

Isle of Wight Biodiversity Action Plan

Lowland Calcareous Grassland Habitat Action Plan

1. Introduction

This Habitat Action Plan has been prepared through consultation with a range of organisations and specialists within the Isle of Wight BAP partnership. It covers a ten-year period from 2002 - 2012 with a review in 2007.

Lowland calcareous grassland has been selected as an action plan habitat for the Isle of Wight to ensure that national objectives for this priority habitat identified under the UK Biodiversity Action Plan are translated into effective action on the Island, taking into account local issues. The identification of lowland calcareous grassland as a priority habitat is based on the following factors:

1. Nationally 95% of chalk downland has been lost in the last 50 years and on the Isle of Wight 63% has been lost over the last 150 years - these trends highlight an urgent need to conserve those areas which remain, and to enhance or restore other areas of suitable habitat.
2. The enormous loss of habitat on the Island has been accompanied by fragmentation of the remaining sites particularly those in the east and central parts of the Island's central chalk ridge.
3. A significant number of the remaining sites (53%) are not in favourable nature conservation condition due to a range of management issues. If the *area* of these sites is considered, approximately 43% of the resource is in unfavourable condition.
4. The Isle of Wight calcareous grasslands are one of the most important semi-natural habitats in the county and support 10 priority BAP species, 10 other species of national conservation concern, and 52 additional species of local concern. The actions for a number of these species are covered by this Habitat Action Plan whilst others may be covered by individual species action plans.

2. Current Status

2.1 Description of Habitat

Chalk hills are a characteristic feature of the Isle of Wight landscape. Chalk forms the backbone of the Island extending from the famous chalk stacks of the Needles in the west to the chalk cliffs at Culver in the east. This ridge is by no means uniform along its length but widens out in the centre of the Island to form a plateau with associated combes and dry valleys around its edges. The highest range of chalk hills occurs at the southern tip of the Island - the eroded stump of a great mono-clinal chalk ridge that once spanned the Island from east to west. The strata in these southern chalk hills are almost horizontal and have eroded to form dramatic steep slopes, particularly on their southern side with more sheltered flowery chalk grassland meadows to the north.

Most of the Island's chalk downs are capped with deposits of clay with flints or angular flint gravels and have acid soils that are in sharp contrast to the nearby calcareous chalk soils.

These naturally support gorse scrub, acid grassland and heathland vegetation, which are described in the Acid Grassland and Heathland Habitat Action Plan.

Chalk grasslands occur in a variety of situations ranging from steep south facing slopes exposed to extremes of heat and maritime winds in the west of the Island, sheltered combs and dry valleys in the centre of the Island and humid north facing slopes such as those around Ashe and next to Bloodstone Copse in the east. The character and associated fauna of the grasslands varies in many subtle ways depending upon this range of exposure, slope, depth of soil and management history.

The majority of calcareous grassland on the Island occurs over the outcrops of chalk and is more commonly termed chalk grassland. In addition, there are smaller areas associated with outcrops of Bembridge limestone. Calcareous grassland on Bembridge Limestone is best developed around the former limestone quarries such as those at Prospect Quarry near Wellow. On the coast there are also many exposures of Bembridge marls on the maritime cliffs, which support calcareous grassland but these examples of the habitat are best considered under the Maritime Cliffs Habitat Action Plan. Inland of the coast there are also some calcareous grasslands associated with the Bembridge marls, such as those at Brickfields and Elmsworth Farm bordering Newtown Harbour. However, these are small in extent, and are best considered as components of the larger complex of neutral grasslands of which they form a part - these are considered within the Lowland Meadows Habitat Action Plan.

There has been limited survey of the range and diversity of chalk grassland vegetation within the Isle of Wight. The most comprehensive survey was that undertaken in 1987 by the Nature Conservancy Council. This has never been published, although results of the survey have been obtained from English Nature. The survey recorded chalk grassland from a total of 46 sites extending to 906 hectares of the Island. A total of 440 hectares of calcareous grassland was surveyed from these sites with additional areas of scrub, heath, neutral and acid grassland also occurring. 12 of the sites visited were already SSSI and comprised 71% (701 ha) of the area surveyed.

The calcareous grassland was recorded using the National Vegetation Classification (NVC). A range of calcareous grassland types from a total of 80 samples was identified. The most frequently recorded community was the sheep's fescue – meadow oat-grass community (CG2). This is typically very species-rich short springy grassland, dominated by fine-leaved grasses and low growing herbs such as salad burnet, thyme, rock rose, bird's foot trefoil and small scabious. The nationally scarce early gentian is particularly associated with this grassland type, as are mats of horseshoe vetch, the larval food plant of the adonis blue butterfly. This grassland type tends to develop on shallow soils on steeper slopes and is widespread along the south face of the Island's chalk downs.

On the steepest and most exposed slopes are also scattered examples of sheep's fescue – carline thistle grassland (CG1). Nationally this is an uncommon calcareous grassland type limited to scattered sites on harder limestones around the southern and western coasts of England and Wales. It forms an extremely short and open turf, with patches of exposed rock and bare soil. Characteristic species include mouse-eared hawkweed, kidney vetch and the moss *Weissia* species.

