

Isle of Wight Biodiversity Action Plan

Lowland Meadows 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 meadows have 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 meadows as a national priority habitat is based on the following factors:

1. It is estimated that by 1984 semi-natural lowland grassland had declined by 97% in England and Wales over the previous 50 years to approximately 0.2 million hectares. Losses have continued during the 1980s and 1990s and have been recorded at 2-10% per annum in some parts of England. Loss has been almost entirely due to increased use of fertiliser and herbicide to increase agricultural production.

2. On the Isle of Wight, it is likely that there has been a similar decline in this habitat although no specific estimates have been made. The Isle of Wight Biodiversity Audit and Assessment identifies a total of 151 ha of unimproved and 185 ha of semi-improved neutral grassland on the Island. The definition of neutral grassland in this plan combines these two grassland categories, making a total of 336 ha of neutral grassland. This is probably an underestimate of the actual area of the habitat as it is likely that some isolated meadows remain to be discovered.

The loss of lowland meadow habitat on the Island has been accompanied by severe fragmentation, with most of the remaining sites being less than a few hectares in area.

Many of the remaining sites are not being managed correctly. A review of the condition of SSSI and SINC on the Isle of Wight made in 2001 suggested that 60% are in favourable condition or believed to be in favourable condition, 27% are in unfavourable condition or believed to be in unfavourable condition and the remaining 13% of sites are of unknown condition.

Lowland meadows on the Isle of Wight provide habitat for many species of national or local importance including six national priority BAP species together 23 national and 22 species of local conservation concern.

2 Current Status

2.1 Description of Habitat

The national Lowland Meadows Habitat Action Plan is wide-ranging in its definition of the habitat, and includes most forms of agriculturally unimproved grassland on neutral soils across the enclosed lowland landscapes of the UK. Even on the Isle of Wight, there is considerable variation within this broad group of grasslands, relating to soil type and other environmental conditions. The main concentrations of lowland meadows are found in the north of the Island, associated with the poorly-draining clay and marl soils of the Hamstead

Beds, Bembridge Marls, Osborne and Headon Beds and Bagshot Beds. In the south of the Island much smaller fragmented examples of lowland meadows occur, associated with the upper and lower greensand exposures of much older Cretaceous rocks. These meadows occasionally form small complexes of fields, separated by species-rich hedges and patches of ancient woodland. It is this mosaic of habitats that are of particular biodiversity importance.

In terms of the National Vegetation Classification (NVC), only one community of grassland type conforms to this habitat on the Island, termed the *Cynosurus cristatus* – *Centaurea nigra* grassland (MG5) in which crested dog's tail grass and black knapweed are constant species. Meadow grasses typically dominate the sward, often fine leaved fescues and bents, with Yorkshire fog, meadow foxtail and sweet vernal grass also commonly occurring. In addition to the black knapweed, other herbaceous plants commonly include bird's foot trefoil, ox-eye daisy, ribwort plantain, meadow vetchling and red clover. Sedges are also common, with the bluey leaves of glaucous sedge being the most frequent. The low shrubby dyer's greenweed is also a typical plant of this grassland type on the Island where it has been given the local name of wood wax. Two members of the orchid family, the green winged orchid and autumn lady's tresses are also characteristic of these meadows. On the more calcareous marl soils, plants more typical of chalk grassland can also occur including fairy flax, hairy violet, yellow wort and quaking grass. On more acid soils, devil's bit scabious, saw wort and sneezewort can often be found.

On water-logged, heavy clay soils, gleying of surface horizons over a long period of time leads to changes in the vegetation, with acid tolerant grasses and heathers replacing the neutral grassland species. This process can be seen on the heavily gleyed clay soils between Cranmore and Bouldnor and within Parkhurst Forest where heathers, purple moor-grass, lousewort and heath dog-violet occur in a mixture with the neutral grassland species. These 'clay heaths' are difficult to classify in terms of the NVC, but in some respects they are similar to the species-rich heaths of Cornwall in which grassland species and heathers occur in close association. This habitat is also difficult to classify in terms of the biodiversity action plan, and will be referred to in both the lowland meadows and acid grassland and heathland habitat action plans in recognition of this.

