should be carried out in a sensitive manner, particularly within the SAC itself, so as not to disrupt habitat continuity.

The nursery roost areas require a range of temperatures, with a mean temperature of greater than 20 °C in July and trees nearby may need to be managed to avoid shade to the roofs of the of the buildings used, or because of a risk of falling on the roosts.

Lesser horseshoe bats feed on flies (mainly midges), small moths, caddis flies, lacewings, beetles, small wasps and spiders. Suitable foraging habitat includes open broadleaved woodland, scrub, parkland, scrubby wetland and permanent pasture. Lesser horseshoe bats do not normally fly across open land and when foraging, remain close to wooded canopy. The insects they eat, though, may be derived from other unimproved insect rich habitat nearby. Management of foraging habitat should aim to maximise the amount of insect food as well as provide sufficient canopy cover to maximise opportunities for the bats to find their prey.

5.2 Conservation Status and Management Requirements of Feature 2: Blanket bog

Conservation Status of Feature 2

The conservation status of this feature within the site is considered to be **Unfavourable** (2006).

Assessment carried out in April 2002 indicated that feature condition was: **Unfavourable, no change**. In many areas there was little or no bog mosses and the cover of dwarf shrubs exceeded the upper limits defined. In other areas the vegetation was dominated by hare's-tail cottongrass and the cover of bog mosses was limited.

Past grazing, burning and drainage activity means that some stands of blanket bog have been damaged by deep drainage. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedence of many of the critical loads identified for this feature.

Management Requirements of Feature 2

Grazing

Grazing levels at present (2008) may permit a gradual recovery of the vegetation, if other negative factors can be brought under control.

Drainage

No new drainage ditches should be dug, and wherever possible old drainage ditches should be allowed to infill naturally. Sluices could also be considered on bog outlet channels that may be a causing drainage or erosion problems. There needs to be investigation of the possibility of blocking up at least some of the drains within the bog that feed into Pwll Gwy-rhoc.

Burning

Blanket bog should not normally be burnt, as burning is likely to damage important plant and animal species, especially bog mosses and invertebrates, and encourage the growth of rank species, like hare's-tail cottongrass; it can also result in erosion of the peat which can then cause water quality problems in cave system and adjacent reservoirs. Past unplanned or uncontrolled burning is likely to be at least partly responsible for the scarcity of bog-mosses in some areas.

Air Pollution

The impacts of air pollution on the vegetation need further investigation. If particularly damaging, point sources (or groups of point sources) can be identified, then emissions should be regulated to reduce the impacts. However, it will also be very important for wider measures to be taken, at Government and international levels, to reduce air pollution.

Recreational activities

Unauthorised vehicle use is a threat to the moorland areas. Bog vegetation is easily damaged and may take a long time to recover. Ground nesting birds may be disturbed during the breeding season. Owners and occupiers should co-operate with the police and other statutory bodies to undertake enforcement action where possible and discourage vehicle use by off-road vehicles.

Although the common land within the site is subject to a right of public access on foot, such use does not appear to be so intensive as to cause habitat damage or significant disturbance to birdlife. However, the impact of this use needs to be monitored.

Development

The ground along the existing pipeline routes, which cross the Llangatwg hill, has been disturbed during the engineering phase. Some habitats naturally recover better than others, whilst some will require specific management to restore it to its natural state. If the vegetation along the existing pipeline routes does not naturally recover, restoration may be required to return the vegetation to its original character and quality.

Generally, further pipeline construction or other engineering works affecting sensitive habitats within the site should be avoided. Any future engineering or pipeline works would need to show that the SAC features would not be adversely affected and if any licence was approved then there would be a requirement to restore the vegetation to its original character and quality.

5.3 Conservation Status and Management Requirements of Feature 3: Tilio-Acerion forests of slopes, screes and ravines

Conservation Status of Feature 3

The conservation status of this feature within the site is considered to be **Favourable** (2006).

Assessment carried out in August 2004 indicated that feature condition was: **Favourable, maintained**. All the factors affecting the features appear to be under control.

