



YORKSHIRE DALES
National Park Authority

State of Local Biodiversity Action Plan priority habitats and species in the Yorkshire Dales National Park 2010

Conservation Research and Monitoring Report No. 22

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1 Introduction

For the last ten years *Nature in the Dales - a Local Biodiversity Action Plan for the Yorkshire Dales National Park* ('the LBAP') has guided many organisations, local groups and individuals in working hard to look after the unique natural environment of this special place. From the high profile to the low key, they have all been working to conserve, enhance and protect key habitats and species. A lot of this work has taken place through collaborative projects, from regional partnerships to local community-led schemes.

During this period data on the extent and condition of priority habitats and species has been collected, from a range of sources and organisations, to try to assess whether this combined conservation effort has delivered genuine biodiversity gain.

This report collates this information and provides an assessment of the status and trends of the habitats and species targeted by *Nature in the Dales - a Local Biodiversity Action Plan for the Yorkshire Dales National Park*.

This assessment is based on the best available information from a variety of data sources of variable quality. This inevitably means that the assessment for some habitats and species may be founded on a low information base and in some cases an assessment may not yet be possible.

However, we believe that this report has for the first time attempted to provide a comprehensive assessment of the status of all Biodiversity Action Plan (BAP) species and habitats for a whole National Park. This report will now form an invaluable baseline for the next 10 years of biodiversity conservation and monitoring.

2 Methods

The assessment is in 3 parts:

2.1 SSSI habitat condition assessment

The condition of habitats within Sites of Special Scientific Interest (SSSI) was determined using data derived from Natural England's Common Standards Monitoring (CSM) programme. This is described in detail in [annex 1](#) and the results for each habitat are tabulated in [annex 3](#).

2.2 Wider countryside habitat condition assessment

The condition of habitats in the wider countryside outside SSSIs was determined by applying a condition assessment method developed from Natural England's Higher Level Scheme. The habitat data was collected from a number of habitat surveys, predominantly carried out by consultants working for the Yorkshire Dales National Park Authority (YDNPA). This is described in detail in [annex 2](#) and the results for each habitat are tabulated in [annex 3](#).

2.3 Species population status and trends

Data on the population status and trends of priority Local Biodiversity Action Plan (LBAP) species was obtained and analysed in 2008. The data was collected from a variety of sources, ranging from targeted survey effort to direct communication with knowledgeable species experts, many from local and voluntary groups. The results of this analysis are presented in [annex 4](#).

3 Headline biodiversity status & trends

The combined results of the three assessments are given in [table 1](#). This shows that conservation effort over the last 10 years has brought about a positive change in the way SSSIs are managed, with 97% by area of priority SSSI habitats in 'favourable' or 'unfavourable-recovering' condition. This reflects the efforts of Natural England and others to work with farmers and landowners to get land into new agri-environment scheme agreements. It is particularly significant because the Yorkshire Dales National Park (YDNP) contains the largest area of SSSIs (over 50,000ha) out of the UK National Parks. Whilst this is a major achievement it should be noted that only 20% of the area of priority habitats is *actually* in 'favourable' condition. The rest is hopefully now "recovering". The challenge over the next 10 years will be to ensure that these sites actually do recover to the point where they are 'favourable'.

4 Habitats

[Table 2](#) shows the extent of priority habitats within the YDNP. There is at least 62,000ha of UK BAP priority habitat in the YDNP (35% of the area of the YDNP). This area is almost equally split between SSSIs and undesignated countryside. For many of these habitats (e.g. limestone pavement, upland calcareous grassland, meadows and blanket bog) the Yorkshire Dales is one of the most important areas in the country.

[Table 3](#) shows the condition of these habitats, calculated using the methods described in [annexes 1](#) and [2](#). These results highlight the good work that has been done to bring SSSIs into 'favourable' and 'unfavourable-recovering' condition. However, it is clear that further effort is now needed to consolidate this good work by ensuring that habitats that are currently 'unfavourable' genuinely recover and move into 'favourable' condition. Outside of the SSSI series, the condition of habitats appears to be much poorer and considerable effort is now needed to improve their condition. However, at the time of writing, there is no trend data comparable to the SSSI 'unfavourable-recovering' category for habitat in the wider countryside. It is probable that a proportion of this habitat is also covered by agri-environment schemes and should already be recovering (using the same criteria as the SSSIs). Further work is needed to determine how much of the wider countryside habitat is in this category.

5 Species

[Table 4](#) shows the status of LBAP priority species in the YDNP in 2008. The results show that targeted species conservation action has largely been successful, with 81% of species either stable or increasing. Only 2 species (Crayfish and Eurasian Wigeon) show continued declines, and no progress was made in establishing a viable population of Hen Harrier. Baseline data has been obtained for Goshawk and Nowell's Limestone Moss but it is not yet possible to identify any trend for these species. There is still a need to establish baseline population information for bat species and Northern Lapwing.

6 Conclusions

This report presents a mixed picture of the condition of LBAP priority habitats and species populations in the YDNP.

For SSSIs, major progress has been made in bringing sites into positive management through agri-environment schemes such as Environmentally Sensitive Area (ESA), Countryside Stewardship (CSS) and the more recent Environmental Stewardship (Entry Level Stewardship (ELS) and Higher Level Stewardship (HLS)). This, for the most part, explains the large number of sites in 'unfavourable-recovering' condition. This effort now needs to be consolidated to ensure that these sites continue their recovery to 'favourable' condition.

Outside the SSSI series, however, habitats do not appear to have fared so well. A targeted effort is still needed to restore these and avoid a situation where SSSIs are left as "islands" surrounded by poor quality habitat. It may well be that this is already starting to happen through implementation of agri-environment schemes. Further analysis is needed to determine how much of this wider countryside habitat is already under positive management.

Targeted species conservation action has largely been successful with only a handful of the most difficult species still in decline. However, the UK BAP priority species list has been reviewed and the number of species requiring concerted conservation effort has increased dramatically. Many of these species occur in the YDNP and represent a greater conservation challenge over the next 10 years.

In conclusion, the implementation of *Nature in the Dales - a Local Biodiversity Action Plan for the Yorkshire Dales National Park* has been largely beneficial to the conservation of biodiversity in the YDNP. However, more needs to be done to consolidate the work over the last 10 years, and an expanded list of priority species represents a significant conservation challenge for the future.

7 Summary of the extent and condition of LBAP priority habitats and status of LBAP species

Table 1 Overall condition of priority LBAP habitats and species populations in the Yorkshire Dales National Park, 2010

Habitats	%*	LBAP status
Habitats - SSSI	97(20)	✓
Habitats - wider countryside	29	✗
Species	81	✓

*Number in brackets indicates the percentage by area of SSSI habitat that is in 'favourable' condition

Key for Tables 1 and 3

Habitats - SSSI

≥75% of the area of habitats is in 'favourable'/'unfavourable-recovering' condition **Good (✓)**
 ≥50% of the area of habitats is in 'favourable'/'unfavourable-recovering' condition **Of Concern (✗)**
 ≥25% of the area of habitats is in 'favourable'/'unfavourable-recovering' condition **Poor (✗)**
 <25% of the area of habitats is in 'favourable'/'unfavourable-recovering' condition **Bad (✗✗)**

Habitats – Wider Countryside

≥75% of the area of habitats is in A or B condition **Good (✓)**
 ≥50% of the area of habitats is in A or B condition **Of Concern (✗)**
 ≥25% of the area of habitats is in A or B condition **Poor (✗)**
 <25% of the area of habitats is in A or B condition **Bad (✗✗)**

Species

If ≥75% of assessed species are stable or increasing **Good (✓)**
 If ≥50% of assessed species are stable or increasing **Of Concern (✗)**
 If ≥25% of assessed species are stable or increasing **Poor (✗)**
 If <25% of assessed species are stable or increasing **Bad (✗✗)**

Table 2 Extent of priority LBAP Habitats in the Yorkshire Dales National Park, 2010

Habitat	Area (hectares)			% of English resource	% of UK resource
	Total	SSSI	Non-SSSI		
Limestone pavement	1,421	1,347	74	56	45
Lowland calcareous grassland	234	135	99	0.6	0.6
Upland calcareous grassland	5,586	3,058	2,528	45	24
Calaminarian grassland	?	340	?	?	?
Inland rock outcrops and scree	?	442	?	?	?
Blanket bog	34,801	16,499	18,302	14	2
Upland heathland	12,529	9,852	2,677	5	1
Upland flushes, fens and swamps	2,515	1,052	1,463	?	?
Upland hay meadows	397	217	180	46	44
Lowland meadows	2,391	410	1,981	33	23
Lowland raised bog	?	58	?	?	?
Lowland fens	?	?	?	?	?
Native woodland (includes upland mixed Ashwoods, wet woodland, upland Oakwood, lowland mixed deciduous woodland)	2,033	906	1,127	<1	<1
Hedgerows	?	?	?	?	?
Rivers	?	?	?	?	?
Mesotrophic lakes	95	95	0	15	4
Ponds	?	?	?	?	?
TOTAL	62,842	34,411	28,431		

(? represents habitats with insufficient information to calculate extent)

Table 3 Condition of priority LBAP Habitats in the Yorkshire Dales National Park, 2010

Habitats	LBAP target	SSSI condition ('Favourable' or 'Unfavourable Recovering' %*)	Wider countryside condition A or B %	LBAP status	
				SSSI**	Wider countryside
Fens (small base-rich wetlands; small upland wetlands; small Dales wetlands)	Enhance	90(28)	16	✓(x)	xx
Limestone pavement	Enhance	97(20)	0	✓(x)	xx
Upland calcareous grassland	Enhance	94(20)	62	✓(x)	x
Lowland calcareous grassland	Enhance	93(71)	45	✓(x)	x
Lime-rich natural lakes	Maintain	64(64)	-	x(x)	-
Inland rock (limestone rock outcrops, cliffs and scree; acidic rock outcrops, cliffs and scree)	Enhance	99(32)	?	✓(x)	?
Caves	Maintain	?	?	?	?
Purple moor grass and rush pasture	Maintain	?	?	?	?
Upland heath	Increase	98(31)	17	✓(x)	xx
Blanket bog	Increase	97(8)	21	✓(xx)	xx
Raised bog	Enhance	100(66)	?	✓(x)	?
Upland wet acidic grassland	Convert or maintain	?	?	?	?
Upland hay meadows	Enhance	97(67)	40	✓(x)	x
Lowland meadows and pastures	Increase	96(61)	49	✓(x)	x
Ponds	Enhance	?	?	?	?
Hedgerows	Maintain	?	?	?	?
BAP woodland (upland mixed Ashwoods, wet woods, upland Oakwoods)	Enhance	92(44)	13	✓(x)	xx
Scrub	Maintain	?	?	?	?
Rivers and streams	Maintain	?	?	?	?
Road and rail verges	Enhance	?	?	?	?