Some neutral grasslands have been managed as permanent pasture or hay meadow for many decades, but may have been treated with limited amounts of artificial fertiliser or farmyard manure. These grasslands are often termed semi-improved. They are composed of a diversity of wild unsown grassland species but tend to have a reduced species diversity when compared to the truly unimproved grassland. These most unimproved or semi-improved grasslands are also included in this habitat action plan.

2.2 Hay meadows and pastures

Most of the lowland meadows on the Isle of Wight have been managed not only to provide pasture on which livestock can graze, but also to provide a crop of grass to be mown for hay. Mown grasslands provide a very different habitat to pasture. Hay crops are usually cut in mid summer; the meadows are then left to regrow and are normally grazed in late summer and early autumn. As the hay grows, the tall grassland provides a very different habitat for insects, small mammals and nesting birds to that found in pastures grazed at this time of year. The removal of the hay crop marks a dramatic change in the habitat, leaving the open short sward of the mown field. Despite this, the meadow plants and animals are well adapted to cope with this rapid change in the habitat. Moreover, the hay produced is important to maintain the grazing livestock system through the winter months. The removal of hay depletes the soil of plant nutrients and over time the grassland productivity declines. This may increase plant species diversity but in the long term may make the hay meadow un-economic to cut. It is likely that most hay meadows were treated with farmyard manure to restore fertility following hay cutting.

2.3 Distribution and Extent

The former extent of lowland meadow on the Isle of Wight is impossible to estimate as this has fluctuated considerably over the last few centuries as the extent of heathland, woodland and wood pasture has changed and as agricultural practices have slowly improved. From the end of the 19th century until the middle of the 20th century, lowland meadows would have been a widespread and common habitat across much of the Isle of Wight, and in particular, on the heavier clay soils of the north of the Island. That is not to say that this grassland was all permanent. It is clear from the Tithe Maps of the mid 19th century and from conversations with farmers who farmed on the Island before the Second World War, that much of the enclosed landscape of the Island was ploughed on an irregular basis. Arable crops were taken for a few years before being returned to pasture as part of a small scale, mixed farming system. A botanically diverse sward appears to have become re-established soon after cultivation, presumably from the soil seed bank and relict grassland left around field edges. This can be seen in many areas of the Island where there is evidence of recent cultivation in fields that now support neutral grassland. Artificial fertiliser was not widely used in the first half of the 20th century and soil fertility was never raised to the levels possible today; herbicide was also unavailable. The low soil fertility and lack of herbicide use were probably the most important factors in allowing species diversity to re-establish. However, farmyard manure was used extensively as well as blood and bone meal. Marl dug from marl pits was also spread on fields to maintain fertility, particularly before arable cropping or mowing for hay.

Botanically diverse neutral grassland was therefore a significant component of the Island's landscape until the mid 20th century although this was not necessarily permanent grassland, and much of it was treated with organic fertilisers to maintain or improve soil fertility. Only where soils were particularly heavy and poorly drained is it likely that permanent agriculturally unimproved grassland developed. In these locations, there was probably increased soil acidity and poor drainage creating transitions and mosaics with acid grassland and heathland as can be seen around Bouldnor and Cranmore and within Parkhurst Forest.

The Isle of Wight Biodiversity Audit and Assessment identifies a total of 151 ha of unimproved and 185 ha of semi-improved neutral grassland on the Island. The definition of neutral grassland in this plan combines these two grassland categories making a total of 336 ha of neutral grassland. This is probably an underestimate of the actual area of the habitat as it is likely that some isolated meadows remain to be discovered.

2.4 Legislation and Site Designation

Much of the known area of lowland meadow on the Isle of Wight is included within SSSI (Sites of Special Scientific Interest) and SINC (Sites of Importance for Nature Conservation). Table 1 lists all the SSSI and SINC known to support lowland meadows on the Isle of Wight. Further assessment is required to determine what proportion of the habitat on the Island is protected by SSSI and SINC.