By contrast in a few places on the deeper and more moisture retentive soils, examples of upright brome grassland occur (CG3). This is a relatively tall grassland type, which develops in generally less heavily grazed grasslands. It tends to be less species-rich than

the other grassland types mentioned, although it still supports a wide range of chalk grassland species including thyme, rock rose, stemless thistle and field scabious.

Finally, in a few places examples of hairy oat-grass grassland (CG6) were also recorded by the survey. This grassland is dominated by red fescue with smaller amounts of hairy and meadow oat-grasses. It occurs most frequently on the deeper more moisture retentive soils where grazing pressure is low or has been absent for a period of time. Associated species are similar to the upright brome grassland and include salad burnet, ribwort plantain, thyme and lady's bedstraw. Pyramidal orchids and cowslips can also be locally abundant in this grassland type.

The range of calcareous grassland types on the Island is similar to those found in mainland Hampshire. However, the proportion of species rich CG2 grassland is far greater and that of CG3 and CG6 is correspondingly much reduced. The examples of the nationally uncommon CG1 grassland found on the Island are absent from Hampshire.

2.2 Distribution and Extent

The Isle of Wight chalk and limestone outcrops cover an area of 4180 and 37 ha respectively. This has never supported continuous calcareous grassland as woodland, scrub and arable land have always formed an important part of the landscape. In addition, much of the chalk outcrop is capped with acid deposits that will not support calcareous grassland. The extent of calcareous grassland on the Island has been continuously changing since the first clearances of the primeval forest in the Mesolithic and early Bronze Age. These fluctuations in extent have been largely related to changes in the agricultural economy, with periods of high demand for cereals alternating with those for sheep and other livestock. Calcareous grassland was probably at its greatest extent in the 18th and 19th centuries when sheep and wool production dominated the agricultural economy, and shepherded sheep flocks would have roamed the chalk uplands of the Island.

An estimate of the area of chalk grassland on the Island in the mid 19th century has been made by Clive Chatters (Chatters, 1984). Using historic maps he estimated that the Isle of Wight contains some 2,314 hectares (5,718 acres) of chalk grassland in the 1850s. Taking into account the area of acid grassland and heath that occurred over the gravel capping the downs, the area of chalk grassland was probably nearer 1,780 ha at that time. The current area of calcareous grassland, including that over Bembridge Limestone, is estimated in the IW Biodiversity Audit and Assessment as 653 hectares plus 5 ha of limestone grassland. This suggests a loss of some 1,127 ha, a decline of 63% over the last 150 years. This catastrophic decline in the extent of calcareous grassland on the Island is of a much greater magnitude than any since the Roman occupation.

2.3 Legislation and Site Designation

There are 13 Sites of Special Scientific Interest (SSSI) containing calcareous grassland and scrub on the Isle of Wight. These extend to a total of 870 ha and have 453 ha of calcareous grassland representing about 70% of the remaining calcareous grassland resource. The majority of this is in public ownership.

Four SSSI containing calcareous grassland have been identified for inclusion within the Isle of Wight Downs candidate Special Area of Conservation (cSAC) and will form part of a European network of sites of importance for biodiversity to be called Natura 2000. The cSAC has been selected for its populations of early gentian *Gentianella anglica* and representation of calcareous grassland habitat termed 'semi-natural dry grassland and

scrubland facies on calcareous substrates (Festuco-Brometalia)'. The Isle of Wight has the largest UK population of early gentian (Wilson, 1999) and is considered to be one of the best areas of calcareous grassland in the UK.

The 1987 survey of chalk grassland on the Isle of Wight identified a total of 5 additional sites that were considered of sufficient quality to merit notification as new SSSI or extensions to existing sites. Only one of these sites has since been notified.

Approximately 31 Sites of Importance to Nature Conservation (SINC), which contain chalk grassland habitat, have also been identified in the county. These extend to a further 450 ha, of which 186 ha are calcareous grassland

Several areas of calcareous grassland are managed by the Isle of Wight Council. These include Shide Chalk Pit, Rew Down, Nansen Hill and Brading Down. Shide Chalk Pit and Nansen Hill are Local Nature Reserves.

There are no National Nature Reserves containing calcareous grassland on the Isle of Wight, although several areas have been identified as being of NNR quality and are listed in the Nature Conservation Review (NCR) (Ratcliffe, 1977).

Almost all of the calcareous grassland on the Isle of Wight is within the Isle of Wight Area of Outstanding Natural Beauty (AONB), designated under the National Parks and Access to the Countryside Act, 1949.

2.4 Summary of Important Sites

The chalk grassland selected for inclusion in the cSAC occurs in two distinct areas. In the west of the Island are three extensive SSSI, namely Headon Warren and West High Down, Compton Down and Mottistone Down that extend from the Needles eastwards along the chalk ridge. They contain examples of chalk grassland on southerly and north facing slopes together with large areas of heathland and chalk heath. Part of Ventnor Downs SSSI in the south of the Island has also been selected for inclusion in the cSAC (although significant areas of high quality calcareous grassland habitat within this SSSI have been excluded).

