CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES

FOR

COEDYDD A CHEUNANT RHEIDOL SAC/ RHEIDOL WOODS AND GORGE SAC

Version: 1b

Date: 14 March 2008

Approved by: Tracey Lovering

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

Cyngor Cefn Gwlad Cymru
Countryside Council for Wales

NATURA 2000

Ramsar

Llywodraeth Cynulliad Cymru
Welsh Assembly Government
CORFF NODDEDIG | SPONSORED BODY

CONTENTS

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(s). This is required to implement the Conservation (Natural Habitats, &c.) Regulations 1994, as amended (Section 4). As a matter of Welsh Assembly Government Policy, the provisions of those regulations are also to be applied to Ramsar sites in Wales.

1. VISION FOR THE SITE

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

The site will be covered by woodland consisting of locally native, broadleaved species. Oak will continue to be the dominant tree in the canopy, with other native species such as ash, birch and alder frequently found. Other less common canopy species will include small leaved-lime and wych elm.

The canopy will not be completely closed throughout the wood. At any given time approximately 10-15% of the total woodland area will consist of gaps in the canopy. This will allow seedling trees to grow up and eventually enter the canopy. These canopy gaps also enable more light-demanding woodland plants and lichens to grow. In the long term gaps will open up naturally as older trees die.

Veteran trees (i.e. old trees that are starting to decay) are valuable to lichens, mosses, fungi, bats and insects, and will occur throughout the wood, along with both standing and fallen deadwood.

Below the canopy hazel and holly will form a shrub layer. On the woodland floor there will be a variety of woodland plants including areas of bluebells, heather and bilberry and woodland grasses. Species such as meadow saxifrage, starry saxifrage, welsh poppy and rock stonecrop are present, along with woodland ferns such as hay scented buckler fern and oak fern.

The presence of non-native species such as rhododendron, Japanese knotweed, sycamore and conifer seedlings will be restricted through a rolling programmeme to identify and control/remove these across the areas of the site where they occur.

The woodland is rich in mosses, liverworts and lichens. These lower plants will be found growing on the woodland floor, on trees and rock outcrops. Old forest lichens will grow on the trunks and branches of canopy trees. Many of these are so rare they don't have common names – examples include *Sticta canariensis, Parmelia taylorensis* and *Deglia plumbea.*

Mosses and liverworts typical of western oak woodlands such as Haller's Apple-moss, Autumn Flapwort, MacKay's Pouncewort, Hooked Veilwort and Hutchin's Hollywort will be abundant.

The spoil heaps of old lead mines within Coedydd a Cheunant Rheidol SSSI will provide a habitat for plants able to tolerate metal-rich substrates.

Red kites will breed within the reserve annually and breeding success will match or exceed that of the Welsh population. Coedydd a Cheunant Rheidol SSSI will have a diverse range of breeding birds and will include those species typical of western broad-leaved woodland such as redstart, pied flycatcher and wood warbler.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid reference(s): SN748789

