

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

**CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES**

FOR

Alyn Valley Woods/ Coedwigoedd Dyffryn Alyn SAC

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Approved by: Mike Willis

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



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PREFACE

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

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

1. VISION FOR THE SITE

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

The habitats should be stable in area or increasing (not to the detriment of other SAC habitats). Its ecological structure and function must be being maintained, and all typical species should be present. The main factors affecting the habitats will be controlled to ensure the long-term survival of the habitats.

Semi-natural broadleaved woodland will cover 90% of the site, and will be maintained as far as possible by natural processes. It will be dominated by native broadleaved species characteristically ash with some oak and wych elm (should this recover from Dutch Elm disease), and alder in wetter places on the flatter valley bottoms. Yew will be encouraged to expand where it currently occurs at the northern end of the site. The bulk of the gorge woodland will be allowed to continue to develop naturally giving rise to structural diversity and the development of a dynamic naturally occurring pattern of gaps.

The woodland will include trees and shrubs of all ages, including a proportion of old veteran trees. Plentiful tree seedlings throughout the site will develop into saplings in the open glades with the majority of regeneration of the wet woodland occurring from self-coppicing alders.

The woodland field and ground layers will be a patchwork of many species, developed in response to local soil and humidity conditions, with such species as dog's mercury and false brome abundant across the majority of the woodland with remote sedge and meadowsweet prominent in the wet woodland. Exotic species such as Rhododendron, Snowberry and cotoneaster will be absent.

There will be abundant dead and dying trees throughout the woodland providing habitat for invertebrates, fungi and lower plants. Areas of woodland supporting stands of non-native species including beech, sycamore, larch, Scot's Pine and other conifers, in the canopy, will be managed to favour native broad-leaved species. Long-term management will follow largely non-intervention guidelines, eventually to achieve a semi-natural broadleaved woodland whose canopy will not be completely closed.

Areas of calcareous grassland, which currently occupies around 1.1% of the site, will be retained and managed to retain its floristic diversity. The expansion of this grassland will be encouraged by the removal of invading, non-qualifying, scrub.

2. SITE DESCRIPTION

2.1 Area and Designations Covered by this Plan

Grid reference(s): SJ189640

Unitary authorities: Flintshire County Council / Denbighshire County Council

Area (hectares): 168.3ha

Designations covered: Alyn Valley Woods and Alyn Gorge Caves SSSI (NB the plan does not cover non-SAC parts of the underpinning SSSI)

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

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

2.2 Outline Description

The site predominantly occupies the steep Carboniferous Limestone escarpment alongside the river Alyn, together with adjoining areas. The site supports a large stand of semi-natural broadleaved woodland namely the SAC feature '*Tilio – Acerion* forests of slopes, screes and ravines', arising along the steep gorge of the river Alyn and the Alyn's tributaries Nant Gain and Aber Eilun. Narrow woodland strips along the valley bottom and on the wetter ground of the floodplain around Aber Eilun are dominated by wet woodland corresponding to the SAC feature '*Alluvial forest with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno – Padion, Alnion incanae, Salicion alvae*)*'.

Several small areas of species rich calcicolous grassland constitute the third SAC feature '*Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco – Brometalia*)*'.

2.3 Outline of Past and Current Management

The past management of the more accessible parts of the woodland having included a variety of practices including thinning, clear felling, coppicing and the planting of native and non-native tree species including beech and various conifers. These parts of the wood are largely dominated by even aged stands of non-native tree species, while the ash woodlands in the steep sided river gorge and the alder woodlands of the narrow floodplain have a more natural character.

Parts of the woodland area have been subject to past exploitation of the area's rich mineral resources for lead, zinc, calcite and limestone. The woodlands contain evidence of these former workings including spoil heaps, mine adits and shafts, leets for water supply and buildings.

Loggerheads towards the southern end of the site has been managed as a visitor attraction for many years, initially by the Crosville bus company and more recently by the local authorities. Infrastructure within the woodlands has been developed for its quiet recreational enjoyment by visitors.

