

UPLAND HAY MEADOWS - Habitat Action Plan

1. Introduction

Upland (or Northern NVC MG3) species-rich hay meadows are of international importance. The key feature of the resource is its botanical richness, with up to 30 species per square metre in typical communities. This habitat is inextricably linked with traditional farming management. Numbers of species-rich meadows, both upland and lowland, have declined dramatically over the past 50 years with perhaps 95% of all meadows being lost to agricultural improvement. There are a few remaining meadows in the NNP (covering approximately only 95ha) that are of high quality although others are improving under new management.

2. Current Status

2.1 National

Historical data are not available but it is likely that most in-bye fields from which hay was gathered would have been species-rich. The extent of the resource is about 1000 ha in northern England, mainly associated with the Pennine Dales. Much effort has been expended in designating the best meadows as SSSI and cSAC. Work in the Pennine Dales ESA has focused on conserving hay meadows.

2.2 Local

The 1982 meadow survey revealed 30 high quality meadows after a rapid assessment of all in-bye fields. A research programme was put together in 1999 / 2000 to re-survey (botanical, soils and farming management) the best meadows and to examine a further 17 fields which were thought to be of value and indicate the effects of CSS management prescriptions. A further 9 CSS sites were added to this list in 2000 to establish baseline monitoring – giving a total of 56 meadows (165 ha). See table 1 showing meadows surveyed. The survey revealed that 29 good quality meadows remain that have 5 or more positive indicators. Of the best 29 meadows 5 of these have been designated as SSSI (4 of which are cSAC); 3 are protected by NNPA S39 management agreements; 3 are protected by tenancy agreements and 3 are in CSS.

The owners of the remaining meadows have been contacted and advised of the conservation importance and have been asked to contact the NNPA if they feel they wish to change their management, in which case further assistance might be available from the NNPA. In the light of the 1999/2000 survey it is thought that a more proactive approach should be taken towards the remaining high quality meadows and those with potential for improvement.

Little research work has been undertaken on other groups associated with hay meadows such as invertebrates or breeding birds in the NNP.

3. Factors Causing Loss or Decline

- 3.1 The biggest single factor in the loss of meadows has been agricultural improvement to increase grass output. Fertiliser inputs have been increased, silage crops have been taken rather than hay and hay cutting dates are generally earlier.
- 3.2 The availability of Farm Yard Manure (FYM) has been a long running problem for meadows that have generally survived because they have not been subject, for a number of reasons, to pressure to improve. The availability of FYM has become an increasing problem in the Park with several farmers coming out of cattle rearing altogether. All three S39 management agreements fall into this category and on one site low level inputs of nitrogen fertilisers are allowed in order to boost grass growth sufficiently to make it worthwhile to take a crop (although this has not been economical very recently).

3.3 The fragmentation of the resource is a concern, especially when there are no associated species-rich habitats such as banks or woodland edges nearby to act as refugia or as corridors for typical species.

4. Current Action

- 4.1 The conservation of meadows relies on traditional farming practice being continued or re-introduced. This normally involves some degree of compensation to the farmer in exchange for not getting a larger hay or silage crop by increasing fertiliser inputs.
- 4.2 Some good meadows and improved fields are managed under CSS (UH1 prescription) and this assists traditional management. Although some flexibility of cutting date can be accommodated, no inputs are allowed other than FYM and lime. Figures of the areas included in this management are not currently available for the NNP.
- 4.3 Details of botanical richness, meadow inputs, farm management and soil analysis have been collected as part of the research programme and when combined these give a reasonably complete picture of the meadows' condition.
- 4.4 The effect of CSS over ten years has been investigated although in most cases no initial survey has been undertaken because the quality of the meadow was relatively poor. This has been addressed in the baseline survey of some meadows entered into CSS in 1999.

5. Broad Objectives and Targets

- 5.1 Maintain the current number and quality of good hay meadows in the NNP.
- 5.2 Improve the quality of semi-improved meadows through suitable management regimes.
- 5.3 Recreate upland hay meadow communities on improved in-bye fields.
- 5.4 Increase awareness of upland hay meadows as important biodiversity and landscape features.