In addition to these four internationally important SSSI, other SSSI of particular significance include the high quality calcareous grassland turf found within Calbourne Down SSSI where up to 40 species of plant have been recorded in a single metre square of turf. In the east of the Island, fine examples of chalk grassland are also found on Arreton Down and Bembridge Down where additional colonies of early gentian also occur together with populations of Adonis blue, small blue and chalkhill blue butterflies.

SINCs containing generally smaller areas of high quality chalk grassland include the ramparts of Carisbrooke Castle, the grassland within Mount Joy cemetery near Newport and the steep north and east facing slopes of Ashley Down. Areas of calcareous grassland SSSI and SINC on the Isle of Wight are shown in table 1.

Table 1: Distribution and extent of calcareous grassland SSSI and SINC on the Isle of Wight

SSSI name	Area ha¹	Comments
Arreton Down	29.77	
Bembridge Down	56.25	
Calbourne Down	15.4	Inappropriate grazing and lack of scrub control result in unfavourable condition
Compton Down	196.25	Lack of grazing and golf course management create unfavourable condition
Eagle Head and Bloodstone Copse	10.33	Ancient woodland occupies the majority of the site with only a small area of calcareous grassland present
Garstons Down	20.3	
Headon Warren and West High Down	276.25	Most of Tennyson Down is now grazed
Mottistone Down	31.44	
Rew Down	23.5	Part of site in golf course in unfavourable condition
Rowridge Valley	38.9	Small area of calcareous grassland associated with ancient woodland
Ventnor Downs	162.6	
Shide Quarry	4.8	
Prospect Quarry	4.3	Quarry is important geological site
SINC name	Area ha	Subsidiary habitat
Brading Down West	4.42	
High Hat Reservoir	5.94	
Shalcombe Down	1.34	Plantation woodland
Freshwater Bay Cliffs	3.32	Chalk cliffs, Rocky shore
Calbourne Pumping Station	7.71	Scrub
Carisbrooke Castle	16.28	
Chillerton Down	28.1	Quarry
Brighstone Down	21.42	Scrub
Fore Down	17.36	
Brading Down	32.99	Semi-natural broadleaved woodland, scrub
Gallibury Fields	2.75	
Ashey Chalkpit	2.26	
Idlecombe Farm Down	8.37	Scrub and secondary woodland
Idlecombe Down	73.39	Lowland heath, Plantation woodland
Bembridge Down	46.65	Semi-natural broadleaved woodland; acid grassland
Knighton Down	14.32	Scrub
Limerstone Down	21.19	Scrub
Little Down	18.68	
Mersley Chalk Pit	8.81	Scrub
Arreton Down North	17.25	Scrub and secondary woodland
Mersley Down North	7.2	Ancient woodland, plantation woodland
Mount Joy	3.73	
Newbarn Down, Gatcombe	21.55	Semi-natural ancient woodland, scrub
Northcourt Down	11.25	Scrub
Pay Down	1.27	
Pitts Farm Down	4.44	
Ashey Down	10.03	Scrub
Kern Down Chalkpit	3.46	
St Catherine's Hill	11.55	
St Martin's Down	12.21	
Watcombe Down	10.46	Scrub

¹ = Area of SSSI or SINC including subsidiary habitats

3. Current Factors affecting the Habitat

The most important factors affecting the conservation of calcareous grassland relate to continued sustainable management through appropriate grazing systems and associated scrub management. These are reviewed in the Isle of Wight Grazing and Biodiversity Topic Action Plan and are summarised below.

3.1 Further loss of habitat

Much of the remaining calcareous grassland on the Isle of Wight is now within SSSI or other protection and as the agricultural economy has declined in recent years the threat to the remaining areas of the habitat from agricultural intensification has subsided. However, the threat from lack of management is a problem on some sites, especially small areas of calcareous grassland that are fragmented and isolated.

In addition, there has been a decline in beef cattle and decline of economically viable grazing with cattle generally; this could make it difficult to maintain appropriate grazing regimes on calcareous grasslands in the future.

Although loss of habitat through agricultural intensification may not be as significant a threat to calcareous grassland, the threat from various development pressures remains. This can include construction or maintenance of roads and tracks; recreational development, for instance for golf course creation or extension; and damage through other forms of recreational activity such as motorcycling and mountain biking. Management of these threats and pressures remains a significant factor in conserving the remaining calcareous grassland resource.

3.2 Financial incentives

Sufficient financial incentives are needed to encourage farmers and land managers to maintain and restore areas of calcareous grassland on the Isle of Wight. The Countryside Stewardship Scheme has provided valuable support for the restoration and creation of some calcareous grassland but the levels of payment available through this scheme may not be sufficient and may decline further in line with the general decline in agricultural incomes.

Countryside Stewardship payments are available for all landowners. In addition, English Nature may enter into management agreements with SSSI owners if the site is deemed to be in unfavourable condition.

In the wider countryside outside of these protected sites, there is a need to reverse the trend of habitat decline seen over the past 150 years. Whereas this should be encouraged throughout the Island, there are areas where the potential gains are likely to be greatest and where efforts and financial incentives should be targeted.

Alternative methods of providing a financial incentive also need to be considered and evaluated. This might include niche and brand marketing schemes being considered through the proposed IW Grazing Animal Project.