To redress the artificial character of the more managed woodland, non-native species including beech are being selectively removed, allowing natural regeneration by ash, oak, wych elm and hazel. The dead wood composition of the woodland is increasing. The more traditional management practice of coppicing is continuing in Loggerheads.

2.4 Management Units

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

Maps 1 to 7 and a summary showing the management units referred to in this plan are annexed to this plan.

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

Unit number	SAC	SSSI	CCW owned	Other
<i>Alyn Valley Woods and Alyn Gorge Caves SSSI</i>				
1	✓	✓		Liverpool City Council
2	✓	✓		
3	✓	✓		
4	✓	✓		
5	✓	✓		
6	✓	✓		Denbighshire County Council / Flintshire County Council
7	✓	✓		
8	✓	✓		
9	✓	✓		
10	✓	✓		
11	✓	✓		
12	✓	✓		
13	✓	✓		
14	✓	✓		
15	✓	✓		
16	✓	✓		
17	✓	✓		
18	✓	✓		
19	✓	✓		
20	✓	✓		
21	✓	✓		
22	✓	✓		
23	✓	✓		
24	✓	✓		
25	✓	✓		
26	✓	✓		
27	✓	✓		
28	✓	✓		
29	✓	✓		Welsh Water
30	✓	✓		
31	✓	✓		
32	✓	✓		
33	✓	✓		
34	✓	✓		
35	✓	✓		
36	✓	✓		
37	✓	✓		
38	✓	✓		

39	✓	✓		
40	✓	✓		
41	✓	✓		

3. THE SPECIAL FEATURES

Annex I feature and the primary reason for selection of this site.

3.1 Confirmation of Special Features

<i>Designated feature</i>	<i>Relationships, nomenclature etc</i>	<i>Conservation Objective in part 4</i>
<i>SAC features</i>		
Annex I habitats that are a primary reason for selection of this site: Mixed woodland on base-rich soils associated with rocky slopes - <i>Tilio-Acerion</i> forests of slopes, screes and ravines	EU Habitat Code: 9180 *priority habitat	1
Annex I habitats present as a qualifying feature, but not a primary reason for site selection: Alder woodlands on Floodplains - Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)	EU Habitat Code: 91E0 * priority habitat	2
Annex I habitats present as a qualifying feature, but not a primary reason for site selection: Dry grasslands and scrublands on chalk or limestone - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	EU Habitat Code: 6210	3
<i>SPA features</i>		
Not applicable		
<i>Ramsar features</i>		
Not applicable		
<i>SSSI features</i>		
A large area of semi-natural broadleaved woodland, principally associated with limestone habitats	This feature is considered to include both woodland features of <i>Tilio - Acerion</i> forest of slopes, screes and ravines, and Alluvial forest with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	1 and 2
Unimproved calcareous grassland	This feature corresponds to Semi-natural dry grassland and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	3
A population of grizzled skipper butterfly	This feature is associated with the Semi-natural dry grassland and	

	scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	
A plant assemblage comprising four nationally scarce species	The plant assemblage are scattered throughout the site and are found in areas associated with Tilio - Acerion forest of slopes, screes and ravines	
A population of wayfaring tree	The feature is associated with the Tilio - Acerion forest of slopes, screes and ravines	
Alyn Gorge Caves, comprising three cave systems within the Carboniferous Limestone	Not associated with any feature. Found underground.	

3.2 Special Features and Management Units

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

Key Features

KH - a 'Key Habitat' in the management unit, i.e. the habitat that is the main driver of management and focus of monitoring effort, perhaps because of the dependence of a key species (see KS below). There will usually only be one Key Habitat in a unit but there can be more, especially with large units.

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

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

Other Features

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

- a) they are present in the unit but may be of less conservation importance than the key feature; and/or
- b) they are present in the unit but in small areas/numbers, with the bulk of the feature in other units of the site; and/or
- c) their requirements are broader than and compatible with the management needs of the key feature(s), e.g. a mobile species that uses large parts of the site and surrounding areas.