6. Proposed Action

6.1 Policy and Legislation

Action	Target	Partners	Achieving Objective
6.1.1 Input into annual review of existing CSS to promote continued conservation and enhancement of hay meadows, including the payment rates for management and re-seeding and the possibilities of allowing low levels of mineral fertiliser where there is no available FYM.	2001 onwards	DEFRA, EN	1-3

6.2 Site Safeguard and Management

Action	Target	Partners	Achieving Objective
6.2.1 Continue conservation or traditional management of the remaining 29 best meadows.	Maintain in current condition or improve	EN, DEFRA, MoD, Landowners	1
6.2.2 All SSSIs to be in favourable condition	2005	EN, DEFRA, MoD,	1

		Landowners	
6.2.3 NNPA to review three existing S39 management agreements and assess whether any changes need to be made.	2002	EN, DEFRA, MoD, Landowners	1
6.2.4 Review all 1999/2000 site information and identify the best mechanism for conservation for each.	2002	EN, DEFRA, MoD, Landowners	1,2
6.2.4 Through existing and new conservation management double the number of hay meadows that are of good quality.	52 good meadows by 2010	EN, DEFRA, MoD, Landowners	1,2
6.2.5 Increase the area under traditional hay meadow management. Target those fields that are near existing meadows and/or areas of semi- or unimproved grassland, banks etc.	100 meadows by 2010	EN, DEFRA, MoD, Landowners	2,3

6.3 Species Management and Protection

Action	Target	Partners	Achieving Objective
6.3.1 Introduce native seed (in an NVC MG3 mix) to increase diversity in improved meadows that come into traditional management. Endeavour to use locally collected seed where possible.	20 meadows by 2012	DEFRA, EN, landowners, local seed providers.	3

6.4 Advisory

Action	Target	Partners	Achieving Objective
6.4.1 Notify all relevant owners and occupiers of outcomes from research.	2002	MOD	4,1
6.4.2 Continue to advise landowners and farmers on the importance of hay meadows and their conservation management and the funding available to support this.	Ongoing, & with every CSS application.	DEFRA, EN, MOD, landowners	1-4

6.5 Future Research and Monitoring

Action	Target	Partners	Achieving Objective
6.5.1 Compile data for all meadows under conservation management. Include timing of cutting, inputs and yield for each field.	List compiled by 2002, updates ongoing	DEFRA, EN, MOD, landowners	1,2
6.5.2 Continue to monitor progress of meadows which are in CSS or other protective mechanisms,	Visit 25% per year	DEFRA, EN, MOD,	1-3

assess the effect of any prescription changes, and feed back results into management.		landowners	
6.5.3 Examine the effect of introducing herbs to improved fields by setting up permanent quadrats and develop best practice for re-introductions.	5 fields by 2010	EN, DEFRA, universities	2,3
6.5.4 Monitor all NNP management agreement sites for key indicator species (positive and negative).	All every 2 yrs.	EN, MOD, landowners	1
6.5.5 Undertake re-survey of all the best meadows to determine quality.	2010	MOD, landowners, EN	1,2
6.6.6 Undertake research into the invertebrates of hay meadows and the effect of different management regimes on them.	2005	EN, universities	4

6.6 Communications and Publicity

Action	Target	Partners	Achieving Objective
6.6.1 Use hay meadows as the main theme for 'Celebrating Biodiversity' in the NNP for a year	2006	EN, NWT, NCC, MOD DEFRA,	4
6.6.2 Promote public interest in upland hay meadows and associated species as well as their addition to diversity and colour in the landscape. Use local media, magazine articles, talks and walks.	5 items by 2010	EN, DEFRA, NWT, MOD, NCC	4

7. References

- A Classification and Evaluation of Traditional Hay Meadows in NNP - NNPA. 1982.
- NNP Hay Meadows Survey 1999-2000 - Haffey and Walton. 2001.