The availability of a local slaughtering facility may also be critical to the success of local produce production and sale.

3.3 Availability of suitable stock and stock management expertise

Effective grazing of agriculturally unimproved calcareous grassland often requires specific breeds of cattle or sheep to maintain their nature conservation and biodiversity value. Certain farming systems are also likely to be more beneficial to biodiversity than others. For example, extensive beef rearing systems are likely to be preferable to modern dairy production.

Grazing and grassland management on low productivity habitats and the restoration of these habitats using livestock as a management tool is a specialist area of expertise. Whereas many farmers may have very valuable skills it may be that there is a specific need for training and provision of information to assist in developing these skills in this specialist area.

3.4 Public access

Much of the calcareous grassland on the Island has public access along foot paths and bridleways or more generally as open access. This can create a number of problems to livestock managers for example, gates being left open and from dog worrying of livestock. The public can also be seriously concerned by the prospect of walking in places where livestock are present. This can make it difficult to restore grazing to habitats if livestock have been absent for a number of years. These difficulties can be largely overcome with better public information and wardening but this requires considerable time and resources.

3.5 Weed growth and habitat stabilisation

The restoration of calcareous grassland often passes through a phase in which soil fertility and disturbance is sufficient to create ideal conditions for the growth of 'weed' species with ragwort, creeping thistle and dock causing the most significant problems. As the grassland becomes re-established the weed species naturally decline, however, it is not generally acceptable to allow these high weed infestations to persist for the period it takes for the new equilibrium to establish, which might take five years or so. In the meantime, it is necessary to control these weed species with well-targeted herbicide use or by other means. This can be expensive and time consuming and often relies upon the use of specialised equipment such as ragwort pullers or weed wipers.

3.6 Habitat fragmentation and loss of ecological continuity

Many species, for example many of the chalk grassland butterflies require a minimum area of habitat in which to maintain sustainable populations and have poor powers of dispersal.

The natural restoration of a botanically species rich calcareous grassland sward is also dependent upon a nearby source of seed and plant propagules. The current state of habitat fragmentation may mean that intervention will be required to restore species diversity to such sites through the re-introduction of seed and other plant propagules from appropriate donor sites. These are likely to be the remaining SSSI and SINC that retain semi-natural vegetation, which makes their conservation even more critical for the future. Some of the Island's cemeteries on chalk also retain species rich grassland from which wild flower seed could be harvested for restoration of calcareous grassland.

4. Current Action

4.1 Site and Species Protection

4.1.1 Site designation

The 1987 Nature Conservancy Council survey of chalk grassland identified five sites that appeared to be of SSSI quality. One of these, Calbourne Down, has subsequently been notified. However, there is clearly a need to ensure the remaining four sites are fully considered for additional notification. Notification of these five sites as SSSI would bring 85% of the Island's chalk grassland into protective management.

The changes in the selection features for the Isle of Wight Downs cSAC following the 'moderation' exercise have resulted in extensive areas of calcareous grassland (and associated lowland heathland) habitat being excluded from the cSAC that are either within the same or adjacent SSSI to those selected for inclusion. This creates a number of anomalies that need to be resolved.

4.1.2 Purchase of additional reserves or properties

Given the poor state of the agricultural economy it is possible that further areas of calcareous grassland or more importantly, areas with the potential for restoration as calcareous grassland, will become available for purchase by nature conservation organisations. Further action to bring this land into management of nature conservation organisations needs to be planned and coordinated.

4.2 Habitat management

Lowland Calcareous Grassland is a target habitat for the CSS, administered by DEFRA through the Rural Development Service (RDS). This scheme provides payments for maintaining and enhancing calcareous grassland habitat and arable reversion to calcareous grassland, although there is only a limited pool of funding which has to be prioritised.

An estimate of the condition of calcareous grassland SSSI and SINC on the Island has been undertaken by English Nature and the Isle of Wight Council. The details of this assessment are reviewed in the Grassland and Grazed Habitats Topic Report (table 2). In summary, the results of this assessment suggest that some 45% of sites are in favourable condition and 53% are in unfavourable condition with 2% in unknown condition. Additional action is required to achieve favourable conservation condition on this significant proportion of calcareous grassland sites. English Nature are currently producing Site Management Statements for each SSSI landowner which define the nature conservation objectives and appropriate conservation management for each tenure unit and identify SSSI owner/occupier requirements to achieve management changes such as funding requirements and any English Nature action which is needed

Table 2: Condition of calcareous grassland on the Isle of Wight (from Grassland and Grazed Habitats Topic Action Plan)

<i>Grazing habitat type</i>	<i>Number of SSSI</i>	<i>Number of SINC</i>	<i>% Sites in favourable condition</i>	<i>% Sites in unfavourable condition</i>	<i>% Sites of unknown condition</i>
Calcareous grassland	13	31	45	53	2

English Nature together with Wight Wildlife and SEEDA is funding two projects aimed at identifying the potential for promoting agricultural systems that will result in the maintenance and restoration of calcareous grassland and other grazed habitats on the Island. This may lead to the appointment of a grazing project officer to assist in the promotion of calcareous grassland management schemes and the development of a grazing forum through which information can be circulated concerning the conservation of calcareous grassland management and recreation.