The lowland meadows within Hart's Farm are included within the Newtown Harbour National Nature Reserve and are managed by the National Trust.

Some of the lowland meadows around Newtown Harbour are also included in the Solent and Southampton Water Special Protection Area (SPA), in recognition of their value for feeding and roosting waders and wildfowl.

The Isle of Wight AONB includes several areas of lowland meadow, particularly within the Hamstead Heritage Coast, including the clay heaths of the recently notified Cranmore Common SSSI.

2.5 Summary of Important Sites

The largest extent and greatest range of lowland meadow types are found around the Newtown Harbour in the north west of the Isle of Wight. The Newtown Harbour SSSI includes the most important area of species-rich lowland meadow to be found on the Island. The most species-rich meadows in the SSSI are found within the MOD/SERFCA firing ranges at Jersey Camp, whilst the mixture of grazed pasture and hay meadows found around the village of Newtown is also very diverse. To the east of the SSSI are the extensive grasslands of Lamsleaze and Elmsworth Farms. These grasslands are semi-improved although some still contain frequent dyer's greenweed and, more locally, green winged orchids. However, it is the extent of these grasslands that is most important, as it enables them to support large populations of species such as brown hare, grey partridge and skylark.

To the west of Newtown Harbour SSSI, and in a few meadows in private ownership to the south, there are examples of neutral, tending to acid, grassland in which sawwort, devils-bit scabious and lousewort can be found on more gleyed clay soils.

On the Brickfields peninsula, owned and managed by the Isle of Wight Council as a Local Nature Reserve, are some fine examples of almost calcareous grassland developed over Bembridge Marls. In this relatively small area of grassland, calcareous grassland species such as fairy flax, hairy violet and agrimony occur.

Away from Newtown Harbour, other examples of lowland meadows occur at Wydcombe Farm in the south of the Island, around the fringes of Bembridge airport in the east of the Island and East Cowes cemetery and grounds of Osborne House in the north.

Many other, often small fragments of lowland meadow can be found throughout much of the Island, with churchyards and cemeteries being particularly important.

Table 1: Distribution and extent of lowland meadow sites within SSSI and SINC on the Isle of Wight

SSSI name	Area of site (ha ²) ¹	Subsidiary habitat
Locks Farm Meadow	2.3	
Newtown Harbour	170 ²	Hedges, ponds, woodland, transitions to saltmarsh and mudflat.
SINC name	Area (ha ²) ³	Subsidiary habitat
Staplers Heath	8.4	Ancient hedgerows, semi-improved meadows
Barnsley Farm	5.5	Scrub, acid grassland, broad-leaved woodland
Newchurch Marshes	28.88	Scrub, marshy grassland
Landguard Manor Meadow	1.2	
Bartlett's Green Farm	4.33	Semi-improved grassland, wet grasslands, and scrub.
Ashey Cemetery	0.6	
Brading Churchyard	0.96	Walls
Cowes Cemetery	7.31	
East Cowes Cemetery	1.33	Calcareous grassland
Fort Warden Fields	4.83	
Westhill Meadow, Norton	0.44	
Standen Heath	6.68	Wet woodland
Nodes Point Meadow	2.31	
Shalfleet Churchyard	6.64	Pond, hedges, walls
Swanmore Meadows	8.79	
Alverstone Marshes East	60.74	Scrub
Osborne Park	37.76	Semi-improved grasslands
Cracknells meadow, Yarmouth	0.45	
Calbourne Meadows	10.51	
Moon's Hill	3.56	
Lock's Farm	27.62	Arable
Wroxall Meadow South	10.41	
Godshill Park	28.22	Broad-leaved woodlands, ponds, arable
Werrar Meadow	2.05	
Hart's Farm Lower Meadows	8.7	
Heathfield Meadows	31.61	Saltmarsh, reedswamp, broad-leaved woodland
Gore Down	11.48	Unimproved neutral and maritime grassland; rocky outcrops, scrub
Appuldurcombe Down	94.59	Acid grasslands, rock outcrops, broad-leaved woodland