TABLE 1 : LIST OF HAY MEADOWS SURVEYED 1999 -2000

MEADOW	CUT	OS GRID	LOCATION	1982	SURVEYOR
STANDARD SURVEY 1999					
BARROWBURN D	1.5	NT867108	COQUET VALLEY	-	DW
BELSHIEL	2.58	NY814992	REDESDALE	16	DW
BURNBANK	2.4	NY791879	TARSET	15	DH
CHIRDON	1	NY749821	TARSET	-	DH
CLEUGHFOOT A	2.2	NY723677	HADRIAN'S WALL	-	DH
CLEUGHFOOT B	2.4	NY724677	HADRIAN'S WALL	-	DH
DUNNS	4.9	NY940969	GRASSLEES VALLEY	18	DW
GRASSLEES	4.5	NY953977	GRASSLEES VALLEY	19	DW
GREENHAUGH	1.3	NY793869	TARSET	-	DH
HIGH CARRITETH A	2.5	NY790841	TARSET	-	DH
HIGH CARRITETH B	2.3	NY791842	TARSET	-	DH
LAMPERT	1.5	NY682743	HADRIAN'S WALL	-	DH
LINSHIELS	0.9	NT892059	ALWINTON	23	DW
NEWTON	3.0	NY800843	TARSET	-	DW
OLD HALL A	1.43	NY764863	TARSET	11	DH
OLD HALL B	1.90	NY762863	TARSET	11	DH
RUSHEND A	0.95	NY774863	TARSET	5	DH
RUSHEND B	1.37	NY772862	TARSET	6	DH
RUSHEND C	9.97	NY769863	TARSET	7	DH
RUSHEND D	2.9	NY769864	TARSET	8	DH
RUSHEND E	2.75	NY767864	TARSET	9	DH
RUSHEND F	7.65	NY767871	TARSET	10	DH
SEWINGSHIELDS C	7.11	NY809708	HADRIAN'S WALL	3	DH
SEWINGSHIELDS D	3.45	NY810714	HADRIAN'S WALL	4	DH
SHILLMOOR A	3.63	NT882079	COQUET VALLEY	24	DW
SNOW HALL A	1.2	NY793862	TARSET	-	DW
SNOW HALL B	2.2	NY793862	TARSET	-	DW
THE SNEEP A	0.7	NY792883	TARSET	-	DW
THE SNEEP B	1.0	NY793882	TARSET	-	DW
THE SNEEP C	1.5	NY793884	TARSET	-	DW
YARDHOPE A	0.75	NT920012	HARBOTTLE MOORS	20	DW
YARDHOPE B	3.27	NT921014	HARBOTTLE MOORS	21	DW
WINDYHAUGH A	1.13	NT866105	COQUET VALLEY	25	DW
WINDYHAUGH B	1.13	NT866105	COQUET VALLEY	25	DW
STANDARD SURVEY 2000					
BRIEREDGE	4.5	NY812827	TARSET	-	DH
BYGATE B	1.75	NT867079	COQUET VALLEY	-	DW
BYGATE C	3.5	NT867079	COQUET VALLEY	-	DW
BYGATE D	2.5	NT855086	COQUET VALLEY	-	DW
BYGATE F	10.0	NT854086	COQUET VALLEY	-	DW
FEATHERWOOD A	1.7	NT816841	REDESDALE	-	DH
FEATHERWOOD B	1.9	NT815841	REDESDALE	-	DH
HARESHAW HEAD	1.7	NY839833	TARSET	-	DH
LONG SIKE A	4.4	NY731684	HADRIAN'S WALL	-	DH
LONG SIKE B	1.9	NY730685	HADRIAN'S WALL	-	DH
SHILLMOOR B	1.2	NT888076	COQUET VALLEY	-	DW
SHILLMOOR C	3.5	NT885081	COQUET VALLEY	-	DW
SHILLMOOR D	5.0	NT883079	COQUET VALLEY	-	DW
SHILLMOOR E	0.75	NT884078	COQUET VALLEY	-	DW
THE CRAIG	4.0	NY936977	GRASSLEES VALLEY	-	DH
FIBS SURVEY 2000					
BARROW MILL	6.35	NT917061	ALWINTON	22	DW
BARROWBURN A	3.32	NT868106	COQUET VALLEY	26	DW
BARROWBURN B	2.5	NT868109	COQUET VALLEY	27	DW
BARROWBURN C	1.37	NT868110	COQUET VALLEY	28	DW
BOUGHTHILL MILL	1.93	NY792867	TARSET	13	DH
POTTS DURTREES	8.0	NY871979	OTTERBURN	-	DH
RIDGE END A	1.45	NY731859	TARSET	-	DH
RIDGE END B	3.0	NY730858	TARSET	12	DH