*Number in brackets indicates the percentage by area of SSSI habitat that is in 'favourable' condition

**Symbol in brackets indicates the assessment if only 'favourable' condition were used.

Table 4 Status of priority LBAP Species in the Yorkshire Dales National Park, 2010

Species	LBAP target	Actual population trend	LBAP status
Higher plants			
English Sandwort <i>Arenaria norvegica</i> ssp.	Stable	Stable	✓
Prickly Sedge <i>Carex muricata</i> ssp. <i>muricata</i>	Stable	Stable	✓
Lady's Slipper Orchid <i>Cypripedium calceolus</i>	Stable	Stable	✓
Yellow Marsh Saxifrage <i>Saxifraga hirculus</i>	Stable	Increase	✓
Juniper <i>Juniperus communis</i>	Stable	Stable	✓
Invertebrates			
Northern Brown Argus <i>Aricia artaxerxes</i>	Stable	Stable	✓
Small Pearl-bordered Fritillary <i>Boloria selene</i>	Stable	Stable	✓
White-clawed Crayfish <i>Austropotomobius pallipes</i>	Stable	Decline	✗
<i>Vertigo alpestris</i> and <i>V. pusilla</i>	Stable	Stable	✓
Birds			
Eurasian Wigeon <i>Anas Penelope</i>	Stable	Decline	✗
Hen Harrier <i>Circus cyaneus</i>	Increase	No population	✗
Northern Goshawk <i>Accipter gentilis</i>	Stable	No trend data	?
Peregrine Falcon <i>Falco peregrinus</i>	Stable	Increase	✓
Black Grouse <i>Tetrao tetrix</i>	Stable	Increase	✓
Northern Lapwing <i>Vanellus vanellus</i>	Increase	Unknown	?
Yellow Wagtail <i>Motacilla flava</i>	Stable	Increase	✓
Mammals			
Red Squirrel <i>Sciurus vulgaris</i>	Stable	Stable	✓
Grouped species action plan for bats	Stable	Unknown	?
Lower Plants			
Nowell's Limestone Moss <i>Zygodon gracilis</i>	Stable	No trend data	?
Yorkshire Feather Moss <i>Thamnobryum caratactarum</i>	Stable	Stable	✓

Key for Table 4

Population stable or increasing

✓

Population declining

✗

Baseline survey complete but trend data not available

?

Unknown

?

Annex 1 - Methods used to determine the extent and condition of Biodiversity Action Plan priority habitats in SSSIs in the Yorkshire Dales National Park

A1.1 Introduction

The extent and condition of Biodiversity Action Plan (BAP) priority habitats within Sites of Special Scientific Interest (SSSIs) in the Yorkshire Dales National Park (YDNP) was determined using Common Standards Monitoring (CSM) data provided by Natural England, combined with Geographical Information System (GIS) mapped data derived from a number of sources. This annex details the methods used to analyse these data and any assumptions, constraints and caveats in the interpretation of the results. The results of this analysis are tabulated in [annex 3](#).

A1.2 Methods

A1.2.1 Determining extent

The area of priority habitats was determined using a hierarchical process.

Phase 1 habitat data

The Yorkshire Dales National Park Authority (YDNPA) holds a Phase 1 habitat survey from the 1980s (Drewitt, 1991). Experience from more recent surveys shows that, although the condition of habitats may have changed, the areas mapped on the Phase 1 are largely the same now as they were in the 1980s. Therefore, all priority habitats were mapped from the Phase 1 into MAPINFO GIS to provide the base habitat layer. Each habitat was given a code based on those used in the Higher Level Scheme Farm Environment Plan handbook (Natural England, 2010). [Table A1.1](#) shows the relationship between these codes, Phase 1 codes, local BAP codes, UK BAP codes and National Vegetation Classification (NVC) codes.

National Vegetation Classification (NVC)

Upland vegetation surveys were carried out by Natural England and its predecessors at intervals from the 1980s to the 1990s. These surveys recorded vegetation and converted them into categories that fitted the NVC codes (e.g. Rodwell, 2000). They did not have the same spatial resolution as the Phase 1 maps but were used in this study to refine the classification of the Phase 1. So for example, if the Phase 1 code was WB and the upland vegetation surveys gave an NVC of M19 or M20 then this confirmed that this area was blanket bog (M06) in the GIS.

In 2002 as part of the Limestone Country Project, a more comprehensive NVC survey of the limestone areas around Malham and Ingleborough was carried out, which provided the mapped data for this area (Thom *et al.*, 2003).

Other data

Other more recent unpublished data were collated from a variety of sources including several hay meadow surveys from the 1980s to the present day, and data on Malham Tarn National Nature Reserve (NNR) from surveys carried out by the University of Lancaster. Information from Natural England's CMS, and Farm Environment Plan data was also used to verify the accuracy of the maps.

Units with no additional data

Where no additional habitat survey data could be found the SSSI unit was initially classified by "broad habitat" type (see [section A1.2.2](#)). If possible this was further refined using L2 habitat categories (see [section A1.2.2](#)).

Table A1.1 Relationship between different habitat classification codes in the Yorkshire Dales National Park, 2010

Habitat Map code	NVC codes	Nature in the Dales HAPs	UKBAP priority habitats	Phase 1 codes
Trees and woodlands				
Wood pasture and parkland (T03)	None	None	Wood pasture and parkland	BP, CP
Other semi-natural woodland (T08)	W4a, W4b, W8a, W8b, W10, W11, W12, W14, W15	Other semi-natural woodland	None	BW
Upland mixed Ashwoods - ancient woodland site (T11)	W8d, e, f, g, W9	(Upland mixed Ashwoods	Upland mixed Ashwoods	BW
Upland Oak woodland (T12)	W16, W17,	Upland Oak woodland	Upland Oak woodland	BW
Wet woodlands (T13)	W1, W2, W3, W4c, W5, W6, W7,	Wet woodlands	Wet woodlands	BW
Traditional orchards (T15)	None	None	Traditional orchards	
Scrub, bracken and tall vegetation				
Juniper (V05j)	W19	Scrub	Juniper	DS, SS
Linear features				
Hedgerows - line (F01)	None	Hedgerows	Hedgerows	H, HT
Ancient and/or species rich hedgerows – line (F02)	None	Hedgerows	Hedgerows	H, HT
Ancient and/or species rich hedgerows with hedgebank - line (F02/F04)	None	Hedgerows	Hedgerows	H, HT
Road verge – species rich (V07a)	None	Road and rail verges	None	None
Rail verge – species rich (V08a)	None	Road and rail verges	None	None

Table A1.1 Continued

Habitat Map code	NVC codes	Nature in the Dales HAPs	UKBAP priority habitats	Phase 1 codes
Arable and grassland				
Lowland calcareous grassland (G04)	CG2, CG7, CG8, CG9a, CG9b (at low altitudes), CG10 (enclosed)	Calcareous grassland	Lowland calcareous grassland	CG, SCG
Lowland dry acid grassland (G05)	U1, U2 (enclosed)	None	Lowland dry acid grassland	AG, SAG(P)
Lowland meadows and pastures - meadow (G06m)	MG5, MG8, MG10, MG11, MG13	Lowland meadows and pastures	Lowland meadows	NG, SNG/3b, 4, MG
Lowland meadows and pastures – pasture (G06p)	MG5, MG8, MG10, MG11, MG13	Lowland meadows and pastures	Lowland meadows	NG, SNG/3b, 4, MG
Purple Moor-grass and rush pasture (G07)	M24, M26	Purple Moor-grass and rush pasture	Purple Moor-grass and rush pasture	None
Upland calcareous grassland (G08)	MG2, CG2 (unenclosed); CG9 (excl. a), CG10, U5c	Calcareous grassland	Upland calcareous grassland	CG, SCG
Upland hay meadows (G09)	MG3	Upland hay meadows	Upland hay meadows	NG, SNG/3b,4
Mine spoil (G10)	OV37	None	Calaminarian grassland	S
Limestone pavement				
Limestone pavement - open (L01o)	None	Limestone pavement	Limestone pavement	LP
Limestone pavement – wooded (L01w)	None	Limestone pavement	Limestone pavement	LP

Table A1.1 Continued

Habitat Map code	NVC codes	Nature in the Dales HAPs	UKBAP priority habitats	Phase 1 codes
Moorland habitats				
Upland acid grassland (M01)	U6, M23b, M25 (excl. M25c)	Upland wet acid grassland	None	
Fragmented heath (M02d)	None	Upland heath	Upland heathland	None
Fragmented heath - wet (M02w)	None	Upland heath	Upland heathland	None
Upland heath - wet (M04w)	M15, M16	Upland heath	Upland heathland	ADH, BDH, WH, LH, DGM, WGM
Upland heath - dry (M04d)	H8, H9, H12, H18, H19, H21	Upland heath	Upland heath	
Blanket bog (M06)	M1-M3, M17, M19, M20	Blanket and valley mire	Blanket and valley mire	WB, RB,
Limestone rock outcrops, cliffs and scree (M07a)	OV38, OV39, OV40, CG14	Limestone rock outcrops, cliffs and scree	Inland rock outcrops and scree habitats	BC, BS, BR
Acidic rock outcrops, cliffs and scree (M07b)	U21, U16,	None	Inland rock outcrops and scree habitats	AC, AS, AR
Acid/neutral flush (M08b)	M4-M6, M8, M21, M23 (excl. b), M29, M25c, M32, M35	Small wetlands, small upland wetlands	Upland flushes, fens and swamps	AF
Base-rich flush (M08a)	M9, M10-M11, M37, M38	Small base-rich wetlands	Upland flushes, fens and swamps	BF

Table A1.1 Continued

Habitat Map code	NVC codes	Nature in the Dales HAPs	UKBAP priority habitats	Phase 1 codes
Wetlands				
Fen (W04)	M22, M23 (excl. b), M27, M32, M37 S9-S10, S19, S27-S28	Small wetlands, small upland wetlands	Fens	BM, SD, TS, IV
Lowland raised bog (W05)	M1-M3, M4, M6, M15, M16, M17, M18-M21, M22-M25, M27, S4	None	Lowland raised bog	None
Mesotrophic lakes (W06)	None	Lime-rich natural lakes	Mesotrophic standing waters	D, O, M
Ponds (W07)	None	Dales lakes and ponds	Ponds	E
Ponds – high value (W07a)	None	Dales lakes and ponds	Ponds	E
Reedbeds (W08)	S4, S25, S26	None	Reedbeds	None
Rivers (R01)	None	Rivers	Rivers	None

A1.2.2 Determining condition

Common Standards Monitoring (CSM)

Natural England provides the YDNPA with data on the condition of SSSI management units based on their programme of CMS (Williams, 2006).

The data used for this study is based on a dataset provided to the YDNPA on the 5th of May 2010. These data cannot currently be used in their raw form to assess the condition of actual areas of BAP habitats for the reasons discussed below; therefore further manipulation of the data was carried out.

Relationship between CMS habitat classification and BAP habitat

Natural England's CSM is based around the concept of the condition of "broad habitats" within SSSI management units. The "broad habitats" do not match directly with BAP habitats. In this study BAP habitats were allocated to each "broad habitat" as summarised in [table A1.2](#).

These BAP habitats were then mapped for each SSSI management unit using the process outlined in [section A1.2.1](#) to provide more detail on the actual BAP habitats present in each SSSI management unit, rather than just a single "broad habitat" for each unit.

This approach leads to a difference in the way the extent of a BAP habitat within each SSSI management unit is calculated, which is best illustrated with the following hypothetical example.

A SSSI unit of 500ha contains 300ha of blanket bog, 150ha of upland heath and 50ha of upland flushes, fens and swamps. The unit is defined as bog for the purposes of the CSM which would therefore assume an area of 500ha. This overestimates the area of habitat by 200ha and ignores the other BAP habitats present.

Natural England are currently trying to overcome this issue by also providing information on other habitats present within the SSSI unit (called "L2 features"), which more closely resemble BAP habitat classification (A. Windrum, Natural England, pers. comm.). At the time of writing, however, no area measurements were provided for these L2 features.