¹ = Estimated area of habitat within the SSSI

² = The area of neutral grassland within Newtown Harbour is believed to be an under estimate. Neutral grassland occurs within the following parts of the SSSI: Harts Farm Meadows, Jersey Camp firing range (incl. Robin wood), Lambslease Farm, Elmsworth Farm, Lower Hamstead Farm, Creek Farm, Fleetlands Farm

³ = Area of SINC including subsidiary habitat

3 Current Factors affecting the habitat

The most important factors affecting the conservation of lowland meadows relate to continued sustainable management through appropriate grazing and mowing systems. These are reviewed in the Isle of Wight Grazing and Biodiversity Topic Report and apply equally to a range of grassland habitats and are summarised below.

3.1 Further loss of habitat

Much of the remaining lowland meadow 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 meadows that are fragmented and isolated.

Although the threat to the habitat through agricultural intensification may have receded, it has by no means disappeared. Small meadows that have escaped agricultural improvement may be under threat from inappropriate management such as horse paddocks where over-grazing and application of herbicide and fertiliser can lead to loss of species diversity. There has also been a decline in the numbers of cattle on the Island in recent years, in particular numbers of beef cattle, which are the most appropriate for grazing these meadows.

There is also a threat from various development pressures, including development for housing or industrial use, as well as road and bridge construction.

Management of these threats and pressures remains a significant factor in conserving the remaining lowland meadow resource.

3.2 Financial incentives

Sufficient financial incentives are needed to encourage farmers and land managers to maintain and restore areas of lowland meadow on the Isle of Wight. The Countryside Stewardship Scheme has provided valuable support for the restoration and creation of some lowland meadows, 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 management of lowland meadows may require specific breeds of cattle or sheep to maintain their nature and biodiversity value. Certain farming systems are also likely to be

more beneficial to biodiversity than others. For example extensive cattle rearing systems are likely to be preferable to modern intensive dairy production.

Lowland meadows often occur as a component of mixed farming systems that might include some areas of arable and downland as well as the meadows. Traditionally, some of the meadows may have been ploughed on a long rotation and mown or grazed to create hay meadows or pasture. Due to the very small area of habitat now remaining, it is no longer possible to treat the resource with this rotational management. However, such mixed farming systems are very rich in biodiversity and, if possible, should be restored in parts of the Island.

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 skills in this specialist area.

3.4 Weed growth and habitat stabilisation

The restoration of lowland meadows 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 soil fertility declines and a semi-natural grassland becomes re-established, the weed species naturally decline. However, it might take five years or so for the new equilibrium to establish. It is generally unacceptable to allow these high weed infestations to persist for this length of time. It may therefore be 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 on the use of specialised equipment such as ragwort pullers or weed wipers.

3.5 Habitat fragmentation and loss of ecological continuity

Many species of lowland meadows have poor powers of dispersal, so that once isolated from other meadows, they become vulnerable to chance extinction. Perhaps more importantly, it is difficult, if not impossible for these species to re-colonise new habitats, even if the correct conditions have been created for them. It is interesting, for example, that soil fertility on some formerly improved grasslands can be significantly reduced through more than a decade of no fertiliser use, but a diverse flora will not have re-established itself. By contrast where a good supply of wild meadow seeds are available – either in the soil seed bank or in adjacent meadows, then a diverse flora can re-establish itself within 5 years of being ploughed and re-seeded.

The current state of habitat fragmentation may mean that intervention will be required to restore species diversity to lowland meadows, through the re-introduction of seed and other plant propagules from appropriate donor sites. These are likely to be the remaining SSSI and SINC, which retain semi-natural vegetation, which makes their conservation even more critical for the future.

Many of the Island's cemeteries also contain small areas of botanically rich meadow grassland from which seed could be harvested for use in restoration projects.

4 Current Action

4.1 Site and Species Protection

4.1.1 Site designation

There are currently no plans to notify new lowland meadow sites as SSSI on the Isle of Wight. Although English Nature has approval from their Council to notify Staplers Copse and adjacent meadow as a SSSI, it appears there are no plans to implement this notification.