Unitary authority(ies): Ceredigion

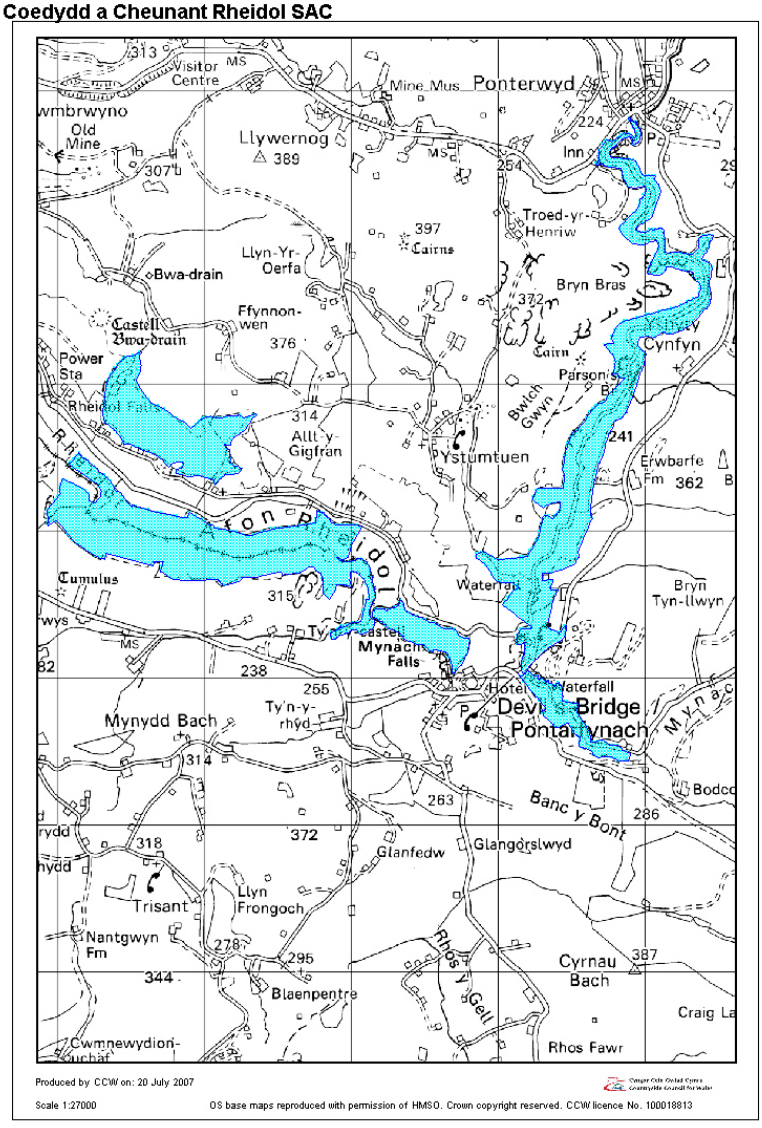
Area (hectares): 229.19

Designations covered:
Coedydd a Cheunant Rheidol Special Area of Conservation, National Nature Reserve and Site of Special Scientific Interest

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

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

Coedydd a Cheunant Rheidol SAC



2.2 Outline Description

Coed Rheidol is situated about 12 miles east of Aberystwyth. It occupies parts of both banks of the Afon Rheidol, upstream, and the south bank downstream of Devil's Bridge.

The SAC comprises 229 hectares and is concurrent with the area of SSSI, the NNR comprises some 173.92 hectares (329.26 acres) of this. Coed Rheidol lies between 150 metres and 240 metres (500 - 800 feet) above sea level on both sides of the deep gorge of the Afon Rheidol near Devil's Bridge. It comprises four separate blocks of fairly even-aged sessile oak *Quercus petraea* woodland. In places birch *Betula* spp. and rowan *Sorbus aucuparia* are mixed with the oak. Small leaved lime *Tilia cordata* and ash *Fraxinus excelsior* occur on flushed areas. The acidic brown earth and podsol soils are thin and outcrops of rock and cliff occur in the gorge. The reserve lies on Silurian shales of the Upper Llandovery (Valentian) series. The Afon Rheidol is a swift flowing river with a gradient of 25m per km (133ft per mile) through the site; its bed consists of deep pools and rapids with many waterfalls. The water is acidic with low calcium content.

Management of the reserve is aimed at restoring a mixed age structure high forest. Extensive areas of the reserve were clear felled during the First World War. The section of the reserve known as Coed Simdde Llwyd (41ha) is owned and managed by The Wildlife Trust West Wales and there is a section 35 agreement in place. The remainder of the NNR is managed by the Countryside Council for Wales (CCW).

2.3 Outline of Past and Current Management

Coedydd a Cheunant Rheidol has a long history of exploitation for its timber. Only the timber on the steeper more inaccessible slopes is unlikely to have been utilised at some stage in the past.

From the sixteenth to mid-eighteenth centuries parts of the site are believed to have been managed as coppice to produce charcoal for ore smelting. Records for clear-felling date from the eighteenth century, with large scale felling for the shipbuilding and tanning industries. Very extensive felling took place from 1914 to 1918, providing pit props for the coal mines of South Wales, and by 1918 the entire site had been largely clear-felled and exhausted of its timber resource. The present day stands date from that period, growth occurring both as stump re-growth and seedling regeneration.

Coedydd a Cheunant Rheidol was also the site of several lead and zinc mines. These are believed to date from ancient times, but the main period of workings was from the mid-nineteenth to early twentieth century. Today there are many remains of old shafts and other workings.

A railway line, now the Vale of Rheidol railway, was constructed to service the mining industry and for timber extraction, in particular from the Hafod Estate and the woodlands around Devil's Bridge. The line was completed in December 1902 and runs to Aberystwyth.