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

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

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

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

Alyn Valley Woods and Alyn Gorge Caves	Management unit													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
SAC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAC features														
1. <i>Tilio - Acerion</i> forest of slopes, screes and ravines	KH	KH	KH	x	KH	KH	KH	KH	KH	KH	x	KH	KH	KH
2. Alluvial forest with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	x	x	x	x	x	KH	x	x	x	x	KH	KH	KH	x
3. Semi-natural dry grassland and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	x	x	x	KH	x	KH	x	x	x	x	x	x	x	x
SSSI features														
4. Unimproved neutral grassland	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5. Grizzled skipper butterfly	x	x	x	Sym	x	Sym	x	x	x	x	x	x	x	x
6. Plant assemblage	x	Sym	x	x	x	x	x	x	x	x	x	x	x	x
7. Wayfaring tree	Sym	x	Sym	x	x	Sym	x	x	x	x	x	x	x	x
8. Alyn Gorge Caves	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Alyn Valley Woods and Alyn Gorge Caves	Management unit													
	15	16	17	18	19	20	21	22	23	24	25	26	27	28
SAC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAC features														
1. <i>Tilio - Acerion</i> forest of slopes, screes and ravines	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH
2. Alluvial forest with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3. Semi-natural dry grassland and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	x	x	x	x	x	x	x	x	x	x	x	x	KH	x
SSSI features														
4. Unimproved neutral grassland	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5. Grizzled skipper butterfly	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6. Plant assemblage	x	x	x	x	x	x	x	Sym	x	x	x	x	Sym	x
7. Wayfaring tree	x	x	x	x	x	x	x	x	x	x	x	x	x	x
8. Alyn Gorge Caves	x	x	x	x	x	x	x	x	x	Sym	Sym	x	Sym	Sym

Alyn Valley Woods and Alyn Gorge Caves	Management unit												
	29	30	31	32	33	34	35	36	37	38	39	40	41
SAC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAC features													
1. <i>Tilio - Acerion</i> forest of slopes, screes and ravines	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH	KH
2. Alluvial forest with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>)	x	x	x	x	x	x	x	x	x	x	x	x	x
3. Semi-natural dry grassland and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	x	x	x	x	x	x	x	x	x	x	x	x	x
SSSI features													
4. Unimproved neutral grassland	x	x	x	x	x	x	x	x	x	x	x	x	x
5. Grizzled skipper butterfly	x	x	x	x	x	x	x	x	x	x	x	x	x
6. Plant assemblage	x	Sym	x	Sym	Sym	x	x	x	x	x	x	x	x
7. Wayfaring tree	x	x	x	x	x	x	x	x	x	x	x	x	x
8. Alyn Gorge Caves	Sym	Sym	x	x	x	x	x	x	x	x	x	Sym	x

Since the SSSI features of wayfaring tree and plant assemblage are located within Units 1, 2, 3, 6, 22, 27, 30, 32 and 33 the management of the broadleaved woodland Units where they occur should aim to maintain or increase these populations if it conforms with the conservation objectives for the SAC features. The grizzled skipper butterfly will benefit from sympathetic habitat management of the Units 4, 6 and 27, which contain semi-natural dry grassland and scrubland facies: on calcareous substrates

4. CONSERVATION OBJECTIVES

Background to Conservation Objectives:

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

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

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

Box 1

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

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

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

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

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

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

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

- Conservation planning and management.

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

- Assessing plans and projects.

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

- Monitoring and reporting.

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

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

b. Format of the conservation objectives

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

Each conservation objective consists of the following two elements:

1. Vision for the feature
2. Performance indicators

As a result of the general practice developed and agreed within the UK Conservation Agencies, conservation objectives include performance indicators, the selection of which should be informed by JNCC guidance on Common Standards Monitoring¹.