Management Requirements of Feature 3

Grazing

In the cliff and woodland areas any more than light grazing may prevent tree regeneration and damage the populations of rare and scarce plants that may be accessible to grazing stock.

On the common (units 1 & 2), maintain grazing at or below the current (2007) levels. Un-grazed areas (unit 5, 12, 13) should remain un-grazed.

Woodland Management

Most of the woodland occupies cliffs and steeply sloping ground, such that active woodland management is not a practical or desirable option and many of the cliff ledges are not accessible to grazing stock. As far as possible, natural ecological processes will be allowed to operate. Dead wood should ideally be left where it falls and standing dead trees should be allowed to fall naturally. Movement and cutting/tidying of dead wood should be avoided and/or limited, unless essential for public safety.

5.4 Conservation Status and Management Requirements of Feature 4: Calcareous rocky slopes with chasmophytic vegetation

Conservation Status of Feature 4

The conservation status of this feature within the site is considered to be **Favourable** (2006).

Assessment carried out in August 2004 indicated that feature condition was: **Favourable, maintained**. All the factors affecting the features appear to be under control.

Management Requirements of Feature 4

The management requirements of this feature need to be balanced against achieving more favourable management for the other features of common.

Grazing

Grazing needs to be maintained on the more accessible rocky areas in units 1 & 2 in order to prevent colonisation by tall vegetation and scrub. Heathland and woodland areas nearby may benefit from a reduction of grazing pressure but the presence of more palatable limestone grassland along the escarpment will always draw stock towards these rocky areas.

Invasive plants

Introduced and invasive species such as cotoneaster can smother large areas of grassland and cliff habitats, displacing native species and would need to be controlled. Cotoneaster has spread on the south side of Mynydd Llangatwg above the Clydach gorge and some control is desirable to stop it spreading into feature habitats. As cotoneaster often grows in inaccessible places, specialists would need to be involved, as some climbing would be necessary, and the work required will be expensive in both time and money.

Recreational activities

Rare plants, and plants in general, on the cliffs and ledges, may be dislodged by climbers and some breeding birds are particularly sensitive to disturbance during the nesting season. Rock climbing at this site should be restricted to suitable areas and be subject to a suitable code of conduct in order to minimise such damage and disturbance.

5.5 Conservation Status and Management Requirements of Feature 5: Caves not open to the public

Conservation Status of Feature 5

The conservation status of this feature within the site is considered to be **Favourable** (2006).

Based on records of made at all locations between 2000 and 2006, the feature condition is considered to be: **Favourable, maintained**. All the factors affecting the features appear to be under control.

Management Requirements of Feature 5

Cave structures used by bats

See 5.1 above.

5.6 Conservation Status and Management Requirements of Feature 6: Degraded raised bogs still capable of natural regeneration

Conservation Status of Feature 6

The conservation status of this feature within the site is considered to be **Unfavourable** (2006).

Assessment carried out in July 2002 indicated that feature condition was: **Unfavourable, declining**. The feature is currently (2007) too heavily grazed because the most of it is common land and because it is on the sheltered side of the hill, is subject to high levels of grazing, particularly by sheep. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedence of many of the critical loads identified for this feature.

Management Requirements of Feature 6

Grazing

A way of reducing the grazing to acceptable levels must be found. A period without grazing will promote recovery, although some light grazing, ideally by cattle or ponies, will be required in the longer term to prevent the development of scrub or the dominating growth of dwarf shrubs or purple moor-grass.

Stock feeding

Supplementary stock feeding can lead to damage of the sward and cause poaching and gradual nutrient enrichment. Feeding should not occur on this habitat.

Drainage

No new drainage ditches should be dug within the bog and outlet and inflow channels must not be deepened or altered in any way.

Air Pollution

See 5.2 above.

5.7 Conservation Status and Management Requirements of Feature 7: European dry heaths

Conservation Status of Feature 7

The conservation status of this feature within the site is considered to be **Unfavourable** (2006).