[Table A1.3](#) summarises the difference in the extent of the "broad habitats" based on the two different measures – area of SSSI management unit versus area of actual BAP habitat. This shows that the measurement of area based on SSSI management units over-estimates the area of habitat by about 25%. The majority of this difference is caused by over-estimating the bogs, upland heath and calcareous grassland.

The actual area of BAP habitat has been used to quantify the extent of priority habitats within SSSIs in this report.

Table A1.2 Relationship between Common Standards Monitoring “broad habitats” and Yorkshire Dales National Park Biodiversity Action Plan priority habitats

Broad habitat type	YDNP Biodiversity Action Plan priority habitat	YDNPA Habitat Map code
Acid grassland	None	M01
Bogs	Blanket bog	M06
	Lowland raised bog	W05
Broadleaved, mixed and Yew woodland	Native woodland (includes upland mixed Ashwoods, upland Oak woodlands, wet woods, lowland broadleaved, mixed and Yew woodland)	T08, T11, T12, T13
Calcareous grassland	Upland calcareous grassland	G08
	Lowland calcareous grassland	G04
Dwarf shrub heath	Upland heath	M02, M04
Earth heritage	None	None
Fen, marsh and swamp	Lowland fens	W04
	Upland flushes, fens and swamps	M08
Inland rock	Inland rock outcrops and scree	M07
	Limestone pavement	L01
Montane habitats	None	None
Neutral grasslands	Lowland meadows	G06
	Upland hay meadows	G09
	Purple Moor-grass and rush pasture	G07
Rivers and streams	Rivers	R01
Standing open water and canals	Mesotrophic lakes	W06
	Ponds	W07
	Calaminarian grassland	G10

Table A1.3 Differences in the calculated extent of “broad habitats” using estimates based on the area of SSSI units and estimates based on actual area of BAP habitat

Broad habitat	Extent calculated from the area of SSSI management units (hectares)	Extent calculated from actual BAP habitat present (hectares)	Difference (ha)
Acid grassland	30	0	-30
Bogs	20684	16558	-4126
Broadleaved, mixed and Yew woodland	995	907	-88
Calcareous grassland	5578	3192	-2386
Dwarf shrub heath	14572	9852	-4720
Earth heritage	3846	-	-
Fen, marsh and swamp	645	1052	+407
Inland rock	3336	1790	-1546
Montane habitats	2.5	1.9	-0.6
Neutral grasslands	702	1378	+676
Rivers and streams	35	27	-8
Standing open water and canals	92	95	+3
Calaminarian grassland	-	334	-
Total (excluding earth heritage)	46,672	35187	-11485

A1.2.3 Unit condition versus habitat condition

The difference in the method of reporting the extent of habitats within SSSIs (management unit area versus actual BAP habitat area) also causes some issues in trying to quantify the condition of actual BAP habitat.

CMS reports the condition of a single “broad habitat” within each SSSI management unit in the following categories:

- Favourable (F)
- Unfavourable – recovering (UR)
- Unfavourable – no change (UNC)
- Unfavourable – declining (UD)
- Part destroyed (PD)
- Destroyed (D)

The area in each category is determined by the area of the SSSI management unit rather than the actual habitat area and gives no information on the condition of other BAP habitats present within the unit. This makes it very difficult to determine the actual extent of individual BAP habitats within each condition category.

However, Natural England have provided information on other habitats present within the SSSI unit (called “L2 features”) which more closely resemble BAP habitat classification (A. Windrum, Natural England, pers. comm.). At the time of writing, however, no condition data was available for these L2 features. They have, however, provided the following guidance (A. Windrum, pers. comm.):

“At the moment there is no ‘favourable’ condition data for each specific L2 feature. However, if a unit is considered to be in ‘favourable’ or ‘unfavourable-recovering’ condition, then the component L2 features can be considered to be in ‘favourable’ or ‘unfavourable-recovering’ condition. If one or more L2 features are in ‘unfavourable’ condition then the unit cannot be considered to be ‘favourable’.”

Therefore, in this study, the condition of the actual BAP habitats present in each SSSI management unit that are listed by Natural England as L2 features has been defined using the above guidance. In some cases BAP habitat has been mapped within SSSI management units which were not listed as L2 features so no condition assessment could be made.

This approach can be illustrated using the example from [section A.1.2.2](#).

The example 500ha SSSI unit is defined as bog in ‘unfavourable – recovering’ condition. L2 features are listed for blanket bog and upland heath, which the habitat surveys recorded at 300ha and 150ha respectively. Habitat surveys also recorded upland flushes, fens and swamps but these were not listed as L2 features. Therefore, none of the habitats present can be in ‘favourable’ condition as the unit is not in ‘favourable’ condition. 300ha of blanket bog and 150ha of upland heath are in ‘unfavourable-recovering’ condition. The condition of the 50ha of upland flushes, fens and swamps is unknown.

[Table A1.4](#) shows the differences in results between the assessment of “broad habitats” using SSSI unit area, and the assessments using actual habitat area including both L1 and L2 features. The table shows that there is generally broad agreement between the different measures of “broad habitat” condition. The advantage of using the L2 features is that the “broad habitats” can be further assessed into habitat types that relate directly to BAP priority habitats. For example, inland rock can be further divided into limestone pavement and inland rock outcrops and scree.

Therefore, in this report we have used the L1 and L2 features by actual area as the measure of condition of BAP priority habitats. The results of this are presented in [appendix 3](#).

Table A1.4 Assessment of condition of SSSI “broad habitat” in the Yorkshire Dales National Park using three different methods. L1 features are the primary habitat against which the SSSI condition is assessed. L2 features represent other important habitats within the SSSI unit

Broad habitat	Condition category	% condition of SSSI broad habitat (L1) by SSSI management unit area	% condition of SSSI broad habitat (L1) by actual habitat area	% condition of SSSI broad habitat (L1+L2) by actual habitat area
Bogs	Favourable	10.1	7.9	7.8
	Unfavourable - recovering	87.9	90.0	89.3
	Unfavourable – no change	2.0	2.0	2.8
	Unfavourable - declining	0.0	0.1	0.1
Broadleaved, mixed and Yew woodland	Favourable	37.6	42.6	44.2
	Unfavourable - recovering	51.5	50.2	48.0
	Unfavourable – no change	9.7	6.9	7.5
	Unfavourable - declining	1.1	0.3	0.3
Calcareous grassland	Favourable	19.9	31.3	22.3
	Unfavourable - recovering	76.4	59.6	71.9
	Unfavourable – no change	3.4	8.4	5.3
	Unfavourable - declining	0.4	0.8	0.5
Dwarf shrub heath	Favourable	27.8	32.7	31.4
	Unfavourable - recovering	69.7	65.6	66.8
	Unfavourable – no change	2.4	1.7	1.7
	Unfavourable - declining	0.1	0.0	0.0
Earth heritage	Favourable	100.0	-	-
	Unfavourable - recovering	0.0	-	-
	Unfavourable – no change	0.0	-	-
	Unfavourable - declining	0.0	-	-
Fen, marsh and swamp	Favourable	39.0	31.4	28.3
	Unfavourable - recovering	54.6	56.5	62.4
	Unfavourable – no change	6.3	12.1	9.3
	Unfavourable - declining	0.0	0.0	0.0

Table A1.4 Continued

Broad habitat	Condition category	% condition of SSSI broad habitat (L1) by SSSI management unit area	% condition of SSSI broad habitat (L1) by actual habitat area	% condition of SSSI broad habitat (L1+L2) by actual habitat area
Inland rock	Favourable	31.6	32.3	21.8
	Unfavourable - recovering	67.4	65.1	75.4
	Unfavourable – no change	1.0	2.6	2.8
	Unfavourable - declining	0.0	0.0	0.0
Montane habitats	Favourable	100.0	100.0	100.0
	Unfavourable - recovering	0.0	0.0	0.0
	Unfavourable – no change	0.0	0.0	0.0
	Unfavourable - declining	0.0	0.0	0.0
Neutral grasslands	Favourable	68.5	66.8	64.3
	Unfavourable - recovering	28.3	29.6	32.4
	Unfavourable – no change	1.9	2.4	2.2
	Unfavourable - declining	1.3	1.2	1.1
Rivers and streams	Favourable	29.2	-	-
	Unfavourable - recovering	0.0	-	-
	Unfavourable – no change	70.8	-	-
	Unfavourable - declining	0.0	-	-
Standing open water and canals	Favourable	65.8	65.8	65.8
	Unfavourable - recovering	0.0	0.0	0.0
	Unfavourable – no change	34.2	34.2	34.2
	Unfavourable - declining	0.0	0.0	0.0
All habitats (excluding earth heritage)	Favourable	20.3	20.9	19.5
	Unfavourable - recovering	77.0	76.1	77.4
	Unfavourable – no change	2.6	2.8	3.0
	Unfavourable - declining	0.1	0.1	0.1

A1.3 References

Drewitt, A (1991) *The Vegetation of the Yorkshire Dales National Park*. Yorkshire Dales National Park Technical Services 1991.

Natural England (2010) *Higher Level Stewardship Farm Environment Plan (FEP) Manual*. 3rd Edition. Natural England. 2010.

Rodwell, J (ed) (2000) *Maritime communities and vegetation of open habitats. British Plant Communities Volume 5*. Cambridge University Press. Joint Nature Conservancy Council 2000.

Thom, T. J., Swain, J. Brandes, E., Burrows, H., Gill, a., Tupholme, A. and Vernon, N. (2003) *Limestone Pavement in the Yorkshire Dales National Park – assessing 30 years of change*. Conservation Research and Monitoring Report No 2. Yorkshire Dales National Park Authority 2003.

Williams, J.M. (ed) (2006) *Common Standards Monitoring for Designated Sites. First Six Year Report*. Joint Nature Conservancy Council.

Annex 2 - Methods used to determine the extent and condition of Biodiversity Action Plan priority habitats outside SSSIs in the Yorkshire Dales National Park

A2.1 Introduction

The extent and condition of Biodiversity Action Plan (BAP) priority habitats outside SSSIs in the Yorkshire Dales National Park (YDNP) was largely determined using data from a rolling programme of targeted habitat surveys commissioned by the Yorkshire Dales National Park Authority (YDNPA) and carried out between 2002 and 2006, combined with Geographical Information System (GIS) mapping data derived from a number of sources. This annex details the methods used to analyse these data and any assumptions, constraints and caveats in the interpretation of the results. The results of this analysis are tabulated in [annex 3](#).

A2.2 Methods

A2.2.1 Determining Extent

The area of priority habitats was determined using a hierarchical process.

Phase 1

The YDNPA holds a Phase 1 habitat survey from the 1980s (Drewitt, 1991) and experience from more recent surveys shows that, although the condition of habitats may have changed, the areas mapped on the Phase 1 are largely the same now as they were in the 1980s. Therefore, all priority habitats were mapped from the Phase 1 into MAPINFO GIS to provide the base habitat layer. Each habitat was given a code based on those used in the Higher Level Scheme Farm Environment Plan handbook (Natural England, 2010). [Table A1.1](#) shows the relationship between these codes, Phase 1 codes, local BAP codes, UK BAP codes and National Vegetation Classification (NVC) codes.