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

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

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

4.1 Conservation Objective for Feature 1:

Tilio-Acerion forests of slopes, screes and ravines (EU Habitat Code: 9180)

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:

- *Tilio-Acerion* woodland will occupy at least 80% (current extent) of the total site area
- The woodland is maintained as far as possible by natural processes
- The trees and shrubs are mainly native broadleaved species, such as ash, oak (sessile oak or hybrid), wych elm, lime, downy birch and hazel
- Sycamore may be present but will not become dominant anywhere in the canopy or the understorey
- Beech and conifer species will be largely absent from the canopy, under-storey and the woodland as a whole
- The abundance of individual native tree species will vary throughout the woodland. There may be dense stands of one species or mixture of several species occupying a given area at any one time.
- A changing patchwork of naturally occurring pattern of gaps and temporary glades will give rise to structural diversity
- The woodland will contain trees and shrubs of all ages and sizes, as a mixture or in single aged groups
- Plentiful native tree seedlings throughout the site will develop into saplings in the open glades
- The field and ground layers will contain such species as dog's mercury and false brome will be abundant across the majority of the woodland on drier base-rich soils, with ferns, particularly harts-tongue also being common. Other frequent and locally abundant species will include ivy, nettle and bramble
- Exotic species such as rhododendron, cherry laurel, snowberry and cotoneaster will not be tolerated within the woodland
- There will be abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches throughout the woodland
- All factors affecting the achievement of these conditions are under control

Performance indicators for Feature 1

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

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Habitat Extent	No upper limit is set, but extent should not increase at the detriment of other SAC features. Lower limit is based on current extent	Upper limit: none set Lower limit: as at SAC designation (134.5ha)
A2. Canopy cover	There should be a varying pattern of canopy breaks over time within the whole site area, with the lower limit reflect the continuation of a coppicing regime	Upper limit: 90% Lower limit: 70%

A3. Canopy Composition	In some areas non-native trees, such as beech, and conifer will be tolerated in the short to medium term, so long as they are not freely re-generating in the understorey. Sycamore should make up less than 50% of the canopy	Upper limit: none set Lower limit: 95% of the canopy forming trees are native species
A4. Regeneration potential	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 ash, oak (sessile or hybrid), wych elm, lime, downy birch and hazel	Upper limit: none set Lower limit: signs of seedlings growing through to saplings to young trees at sufficient density to maintain canopy density over 10 year period
A5. Dead wood	The dead wood will consist of a mixture of fallen trees, broken branches, dead branches on live trees, and standing dead trees > 20cm in diameter	Upper limit: none set Lower limit: 30 cubic metres per hectare throughout
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Invasive species	Rhododendron ponticum/ Cherry laurel These plants should not be allowed to flower due to their invasive nature. If possible they should be eradicated from the site Snowberry In order to prevent the spread and proliferation of snowberry which is a non-native species found locally, it should be eradicated from areas of the site which it is found Cotoneaster In order to prevent the spread and proliferation it should be eradicated from the site	Upper limit: no flowering (seed-bearing) plants Lower limit: absent from site Upper limit: not required Lower limit: absent from site Upper limit: not required Lower limit: absent from site
F2. Non-native species	Beech Non-native beech trees can be accepted as part of the canopy in the short to medium term, as they represent the veteran tree composition of the wood in Unit 6 and 19	Upper limit: no beech seedlings or saplings to be allowed to grow to set seed Lower limit: absent from site
F3. Livestock grazing	Periods of heavy/moderate grazing limits sapling growth due to	Upper limit: grazing should not occur at the detriment of natural

	browsing. Light grazing may be acceptable in some parts of the site, but grazing should be excluded from the vast majority of the site	regeneration Lower limit: Some light grazing may be acceptable
F4. Recreation	Large parts of the wood are open to public use with several well developed footpaths	Upper limit: 10% bare ground Lower limit: not required