SINC identification is ongoing on the Island. Further lowland meadow SINC's may be identified by the IW Council.

English Nature has a number of agreements (under Section 15 of the National Parks and Access to the Countryside Act) on lowland meadow sites, all of which are SSSI.

4.1.2 Purchase of additional reserves or properties

Given the poor state of the agricultural economy, it is possible that further areas of lowland meadow or more importantly, areas with the potential for restoration as lowland meadow, 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.

4.1.3 Habitat management

Old Meadows and Pastures are a target habitat for the Countryside Stewardship Scheme, administered by DEFRA through the Rural Development Service (RDS). This scheme provides payments for maintaining and enhancing Old Meadows and Pastures and arable reversion to this habitat, although there is only a limited pool of funding and funding has to be prioritised.

Not all the examples are in good condition. Some are being colonised by scrub and are ungrazed or inadequately grazed. Others are treated with excessive amounts of fertiliser or inappropriately mown. An initial assessment of the condition of the neutral grasslands has been made by English Nature, and the IWC Ecology Officer in discussion with the Wight Wildlife Officer. These condition assessments are provided in Table 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 lowland meadows and other grazed habitats on the Island. This may lead to the employment of a grazing project officer to assist in the promotion of lowland meadow management schemes and the development of a grazing forum, through which information can be circulated concerning the conservation of lowland meadow management and recreation.

In 2001, the People's Trust for Endangered Species purchased an area of some 50 hectares of agriculturally improved meadows at Briddlesford adjacent to Wootton Creek. It plans to convert about 30 hectares of this to agriculturally unimproved lowland meadows to be managed as permanent pasture or hay meadow.

The MOD/SERFCA have agreed a management plan with English Nature over the meadows at Newtown Rifle Ranges.

Table 2: Condition of lowland meadows on the Isle of Wight (from Grassland and Grazed Habitats Topic Report

Grazing habitat type	Number of SSSI	Number of SINC	% Sites in favourable condition	% Sites in unfavourable condition	% Sites of unknown condition
Lowland Meadow	2	28	60	27	3

4.2 Survey, research and monitoring

There is little survey, research or monitoring of lowland meadows on the Isle of Wight in progress. 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 Isle of Wight Natural History and Archaeological Society undertook a survey of the lowland meadows at Wydcombe Farm during 2000.

4.3 Action for species

Appendix 1 gives details of species on the Isle of Wight found primarily in lowland meadows. Action proposed in this Plan will be the principal means of conserving most of these species. In some cases, additional action plans and programmes will also contribute to conserving priority species: for example, UK Species Action Plans (UK SAP) and Butterfly Conservation Regional Action Plans (BC RAP).

5 Objectives and Targets

The overall aim of this Plan is to protect and enhance biodiversity of lowland meadows. This broad aim translates into the specific objectives set out below. Where feasible, objectives have been allocated targets against which achievement can be measured. The 'Proposed Action' table in section 6 identifies the action to be taken to meet these objectives.

	Objectives	Proposed Actions
A	Ensure no future loss or degradation of lowland meadows: Maintain the extent and the quality of the existing resource and ensure no further fragmentation.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 16, 17, 25,
B	Increase the extent of lowland meadows: Seek to extend the area of lowland meadow and reduce fragmentation through the reversion of agriculturally improved and semi-improved neutral grassland and restoration of areas lost to neglect. A target of 500 ha to be re-created or restored has been identified.	8, 9, 16, 17, 18, 19, 22, 23, 25,
C	Improve the quality of lowland meadows – achieve favourable management on existing sites: Seek to restore to favourable condition 100% of all lowland meadow SSSI and 80% of other sites. by 2012	4, 6, 7, 9, 10, 11, 16, 17, 19, 24, 25
D	Ensure that the needs of the Isle of Wight priority species of lowland meadows are met	5, 12, 13, 24
E	Improve knowledge of distribution, status and habitat requirements of lowland meadows on the Isle of Wight through appropriate research, survey and monitoring.	13, 14, 15, 16, 17, 19, 20, 21, 28
F	Communication, Awareness and Promotion: Promote the importance of lowland meadows, its associated species and threats to them. Communicate with and provide information to key sectors including statutory agencies, NGOs, landowners and managers, schools, community groups and members of the public	24, 26, 27, 28, 29