Assessment carried out in April 2002 indicated that feature condition was: **Unfavourable, no change**. Past grazing and burning activity means that some stands of dry heath have insufficient cover of dwarf shrubs. There is also concern that the vegetation is being damaged by atmospheric pollution, due to exceedence of many of the critical loads identified for this feature.

Management Requirements of Feature 7

Grazing

Grazing levels are believed to be lower than they have been historically but they may still be too high in some parts of the common to enable the heathland to re-generate. It may not be possible to address this problem in unit 1 because the adjoining limestone grassland and rocky habitats require a relatively high stocking rate to maintain their interest but elsewhere, a mechanism needs to be found for reducing grazing pressure on the dry heathland, especially in autumn and winter.

Stock feeding

Supplementary stock feeding can lead to localised damage of the sward and cause poaching and gradual nutrient enrichment. Feeding should be confined to acceptable areas off the common, such as agriculturally improved land.

Burning

This can be a useful management tool on the heathlands, provided that it forms part of an appropriate and controlled cycle of management. It is important to ensure that such management does not encourage the spread of bracken. Burning in combination with intense grazing can also result in the loss of those heathland shrub species that give this habitat its characteristic appearance, and which are so important to the value of these moorland habitats.

A carefully planned burning programme should be considered in appropriate areas. However, Owners and occupiers should co-operate with the fire service, police and other statutory bodies to undertake enforcement action where possible and discourage illegal burning.

Bracken and scrub encroachment

Scrub invasion in the open moorland areas can be controlled by the correct combination of grazing and burning. Bracken however can be more problematical. Grazing may not prevent bracken invasion particularly if sheep rather than heavier animals are the main stock-type and burning can encourage the spread of bracken. Bracken control will be considered if there is significant spread within the drier heathy areas. Due to the abundance of scarce ferns and other species at the site, which are equally sensitive to the chemicals used to control the bracken, aerial spraying may not be an option over much of the SSSI, and other methods would have to be considered.

Dumping

The plateau areas at Mynydd Llangatwg are easily accessible from nearby population centres, so the illegal dumping of domestic and commercial waste and abandoned vehicles is a problem. Landowners and occupiers should co-operate with the statutory authorities in relation to enforcement action, removal of waste and abandoned vehicles and other measures designed to minimise the impact of fly-tipping.

Air Pollution

See 5.2 above.

Development

See 5.2 above.

ACTION PLAN: SUMMARY

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

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
1	000262	Craig y Cilau National Nature Reserve	CCW to continue to be involved in cave management to help protect both the cave environment and bat roosts. The raised bog is common land and it would be useful to try and progress management to prevent it being heavily grazed and to restore the bog surface. Fencing is an option that could be considered, but obviously being commonland this is not a straightforward action. Air pollution may also be having an impact on the bog vegetation. Bracken encroachment is reducing the grassland that is available for grazing.	Yes
2	000263	Mynydd Llangatwg Common	Heavy grazing of parts of common land and general lack of shepherding to even out grazing. Pipelines crossing the hill have damaged vegetation and recovery of restored areas has had varied success. The drain at Pwll Gwy-roc should be infilled to allow the blanket bog around the pool to restore. Invasive cotoneaster also spreading on limestone outcrops and cliffs and threatening species and habitats. Air pollution is probably having an impact on the bog vegetation.	Yes
3	000264	Land at Dan-y-darren	Better management of grazing to enable bog vegetation to recover. Currently this area is open to and grazed with the common.	Yes
5	000265	Clydach Gorge Land	There are problems with dumping, including abandoned cars, in some areas of woodland and invasive sycamore may also be a problem, as are the potential effects from proposed road widening, which should be subject to appropriate assessment in relation to the Habitats Regulations.	Yes
4	000267	Fields at Hafod	SSSI management actions to be identified.	No
19	000268	Siambre Ddu	Site will be monitored to ensure that there is no disturbance to bats and action taken as needed.	No
20	000269	Buckland Coach House and Ice House	Management of this unit is under control.	No
21	000270	Foxwood	Management of this unit is being kept under review and, if necessary, a management agreement may be progressed.	No
6	001787	Water Company Land	No actions identified for these areas of land - the reservoir, water works and sewage treatment works.	No
7	001788	Fields at Clydach Dingle	No actions identified for SAC features.	No