4.2 Conservation Objective for Feature 2:

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

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

- Alder wet woodland will occupy at least 3% (current extent) of the site
- The woodland is maintained as far as possible by natural processes
- The trees and shrubs will be locally native broadleaved species with alder dominating the canopy
- Willow, ash, and birch may be a component of the canopy and the understorey but they will not become dominant anywhere
- The presence of sycamore and poplar will be discouraged
- The sparse shrub layer will comprise of a scattering of hazel, willow and rowan
- The woodland will contain trees and shrubs of all ages and sizes, as mixtures or in single aged groups
- A changing patchwork of naturally occurring pattern of gaps and temporary glades will give rise to structural diversity
- Seedlings will be relatively sparse throughout the site with only a few native seedlings from non-self coppicing trees develop into saplings in the open glades
- The majority of regeneration will be from the base of the alders by means of self-coppicing
- The field and ground layers will be a patchwork of alluvial species, with no one species dominating. It will contain such species such as remote sedge, meadowsweet, and nettle on dries areas
- There will be abundant dead and dying trees with holes and hollows, rot columns, torn off limbs and rotten branches throughout the woodland
- All factors affecting the achievement of these conditions are under control

Performance indicators for Feature 2

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

Performance indicators for feature condition		
Attribute	Attribute rationale and other comments	Specified limits
A1. Habitat Extent	No upper limit is set, but should not extend at the detriment of other SAC features. Lower limit is based on current extent	Upper limit: none set (limited by annually inundation). Lower limit: as at SAC designation (4.7 ha)

A2. Canopy cover	There should be a varying pattern of canopy breaks over time within the whole site area.	Upper limit: 90% Lower limit: 70%
A3. Canopy composition	The canopy contains locally native tree species with alder dominating the canopy. Sycamore should make up less than 30% of the canopy	Upper limit: none set Lower limit: 95% of the canopy forming trees are native species with alder dominant in the canopy
A4. Regeneration potential	In the absence of suitable level of disturbance of the ground to provide a suitable substrate for seeds to germinate, the regeneration from root plates is also regarded as regeneration 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 alder, willow, ash, birch	Upper limit: none set Lower limit: signs of seedlings growing through to saplings to young trees at sufficient density to maintain canopy density over 10 year period OR regeneration of alder via self-coppicing from root plates
A5. Dead wood	The dead wood will consist of a mixture of fallen trees, broken branches, dead branches on live trees, and standing dead trees.	Upper limit: none set Lower limit: 30 cubic metres per hectare throughout
<i>Performance indicators for factors affecting the feature</i>		
<i>Factor</i>	<i>Factor rationale and other comments</i>	<i>Operational Limits</i>
F1. Water Quality	Good quality water is required as groundwater and surface run-off could be subject to pollution from agricultural activities such as fertiliser application	Upper limit: none set Lower limit: General Quality Assessment grade 'A'
F2. Water Quantity	The habitat is dependent on the maintenance of high water throughput	Upper limit: none set Lower limit: high flows during and after periods of heavy rain
F3. Livestock grazing	Periods of heavy/moderate grazing limits sapling growth due to browsing. Light grazing may be acceptable in providing a suitable substrate for alder seeds to germinate	Upper limit: grazing should not occur at the detriment of natural regeneration Lower limit: Some light grazing may be acceptable

4.3 Conservation Objective for Feature 3:

Dry grasslands and scrublands on chalk or limestone - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) (EU Habitat Code: 6210)

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

- Calcareous grassland will occupy at least 1.1% (current extent) of the site, and opportunities will be sought to increase the extent into areas which have become scrub
- The grassland will be a rich mix of herbs and grasses reflecting the calcareous grassland community present, with a high broadleaved herb component
- There will be at least 4 positive indicators present within each of the calcareous grassland communities present as defined in the performance indicators
- Terricolous lichens and acrocarpous bryophytes are present in any CG1 community
- Species indicative of agricultural improvements will be rare or absent
- Species indicative of rank vegetation will be rare or absent
- Scrub species and bracken will be rare or absent
- Introduced species such as cotoneaster will be absent
- All factors affecting the achievement of these conditions are under control