In the 1950's areas of oak woodland within the Rheidol valley were cleared and planted up with exotic conifer species by the Forestry Commission. The growth and form of the conifers was poor and the plantations did not yield much usable timber.

In 1955 the Central Electricity Board were empowered by the North Wales Hydro-Electricity Act 1955 to impound the upper waters of the Afon Rheidol at Nant y Moch, 10.5km (6 miles) north of Devil's Bridge. CCW's interests in the Rheidol Valley are safeguarded by three clauses in the Act.

The site was first notified as a SSSI in 1954. There have been subsequent re-notifications in 1979, 1981, 1992 and 1994. In September 1956 the Nature Conservancy established the Coed Rheidol National Nature Reserve. Due to a lack of resources very little active management took place for the first 24 years apart from maintaining the fences in a stock proof condition.

During the 1980's some relatively small areas of the woodland were felled/group thinned to promote natural regeneration. Tree planting (of oaks grown from Coed Rheidol) was carried out in the latter 1980's and early 1990's to extend the area of woodland into bracken dominated areas and to ensure seedling recruitment in some of the sheep grazed areas.

Management to control various invasive exotic and non-native species has been carried out in a number of areas. Rhododendron *Rhododendron ponticum* has been partially controlled by cutting and application of herbicide in Derwen, the smaller central section of the site. The main seed source is in the Devil's Bridge area. Sycamore *Acer pseudoplatanus* removal by cutting and application of herbicide was carried out in Coed Tyn Llwyd, to the north of Devil's Bridge, where it was a problem. There has also been some minor control of Japanese knotweed *Reynoutria japonica* by pulling. There has been some control of bracken *Pteridium aquilinum* in peripheral areas by spraying with herbicide. In 1992 CCW entered into a Woodland Grant Scheme agreement with Forest Enterprise. This agreement was restricted to the lower western section of the site known as Allt Ddu. The primary aim was to promote natural seedling regeneration through thinning via selective felling and crown thinning (in practice this has created inadequate canopy breaks and/or they are in unsuitable locations to have had any significant effect on seedling regeneration - group felling is needed). The agreement also entailed some further removal of non-native species such as rhododendron and sycamore, creation of glades, maintaining existing rides free of invading scrub and trees, fence and track maintenance, erection of bird boxes and squirrel control.

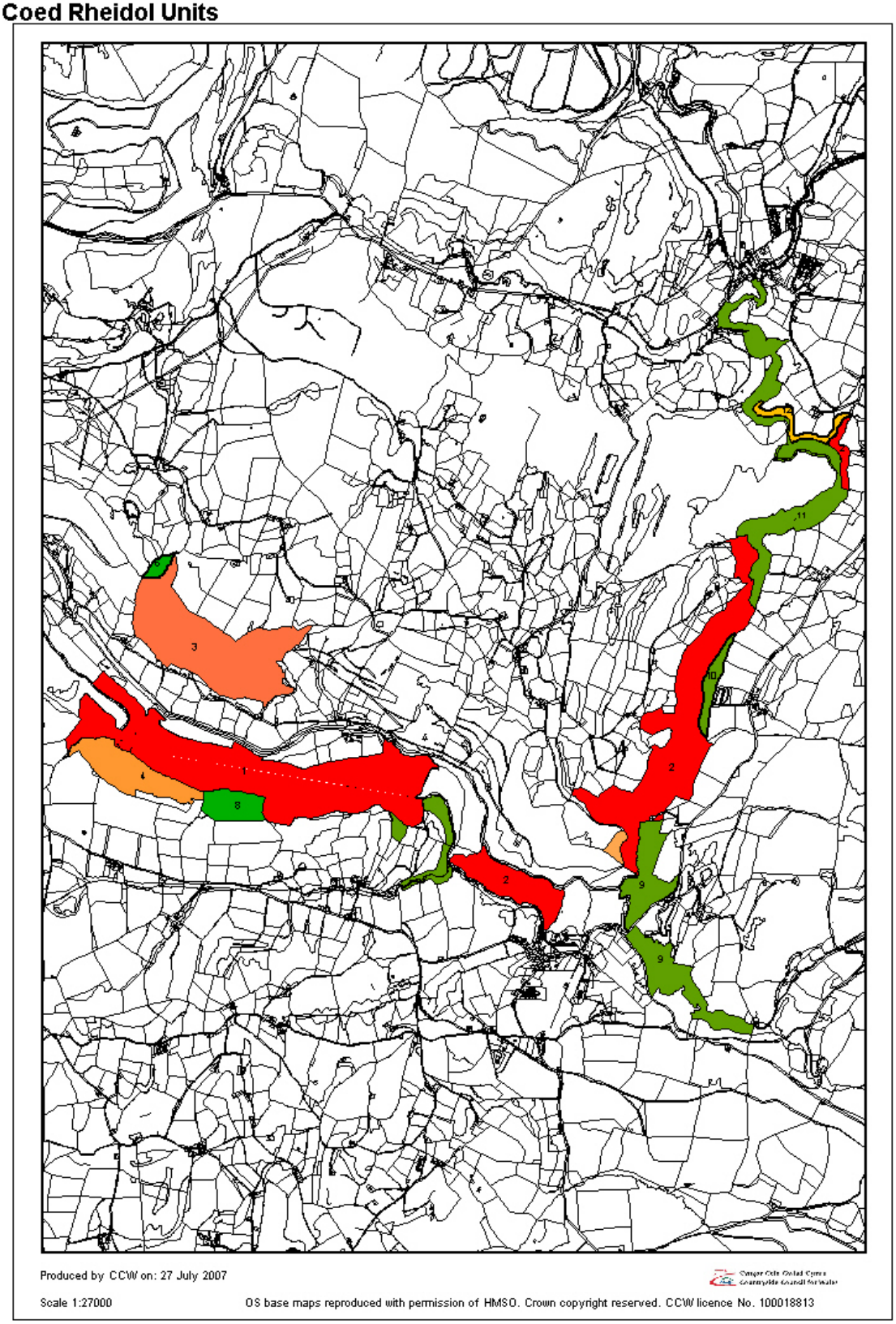
With the completion of the Woodland Grant Scheme the only other active management taking place is the maintenance of fences to exclude livestock and the removal of conifers from heathland areas.