Mapping Biodiversity Action Plan habitats

Analysis of the digitised Phase 1 maps together with analysis of aerial photography (mainly to accurately map limestone pavement) was used to create GIS maps of priority BAP habitats, coded according to the definitions in [table A1.1](#). These maps were then used to commission ecological consultants to carry out habitat surveys in accordance with the specifications outlined in [appendix 1](#). The main objective of the surveys was to map habitats in categories that fitted the NVC codes (e.g. Rodwell, 2000). However, where habitats were degraded or did not easily fit existing NVC codes they were classified according to the codes in [table A1.1](#). The Craven District of the National Park was surveyed in 2002 and 2003 by RPS Ecoscope. The South Lakeland District was surveyed in 2004 by Bullen Consultants and the Richmondshire area of the Park was surveyed by Faber-Maunsell in 2005 and 2006.

Information on the extent and condition of limestone pavement was taken from a survey carried out by volunteers on behalf of the YDNPA in 2000 and 2001 (Thom *et al.*, 2003).

Information on the condition of some woodlands in the Craven and South Lakeland District was obtained by staff from the YDNPA in 2005 and 2008. Further information on woodlands not previously surveyed in the South Lakeland District and in the Bolton Abbey Estate was obtained by staff from the YDNPA in 2010.

All the information from these surveys was used to update the GIS maps derived from the Phase 1 survey, taking account any changes in habitat boundaries.

A2.2.2. Determining condition

Initially for the Craven District Survey habitat condition was assessed by the ecological consultants using the Common Standards Monitoring (CMS) method for SSSIs discussed in annex 1 according to the specification in [appendix 1, section AP1](#). However, after this survey it was decided by the YDNPA that condition assessment of non-SSSI habitat should reflect the condition assessments made by Natural England as part of the Farm Environment Plans required for applications under the Higher Level Stewardship Scheme. This approach was used in all subsequent surveys using the specification outlined in [appendix 1, section AP2](#). The data from the Craven District Survey was sufficiently detailed in the majority of cases to enable a re-analysis based on the revised condition assessment method. It was also possible to apply this method to the data from the Limestone Pavement Survey in 2000 and 2001.

It should be noted that, since the completion of this analysis, some of the condition criteria for some habitats in the Farm Environment Plan were updated. The condition assessment in this report does not reflect these changes as the process and time required to re-analyse the data was beyond the scope of this report. This means that some differences between the condition reported here and any future habitat surveys may partially reflect changes in the method and not necessarily be related to real changes in condition unless the historical data is re-analysed using the new condition criteria.

A2.2.3. Missing data

Not all of the habitat identified from the Phase 1 survey could be surveyed. This was primarily due to not being able to identify the landowner to obtain access permission, where the landowner was known, permission being denied. These areas could not therefore be condition assessed and for the purpose of this report we have assumed that

the area is the same as in the Phase 1 survey. In many cases the habitats form part of intricate mosaics with other habitats and mapping individual habitats was impossible at the resolution of these surveys. In these cases an estimate was made of the proportion of each habitat in the mosaic. Condition was not assessed for habitats in mosaics.

A2.3 Results

The results of the survey are presented in [annex 3](#). These show the area in each of the 3 condition categories (A, B or C), the areas where condition could not be assessed and the estimate of the area of each habitat in mosaics.

A2.4 References

Drewitt, A (1991) *The Vegetation of the Yorkshire Dales National Park*. Yorkshire Dales National Park Technical Services 1991.

Natural England (2010) *Higher Level Stewardship Farm Environment Plan (FEP) Manual*. 3rd Edition. Natural England. 2010.

Rodwell, J (ed) (2000) *Maritime communities and vegetation of open habitats. British Plant Communities Volume 5*. Cambridge University Press. Joint Nature Conservancy Council 2000.

Thom, T. J., Swain, J. Brandes, E., Burrows, H., Gill, a., Tupholme, A. and Vernon, N. (2003) *Limestone Pavement in the Yorkshire Dales National Park – assessing 30 years of change*. Conservation Research and Monitoring Report No 2. Yorkshire Dales National Park Authority 2003.

Appendix 1 – Example specification given to ecological consultants for non-SSSI priority BAP habitat surveys and condition assessment

(Note: references to attached appendices and tables are not included)

AP1 Craven District survey

AP1.1 Introduction

The Yorkshire Dales National Park Authority (YDNPA) has secured funding to enable a survey of the Craven District area of the National Park to assess the extent and condition of all semi-natural habitats.

This information is necessary for the YDNPA to carry out its activities in relation to delivering Local Biodiversity Action Plan (LBAP) targets, proactive targeting of agri-environment schemes, identification of nature reserves and development control functions.

A full National Vegetation Classification (NVC) survey of all of the areas and habitats identified in the attached maps and described in Table 1 is required along with a baseline assessment of the conservation status of Biodiversity Action Plan (BAP) priority habitats (see Table 2) using a derivation of English Nature's (now Natural England) Standard Condition Assessment methodology.

AP1.2 Sites

The sites to be surveyed are within the Craven District of the Yorkshire Dales National Park (YDNP) and have been derived from a detailed Phase 1 vegetation survey of the YDNP carried out in the mid 1980s together with Environmentally Sensitive Area (ESA) Tier 2 and Conservation Plan areas and other more recent information. Limestone pavement, road verges and some neutral grasslands are the subject of other survey work and are not part of this contract.

A similar survey of the Ingleborough and Craven limestone complex Special Area of Conservation (SAC) is also being carried out this year so this area is excluded from this contract.

Several of the upland areas are covered by the North Pennine moorland Special Protected Area (SPA)/SAC and already have detailed NVC data and English Nature (now Natural England) are conducting a condition assessment of these under separate work.

All other SSSIs in the area will form part of this contract.

AP1.3 Required Surveys

Breakdown of work

The work is to be broken down into the following areas:

1. NVC survey and condition assessment of limestone habitats (excluding limestone pavement) moorland habitats (heath, blanket bog, unenclosed grassland etc.) and enclosed grassland habitats mid- May – Sep 2003 incl.

Part 1: National Vegetation Classification (NVC) survey

Method

- By field visits to each site, the contractor will survey and map the location and extent of all the NVC (sub) communities present. Communities to be mapped at the 1:10,000 or 1:5,000 scale.
- For enclosed lowland grasslands each field should be visually assessed prior to any botanical work. The assessment should take into account the whole field including the edges. The purpose of this assessment is to determine whether there are any semi-natural grassland features remaining. If this visual assessment reveals that the field has been agriculturally improved and that there are no semi-natural features present no further survey is required. This should be recorded on the field map for this unit. If there is some semi-natural habitat present within the unit this should be assessed as follows.
- For the majority of habitats a minimum of two quadrats (2m x 2m) recording all rooted species (with DOMIN scores) will be taken per (sub) community within each management unit to assist the determination of (sub) communities. Location of these quadrats should be mapped using handheld GPS. Where the area of the community is too small to enable quadrat recording a full species list with DOMIN scores should be provided.
- Standard survey cards should be completed for each (sub) community.
- Standard NVC survey methodology and nomenclature to be used. Note that bryophytes and lichens should be surveyed where these are important in determining communities.
- The tender should include a statement of how the quadrat data will be analysed (if required) to determine NVC (sub) communities.

Outputs

- Maps at 1:10,000 or 1:5,000 scale showing the appropriate NVC communities and sub-communities clearly identified.
- Copies of all survey forms
- Copies of all quadrat data records with 8 figure GPS derived Grid Reference forms.

Part 2: Condition Assessment

Method

A standard condition assessment (see appendix 1) will be carried out for all habitats in Table 2 below identified during field survey. This will consist of a series of random quadrats (full species survey is not required as condition assessments are made against a number of indicator species). The location of individual quadrats should be located with a hand-held GPS.

Outputs

Copies of all survey forms.

Copies of all quadrat recording forms.

AP1.4 Landowners

YDNPA will identify and write to all landowners prior to survey work taking place. The contractor will, in most cases, be required to telephone the landowner immediately prior to survey to confirm that access has been granted. If a landowner denies access then this must be accepted without argument. All land that access has been denied to (together with the reasons given) must be recorded on the 1:10,000 maps. If any landowner requires further information or seeks clarification they should be referred to the YDNPA ecologist.

AP1.5 Timescales

The completed maps and recording forms for the NVC survey and condition assessment of habitats will be given to the YDNPA on a roughly monthly basis as each map section is completed with the final data provided by the end of October 2003.

AP1.6 Reporting procedures

Close liaison shall be maintained with the YDNPA ecologist throughout the course of the contract.

AP1.7 Person specification

All botanical surveyors carrying out work on this contract must have the following essential qualities:

- High quality and thorough botanical recording skills
- At least 3 years experience in the last 5 years of carrying out botanical surveys (including use of NVC methods)
- High standards of workmanship
- The ability to liaise with the public when approached on site
- Excellent record-keeping and report writing skills
- Excellent map-reading skills
- The ability to prepare high quality field maps

CVs for all surveyors must be provided to the YDNPA prior to work taking place.

AP2 Subsequent surveys

AP2.1 Introduction

The YDNPA has secured funding to enable a survey of the Richmondshire District area of the YDNP to assess the extent and condition of all semi-natural habitats.

This information is necessary for the YDNPA to carry out its activities in relation to delivering LBAP targets, proactive targeting of agri-environment schemes, identification of nature reserves and development control functions.

A combination of NVC survey of all of the areas and habitats (some woodlands will already have NVC data and therefore do not require a repeat of this) identified in this specification is required along with a baseline assessment of the conservation status of habitats using the condition assessment methods outlined.

Table AP1 Broad Habitat Types to be surveyed

Habitat area within project area	Area in hectares to survey
Upland (heath, mire, grassland)	25,935ha
Woodland	652ha
Enclosed grassland and other habitats (predominantly enclosed neutral grasslands)	1577ha

AP2.2 Sites

The sites to be surveyed are within the Richmondshire District part of the YDNP and have been derived from a detailed Phase 1 vegetation survey of the YDNP carried out in the mid 1980s together with other more recent information. These are identified on the enclosed MAPINFO tables:

1. Habitat to survey where landowner is known
2. Richmondshire 3b and 4 grassland
3. Basewood

AP2.3 Required surveys

Part 1: National Vegetation Classification (NVC) survey

Method

Open habitats

- By field visits to each site on the MAPINFO tables, the contractor will survey and map the location and extent of all the NVC (sub) communities present. Communities to be mapped at the 1:5,000 scale. Each management unit should be given a unique management unit ID and all subunits should also be numbered within each management unit.

- All open habitat survey work must take place between June and September (inclusive). Hay meadows must be surveyed in June and only upland habitats should be surveyed as late as September.
- For enclosed lowland grasslands each field should be visually assessed prior to any botanical work. The assessment should take into account the whole field including the edges. The purpose of this assessment is to determine whether there are any semi-natural grassland features remaining. If this visual assessment reveals that the field has been agriculturally improved and that there are no semi-natural features present, no further survey is required. This should be recorded on the field map for this unit. If there is some semi-natural habitat present within the unit this should be assessed as follows.
- For the majority of habitats a minimum of two quadrats (2m x 2m) recording all rooted species (with DOMIN scores) will be taken per (sub) community within each management unit to assist the determination of (sub) communities. Location of these quadrats should be mapped using handheld GPS and/or marked accurately on the map. Where the area of the community is too small to enable quadrat recording a full species list with DOMIN scores should be provided.
- Standard survey cards should be completed for each (sub) community. These should be identified with a code that comprises the management unit ID, the subunit ID and the quadrat number.
- Standard NVC survey methodology and nomenclature to be used. Note that bryophytes and lichens should be surveyed where these are important in determining communities.
- The tender should include a statement of how the quadrat data will be analysed (if required) to determine NVC (sub) communities.
- Where it is not possible to define NVC communities the habitats present should be classified using habitat definitions in appendix 1.