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, WW = Wight Wildlife, HIWWT = Hampshire and Isle of Wight Wildlife Trust, NT = National Trust, CLA = Country Landowners Association, NFU = National Farmers Union

	ACTION	DELIVERY BY		YEAR						Meets Objectives
		Key Partner	Others	2002	2003	2004	2005	2006	2012	
	Habitat Protection									
1	Review the selection of SSSI to ensure all relevant sites are designated.	EN	ALL						➡	A
2	Review SINC criteria for lowland meadows and design a monitoring scheme to assess favourable condition	IWC	WW, EN			◆				A
3	Ensure that all suitable sites containing lowland meadows that meet SINC criteria are identified.	IWC	WW	⇒						A

	ACTION	DELIVERY BY		YEAR						Meets Objectives	
		Key Partner	Others	2002	2003	2004	2005	2006	2012		
4	Endeavour to acquire existing and potential lowland meadow sites, particularly those within the target areas identified in the Grazing and Grassland Topic Report for conservation	HIWWT/NT	WNF	⇒							A, C
5	Ensure that lowland meadows are safeguarded from development through forward planning and development control.	IWC	EN, WW, NT	⇒							A, D
Habitat Management, Incentive Schemes and Other Resources											
6	Review all SSSI supporting lowland meadows and ensure all are under favourable and appropriate management by 2010	EN		⇒							A, C
7	Seek favourable and appropriate management on SINCs that support lowland meadows.	WW	ALL	⇒							A, C
8	Review extent of lowland meadows in 5 years to assess progress towards objectives	IWC	WW	⇒				➔			A, B
9	Encourage further uptake of CSS schemes in support of above actions and objectives	DEFRA	WW	⇒							A, B, C
10	Develop grazing animal project to facilitate grazing and mowing of lowland meadows to improve biodiversity.	WW			◆⇒						A, C

	ACTION	DELIVERY BY		YEAR						Meets Objectives	
		Key Partner	Others	2002	2003	2004	2005	2006	2012		
11	Promote the appropriate and beneficial management of land adjacent to lowland meadows, particularly where this creates mosaics of bio-diverse habitats	DEFRA	WW, IWC, EN	⇒							C, F
Species Action											
12	Encourage landowners/ managers and their advisors to manage their land appropriately for species on IW BAP audit	WW	EN	⇒							D
13	Develop a monitoring strategy for IW priority species which occur on lowland meadow sites	WW		◆⇒							D, E
Survey, Research and Monitoring											
14	Produce a survey strategy for lowland meadows to complement actions within this HAP. This should be based upon a phase 1 survey of the Island to identify all agriculturally unimproved and semi-improved neutral grasslands followed by phase 2 survey of selected sites	IWC	WW, EN		◆⇒						E
15	Implement a rolling resurvey programme for lowland meadow SINCS	IWC							➡		E
16	Establish an inventory of all lowland meadow sites including ecological/geological/management and ownership information.	IWC									A, B, C, E

	ACTION	DELIVERY BY		YEAR						Meets Objectives
		Key Partner	Others	2002	2003	2004	2005	2006	2012	
17	Create and maintain a database of species rich lowland meadows that may act as donor sites of seed/propagules for lowland meadow restoration	WW						◆		A, B, C, E
18	Develop a lowland meadow seed/propagule harvesting project to regulate and facilitate the collection of seed from suitably selected and characterised sites for introduction to appropriate donor sites	WW							⇒	B
19	Identify target areas and sites for lowland meadow re-establishment, restoration and acquisition.	EN, WW	DEFRA						⇒	B, C, E
20	Implement a monitoring scheme to assess favourable condition of lowland meadows in SSSI and SINC's.	IWC, EN						◆		E
21	Identify and collate research information on recreation and restoration of lowland meadows	WW, EN		⇒						B
22	Collate information on uptake of lowland meadows and pasture option (P1) of Countryside Stewardship Scheme	DEFRA		⇒						B
23	Collate information or undertake monitoring of lowland meadow sites managed under P1 of CSS to assess condition	DEFRA		⇒						B