2.4 Management Units

The plan area has been divided into management units to enable practical communication about features, objectives, and management. This will also allow us to differentiate between the different designations where necessary. In this plan the management units have been based on tenure, with the CCW owned areas forming management units 1 and 2 split on the basis of different management approaches.

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

Coed Rheidol Units



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

Unit number	**SAC**	**SSSI**	**CCW owned**	**NNR**
Coed Rheidol SSSI				
1	✓	✓	✓	✓
2	✓	✓	✓	✓
3	✓	✓		✓
4	✓	✓		✓
5	✓	✓		✓
6	✓	✓		
7	✓	✓		
8	✓	✓		
9	✓	✓		
10	✓	✓		
11	✓	✓		
12	✓	✓		

3. THE SPECIAL FEATURES

3.1 Confirmation of Special Features

Designated feature	***Relationships, nomenclature etc***	***Conservation Objective in part 4***
SAC features		
Feature 1 **Old sessile oakwoods with *Blechnum* in the British Isles (EU Habitat Code 91A0)** **Annex I feature and the primary reason for selection of this site.**		1
SPA features		
Not applicable		
Ramsar features		
Not applicable		
SSSI features		
Feature 3 **Lichen assemblage**		3
Feature 4 **Bryophyte assemblage**		4
Feature 5 **Red Kite**		5

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:

Coed Rheidol	**Management unit**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
SAC	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
SSSI	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
NNR/CCW owned	✔	✔										
SAC features												
1. Old sessile oakwoods	**KH**	**KH**	**KH**	**KH**	**KH**	**KH**	**KH**	**KH**	**KH**	**KH**	**KH**	**KH**
SSSI features												
3. Lichen assemblage	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**				**Sym**		**Sym**	
4. Bryophyte assemblage	**Sym**	**Sym**							**Sym**			
5. Red Kite	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**	**Sym**

Two management units under CCW ownership (units 1 and 2) are separated due to the different management approach. Unit 1 is managed high forest with group felling due to the presence of coniferous species which are not desirable. Unit 2 is minimum intervention.