Performance indicators for Feature 3

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

<i>Performance indicators for feature condition</i>		
<i>Attribute</i>	<i>Attribute rationale and other comments</i>	<i>Specified limits</i>
A1. Habitat Extent	No upper limit is set, but extent should not increase at the detriment of other SAC features. Lower limit is based on current extent	Upper limit: none set Lower limit: as at SAC designation (1.8ha)
A2. Habitat quality	The quality of the habitats will be reflected by the presence of various positive indicators and the absence of negative indicators within the calcareous communities. Positive indicators for each calcareous grassland community present should be taken from the following list: - CG1 <i>Carex spp., Carlina vulgaris, Lotus corniculatus, Pilosella officinarum, Sanguisorba minor, Thymus praecox</i> CG2 <i>Carex spp., Galium verum, Helianthemum nummularium, Lotus corniculatus, Pilosella officinarum, Polygala vulgaris, Sanguisorba minor,</i>	Upper limit: none set Lower limit: at least 60% of the calcareous grassland is in good condition, characterised by the presence and absence of indicators for each community Upper limit: none set Lower limit: at least 3 positive indicators in addition to Terricolous lichens and acrocarpous bryophytes Upper limit: none set Lower limit: at least 4 positive indicators

	<p><i>Thymus praecox</i></p> <p>CG6 <i>Agrimonia eupatoria, Anthyllis vulneraria, Carex flacca, Centaurea nigra, Centaurea Scabiosa, Clinopodium vulgare, Filipendula vulgaris, Geranium sanguineum, Helianthemum nummularium, Hypericum spp., Knautia arvensis, Leontodon hispidus, Lotus corniculatus, Orchidaceae spp., Origanum vulgare, Pimpinella spp., Primula veris, Sanguisorba minor, Thalictrum minus, Thymus spp</i></p> <p>XB39 (Geranium sanguineum and Thalictrum minus) <i>Carex spp., Centaurea nigra, Geranium sanguineum, Helianthemum nummularium, Lotus corniculatus, Pimpinella saxifraga, Sanguisorba minor, Thalictrum minus</i></p> <p>AND</p> <p>For each calcareous community: -</p> <p>Agricultural favoured species are rare or absent, with agricultural weeds always being absent</p> <p>Rank grasses are rare or absent *note that some species are constant within some communities often at greater than 10% cover, and are not in a degraded from e.g CG6 <i>Avenula pubescens</i></p>	<p>Upper limit: none set</p> <p>Lower limit: at least 4 positive indicators</p> <p>Upper limit: none set</p> <p>Lower limit: at least 4 positive indicators</p> <p>Upper limit: agricultural weeds and <i>Lolium perenne</i> absent AND the combined presence of other agricultural favoured species is less than 10% of sward</p> <p>Lower limit: all absent</p> <p>Upper limit: combined presence is less than 10% of sward</p> <p>Lower limit: rank grasses are absent</p>
Performance indicators for factors affecting the feature		
Factor	Factor rationale and other comments	Operational Limits
F1. Livestock grazing	Without an appropriate light grazing regime, the grassland would become rank and eventually turn to scrub and woodland. If possible grazing should be carried out in a sympathetic way in order to benefit the grizzled skipper butterfly	<p>Upper limit: The grazing pressure must not be so high as to break down the vegetation structure and cause significant bare areas to appear</p> <p>Lower limit: The grazing should be sufficient to prevent coarse grasses suppressing other plant, and the growth of bracken, scrub, trees and</p>

		the smothering of the flowering plants
F2. Scrub	As a result of no or low levels of grazing, bracken, trees, scrub and saplings encroach onto the grassland Bracken should be limited to the occasional frond	Upper limit: scrub and bracken absent Lower limit: occasional scrub seedlings or bracken frond
F3. Recreation	Part of the feature is subject to trampling by people	Upper limit: 10% bare ground Lower limit: no bare ground

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: *Tilio-Acerion* forests of slopes, screes and ravines (EU Habitat Code: 9180)

Conservation Status of Feature 1

The SAC monitoring carried out on the feature in 2003 found the feature to be in an Unfavourable condition.

Management Requirements of Feature 1

Since no one sub-attribute consistently failed throughout the wood, the management requirement in order to bring the feature into favourable condition varies across the site.