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
8	001789	Fields at Coedcae-mawr	No actions identified for SAC features.	No
9	001790	Ty-newydd land	No actions identified for SAC features.	No
10	001791	Pen-y-lan-fach land	No actions identified for SAC features.	No
11	001792	Pant-mawr fields	No actions identified for SAC features.	No
12	001793	Blackrock hillside	Invasive species such as cotoneaster threaten plant species and rock habitat.	Yes
13	001794	Daren Dhu	Invasive species such as cotoneaster threaten plant species and cliff habitat.	Yes
14	001795	Commercial Premises	No SAC features present?	No
15	001796	Roads in the SAC.	There are lesser horseshoe bat roosts both under the Heads of Valleys road and in associated drains.	No

7. GLOSSARY

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

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

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

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

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

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[5]:

Favourable: maintained;
Favourable: recovered;
Favourable: un-classified
Unfavourable: recovering;
Unfavourable: no change;
Unfavourable: declining;
Unfavourable: un-classified
Partially destroyed;
Destroyed.

Conservation management Acts or undertaking of all kinds, including but not necessarily limited to **actions,** taken with the aim of achieving the **conservation objectives** of a site. Conservation management includes the taking of statutory and non-statutory measures, it can include the acts of any party and it may take place outside site boundaries as well as within sites. Conservation management may also be embedded within other frameworks for land/sea management carried out for purposes other than achieving the conservation objectives.

Conservation objective The expression of the desired **conservation status** of a **feature,** expressed as a **vision for the feature** and a series of **performance indicators**. The conservation objective for a feature is thus a composite statement, and each feature has one conservation objective.

Conservation status A description of the state of a **feature** that comprises both its **condition** and the state of the **factors** affecting or likely to affect it. Conservation status is thus a characterisation of both the current state of a feature and its future prospects.

Conservation status assessment The process of characterising the **conservation status** of a **feature** with particular reference to whether the aspirations for it, as expressed in its **conservation objective**, are being met. The results of conservation status assessment can be summarised either as 'favourable' (i.e. conservation objectives are met) or unfavourable (i.e. conservation objectives are not met). However the value of conservation status assessment in terms of supporting decisions about **conservation management**, lies mainly in the details of the assessment of feature **condition**, **factors** and trend information derived from comparisons between current and previous conservation status assessments and condition assessments.

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**.

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

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.**[6]

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

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

part of, not the same as, conservation objectives. See also **vision for the feature**.

Plan or project **Project:** Any form of construction work, installation, development or other intervention in the environment, the carrying out or continuance of which is subject to a decision by any public body or statutory undertaker.
Plan: a document prepared or adopted by a public body or statutory undertaker, intended to influence decisions on the carrying out of **projects.**
Decisions on plans and projects which affect Natura 2000 and Ramsar sites are subject to specific legal and policy procedures.

Site integrity The coherence of a site's ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it is designated.

Site Management Statement (SMS) The document containing CCW's views about the management of a site issued as part of the legal notification of an SSSI under section 28(4) of the Wildlife and Countryside Act 1981, as substituted.

Special Feature See **feature**.

Specified limit The levels or values for an **attribute** which define the degree to which the attribute can fluctuate without creating cause for concern about the **condition** of the **feature**. The range within the limits corresponds to favourable, the range outside the limits corresponds to unfavourable. Attributes may have lower specified limits, upper specified limits, or both.

Unit See **management unit.**

Vision for the feature The expression, within a **conservation objective**, of the aspirations for the **feature** concerned. See also **performance indicators.**

Vision Statement The statement conveying an impression of the whole site in the state that is intended to be the product of its **conservation management.** A 'pen portrait' outlining the **conditions** that should prevail when all the **conservation objectives** are met. A description of the site as it would be when all the **features** are in **favourable condition**.