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: Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles. (EU Habitat Code: 91A0)

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 woodland area will cover the entire site
- The woodland will be maintained as far as possible by natural processes
- One quarter of the woodland canopy will be open at any time
- The location of open glades will vary over time
- Trees and shrubs will be mainly locally native broadleaved species such as sessile or hybrid oak, downy or pendulous birch, ash, rowan, holly, elm, hazel
- Neither beech or conifers will be dominant anywhere in the canopy or under-storey
- The abundance and density of individual native species will vary across the site
- Trees and shrubs of a wide range of ages and sizes will be present
- Tree seedlings will be plentiful throughout the site
- Tree seedlings will develop into saplings in the open glades
- Non-native invasive species such as rhododendron, Japanese knotweed, sycamore and conifer seedlings will be restricted through a rolling programmeme to identify and control/remove the species across all areas of the site where they occur
- There will be abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches. Some dead and dying trees will be partially or completely hollow
- Fallen dead wood will be dense enough to obstruct progress by foot across the entire site, except on established maintained paths
- Dead wood dependent species of moss, liverwort, fungi and specialised invertebrates will be present, in spatially and temporally variable abundance, throughout the site
- Field and ground layers will form a patchwork of vegetation communities characteristic of local soil and humidity conditions, including areas dominated by heather, bilberry, heather and bilberry, tussocks of wavy hair grass or purple moor grass, brown bent grass, sweet vernal grass with abundant bluebells
- The field layer will be fairly rank and well developed
- Humidity levels will be high enough to favour the presence of many mosses and liverworts
- In rocky areas and areas of thin acidic soil, the ground layer will be a thick, continuous or fairly continuous carpet of mosses and liverworts with few other plant species present
- In the vicinity of the gorge humid or wet rock faces on cliffs, crags and boulders will be adorned with mosses, liverworts and filmy ferns.
- Patches of bare rock and bare wood on older living tree trunks or fallen timber, where wefts of mosses or liverworts have peeled away, will provide opportunities for re-colonisation and species succession.
- Lichen flora will vary spatially according to the chemical properties of rock and tree surfaces and according to light levels.
- In the gorge and other especially damp, shady places, humidity loving lichen species will be common
- Trees with lungwort and associated species will be common, especially on the well-lit woodland margins
- The diversity of lower plant flora (mosses, liverworts, lichens and fungi) will be high, corresponding to the range of niches provided by the varied structure of the woodland
- The woodland will support populations of birds (including pied flycatchers, redstarts, wood warblers) and mammals (including several bat species, otters and badgers).
- All factors affecting the achievement of the foregoing conditions are under control.

Performance indicators for Feature 1

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

Performance indicators for feature condition		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A1. Extent	The LIFE Monitoring Project (1998) developed the following performance indicators. These were re-visited (compartments 63 and 64) in 2006 by the Site Manager (Paul Culyer) & SAC Monitoring Officer (Tracey Lovering).	*Lower limit*: Extent as at SAC designation *Upper limit*: None set
A2. Tree canopy gap creation rate	Separate attributes are set for the managed high forest and minimum intervention areas to reflect the different management approach. In the minimum intervention area, no gap creation rate will be set. Managed High Forest Ideally there will be a gap creation rate of 0.4% of mature woodland canopy per annum (where a gap is any area equal or greater than 1.5 times the height of the tallest adjacent tree, or, any area of between 20 and 50m min/max distance across, not including areas of bare rock etc, and mature woodland canopy is any stand of c.50+ years). This equates to a Target canopy turn over rate of 250 years. The upper limit of 1% per annum is taken to mean that gaps covering a combined area of 1% of the total area of that block of managed high forest woodland will be created per year. In practice the creation of 'new' gaps should be recorded at years 0, 12, 24 etc (or in line with reporting cycle), therefore the target value for 'new' gaps (i.e. between 0 and 12 years old) will be 12%, the lower limit 6% and the upper limit 24%. However, it is not the intention to imply that the target gap rate equates to a total turnover of the entire canopy in that block of managed high forest in 100 years (200 or 50 years in the case of the lower and upper limits respectively), it being recognised that within that 100 year period some areas will exist in a gap stage more than once and other areas not at all. The ultimate aim is the development of a stand with a fairly normative age structure.	Minimum intervention None set Managed high forest The gap creation rate within the area of Managed High Forest (excepting natural catastrophic event) is, *Lower limit*: 0.25% of mature woodland canopy per annum. *Upper limit*: 1.0% of mature woodland canopy per annum (and where the maximum gap size is 0.25 ha per 2.5 ha of woodland, and not exceeding 50m distance across).
Performance indicators for feature condition (cont.d)		
Attribute	***Attribute rationale and other comments***	***Specified limits***
A2. Tree canopy gap creation	If the required gap rate is not met through 'natural' processes then active management, namely group felling, will be required to make	Managed high forest (cont.d)