Woodland habitats

- By field visits to each site identified on the MAPINFO Basewood table, the contractor will survey and map the location and extent of all the NVC (sub) communities present (excluding those where NVC data is already available). Communities to be mapped at the 1:2,500 scale. Each management unit should be given a unique management ID and all subunits should also be numbered within each management unit.
- All woodland habitat survey work must take place between May and June (inclusive).
- Each woodland should be visually assessed prior to any botanical work. The assessment should take into account the whole unit including the edges. The purpose of this assessment is to determine whether there are any semi-natural woodland features present. If this visual assessment reveals that the woodland is a plantation

then no NVC assessment is necessary. The woodland should be described in detail including a list of species in the canopy, shrub (if present) and field layers (with DOMIN scores). This unit should be recorded. If there is some semi-natural habitat present within the woodland this should be assessed as follows.

- For the majority of homogenous stands a single 50m x 50m quadrat should be used to assess the canopy with a minimum of two quadrats (4m x 4m) recording all rooted species (with DOMIN scores) within the shrub and field layers. Location of these quadrats should be mapped using handheld GPS and/or marked accurately on the map. Where the area of the community is too small to enable quadrat recording a full species list with DOMIN scores should be provided.
- Standard survey cards should be completed for each (sub) community. These should be identified with a code that comprises the management unit ID, the subunit ID and the quadrat number.
- Standard NVC survey methodology and nomenclature to be used. Note that bryophytes and lichens should be surveyed where these are important in determining communities.
- Where it is not possible to define NVC communities the habitats present should be classified using habitat definitions in appendix 1.
- The tender should include a statement of how the quadrat data will be analysed (if required) to determine NVC (sub) communities.

New woodlands

For new plantations the site should be mapped and assessed using the condition assessment in appendix 3.

Outputs

- Digitised MAPINFO map (all survey units in a single layer) at 1:5,000 scale showing the appropriate NVC communities and sub-communities clearly identified.
- Copies of all survey forms
- Copies of all quadrat data records with 8 figure GPS derived Grid Reference.
- Survey form and quadrat data entered into an Access database using a standard form developed by the YDNPA (this is currently under development and will be provided to the successful consultant in time for data entry to take place).

Part 2 Condition assessment

Method

All habitats

A standard condition assessment (see appendix 1) will be carried out for all habitats identified during field survey. This is based on the method developed for the Higher Level agri-environment scheme. The location of survey walks should be marked on a map accompanying the data forms

Woodland

In addition to the above a more detailed condition assessment is required for broad-leaved woodland and plantations using the method in appendix 2. This is currently undergoing some minor amendments which will not change the overall time spent in the field. The final version will be available shortly.

New woodland

This should be assessed using the method in appendix 3.

Outputs

- Copies of all survey forms (numbered with the management unit ID and the sub unit ID).
- Copies of all condition assessment recording forms (numbered with the management unit ID and the sub unit ID).
- Condition assessment data entered onto Access database.

AP2.4 Landowners

YDNPA will identify and write to all landowners prior to survey work taking place. The contractor will, in most cases, be required to telephone the landowner immediately prior to survey to confirm that access has been granted. If a landowner denies access then this must be accepted without argument. All land that access has been denied to (together with the reasons given) must be recorded on the 1:5,000 maps. If any landowner requires further information or seeks clarification they should be referred to the YDNPA ecologist.

The consultant will be provided with a MAPINFO table – Richmondshire landowners for 2005 – showing the boundaries of each landholding plus an Access database that records landowner responses.

Previous experience proves that around 60-75% of landowners respond which affects the final hectareage of land to be surveyed.

AP2.5 Timescales

All surveys must be completed by the end of September and all data and reports provided to YDNPA by 31 December.

The consultant should indicate whether they are able to complete this survey (taking

account of the area involved and the number of surveyors with relevant skills) within one or two field seasons.

AP2.6 Reporting procedures

Close liaison shall be maintained with the YDNPA ecologist throughout the course of the contract. A brief final report shall be produced which sets out any deviation from the methods, any difficulties encountered and a list of those areas where landowners refused access permission and any other details pertinent to the survey. A full analysis of the survey data is not required.

AP2.7 Person specification

All botanical surveyors carrying out work on this contract must have the following essential qualities:

- High quality and thorough botanical recording skills
- At least 3 years experience in the last 5 years of carrying out botanical surveys (including use of NVC methods)
- High standards of workmanship
- The ability to liaise with the public when approached on site
- Excellent record-keeping and report writing skills
- Excellent map-reading skills
- The ability to prepare high quality field maps

CVs for all surveyors must be provided to the YDNPA prior to work taking place.

All technicians involved in MAPINFO digitising and Access database entry must have experience in digitising and data entry and quality control and error editing of the final MAPINFO tables must be thorough.

AP2.8 Consultant essential requirements

All consultants wishing to tender for this contract must have the following essential requirements. If you do not fulfil any one of these requirements please do not tender for this contract as you will not be successful.

1. Recent demonstrable experience of carrying out NVC vegetation surveys and condition assessment in upland environments.
2. Recent demonstrable experience and knowledge of the habitats likely to be encountered in the YDNP.
3. Surveyors with the above personal specifications and a good working knowledge of the habitats likely to be encountered in the YDNP.
4. Proven ability in transferring field data into MAPINFO and Access database formats.

AP3 Feature Condition

Most features require an assessment of their condition. There are three possible conditions for features: A, B or C. The condition must be identified using the guidance in this handbook.

Each feature which requires a condition assessment has a series of criteria associated with it (there are usually four different criteria for each feature).

The condition category is derived from the number of criteria that the feature meets, as shown in the table. Only features in very good condition will be classed as being in category A.

Table AP2 Condition assessment categories

Number of missed/failed criteria	Condition assessment category	Suggested Management Level
0	A	Maintain
1	B	Maintain or restore
2 or more	C	Restore

AP3.1 How to assess if a species is rare, occasional or frequent

In many of the habitat definitions in the handbook there are references to particular indicator plant species being 'rare', 'occasional' or 'frequent'.

The way to assess this is to walk around the habitat and stop at regular intervals or random points along the way. For most habitats stopping 10 times will be enough but for very large blocks of similar vegetation, you may need 20 stops.

Each time you stop, look at the vegetation within a square metre in front of you and take a note of what plant species are there. If you already know roughly what type of habitat you are in, you only need to record the relevant indicator species for that habitat, rather than noting every single species.

- A species is rare if it occurs in 1 or 2 stops out of 10.
- It is occasional if it was in 3 or 4 stops out of 10.
- Frequent species occur in 5 or more stops.

Tables for recording this information for each habitat have been provided in appendix 1.

AP3.2 Habitats

Grassland

Main grassland types G01, G02 and G03

G01 - Improved grassland
Most grass fields on agricultural land will count as G01. At least 2 of the following should apply: <ul style="list-style-type: none">• Grassland with a cover of Perennial Rye-grass and White Clover of more than 30%.• Sward is species-poor with 8 or fewer different plant species (including grasses) per square metre.• Cover of wild flowers (not including white clover or injurious weeds) less than 10%.
G01 includes both grasslands dominated by Perennial Rye-grass (and White Clover) and grassland with several grass species (sometimes without much Perennial Rye-grass) but with a low cover of wild flowers.
If the grassland is a temporary ley in an arable/grass rotation and has been sown in the last 5 years, record it as A01 – arable. If you are on grass moorland record, it as M01 – grass moorland, even if the grassland matches the description for G01.
Typical wild flower species can include: Common Sorrel, dandelions, Daisy, buttercups, thistles, docks, ragworts and common nettles.

G02 - Semi-improved grassland
Both of the following should apply: <ul style="list-style-type: none">• Sward is moderately species-rich with between 9 and 15 different plant species (including grasses) per square metre.• Cover of wild flowers (not including white clover or injurious weeds) between 10% and 30%.
Typical wild flower species include: Autumn Hawkbit, Black Medick, Cuckooflower, Bulbous Buttercup, Common Cat's-ear, Common sorrel, Field Woodrush, Germander Speedwell, Lesser Trefoil, Meadow Buttercup, Red Clover, Self-heal, Yarrow, Ribwort Plantain.

There may also be some of the species listed in the BAP grassland boxes on the next few pages, but these will usually be rare or localised.

If you are on grass moorland, check to see if the grassland matches the description for G08 – upland calcareous grassland. If it is not G08, record it as M01 – grass moorland, even if the grassland matches the description for G02.

Condition assessment
If you know which type of semi-improved grassland you have, use the relevant condition assessment below, G06– G10. If you don't know which type use this set of conditions; <ol style="list-style-type: none">1. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, Marsh Ragwort, Cow Parsley, Bracken) less than 5%.

2. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 15%.
3. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.

G03 - Species-rich grassland

This is a rare habitat. **At least 2** of the following should apply:

- **More than 15** different plant species (including grasses) per square metre.
- The cover of wild flowers (excluding white clover or injurious weeds) is usually more than 30% during the summer months.
- Cover of rye grasses is generally less than 10% and there will be a wide range of other grass species such as Crested Hair-grass, Heath-grass, Meadow Oat-grass, Sheep's Fescue, Upright Brome, Quaking Grass or Yellow Oat-grass.

Wild flower species will include at least some of the species listed in the BAP grasslands boxes on the next few pages.

Condition assessment

If you know which type of species-rich grassland you have, use the relevant condition assessment below, G06 – G10. If you don't know which type use this set of conditions;

1. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, Marsh Ragwort, Cow Parsley, Bracken) less than 5%.
2. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 20%.
3. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.

Grassland BAP and other habitats

G04 - Lowland calcareous grassland - BAP habitat

Species-rich, semi-natural grassland on chalk and limestone in the lowlands and upland fringe, generally below 300m altitude. Managed primarily by grazing.

Typical grasses include: Blue Moor-grass, Cock's-foot, Common Bent, Crested Hair-grass, Hairy Oat-grass, Meadow Oat-grass, Quaking-grass, Sheep's Fescue, Tor Grass, Upright Brome, Yellow Oat-grass.

At least 2 of the following wild flower species are frequent and another 3 at least occasional in the sward: Betony, Bloody Cranesbill, Carlina Thistle, Clustered Bellflower, Common Bird's-foot-trefoil, Common Rockrose, Cowslip, Dropwort, Devil's-bit Scabious, eyebrights, Fairy Flax, gentians, Greater Knapweed, Hairy Violet, Harebell, Hoary Plantain, Hoary Rockrose, Horseshoe Vetch, Kidney Vetch, Lady's Bedstraw, milkworts, Mouse-ear Hawkweed, orchids, Ox-eye Daisy, Purple Milk-vetch, Rough/Lesser Hawkbit, Salad Burnet, Saw-wort, Small Scabious, Squinancywort, Stemless Thistle, Thyme-leaved Sandwort, Wild Basil, Wild Marjoram, Wild Thyme, Yellow-wort.

Condition assessment

1. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle) less than 5%.
2. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 30%.
3. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.