Current and future positive management should continue to remove non-native and exotic species from the woodland, and reduce the presence of sycamore in the canopy. The presence of non-natives not only affects the canopy composition of the woodland but also the regeneration potential due to the large number of non-native seedlings/saplings. Where natural gaps occur in such circumstances intervention may be required to reduce the likelihood-undesired species replenishing the canopy. The exclusion/reduction of grazing is required in some areas as this is having a detrimental effect on the woodland due to browsing. The dead wood composition of the woodland is increasing as undesirable species are removed, as is the case in the southern half of the site.

5.2 Conservation Status and Management Requirements of Feature 2: Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (EU Habitat Code: 91E0)

Conservation Status of Feature 2

The SAC monitoring carried out on the feature in 2003 found the feature to be in an Unfavourable condition.

Management Requirements of Feature 2

Positive steps should be taken to remove poplar and other non-native species, which are becoming dominant in the canopy. The lack of seedling regeneration is a reflection of the even aged structure and the closed canopy that exists. The creation of gaps should be considered to address this in the absence of natural occurring gaps. However regeneration is occurring naturally from the root plates.

Parts of woodland have now been excluded from grazing, and consideration should be given to excluding livestock from other areas.

5.3 Conservation Status and Management Requirements of Feature 3: Dry grasslands and scrublands on chalk or limestone - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) (EU Habitat Code: 6210)

Conservation Status of Feature 3

The SAC monitoring carried out on the feature in 2005 found the feature to be in an Unfavourable condition.

Management Requirements of Feature 3

The unfavourable condition is predominantly due to the presence of bracken and scrub as a result of the cessation of grazing. A combination of scrub clearance works and the re-establishment of light grazing should bring the site back into favourable condition.

6. ACTION PLAN: SUMMARY

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

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
1	000124	Colomendy	lack dead wood; invasive species present; excessive beech and non natives present	Yes
2	000125	Coed Cefn Mawr	non-natives present; lack of dead wood	Yes
3	000126	Ty-draw Nursery	a small part of the compartment is open to grazing from sheep; invasive species present (rhododendron); lack of dead wood;	Yes
4	000127	Cefn Mawr Grassland	bracken and scrub encroachment as a result of insufficient grazing	Yes
5	000128	Coed Tyddyn Dows	grazing by sheep of part of the compartments; non natives present; lack dead wood	Yes
6	000129	Loggerheads	Woodland - excessive non-natives present Grassland - scrub encroachment; erosion by public	Yes
7	000130	Tan Y Graig	Unknown	No
8	000137	Argoed	non-natives present	Yes
9	000138	Norland	Unknown	No
10	000139	Cefn Bychan	Site currently under positive management, invasive species to be felled in 08/09	Yes
11	000140	Maes Alyn Wet Woodland		Yes
12	000141	Brithdir Bach	This unit is considered to be under appropriate conservation management.	No
13	000142	Coed Aber-Eilun	lack of alder in the canopy;	Yes
14	000143	Brynteg	This unit is considered to be under appropriate conservation management.	No
15	000144	Maes Alyn	This unit is considered to be under appropriate conservation management.	No
16	000145	Fron Haul	non-natives present	Yes
17	000146	Bryn Y Castell	This unit is considered to be under appropriate conservation management.	No
18	000147	Coed Tan Llan	This unit is considered to be under appropriate conservation management.	No
19	000148	Coed Mawr	non-natives trees; lack dead wood; lack regen of native trees; part of the woodland is grazed	Yes
20	000149	Maes-y-Groes	This unit is considered to be under appropriate conservation management.	No