rate (cont.d)	up the shortfall. The Operational period is every 12 years that is active gap creation work need only be carried out every 12 years. On the basis of this and in order to meet the target gap rate of 0.4 % per annum then up to c.5% of the Managed High Forest will need to be felled per 'session' (assuming no 'natural' gap creation has occurred). *Gap distribution* - priority areas for active gap creation need to be identified. Criteria for selection might include the most even-aged stands, aspect, landscape issues and species interest. *Gap size* (and thereby number is already defined in Objective 2) as any area equal or greater than 1.5 times the height of the tallest adjacent tree, or, any area of between 20 and 50m min/max distance across *Gap shape* - the minimum to maximum distance across should not exceed a ration of 1:4 (i.e. long thin gaps will be avoided).	
A3. Canopy regeneration rate	This PI applies to both managed high forest and minimum intervention areas. Once gaps are created the rate of regeneration and species comprising the regeneration will be assessed. Viable seedlings/saplings are taken to be healthy/vigorous native tree species reaching a minimum height of 1.5m and comprise species that will replenish the canopy - namely sessile oak *Quercus petraea,* pedunculate oak *Q. robur*, *Q.* hybrids, downy birch *Betula pubescens,* silver birch *B. pendula,* ash *Fraxinus excelsior,* rowan *Sorbus aucuparia* and alder *Alnus glutinosa*. Only sample in canopy gaps of between 12 and 24 years old. This need only be monitored on a sample basis assuming management is consistent across site.	Natural regeneration of native trees within 80% of sampled canopy gaps over a 12 year period is, *Lower limit*: 3 viable seedlings/saplings per 0.01 ha of gap. *Upper limit*: none set.
Performance indicators for factors affecting the feature		
Factor	***Factor rationale and other comments***	***Operational Limits***
F1. Invasive species	<u>*Rhododendron ponticum*</u> The presence of this species will be restricted through a rolling programme to identify and control/remove the plant across all areas of the site where it is known to occur (management units 2 and 9), and the programme will (at least initially) target these areas of the site and any others deemed to be vulnerable to invasion. All areas of the site where the plant occurs must be treated within a 7 year period to prevent on-site	*Lower limit*: absent *Upper limit*: non-seed bearing plants account for up to 5% of the understorey Mature seed-bearing plants absent from site.

	seed production. <u>Conifer seedlings</u> The presence of conifer seedlings will be restricted through a rolling programme to identify and control/remove the plants across all areas of the site where it is known to occur (management units 1, 2, 3, 4, 9, 10 and 11). The programme will (at least initially) target these areas of the site. <u>Japanese Knotweed</u> The presence of Japanese Knotweed will be restricted through a rolling programme to identify and control/remove the plants across all areas of the site where it is known to occur (management unit 2). The programme will (at least initially) target these areas of the site. <u>Sycamore</u> Sycamore in the reserve is concentrated around a gully in management unit 2. As this is found only at present in one small area and can be controlled, in this case it is sensible to do so.	 *Lower limit*: no conifers within the reserve *Upper limit*: 10 seedling/saplings *Lower limit*: no Japanese Knotweed present *Upper limit*: 10 stems in management unit 2. *Lower limit*: no sycamore present *Upper limit*: 10 seedlings/saplings
F2. Grazing	Any grazing from stray animals needs to be prevented through routine boundary maintenance and repair	*Lower limit*: stock exclusion *Upper limit*: some trespass of sheep from Bryn Bras Common(s) [this is of only minor concern]
F3. Burning	Burning is not carried out, but has been an issue in the past. This is included as a factor to stress that any uncontrolled or unconsented burning must be prevented.	*Lower limit*: No uncontrolled / unconsented burning *Upper limit*: none set

Features 3-5 are SSSI features and will be added in due course.

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.

4.1 Conservation Objective for Feature 1: Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles. (EU Habitat Code: 91A0)

Conservation Status of Feature 1

Status is currently Unfavourable Declining based on SAC monitoring report of January 2006.

Issues are related to the following –

Management Unit 1
Group felling of conifers is required, this work is expected to be carried out in the near future.

Management Unit 9
Rhododendron control required, some issues to be resolved as current owners see it as a positive feature.