The National Trust own and manage the most extensive and important areas of chalk grassland on the Isle of Wight. They have management plans for most of their properties, which include grazing and scrub management prescriptions. Other management initiatives currently under way include: Restoration of grazing to Tennyson Down, reversion of arable land to chalk grassland at Easton Field, Freshwater, goat grazing on Ventnor Downs to control scrub, management plan for Freshwater Bay Golf Club to restore chalk grassland.

Hampshire and Isle of Wight Wildlife Trust have recently purchased Arreton Down, the largest and most diverse area of chalk grassland on the eastern chalk ridge. This is managed as a nature reserve and is let to a local farmer to graze. Wight Wildlife also own a small area of chalk grassland associated with Eaglehead and Bloodstone Copses where grazing with Hebridean sheep has recently been restored.

The Isle of Wight Council owns a number of important chalk grassland sites on the Island including Rew Down Local Nature Reserve (LNR) and Shide Chalk Pit LNR. Nansen Hill (part of Ventnor Downs SSSI) and Brading Down are also owned and managed by the Council to conserve their chalk grassland.

Work on a new statutory AONB management plan for the Island is currently underway for publication by April 2004. This will provide a vehicle with which to promote many of the objectives of this Habitat Action Plan.

4.3 Survey, research and monitoring

English Nature are currently carrying out an assessment of the condition of all SSSI on the Isle of Wight with a target of ensuring that 95% are in favourable or recovering condition by 2010.

The National Trust monitor chalk grassland butterfly populations on a number of their properties. They have also commissioned a number of invertebrate surveys of their properties in recent years.

A survey of early gentian populations on the Isle of Wight was undertaken for Wight Wildlife in 1995 with funding from English Nature.

4.4 Action for species

There are currently no specific actions planned for chalk grassland associated species, as it is believed that their requirements may be met through habitat action.

5. Objectives and Targets

The overall aim of this plan is to protect and enhance the biodiversity of calcareous grassland on the Isle of Wight. This broad aim translates into the specific objectives set out below. Where feasible, objectives have been allocated to targets against which achievement can be measured: for example total areas to be restored or dates for completion. The table in section 6 identifies the action to be taken to meet these objectives and targets.

	Objective	Proposed Actions
A	<p>Protect and arrest the depletion in area and quality of the remaining calcareous grassland throughout the Isle of Wight. In particular:-</p> <ul style="list-style-type: none"> • Ensure no further loss of calcareous grassland due to agricultural improvement or development • Arrest the decline in calcareous grassland due to lack of appropriate management 	1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 14, 15
B	<p>Increase the extent of calcareous grassland and reverse the effects of isolation and fragmentation.</p> <ul style="list-style-type: none"> • Restore and re-create an area of 250 ha¹ of calcareous grassland within the plan period. Target areas for restoration and re-creation are the chalk ridge east of Newport and the central chalk plateau between Calbourne and Gatcombe² 	9, 10, 11, 12, 13, 14, 15, 25
C	<p>Improve the quality of calcareous grassland habitat.</p> <ul style="list-style-type: none"> • Ensure 95% of all calcareous grassland SSSI and SINC are in favourable or recovering condition by the end of the plan period. 	6, 7, 8, 11, 12, 14, 15, 25
D	Ensure the requirements of all Priority Species associated with calcareous grassland are met	16, 17, 18
E	Improve knowledge of calcareous grassland and associated species on the Isle of Wight through survey, research and monitoring	7, 18, 19, 20, 21, 22, 23, 24, 26
F	Communicate with and provide information to statutory and voluntary organisations, land owners residents and visitors about the interest, importance and factors effecting the conservation of calcareous grassland on the Island	22, 26, 27, 28, 29, 30, 31, 32

¹ Target set to give a total area of calcareous grassland on the Isle of Wight that is approximately 50% of the area present in 1850

² Target areas identified where habitat is most fragmented or where there is greatest potential for habitat re-creation

6. Proposed Action

The following table lists the actions required to achieve the objectives set out in this plan. Each action has been assigned to one or more Key Partners. Key Partners are those organisations that are expected to take responsibility for the delivery of the actions assigned to them, according to the targets set in this Plan. Other organisations may also be involved in the delivery of action and they have been indicated in the Others column.

Key to symbols in Action Table:

- ◆ To be completed by the indicated year. Work can commence at any time before the due date, at the discretion of the key partner.
- ◆⇒ Design or production of a plan/strategy to be completed by this year and then followed by its implementation.
- ➔ To start by the indicated year and usually followed by ongoing work. A start arrow in year 2002 can indicate a new action or a new impetus to existing work.
- ⇒ Work that has already begun and is ongoing.