	ACTION	DELIVERY BY		YEAR						Meets Objectives	
		Key Partner	Others	2002	2003	2004	2005	2006	2012		
Communication and Publicity											
24	Compile an index of information sources and guidance on good management practices for lowland meadows and associated priority species.	HIWWT	EN/IWC	⇒							C, D, F
25	Convene a grassland and grazed habitats forum as a means of disseminating best management practice	WW	IWC/NFU/CLA		➔						A, B, C
26	Promote the ecology and conservation requirements of this habitat and associated priority species, particularly amongst farmers and their advisors.	WW	IWC/NFU/CLA		➔						F
27	Raise awareness of incentive schemes and projects relevant to the management of lowland meadows.	WW	ALL	⇒							F
28	Identify sites which demonstrate good management practice and promote those sites	WW	ALL	⇒							E, F
29	Increase public awareness of lowland meadows, including production of promotional material and encouragement of public access to appropriate sites. Include community involvement where appropriate, flagship species etc	ALL		⇒							F

7 Sources of Information

1. English Nature, 1998. Isle of Wight Natural Area Profile
2. English Nature, 1998. UK BAP Targets By Natural Area - 10 Terrestrial Habitats
3. 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
4. Isle of Wight Biodiversity Partnership. 2002. Grassland and Grazed Habitats Topic Report. Isle of Wight Council.
5. Joint Nature Conservation Committee, 1999, The implementation of Common Standards for Monitoring and Conservation Objectives. Peterborough.

Species associated with Lowland Meadows

Latin name	English name	Group	BAP status	Rarity	Other habitats
<i>Lepus europaeus</i>	Brown Hare	Mammal	1		Improved grassland
<i>Meles meles</i>	Badger		2		Broad-leaved mixed woodland
<i>Micromys minutus</i>	Harvest Mouse	Mammal	3		
<i>Mustela nivalis</i>	Weasel	Mammal	2		Broad-leaved mixed woodland
<i>Mustela erminea</i>	Stoat	Mammal	2		Broad-leaved mixed woodland
<i>Sorex minutus</i>	Pygmy Shrew	Mammal	2		LOWLAND DRY ACID GRASSLAND
<i>Sorex araneus</i>	Common Shrew	Mammal	2		LOWLAND DRY ACID GRASSLAND
<i>Anthus pratensis</i>	Meadow pipit	Bird	2		LOWLAND CALCAREOUS GRASSLAND
<i>Asio flammeus</i>	Short-eared owl (wintering)	Bird	2		
<i>Buteo buteo</i>	Buzzard	Bird	2		Broad-leaved mixed woodland ♦
<i>Circus cyaneus</i>	Hen harrier (wintering)	Bird	2		
<i>Falco tinnunculus</i>	Kestrel	Bird	2		LOWLAND DRY ACID GRASSLAND
<i>Gallinago gallinago</i>	Snipe	Bird	2		Fen marsh and swamp ♦
<i>Limosa limosa</i>	Black-tailed godwit (wintering)	Bird	2		MUDFLATS ♦
<i>Lymnocyptes minimus</i>	Jack snipe (wintering)	Bird	2		Fen marsh and swamp ♦
<i>Tringa totanus</i>	Redshank	Bird	2		MUDFLATS ♦
<i>Turdus ilacus</i>	Redwing (wintering)	Bird	2		ANCIENT AND/OR SPP RICH HEDGEROWS
<i>Turdus pilaris</i>	Fieldfare (wintering)	Bird	2		ANCIENT AND/OR SPP RICH HEDGEROWS
<i>Anguis fragilis</i>	Slow-worm	Reptiles	2		Arable & horticultural ♦
<i>Lacerta vivipara</i>	Common Lizard	Reptiles	3		LOWLAND HEATHLAND ♦
<i>Natrix natrix</i>	Grass Snake	Reptiles	2		ANCIENT AND/OR SPP RICH HEDGEROWS
<i>Vipera berus</i>	Adder	Reptiles	2		LOWLAND DRY ACID GRASSLAND
<i>Nomada errans</i>	A nomad bee	Ants, Bees and Wasps	1	RDB1	LOWLAND DRY ACID GRASSLAND ♦
<i>Argynnis aglaia</i>	Dark Green Fritillary	Butterflies	3		LOWLAND CALCAREOUS GRASSLAND ♦
<i>Boloria selene</i>	Small Pearl-bordered Fritillary	Butterflies	2		Broad-leaved mixed woodland
<i>Ectobius lapponicus</i>	Dusky Cockroach	Crickets and Grasshoppers	3		LOWLAND CALCAREOUS GRASSLAND ♦
<i>Ectobius panzeri</i>	Lesser Cockroach	Crickets and Grasshoppers	3		LOWLAND CALCAREOUS GRASSLAND ♦