Management Unit 10
Issues over conifers and stock grazing, however these issues should be resolved through a recently agreed Tir Gofal agreement.

Management Unit 11
Rhododendron of concern at the northern end of this unit, no agreement currently in place.

Management Requirements of Feature 1

Minimum intervention woodland
The management option of Minimum Intervention is largely confined to those areas where, due primarily to health and safety reasons, it is not safe or practical to attempt any form of active management. The woodland in these areas is of mixed age and structure and will continue to grow into high forest without management intervention. The only cause for concern are various anthropogenic influences e.g. invasive alien species and livestock grazing.

Managed high forest
The woodland stands at Coedydd a Cheunant Rheidol are generally very even-aged, lack more mature trees with very little new recruitment. As such in those areas deemed suitable for the ‘Managed High Forest' option active management should be implemented to artificially increase the number of sufficiently large canopy gaps through continuous small-group felling in localities where conditions for regeneration are more favourable. Management of this nature should, as far as is possible, be timed to coincide with good mast years in order that maximum use is made of available seed. In the long-term this will increase the canopy rotation of the stand so diversifying the age structure and reducing the risk of catastrophic event leading to major canopy loss, reduce the likelihood of a prolonged period of open canopy (as all trees tend to die-off over a relatively short time period), and lead to greater structural and functional diversity essential to many organisms and biological processes within temperate forest ecosystems.

Current thinking for this site is based on the concept of a ‘normal' forest with equal numbers of all ages of stem present (George Peterken, Woodland Conservation and Management 1993), combined

with mimicking of natural stand structures. This ‘normative' age structure is believed to offer the best long-term stability and also ensures any organism which depends on a particular age class or regeneration phase will find some refuge. Once attained, regular canopy gap creation will maintain this ‘normal' age structure indefinitely. The rate of canopy gap creation (natural or otherwise) will be dependent on the chosen length of canopy rotation for the woodland as a whole. For most stands in Coedydd a Cheunant Rheidol the aim would be for a rotation of the canopy trees over a period of circa 250 years (Jones E.W., 1945), together with the retention of some older canopy trees until natural death (George Peterken in Tucker *et al.* 1997).

(NB. the orientation, size, shape and timing of gap creation may have as greater influence on the species that fill that gap as the edaphic conditions, e.g. large gaps may allow in sub-dominant species which could result in a change in canopy species composition, albeit relatively short-lived. The distribution of gaps (i.e. scattered or clustered) is also important as it may influence the size of gaps that are created subsequently).

Summary

- In minimum intervention areas, management is limited to stock exclusion and control of invasive species
- In managed high forest areas, in addition to the above there will be group felling to create a more diverse age range along with gradual conifer removal
- Some planting may be carried out where natural regeneration is insufficient or of undesirable species
- Invasive species including rhododendron, Japanese knotweed, conifers and sycamore will be controlled and whenever possible, eradicated.
- Stock will be excluded as required.

- **6. ACTION PLAN: SUMMARY**

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

15.02.08

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
001	000556	NNR managed high forest	Conifer, larch and sitka need to be controlled. The vegetation growing along the Rheidol Railway line needs to be managed by spraying or felling as appropriate, allowing for vista points along the trains' route.	Yes
002	000557	NNR minimum intervention woodland	Invasive species control as required. This is currently in hand.	Yes
003	000558	WTSWW low management woodland	There are no invasive species issues. Occasional group felling. Ongoing management by the WTSWW.	Yes
004	000559	NRA 1 Managed woodland	There is ongoing management of conifers in this unit under a recently renewed Nature Reserve Agreement.	Yes
005	000560	NRA 2 Eastern section	Managed under a recently renewed Nature Reserve Agreement. Rhododendron control and conifer control has been carried out in the past but none ongoing at the moment.	Yes
006	000561	Privately owned western section	Nothing known; there are no major issues. There is no management agreement with the landowner.	No
007	000562	Derw Wen	There is no management agreement at present. The wood is believed to be grazed, posing possible future problems with regeneration. Ideally, stock need to be excluded from the wood.	Yes
008	000563	Brynperffaith	No main issues. There is no management agreement.	No
009	000564	Privately owned Devil's Bridge woodland	There is no management agreement at present. Rhododendron is a problem in the woodland.	Yes
010	000566	Erwbarfe	No management agreement at present. There is a need for stock exclusion from the woodland.	Yes
011	000567	Llwynbrain	No management agreement. No issues at present. Some rhododendron present.	Yes
012	000569	Llwynbrain northeast	No management agreement at present. Requires rhododendron control through management agreement.	Yes

7. GLOSSARY

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

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

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

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

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

Condition assessment The process of characterising the **condition** of a **feature** with particular reference to whether the aspirations for its condition, as expressed in its **conservation objective**, are being met.