Key to Organisations in Action Table

IWC = Isle of Wight Council, EN = English Nature, DEFRA = Department of Environment, Food and Rural Affairs, AONB = IW AONB Project Officer, WW = Wight Wildlife, HIWWT = Hampshire and Isle of Wight Wildlife Trust, NT = National Trust, FE = Forest Enterprise, CLA = Country Landowners Association, NFU = National Farmers Union

	ACTION	DELIVERY BY		YEAR (action to be completed or in place by)						Meets Obj. Nos
		Key Partner	Others	2002	2003	2004	2005	2006	2012	
Habitat Protection										
1.	Review SSSI coverage in light of the 1987 NCC recommendations - notify and extend as necessary	EN	ALL						➔	A
2.	Take opportunities to modify the cSAC boundary so that it more accurately reflects the distribution of selected calcareous grassland habitats and species	EN	ALL						➔	A

	ACTION	DELIVERY BY		YEAR (action to be completed or in place by)						Meets Obj. Nos	
		Key Partner	Others	2002	2003	2004	2005	2006	2012		
3.	Ensure that all suitable sites containing lowland calcareous grassland that meet SINC criteria are identified	IWC	WW	⇒							A
4.	Ensure that lowland calcareous grassland and associated priority species are safeguarded from development through forward planning development control	IWC	WW/EN/ NT	⇒					➔		A
5.	Endeavour to acquire for nature conservation purposes existing and potential calcareous grassland sites, particularly those within target areas identified in the Grazing and Grassland Management Topic Report	HIWWT/ NT		⇒							A
Habitat management, Incentive Schemes and Other Resources											
6.	Ensure appropriate management to achieve favourable or recovering condition of 95% of calcareous grassland cSAC by 2005	EN	ALL	⇒							A, C
7.	Ensure appropriate management to achieve favourable or recovering condition of 95% of calcareous grassland SSSI by 2010	EN	ALL	⇒							A, C
8.	Ensure appropriate management to achieve favourable or recovering condition of 75% of calcareous grassland SINC by 2010	DEFRA	ALL	⇒							A, C

	ACTION	DELIVERY BY		YEAR (action to be completed or in place by)						Meets Obj. Nos	
		Key Partner	Others	2002	2003	2004	2005	2006	2012		
9.	Increase the area of calcareous grassland on the Isle of Wight by 250 ha with emphasis on the target areas identified in the Grazing and Grassland Management Topic Report	DEFRA	ALL	⇒							B
10.	Work with Forest Enterprise to develop plans for the restoration and re-creation of lowland calcareous grassland by removal or reduction of forestry plantations within target areas identified in the Grazing and Grassland Management Topic Report	FE	IWC/WW/ AONB/EN	◆ ⇒							B
11.	Develop and implement integrated management guidelines for calcareous grassland within the Isle of Wight AONB Management Plan	AONB	ALL			◆ ⇒					A, B, C
12.	Encourage further uptake of CS Scheme to ensure favourable management of lowland calcareous grassland sites	DEFRA	WW	⇒							A, B, C
13.	Ensure that CCS arable reversion payments are attractive and encourage further uptake of arable reversion schemes to achieve targets for calcareous grassland re-creation	DEFRA	WW	⇒							B
14.	Develop Grazing Project and, if appropriate, employ a grazing officer to promote and facilitate grazing of calcareous grassland for nature conservation	WW	ALL		◆ ⇒						A, B, C
15.	Promote marketing and branding of chalk grassland produced meat and livestock products as an incentive to farmers and landowners to conserve calcareous grassland	Farmers Group	Island 2000 /AONB/ EN	⇒							A, B, C

	ACTION	DELIVERY BY		YEAR (action to be completed or in place by)						Meets Obj. Nos
		Key Partner	Others	2002	2003	2004	2005	2006	2012	
	Species Action									
16.	Encourage landowners/managers and their advisors to manage their land appropriately for species on IW BAP species audit	WW	NT	⇒						D
17.	Identify and promote knowledge of species that can be used to highlight specific adjustments to standard management regimes and produce appropriate guidelines	EN		⇒						D, E
18.	Develop monitoring strategy for Isle of Wight priority species which occur on lowland calcareous grassland	WW		◆ ⇒						D, E
	Survey, Research and Monitoring									
19.	Produce a survey strategy for lowland calcareous grassland to complement actions within this plan	IWC	WW /EN		➔					E
20.	Undertake a comprehensive NVC survey of calcareous grassland to establish current extent, distribution and condition of the habitat on the Isle of Wight	IWC	WW/ EN			➔				E
21.	Collate all existing survey information for calcareous grassland	IWC		⇒						E
22.	Update the inventory of all Isle of Wight calcareous grassland sites	EN							➔	E, F
23.	Re-survey non-SSSI calcareous grassland	EN/IWC	WW			➔				E

	ACTION	DELIVERY BY		YEAR (action to be completed or in place by)						Meets Obj. Nos
		Key Partner	Others	2002	2003	2004	2005	2006	2012	
24.	Design and implement a monitoring scheme to assess impacts of reversion/management schemes on lowland calcareous grassland and levels of compliance and take-up by participants	DEFRA		⇒						E
25.	Undertake a review of the effect of public access on the management of calcareous grassland and identify implications for meeting the objectives of this HAP	NT	WW/ CLA/NFU						➔	B, C
Communication and Publicity										
26.	Compile an index of information sources and guidance on good management practices for lowland calcareous grassland and associated priority species	HIWWT		⇒						E, F
27.	Convene a grassland and grazed habitats forum as a means of disseminating best management practice	WW			➔					F
28.	Promote the ecology and conservation requirements of this habitat and associated priority species, particularly amongst farmers and their advisors	WW		⇒						F
29.	Raise awareness of incentive schemes and projects relevant to the management of lowland calcareous grassland	WW		⇒						F