G05 - Lowland dry acid grassland - BAP habitat
Semi-natural grassland generally dominated by fine-leaved grasses on nutrient-poor, free draining soils in the lowlands and enclosed upland fringe. Mosses and/or lichens are sometimes frequent. Managed primarily by grazing. Some sites may be species-poor (dominated, for example, by Bristle Bent or Wavy Hair-grass). However lowland acid grassland is a scarce resource and any site is likely to be considered of high value.
Typical grasses include: Bristle Bent, Common Bent, Early Hair-grass, Heath Grass, Sheep's Fescue, Sweet Vernal-grass, Wavy Hair-grass.
At least 1 of the following wild flower species are frequent and another 3 at least occasional in the sward: Bell Heather, Betony, Bilberry, Bird's-foot, Biting Stonecrop, Bitter-vetch, Blue Fleabane, Buck's-horn Plantain, Common Bird's-foot-trefoil, Common Centaury, Common Rockrose, Common Stork's-bill, Harebell, Heath Bedstraw, Heath Speedwell, Heather, Lady's Bedstraw, Devil's-bit Scabious, Lousewort, lichens, Maiden Pink, Milkwort, Mouse-ear Hawkweed, Parsley Pierts, Purple Milk-vetch, Rough/Lesser Hawkbit, Saw-wort, Sheep's-bit, Sheep's Sorrel, Shepherd's-cress, thymes, Tormentil, violets, Wild strawberry, Wood Anemone, Wood Sage.

Acid grassland is widespread in the uplands where it exists largely as extensive species poor communities on the open fell or enclosed rough grazing. On the open fell, record it as M01 – Grass moorland. Where it is species-rich and enclosed it should be recorded as G06. Such sites would generally be dominated by Sheep's Fescue and Common Bent with a high proportion of herbs such as Betony, Devil's-bit Scabious, Bitter-vetch, Harebell, Heath bedstraw, Lady's bedstraw and Mountain Pansy.

Condition assessment
<ol style="list-style-type: none"> 1. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, Rosebay Willowherb, Marsh Thistle, Musk Thistle, Broad-leaved Plantain) less than 5%. 2. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%. 3. Cover of scrub and bramble less than 5%.

G06 - Lowland meadows - BAP habitat
Species-rich, semi-natural grassland on free-draining, neutral soils in the lowlands and upland fringes, including species-rich floodplain grassland. Managed by cutting and/or grazing.
Typical grasses include: Cock's-foot, Common Bent, Crested Dog's-tail, Red Fescue, Meadow Fescue, Sweet Vernal-grass, Yellow Oat-grass, Yorkshire-fog.
At least 2 of the following wild flower species are frequent and another 2 at least occasional in the sward: Agrimony, Autumn Hawkbit, Betony, Bitter-vetch, Black Knapweed, Bugle, Burnet Saxifrage, Common Bird's-foot-trefoil, Common Bistort, Common Meadow-rue, Cowslip, Devil's-bit Scabious, Dropwort, Dyer's Greenweed, eyebrights, Goat's Beard, Great Burnet, Greater Bird's-foot-trefoil, Lady's Bedstraw, lady's-mantles, marsh/fen bedstraws, Marsh Marigold, Marsh Valerian, Meadow Vetchling, Meadowsweet, milkworts, Narrow-leaved Water-dropwort, Rough Hawkbit, orchids, Ox-eye Daisy, Pepper-saxifrage, Ragged-Robin, Salad Burnet, Saw-wort, Sneezewort, Tormentil, Water Avens, Water Mint, Wood Anemone, Yellow Rattle, small blue-green, sedges.

Condition assessment
<ol style="list-style-type: none"> 1. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, Marsh Ragwort, Cow Parsley, Bracken) less than 5%. 2. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 20%. 3. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%.

G07 - Purple moor grass and rush pastures - BAP habitat
Species-rich, semi-natural grassland with abundant Purple Moor-grass and/or jointed rushes (Sharp-flowered Rush, Jointed Rush or Blunt-flowered Rush), on poorly drained lowland soils, managed primarily by grazing.
Typical grasses include: Creeping Bent, Crested Dog's-tail, Floating Sweet-grass, Marsh Foxtail, Purple Moor-grass, Red Fescue, Sweet Vernal-grass, Yorkshire-fog.
At least 2 of the following wild flower species are frequent and another 2 at least occasional in the sward: Bog Asphodel, bog-mosses, Bog Pimpernel, Bugle, Common Valerian, Common Meadow-rue, Cross-leaved Heath, Devil's-bit Scabious, Globeflower, Greater Burnet, Greater Bird's-foot-trefoil, Hemp Agrimony, jointed rushes, Lesser Spearwort, Lesser Water-parsnip, Lousewort, marsh/ fen bedstraws, Marsh Cinquefoil, Marsh Hawk's-beard, Marsh Marigold, Marsh Pennywort, Marsh Valerian, Marsh Violet, Meadow Thistle, Meadowsweet, orchids, Ragged-Robin, Rough Hawkbit, Saw-wort, Sneezewort, Tormentil, Water Avens, Water Mint, Whorled Caraway, Wild Angelica, small blue-green sedges.

Condition assessment
<ol style="list-style-type: none"> 1. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, Cow Parsley, Marsh Thistle, Marsh Ragwort) less than 10%. 2. Cover of indicators of water logging (large sedges, Tufted Hair-grass, Common Reed, Reed Canary Grass, Reed Sweet-grass) less than 30%. 3. The cover of tussocks of grass, rush or sedge should be more than 30%.

G08 - Upland calcareous grassland - BAP habitat
Species-rich, semi-natural grassland generally dominated by fine-leaved grasses, on calcareous soils over carboniferous limestone in upland areas. Managed primarily by grazing. Often occurs in parts of large scale enclosures with other less species-rich grassland types.
Typical grasses include: blue moor-grass, common bent, crested hair-grass, meadow oatgrass, red fescue, sheep's fescue, sweet vernal-grass, quaking-grass.
At least 2 of the following wild flower species are frequent and another 2 at least occasional in the sward: Alpine Bistort, Bird's-eye Primrose, Carlina Thistle, Common Bird's-foot-trefoil, Common Butterwort, Common Rockrose, Dropwort, Devil's-bit Scabious, eyebrights, Fairy Flax, gentians, Grass-of-Parnassus, Harebell, Hoary Rockrose, Hoary Whitlow Grass, Horseshoe Vetch, Lesser Club-moss, Mossy Saxifrage, Mountain Everlasting, Mouse-ear Hawkweed, Rough Hawkbit, Salad Burnet, Small Scabious, Squinancywort, Wild Thyme, Yellow Saxifrage, small sedges.

Condition assessment
<ol style="list-style-type: none"> 1. Cover of bare ground (including localised areas e.g. rabbit warrens) less than 10%. 2. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, False Oat-grass) less than 10%. 3. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 20%. 4. Cover of herbs indicative of nutrient enrichment (Daisy, Creeping Buttercup) less than 25%.

G09 - Upland hay meadows - BAP habitat
Species-rich enclosed neutral grasslands on free-draining or moist neutral soils in the North Pennines and Cumbrian uplands. Cut for hay, with aftermath grazing.
Typical grasses include: Cock's-foot, Common Bent, Crested Dog's-tail, Red Fescue, Rough Meadow-grass, Soft Brome, Sweet Vernal-grass, Yorkshire-fog.
At least 2 of the following wild flower species are frequent and another 2 at least occasional in the sward: Common Bird's-foot-trefoil, Black Knapweed, Bugle, Burnet Saxifrage, Common Bistort, Devil's-bit Scabious, Globeflower, eyebrights, Great Burnet, hawkbits, lady's-mantles, Marsh Marigold, Marsh Valerian, Meadow Vetchling, Meadowsweet, Melancholy Thistle, orchids, Pignut, Ragged-Robin, Saw-wort, Sneezewort, Tormentil, Water Avens, Wood Anemone, Wood Cranesbill, Yellow Rattle, small blue-green sedges.

Condition assessment
<ol style="list-style-type: none"> 1. Cover of wild flowers and sedges throughout the sward (excluding undesirable species) more than 30%. 2. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, Cow Parsley) less than 10%. 3. Cover of bare ground less than 10%.

G10 Calaminarian grassland
Generally short open vegetation of fine-leaved grasses, flowers, mosses and lichens on spoil and gravel from mineral extraction, or associated with metal-rich ultrabasic exposures. A very rare habitat type found only in the North Pennines, Yorkshire Dales, Derbyshire and the Mendips.
Typical grasses include: Common Bent, Red Fescue, Sheep's Fescue, Sweet Vernal-grass.
1 or more of the following wild flower species are occasional in the sward: Alpine Pennycress, Mountain Pansy, Pyrenean Scurvy-grass, Sea Campion, Spring Sandwort, Thrift.

Condition assessment
<ol style="list-style-type: none"> 1. Cover of bare ground, including cobbles, gravel and encrusting lichens between 20% and 90%. 2. Cover of undesirable species (Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock, Common Ragwort, Common Nettle, Cow Parsley, hogweeds, coarse grasses) less than 10%. 3. Cover of trees and scrub less than 5%.

Heathland and moorland

M02 - Upland heath – BAP habitat

- Heath vegetation with at least 25% cover of dwarf shrubs (heathers, Bilberry, Crowberry, and Western Gorse).
- Usually found on unenclosed moorland above 250 m, though can occur in larger enclosures (allotments and intakes) generally within the moorland line. Generally on well-drained, nutrient-poor acid soils including shallow (less than 0.5m) peat.

If there is a mixture of heath and grassland record both features and estimate how much of each is present in the land parcel.

Record presence of grips and length per hectare.

Condition assessment

1. Cover of dwarf shrubs should be at least 75% for dry heath or 25-75% for wet heath, with at least two dwarf shrub species frequent.
2. At least 10% of the area of dwarf-shrub heath remains unburnt throughout the burning rotation
3. There should be a range of age classes of heather present, with cover of young (pioneer stage) heather between 25% and 50% and cover of old (mature/degenerate stages) between 10% and 30%.
4. No more than 33% of heather shoots grazed (when assessed between February and April) or flowering heather plants at least frequent in autumn.

M04 - Blanket bog – BAP habitat

- Upland wetland vegetation, generally on at least 0.5 m depth of flat or gently-sloping blanket peat, usually on unenclosed moorland.
- Characterised by bog-mosses (*Sphagnum*) and cotton-grasses, especially Hare's-tail Cotton-grass, and a mix of deergrasses, Purple Moor-grass and dwarf shrubs (especially Cross-leaved Heath and heather).

Record presence and length per hectare of grips.

Condition assessment

1. Cover of bog-mosses (*Sphagnum*) at least 33%, with less than 10% damaged (dead/bleached or crushed/broken/pulled).
2. Cover of dwarf shrubs between 33% and 75% (except when bog-mosses (*Sphagnum*) are dominant), with at least two dwarf shrub species frequent.
3. Flowering cotton-grass plants frequent (where present) in spring or flowering Heather plants at least frequent (where present) in autumn.
4. Cover of grasses and sedges and rushes less than 75%.

M07 - Upland cliffs and screes

- Vegetation growing out of crevices, cracks and ledges on exposed rocks, including cliffs, scree, rubble and rocky slopes, within moorland grazing units.
- Vegetation may be sparse or thick and is generally dominated by herbs, grasses, ferns,

mosses or lichens.

Condition assessment
<ol style="list-style-type: none">1. Cover of Bracken, scrub and trees less than 25%.2. Cover of weed (e.g. Creeping and Spear Thistles, docks, brambles, ragworts, Common Nettle) or non-native species less than 1%.3. Less than 50% of live leaves (broad-leaved plants), fronds (ferns) or shoots (dwarf shrubs) showing signs of grazing or browsing.4. Cover of disturbed bare ground less than 10%.