Condition categories The **condition** of **feature** can be categorised, following **condition assessment** as one of the following[2]:

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

Conservation management Acts or undertaking of all kinds, including but not necessarily limited to **actions,** taken with the aim of achieving the **conservation objectives** of a site. Conservation management includes the taking of statutory and non-statutory measures, it can include the acts of any party and it may take place outside site boundaries as well as within

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

sites. Conservation management may also be embedded within other frameworks for land/sea management carried out for purposes other than achieving the conservation objectives.

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

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

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

Core Management Plan A CCW document containing the conservation objectives for a site and a summary of other information contained in a full site **Management Plan**.

Factor Anything that has influenced, is influencing or may influence the **condition** of a **feature**. Factors can be natural processes, human activities or effects arising from natural process or human activities, They can be positive or negative in terms of their influence on features, and they can arise within a site or from outside the site. Physical, socio-economic or legal constraints on **conservation management** can also be considered as factors.

Favourable condition See **condition** and **condition assessment**

Favourable conservation status See **conservation status** and **conservation status assessment.**[3]

Feature The species population, habitat type or other entity for which a site is designated. The ecological or geological interest which justifies the designation of a site and which is the focus of conservation management.

Integrity See **site integrity**

Key Feature The habitat or species population within a **management unit** that is the primary focus of **conservation management** and **monitoring** in that unit.

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

Management Plan The full expression of a designated site's legal status, **vision**, **features**, **conservation objectives**, **performance indicators** and management requirements. A complete management plan may not reside in a single document, but may be contained in a number of documents (including in particular **the Core Management Plan**) and sets of electronically stored information.

Management Unit An area within a site, defined according to one or more of a range of criteria, such as topography, location of **features**, tenure, patterns of land/sea use. The key characteristic of management units is to reflect the spatial scale at which **conservation management** and **monitoring** can be most effectively organised. They are used as the primary basis for differentiating priorities for conservation management and monitoring in different parts of a site, and for facilitating communication with those responsible for management of different parts of a site.

Monitoring An intermittent (regular or irregular) series of observations in time, carried out to show the extent of compliance with a formulated standard or degree of deviation from an expected norm. In **Common Standards Monitoring**, the formulated standard is the quantified expression of favourable **condition** based on **attributes**.

Operational limits The levels or values within which a **factor** is considered to be acceptable in terms of its influence on a **feature**. A factor may have both upper and lower operational limits, or only an upper limit or lower limit. For some factors an upper limit may be zero.

Performance indicators The **attributes** and their associated **specified limits**, together with **factors** and their associated **operational limits,** which provide the standard against which information from **monitoring** and other sources is used to determine the degree to which the **conservation objectives** for a **feature** are being met. Performance indicators are part of, not the same as, conservation objectives. See also **vision for the feature**.

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

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

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

Special Feature See **feature**.

Specified limit The levels or values for an **attribute** which define the degree to which the attribute can fluctuate without creating cause for concern about the **condition**

of the **feature**. The range within the limits corresponds to favourable, the range outside the limits corresponds to unfavourable. Attributes may have lower specified limits, upper specified limits, or both.

Unit See **management unit.**

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

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

8. REFERENCES AND ANNEXES

Tucker, G., Hill, D, Peterken, G., George Peterken and Rich, T. 1997. *Generic guidelines for favourable condition of features of conservation interest under the EC habitats directive and wild birds directive*. Second stage report - 2nd revision : 8/1/97 Cambridge. Ecoscope Applied Ecologists

Peterken, G.F. 1993. *Woodland Conservation and Management* 2nd ed. London: Chapman & Hall

CCW. 2000. Life Nature : integrating monitoring with management planning : a demonstration of good practice on Natura 2000 sites in Wales: final report December 2000 Bangor: Countryside Council for Wales

CCW SAC Monitoring Report.2006.*Available on request from Tracey Lovering* (CCW West Region SAC Monitoring Officer)