Latin name	English name	Group	BAP status	Rarity	Other habitats
<i>Tetrix ceperoi</i>	Ceperoi's Groundhopper	Crickets and Grasshoppers	3		LOWLAND CALCAREOUS GRASSLAND
<i>Bombylus discolor</i>	A beefly	Flies	1		LOWLAND DRY ACID GRASSLAND
<i>Epistrophe diaphana</i>	A hover-fly	Flies	3		Broad-leaved mixed woodland ♦
<i>Myopites inulaedyssentericae</i>	A gall-fly	Flies	3	RDB3	
<i>Acosmetia caliginosa</i>	Reddish Buff	Moths	1	RDB1	
<i>Adscita statices</i>	Forester	Moths	2		LOWLAND DRY ACID GRASSLAND
<i>Hypena rostralis</i>	Buttoned Snout	Moths	1		
<i>Argiope bruennichi</i>	Wasp Spider	Spider Group	3		LOWLAND DRY ACID GRASSLAND
<i>Aulonia albimana</i>	A Wolf Spider	Spider group	2	RDB1	
<i>Pardosa paludicola</i>	A Wolf Spider	Spider group	2	RDB3	Broad-leaved mixed woodland
<i>Hygrocybe calyptraeformis</i>	Pink Waxcap	Fungi	1	pRDB	
<i>Anthoceros agrestis</i>	'Field Hornwort'	Liverworts	3		Arable & horticultural
<i>Oreopteris limbosperma</i>	Lemon-scented Fern	Fern	3		WET WOODLAND
<i>Achillea ptarmica</i>	Sneezewort	Flowering plant	3		LOWLAND DRY ACID GRASSLAND ♦
<i>Carex panicea</i>	Carnation Sedge	Flowering plant	3		FENS
<i>Cirsium dissectum</i>	Meadow Thistle	Flowering plant	3		FENS
<i>Crocus vernus*</i>	Spring Crocus	Flowering plant	3		
<i>Lysimachia nummularia</i>	Creeping Jenny	Flowering plant	3		
<i>Parentucellia viscosa</i>	Yellow Bartsia	Flowering plant	3		MARITIME CLIFFS & SLOPES
<i>Pedicularis sylvatica</i>	Lousewort	Flowering plant	3		Fen marsh and swamp
<i>Triglochin palustre</i>	Marsh Arrowgrass	Flowering plant	3		Fen marsh and swamp
<i>Valeriana dioica</i>	Marsh Valerian	Flowering plant	3		Fen marsh and swamp ♦
<i>Vicia parviflora</i>	Slender Tare	Flowering plant	3		LOWLAND CALCAREOUS GRASSLAND
<i>Viola lactea</i>	Pale Dog Violet	Flowering plant	3		LOWLAND DRY ACID GRASSLAND ♦

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