M01 - Grass moorland
Unenclosed grassland generally within the moorland line, with less than 25% cover of dwarf shrubs.

M08 – Upland valley mires, springs and flushes
<ul style="list-style-type: none">• Mires in valley topography and springs and flushes, generally with water movement.• Usually wet, with bog-mosses and/or cotton-grasses at least frequent.• Includes other generally minor features in valley bottom, e.g. runnels, soakways, sedge lawns and rush beds.

Condition assessment
<ol style="list-style-type: none">1. Bog-mosses (<i>Sphagnum</i>) at least frequent, with less than 10% damaged (dead/bleached or crushed/broken/pulled).2. Cover of dwarf shrubs between 33% and 75% (except when bog mosses (<i>Sphagnum</i>) are dominant), with at least 2 dwarf shrub species frequent.3. Flowering cotton-grass plants frequent (where present) in spring or flowering heather plants at least frequent (where present) in autumn.4. Cover of soft and sharp-flowered rushes and Common Reed less than 20%.

Limestone pavement

L01 – Limestone pavement
<ul style="list-style-type: none">• This feature is found on carboniferous limestone in Northern England.• The exposed near horizontal limestone surface is characterised by a complex pattern of blocks (clints) and deep fissures (grykes).• On open pavements the vegetation is largely confined to the grykes and can be rich in vascular plants, bryophytes and lichens.• Tree and shrub cover is low, but many of the species found in the humid, shady conditions of the grykes are more typical of woodlands.• The exact assemblage varies according to geographical location, altitude, extent of pavement and degree of grazing.
Condition assessment
<ol style="list-style-type: none">1. There should be no evidence of recent damage to the pavement surface.2. Cover of typical emergent pavement flora and clint-top vegetation at least 25% of total vegetation cover (i.e. excluding bare rock).3. Cover of all undesirable herbaceous species (False Oat-grass, Crested Dog's-tail,

Bramble, Creeping Thistle, Spear Thistle, Curled Dock, Broad-leaved Dock, Common Ragwort, Common Nettle, other pernicious perennial species) less than 5%.
4. Cover of undesirable woody species (Sycamore, Beech, Blackthorn, Cotoneaster) less than 10% of the woody cover.

Scrub, Bracken and other tall vegetation

V01 - Bank side vegetation

Vegetation beside rivers, streams and ditches.

Condition assessment

1. A variety of vegetation, some open areas with grasses and herbs, some areas with native trees and shrubs.
2. Absence of alien species, e.g. Giant Hogweed, Japanese Knotweed, Himalayan Balsam.
3. Eroding banks confined to steep cliffs on river bends.
4. Vegetation should be at least 30cm tall on average.

V02 - Bracken

Areas dominated by Bracken.

Do not record this feature for woodland with Bracken in the field layer – use the relevant woodland code instead.

V03 - Rank vegetation

Areas of tall vegetation (grasses and/or wildflowers) that do not fit in to any other category e.g. record areas dominated by thistles, docks, common nettles, Rosebay Willowherb, etc. as this feature.

V04 - Scrub

Scrub includes all stages in the development of woody vegetation, from scattered bushes to closed canopy vegetation. It is dominated by native or non-native shrubs and tree saplings, usually less than 5m tall, occasionally with a few scattered trees.

Condition assessment

1. At least 3 woody species, with no one species comprising more than 75% of the cover (except juniper or box, which can be 100% cover).
2. A good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs
3. Pernicious weeds and invasive species make up less than 5% of the ground cover.
4. Has a well developed edge with un-grazed tall herbs.
5. Has many clearings and glades within the scrub.

V05 - Scrub of high environmental value

Record the scrub as of high environmental value only if at least 1 of the following applies:

- Montane scrub (above 600m altitude)
- Juniper or Box scrub
- Scrub on **calcareous** soils with 3 or more of Wayfaring Tree, Wild Privet, dogwoods,

Buckthorn, Hawthorn or spindles.

- Scrub on **peat** soils with **2** or more of Alder Buckthorn, Eared Willow, Goat Willow, Grey Willow, Bay Willow, Purple Willow, Osier.
- Scrub which is recorded as one of the interest features in a SSSI designation.
- Scrub where any of the following rare species have been recorded, any UK BAP priority species (e.g. Dormouse), any animal species protected under the Wildlife and Countryside Act or any Red Data Book species.

Condition assessment

Use condition assessment from V04 – Scrub above.

Wetland

W04 – Fens – BAP habitat

- Fen occurs on soils that experience at least periodic waterlogging.
- Encompasses a wide range of plant communities on both peat and mineral soils and includes swamps, mires, springs and flushes.
- In the lowlands, particularly, fen tends to be dominated by tall sedges, grasses and other tall herbs such as Meadow Sweet, Yellow Iris and Common Valerian. Common Reed often occurs in fens, however, vegetation with greater than 60% reed cover should be recorded as W09 - reedbed.
- Fen often occurs in association with other semi-natural habitats especially wet woodland, wet grassland and open water.
- This type of vegetation on unenclosed moorland should be recorded only as M08 – upland valley mires, springs and flushes.

Condition assessment

1. The water level and its management should result with either surface water or the ground being wet enough for a six-inch nail to be easily pushed in, for at least part of the year.
2. Cover of undesirable species (docks, thistles, ragworts, Himalayan Balsam) should be less than 5%.
3. Cover of scrub should be less than 10%.
4. The vegetation should (on average) be less than knee-high.

W06 - Lowland raised bog – BAP habitat

- This is a rare habitat type.
- Peatland vegetation dominated by bog-mosses (Sphagnum), which develops mainly in cool humid lowland areas such as the head of estuaries, river flood-plains and in depressions where drainage is impeded.
- The bog is usually slightly higher than the surrounding land.
- See also M04 - Blanket bog.

Condition assessment

1. Cover of undesirable species (docks, thistles, ragworts) should be less than 5%.
2. Cover of scrub should be less than 10%.
3. Cover of bog-mosses (Sphagnum) should be between 30% and 60%.
4. Heather and cotton-grasses should be at least frequent.

W07 - Mesotrophic lakes – BAP habitat

• Lakes greater than 1ha with a narrow range of nutrients, such as inorganic nitrogen and phosphorus.

They have a high diversity of floating, submerged and marginal aquatic plants.

Condition assessment

1. Dragonflies, water beetles, stoneflies or mayflies present.
2. At least 10 different submerged and floating leaved species.
3. Fringe of marginal vegetation including sedges.
4. Fish community is varied (not dominated by one species or size class) and not restocked.

W08 – Pond

Ponds up to 1 hectare in size.

If over a hectare it may be W03 or W07.

Condition assessment

1. No obvious signs of pollution or water supply of inappropriate quality.
2. A naturally fluctuating water level.
3. Absence of damaging alien plant or animal species.
4. Has some floating, submerged and marginal species.

W09 - Reedbeds – BAP habitat

• Reedbeds are wetlands dominated by stands of Common Reed.

• The water table is at or above ground level for most of the year.

They tend to incorporate areas of open water and ditches, and small areas of wet grassland and wet woodland may be associated with them.

Condition assessment

1. Cover of scrub within the reedbed should be less than 10%.
2. The vegetation should include at least 60% reeds.
3. Surface water is present over at least part of the reedbed for most of the year.
4. Cover of undesirable species (docks, thistles, ragworts, Himalayan Balsam) should be less than 5%.

Woodland

Note: woodland is defined as vegetation dominated by trees more than 5m high when mature, forming a distinct although sometimes open canopy. This includes young or newly planted woodland.

Gill woodland - small, upland woods in steep valleys, usually on or adjacent to moorland.

Ancient woodland sites – Ancient woodland sites are those where the land has been continuously wooded since accurate mapping began around 1600s. Natural England's Ancient Woodland Inventory, old maps and estate records can provide evidence for this.

<p>This information is not always available. Therefore, the site may count as ancient woodland if the woodland shows two or more of the following –</p> <ul style="list-style-type: none"> • Sinuous, irregular boundaries, along Parish boundaries. • Internal and external ditches or boundary banks with old coppice stools or pollards. • Ancient trees within the woodland.
<p>Some of the following indicator species in the ground flora: Barren Strawberry, Bluebell, Broad-leaved Helleborine, Butcher's-broom, Common Cow-wheat, Dog's Mercury, Early Dog-violet, Goldilocks Buttercup, Herb Paris, Moschatel, Pignut, Primrose, Ramsons, Sanicle, Slender St John's-wort, Stinking Iris, Tutsan, Wood Anemone, Woodruff, Wood Sorrel, Wood Speedwell, Wood Spurge, Yellow Pimpernel.</p>
<p>Clump – a small landmark woodland with rounded edges.</p>
<p>Shelterbelt – a woodland planted for shelter usually with straight edges and often elongated.</p>

<p>T08 - Semi-natural woodland</p>
<p>Semi-natural woodland comprises all stands which do not obviously originate from planting. Woodland with both semi-natural and planted trees should be classified as semi natural if the planted trees account for less than 30% of the canopy composition, but as plantation if more than 30% is planted.</p>
<ul style="list-style-type: none"> • If the wood is not semi-natural, it must be one of the plantation types T04 to T07. • If it is semi-natural, decide which type of semi-natural woodland (T04 to T07) it is record as T08 if cannot define which of T04 to T07 it is.

Woodland – BAP habitats

<p>T14 - BAP habitat - Wet woodland</p>
<p>Woodland on poorly drained or seasonally wet soils. Alder, Birch and Willow usually dominate. Wet woods frequently occur in a mosaic with other woodland key habitat types (e.g. with upland mixed Ash or Oak woods) and with open wetland habitats such as fens. Can occur in both upland and lowland situations.</p>

Condition assessment - see below

<p>T11 – Lowland mixed deciduous woodland</p>
<p>Any semi-natural woodland in the lowlands that is not either T10 – Lowland Beech and Yew woodland – BAP habitat or T14 – Wet woodland – BAP habitat.</p>

Condition assessment -see below

<p>T13 – BAP habitat - Upland Oak woodland</p>
<p>Oak usually dominates (usually Sessile Oak), and Birch is usually present in the canopy and can be the dominant species. Holly, Rowan and Hazel vary as the main understorey species.</p>

Condition assessment -see below

<p>Condition assessment for T10-T14</p>
<p>1. Native species are dominant. Non native and invasive species account for less than</p>

- 10% of the vegetation cover.
2. A diverse age and height structure
 3. Free from recent damage from stock or wild mammals – there should be evidence of tree regeneration e.g. seedlings, saplings and young trees.
 4. Standing and fallen dead trees of over 20cm diameter should be present.
 5. The area is protected from agriculture and other adjacent damaging operations.

Plantation woodland

T04 - Broadleaved plantation

Obviously planted woodland (including arboreta) with 10% or less conifer in the canopy.

T05 - Conifer plantation

Obviously planted woodland (including arboreta) with 10% or less broadleaved trees in the canopy.

T06 - Mixed plantation

Obviously planted woodland (including arboreta) with 10% to 90% of both broadleaved and conifer trees in the canopy. The percentages of the two types should be noted.

T07 - Landmark woodland

A designed and planted woodland, visually prominent in the landscape (often located on promontories or hillsides) including copses, shelter belts and shaped woodland features characteristic of the local area.

Condition assessment

1. Area of trees with canopy cover, its under-storey of shrubs and herb layer, should all be in a stock-proof and well-managed condition at regular/irregular spacing.
2. There should be no evidence of damage within the landmark woodland feature from livestock (bark stripping or rubbing), erosion (burrowing animals), machinery storage, signage, or other inappropriate management.