	ACTION	DELIVERY BY		YEAR (action to be completed or in place by)						Meets Obj. Nos	
		Key Partner	Others	2002	2003	2004	2005	2006	2012		
30.	Provide advice to managers of road verges public rights of way to encourage appropriate maintenance, restoration and re-establishment of calcareous grassland corridors	IWC		⇒							F
31.	Identify sites that demonstrate good management practice and establish those sites as centres to raise awareness of lowland calcareous grassland.	NT	WW/ IWC	⇒							F
32.	Promote public awareness of lowland calcareous grassland including community involvement where appropriate, interpretive material, and the identification of flagship species	ALL		⇒							F

7. Sources of Information

1. Blackwood, J.W. and Tubbs, C.R., 1970. *A Quantitative Survey of Chalk Grassland in England*. Biological Conservation, Volume 3, No.1
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3. English Nature, 1998. *Isle of Wight Natural Area Profile*
4. English Nature, 1998. *UK BAP Targets By Natural Area - 10 Terrestrial Habitats*
5. Department of the Environment, 1998, *UK Biodiversity Group Tranch 2 Action Plans. Volume II – terrestrial and freshwater habitats*. Peterborough: English Nature on behalf of the UK Biodiversity Group
6. Isle of Wight Biodiversity Partnership. 2002. *Grassland and Grazed Habitats Topic Report*. Isle of Wight Council.
7. Joint Nature Conservation Committee, 1999, *The implementation of Common Standards for Monitoring and Conservation Objectives*. Peterborough.
8. Hillier, S. H., Walton, D.W.H., and Wells, D. A. 1987. *Calcareous Grasslands - Ecology and Management Proceedings of a Joint British Ecological Society / Nature Conservancy Council Symposium*
9. *Wilson P J 1999 The distribution and status of Gentianella anglica (Pugsley) E Warb Plantlife report no 119*

Species associated with Calcareous grassland

Latin name	English name	Group	BAP status	Rarity	Other habitats
<i>Anthus pratensis</i>	Meadow pipit	Bird	2		LOWLAND MEADOWS ♦
<i>Oenanthe oenanthe</i>	Wheatear	Bird	2		MARITIME CLIFFS & SLOPES
<i>Lasioglossum angusticeps</i>	A mining bee	Ants, Bees and Wasps	1	RDB3	
<i>Harpalus dimidiatus</i>	A ground beetle	Beetles	1		
<i>Harpalus parallelus</i>	A ground beetle	Beetles	1	pRDB	MARITIME CLIFFS & SLOPES
<i>Argynnis aglaia</i>	Dark Green Fritillary	Butterflies	3		LOWLAND MEADOWS
<i>Cupido minimus</i>	Small Blue	Butterflies	2		
<i>Hamearis lucina</i>	Duke of Burgundy	Butterflies	2		
<i>Hipparchia semele</i>	Grayling	Butterflies	3		LOWLAND HEATHLAND
<i>Lysandra bellargus</i>	Adonis Blue	Butterflies	1		
<i>Lysandra coridon</i>	Chalkhill Blue	Butterflies	2		
<i>Melitaea cinxia</i>	Glanville Fritillary	Butterflies	2	RDB3	MARITIME CLIFFS & SLOPES ♦
<i>Ectobius lapponicus</i>	Dusky Cockroach	Crickets and	3		LOWLAND MEADOWS
<i>Ectobius pallidus</i>	Tawny Cockroach	Crickets and	3		MARITIME CLIFFS & SLOPES
<i>Ectobius panzeri</i>	Lesser Cockroach	Crickets and	3		LOWLAND MEADOWS
<i>Gryllus campestris</i>	Field Cricket	Crickets and	1	RDB1	
<i>Platycleis albopunctata</i>	Grey Bush-cricket	Crickets and	3		LOWLAND MEADOWS ♦
<i>Stenobothrus lineatus</i>	Stripe-winged	Crickets and	3		
<i>Tetrix ceperoi</i>	Ceperoi's Groundhopper	Crickets and	3		LOWLAND MEADOWS ♦
<i>Asilus crabroniformis</i>	A robber fly	Flies	1		Fen, marsh and swamp
<i>Myopa extricata</i>	A conopid fly	Flies	p3	RDB 3	MARITIME CLIFFS & SLOPES
<i>Terellia vectensis</i>	A picture-winged fly	Flies	3	RDB3	LOWLAND HEATHLAND
<i>Urophora spoliata</i>	A picture-winged fly	Flies	3	RDB3	
<i>Agrotis cinerea</i>	Light Feathered Rustic	Moths	2		
<i>Aporophyla australis pascuea</i>	Feathered Brindle	Moths	3		
<i>Bembecia scopigera</i>	Six-belted Clearwing	Moths	3		MARITIME CLIFFS & SLOPES ♦
<i>Dolicharthria punctalis</i>	Long-legged China-mark	Moths	3		COASTAL VEGETATED SHINGLE
<i>Eupithecia distinctaria</i>	Thyme Pug	Moths	3		
Latin name	English name	Group	BAP status	Rarity	Other habitats