Unit Number	CCW Database Number	Unit Name	Summary of Conservation Management Issues	Action needed?
21	000150	Larkfield	This unit is considered to be under appropriate conservation management.	No
22	000151	Erw Goed	partly grazed; non-natives present; lack of dead wood	Yes
23	000152	Coed Nant Gain	This unit is considered to be under appropriate conservation management.	No
24	000533	Coed Pont Newydd	This unit is considered to be under appropriate conservation management.	No
25	000534	Garthdale Wood	This unit is considered to be under appropriate conservation management.	No
26	000535	Coed Ty Bont	This unit is considered to be under appropriate conservation management.	No
27	000536	Craig Alyn Cottage	This unit is considered to be under appropriate conservation management.	No
28	000537	Craig Alyn Woodland	This unit is considered to be under appropriate conservation management.	No
29	000538	Coed Alyn	This unit is considered to be under appropriate conservation management.	No
30	000539	Trefor Wood	This unit is considered to be under appropriate conservation management.	No
31	000540	Coed Carreg Boeth	This unit is considered to be under appropriate conservation management.	No
32	000541	Coed Capel	This unit is considered to be under appropriate conservation management.	No
33	000542	Coed Fron	This unit is considered to be under appropriate conservation management.	No
34	000543	Coed Pen y Fron	This unit is considered to be under appropriate conservation management.	No
35	000544	Friezeland	This unit is considered to be under appropriate conservation management.	No
36	000545	Coedydd Nant Alyn	This unit is considered to be under appropriate conservation management.	No
37	000546	Coedydd Trimm	This unit is considered to be under appropriate conservation management.	No
38	000547	Coed Sholyn	non natives present, lack dead wood	Yes
39	000548	Hazelwood	This unit is considered to be under appropriate conservation management.	No
40	000549	Coedydd Tan Y Rhiw	This unit is considered to be under appropriate conservation management.	No
41	000550	Coedydd Goll	This unit is considered to be under appropriate conservation management.	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 ² : <ul style="list-style-type: none"> Favourable: maintained; Favourable: recovered; Favourable: un-classified Unfavourable: recovering; Unfavourable: no change; Unfavourable: declining; Unfavourable: un-classified Partially destroyed; Destroyed.
Conservation management	Acts or undertaking of all kinds, including but not necessarily limited to actions , taken with the aim of achieving the conservation objectives of a site. Conservation management includes the taking of statutory and non-statutory measures, it can include the acts of any party and it may take place outside site boundaries as well as within sites. Conservation management may also be embedded within other frameworks for land/sea management carried out for purposes other than achieving the conservation objectives.
Conservation objective	The expression of the desired conservation status of a feature , expressed as a vision for the feature and a series of performance indicators . The conservation objective for a feature is thus a composite statement, and each feature has one conservation objective.

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

Conservation status	A description of the state of a feature that comprises both its condition and the state of the factors affecting or likely to affect it. Conservation status is thus a characterisation of both the current state of a feature and its future prospects.
Conservation status assessment	The process of characterising the conservation status of a feature with particular reference to whether the aspirations for it, as expressed in its conservation objective , are being met. The results of conservation status assessment can be summarised either as ‘favourable’ (i.e. conservation objectives are met) or unfavourable (i.e. conservation objectives are not met). However the value of conservation status assessment in terms of supporting decisions about conservation management , lies mainly in the details of the assessment of feature condition , factors and trend information derived from comparisons between current and previous conservation status assessments and condition assessments.
Core Management Plan	A CCW document containing the conservation objectives for a site and a summary of other information contained in a full site Management Plan .
Factor	Anything that has influenced, is influencing or may influence the condition of a feature . Factors can be natural processes, human activities or effects arising from natural process or human activities, They can be positive or negative in terms of their influence on features, and they can arise within a site or from outside the site. Physical, socio-economic or legal constraints on conservation management can also be considered as factors.
Favourable condition	See condition and condition assessment
Favourable conservation status	See conservation status and conservation status assessment . ³
Feature	The species population, habitat type or other entity for which a site is designated. The ecological or geological interest which justifies the designation of a site and which is the focus of conservation management.
Integrity	See site integrity
Key Feature	The habitat or species population within a management unit that is the primary focus of conservation management and monitoring in that unit.
Management Plan	The full expression of a designated site’s legal status, vision , features , conservation objectives , performance indicators and management requirements. A complete management plan may not reside in a single document, but may be contained in a number of documents (including in particular the Core Management Plan) and sets of electronically stored information.
Management Unit	An area within a site, defined according to one or more of a range of criteria, such as topography, location of features , tenure, patterns of land/sea use. The

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

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**.