<i>Eupithecia pimpinellata</i>	Pimpinel Pug	Moths	3		
<i>Mecyna flavalis flaviculalis</i>	Auriferous Pearl	Moths	3	VU	
<i>Microstega hyalinis</i>	Translucent Straw Belle	Moths	3		Broad-leaved mixed woodland
<i>Nephoteryx angustella</i>	Narrow-winged Knot-horn	Moths	3		Boundary and linear features ♦
<i>Pempelia genistella</i>	Gorse Knot-horn	Moths	3		LOWLAND HEATHLAND
<i>Scotopteryx bipunctaria</i>	Chalk Carpet	Moths	1		
<i>Aceria schmardai</i>	An eriophid mite	Spider group	3		
<i>Sehirus dubius</i>	A shield bug	True bug	3		
<i>Tettigometra</i>	A froghopper	True bug	3		
<i>Fulgensia fulgens</i>	"Scrambled-egg lichen"	Lichens	2		MARITIME CLIFFS & SLOPES
<i>Cephaloziella stellulifera</i>	'Heath Threadwort'	Liverworts	3		LOWLAND DRY ACID GRASSLAND ♦
<i>Cephaloziella turneri</i>	'Turner's Threadwort'	Liverworts	3	VU	LOWLAND DRY ACID GRASSLAND ♦
<i>Porella arboris-vitae</i>	'Bitter Scalewort'	Liverworts	3		Broad-leaved mixed woodland
<i>Porella obtusata</i>	'Broad Scalewort'	Liverworts	3		MARITIME CLIFFS &
<i>Acaulon triquetrum</i>	Triangular pygmy moss	Mosses	1	EN	MARITIME CLIFFS & SLOPES ♦
<i>Bryum torquescens</i>	'Twisting Thread-moss'	Mosses	3		Boundary and linear features
<i>Microbryum curvicolle</i>	'Swan-necked Earth-moss'	Mosses	3		
<i>Microbryum floerkeanum</i>	'Floerke's Phascum'	Mosses	3		Arable & horticultural
<i>Microbryum rectum</i>	'Upright Pottia'	Mosses	3		
<i>Seligeria calcarea</i>	'Chalk Rock-bristle'	Mosses	3		
<i>Allium oleraceum</i>	Field Garlic	Flowering plant	3		
<i>Arabis hirsuta</i>	Hairy Rockcress	Flowering plant	3		
<i>Astragalus glycyphyllos</i>	Wild Liquorice	Flowering plant	3		MARITIME CLIFFS & SLOPES
<i>Brassica oleracea</i>	Wild Cabbage	Flowering plant	3		MARITIME CLIFFS & SLOPES
<i>Cerastium pumilum</i>	Dwarf Mouse-ear	Flowering plant	3		
<i>Clinopodium acinos</i>	Basil Thyme	Flowering plant	3		
<i>Coeloglossum viride</i>	Frog Orchid	Flowering plant	3		
<i>Erigeron acer</i>	Blue Fleabane	Flowering plant	3		LOWLAND DRY ACID GRASSLAND
<i>Euphorbia portlandica</i>	Portland Spurge	Flowering plant	3		MARITIME CLIFFS & SLOPES ♦
<i>Filipendula vulgaris</i>	Dropwort	Flowering plant	3		
<i>Gastridium ventricosum</i>	Nit-grass	Flowering plant	3		MARITIME CLIFFS & SLOPES
<i>Gentianella anglica</i>	Early Gentian	Flowering plant	1		
<i>Gymnadenia conopsea</i> ssp.	Fragrant Orchid	Flowering plant	3		
Latin name	English name	Group	BAP status	Rarity	Other habitats

<i>Juniperus communis</i>	Juniper	Flowering plant	1		
<i>Matthiola incana</i>	Hoary Stock	Flowering plant	3		MARITIME CLIFFS & SLOPES ♦
<i>Melampyrum arvense</i>	Field Cow-wheat	Flowering plant	2	EN	MARITIME CLIFFS & SLOPES
<i>Onobrychis vicifolia</i>	Sainfoin	Flowering plant	3		
<i>Ophrys sphegodes</i>	Early Spider Orchid	Flowering plant	2		
<i>Orobanche purpurea</i>	Yarrow Broomrape	Flowering plant	3	VU	LOWLAND DRY ACID GRASSLAND
<i>Rhamnus cathartica</i>	Purging Buckthorn	Flowering plant	3		Boundary and linear features ♦
<i>Silybum marianum</i>	Milk Thistle	Flowering plant	3		Arable & horticultural ♦
<i>Thesium humifusum</i>	Bastard Toadflax	Flowering plant	3		
<i>Vicia parviflora</i>	Slender Tare	Flowering plant	3		LOWLAND MEADOWS ♦

Habitats in CAPITALS are Priority Habitats in the UK Biodiversity Action Plan ♦ indicates the primary habitat of a species

1 = National BAP Priority Species 2 = Species of National Conservation Concern 3 = Species of Local Conservation Concern

* introduced species