Annex 3 - Results of condition assessment analysis of Biodiversity Action Plan priority habitats in the Yorkshire Dales National Park 2010

Table A3.1 Upland fen

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	103 (296)	28			
Unfavourable-recovering	226 (427)	62			
Unfavourable-no change	34 (96)	9			
Unfavourable-declining	0 (0)	0			
Partially destroyed	0 (0)	0			
Unknown condition	689	-			
A					
B			40 (219)	15	
C			188 (1009)	69	
Unknown condition			592	-	
TOTAL AREA (ha)	1052		865		1917
AREA IN MOSAIC (ha)	-		598		598
GRAND TOTAL (ha)	1052		1463		2515

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	90% (723ha)
Non-SSSI (condition A):	16% (235ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	38% (958ha)

Table A3.2 Limestone pavement

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	259 (263)	20			
Unfavourable-recovering	1026 (1041)	77			
Unfavourable-no change	43 (43)	3			
Unfavourable-declining	0 (0)	0			
Partially destroyed	0 (0)	0			
Unknown condition	19	-			
A					
B			1 (13)	17	
C			5 (61)	83	
Unknown condition			63	-	
TOTAL AREA (ha)	1347		69		1416
AREA IN MOSAIC (ha)	-		5		5
GRAND TOTAL (ha)	1347		74		1421

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	97% (1304ha)
Non-SSSI (condition A):	0% (0ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	92% (1304ha)

Table A3.3 Upland calcareous grassland

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	587 (630)	20			
Unfavourable-recovering	2103 (2256)	74			
Unfavourable-no change	147 (157)	5			
Unfavourable-declining	14 (15)	1			
Partially destroyed	0	0			
Unknown condition	207	-			
A			195 (1568)	62	
B			18 (151)	6	
C			101 (809)	32	
Unknown condition			1841	-	
TOTAL AREA (ha)			3058		
AREA IN MOSAIC (ha)	-		373		373
GRAND TOTAL (ha)	3058		2528		5586

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	94% (2886ha)
Non-SSSI (condition A):	62% (1568ha)
Total (SSSI favourable, unfavourable-recovering; non-SSSI A):	80% (4454ha)

Table A3.4 Lowland calcareous grassland

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	73 (96)	71			
Unfavourable-recovering	20 (27)	20			
Unfavourable-no change	9 (12)	9			
Unfavourable-declining	0	0			
Partially destroyed	0	0			
Unknown condition	33	-			
A					
B			12 (41)	41	
C			4 (14)	14	
Unknown condition			53	-	
TOTAL AREA (ha)	135		82		217
AREA IN MOSAIC (ha)	-		17		17
GRAND TOTAL (ha)	135		99		234

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering condition):	93% (123ha)
Non-SSSI (condition A):	45% (45ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	72% (168ha)

Table A3.5 Lime-rich natural lakes

2 sites:	
Malham Tarn (61ha)	Favourable
Semer Water (34ha)	Unfavourable – no change

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN “GOOD CONDITION”

SSSI (favourable, unfavourable-recovering):	64% (61ha)
Non-SSSI (condition A):	0% (0 ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	64% (61ha)

Table A3.6 Inland rock

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	92 (143)	32			
Unfavourable-recovering	191 (296)	67			
Unfavourable-no change	2 (3)	1			
Unfavourable-declining	0 (0)	0			
Partially destroyed	0 (0)	0			
Unknown condition	157	0			
A			Unknown	Unknown	
B			Unknown	Unknown	
C			Unknown	Unknown	
Unknown condition			Unknown	Unknown	
TOTAL AREA (ha)	442		Unknown		
AREA IN MOSAIC (ha)	Unknown		Unknown		Unknown
GRAND TOTAL (ha)	442		Unknown		442

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	99% (439ha)
Non-SSSI (condition A):	Unknown
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	Unknown

Table A3.7 Upland heath

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	2892 (3095)	31			
Unfavourable-recovering	6145 (6585)	67			
Unfavourable-no change	159 (172)	2			
Unfavourable-declining	0 (0)	0			
Partially destroyed	0 (0)	0			
Unknown condition	656	-			
A			110 (360)	17	
B			172 (382)	26	
C			380 (838)	57	
Unknown condition			1021	-	
TOTAL AREA (ha)	9852		2228		12080
AREA IN MOSAIC (ha)	-		449		449
GRAND TOTAL (ha)	9852		2677		12529

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	98% (9680ha)
Non-SSSI (condition A):	17% (360ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	80% (10040ha)

Table A3.8 Lowland raised bog

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	37 (38)	66			
Unfavourable-recovering	19 (20)	34			
Unfavourable-no change	0 (0)	0			
Unfavourable-declining	0 (0)	0			
Partially destroyed	0 (0)	0			
Unknown condition	2				
A					
B			Unknown	Unknown	
C			Unknown	Unknown	
Unknown condition			Unknown	Unknown	
TOTAL AREA (ha)	58		Unknown		58
AREA IN MOSAIC (ha)	-		Unknown		Unknown
GRAND TOTAL (ha)	58		Unknown		58

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN “GOOD CONDITION”

SSSI (favourable, unfavourable-recovering):	100% (58ha)
Non-SSSI (condition A):	0% (0ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	0% (0ha)

Table A3.9 Blanket bog

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	1186 (1260)	8			
Unfavourable-recovering	13936 (14765)	89			
Unfavourable-no change	431 (450)	2			
Unfavourable-declining	15 (24)	1			
Partially destroyed	0 (0)	0			
Unknown condition	931				
A			1472 (3832)	21	
B			1264 (2135)	19	
C			4330 (6854)	61	
Unknown condition			10252		
TOTAL AREA (ha)	16499		17318		
AREA IN MOSAIC (ha)			984		984
GRAND TOTAL (ha)	16499		18302		34801

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	97% (16025ha)
Non-SSSI (condition A):	21% (3832ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	57% (19857ha)

Table A3.10 Upland hay meadows

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	144 (145)	67			
Unfavourable-recovering	65 (65)	30			
Unfavourable-no change	5 (5)	2			
Unfavourable-declining	2 (2)	1			
Partially destroyed	0 (0)	0			
Unknown condition	1	-			
A			47 (72)	40	
B			21 (32)	18	
C			50 (76)	42	
Unknown condition			36	-	
TOTAL AREA (ha)	217		154		371
AREA IN MOSAIC (ha)	-		26		26
GRAND TOTAL (ha)	217		180		397

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	97% (210ha)
Non-SSSI (condition A):	40% (72ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	71% (282ha)

Table A3.11 Lowland hay meadows and pastures

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition %	Area ha (*)	Condition %	
Favourable	168 (250)	61			
Unfavourable-recovering	97 (144)	35			
Unfavourable-no change	6 (9)	2			
Unfavourable-declining	4 (5)	1			
Partially destroyed	0	0			
Unknown condition	135	-			
A			59 (970)	49	
B			23 (376)	19	
C			39 (634)	32	
Unknown condition			1799	-	
TOTAL AREA (ha)	410		1920		
AREA IN MOSAIC (ha)	-		61		61
GRAND TOTAL (ha)	410		1981		2391

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	96% (394ha)
Non-SSSI (condition A):	49% (970ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	57% (1364ha)

Table A3.12 BAP woodland

	SSSI		Non-SSSI		GRAND TOTAL AREA (ha)
	Area ha (*)	Condition % (*)	Area ha (*)	Condition % (*)	
Favourable	356 (400)	44			
Unfavourable-recovering	387 (435)	48			
Unfavourable-no change	60 (67)	7			
Unfavourable-declining	3 (4)	1			
Partially destroyed	0 (0)	0			
Unknown condition	100	-			
A			16 (146)	13	
B			32 (293)	26	
C			76 (688)	61	
Unknown condition			515	-	
TOTAL AREA (ha)	906		639		
AREA IN MOSAIC (ha)	-		488		488
GRAND TOTAL (ha)	906		1127		2033

*An estimate of likely condition of areas for which no condition survey data was available was estimated by applying the proportions in each condition category from those areas that were condition assessed. The areas in brackets include these estimates and are used subsequently in setting targets.

ESTIMATED AREA IN THE YORKSHIRE DALES NATIONAL PARK IN "GOOD CONDITION"

SSSI (favourable, unfavourable-recovering):	92% (835ha)
Non-SSSI (condition A):	13% (293ha)
Total (SSSI favourable, unfavourable-recovering, non-SSSI A):	55% (1128ha)

Annex 4 - Population trends and status information for Biodiversity Action Plan species in the Yorkshire Dales National Park in 2008

A4.1 Higher plants

English Sandwort <i>Arenaria norvegica ssp.</i>
The results of ongoing monitoring of this species on the Ingleborough National Nature Reserve indicate that the population is stable.
LBAP target: maintain population
Actual population trend: stable

Source: Walker, K.J. 2007 Monitoring of populations of *Arenaria norvegica* subsp. *anglica* in permanent quadrats on Sulber Pasture, Mid-west Yorks, July 2007. Contract report to YDNPA.

Prickly Sedge <i>Carex muricata ssp. muricata</i>
Monitoring work undertaken by Natural England and the Yorkshire Dales National Park Authority (YDNPA) show that populations at two of the three sites within the Yorkshire Dales National Park (YDNP) monitored in 2008 are considered to be stable.
LBAP target: maintain population
Actual population trend: stable

Source: Natural England and YDNPA

Lady's Slipper Orchid <i>Cypripedium calceolus</i>
The population at the native site is stable and there are now a number of re-introduction sites in the YDNP as part of the national Species Recovery Programme where the populations are also considered to be stable.
LBAP target: maintain population
Actual population trend: stable

Source: Cypripedium Committee

Yellow Marsh Saxifrage <i>Saxifraga hirculus</i>
The Common Standards Monitoring of the population at the one site in the YDNP shows that the population is increasing, probably as a result of removal of grazing.
LBAP target: maintain population
Actual population trend: increase

Source: Natural England

Juniper <i>Juniperus communis</i>
Monitoring work undertaken at the three main sites within the YDNP indicates that the

population of Juniper at these sites is stable. Some limited natural regeneration has also been recorded on two sites in 2007.
LBAP target: maintain population
Actual population trend: stable

Source: Natural England and YDNPA

A4.2 Invertebrates

Northern Brown Argus <i>Aricia artaxerxes</i>
Monitoring of North Brown Argus populations in the YDNP shows that no known colonies have been lost since 2002 and, in addition, several new colonies have been discovered. The results from three butterfly monitoring transects in the YDNP show that the Northern Brown Argus population is stable at two sites and increasing at one site.
LBAP target: maintain population
Actual population trend: stable

Source: Court, I.R. and Ellis, S. 2008 The status of Northern Brown Argus *Aricia artaxerxes* Butterfly in the Yorkshire Dales National Park 2002 to 2007. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 9. YDNPA, Grassington.

Small Pearl-bordered Fritillary <i>Boloria selene</i>
No Small Pearl-bordered Fritillary sites have been confirmed to have been lost in the YDNP since 2002 although survey work is required at two sites in 2008 to determine whether the species is still present. Two additional Small Pearl-bordered Fritillary sites have been discovered in the YDNP since 2002. The annual population indices (albeit weak population indices) derived from a butterfly transect undertaken at one site since 2003 suggest that at this site the Small Pearl-bordered Fritillary population is stable.
LBAP target: maintain population
Actual population trend: stable

Source: Court, I.R. and Whitaker, T.W. 2008 The status of Small Pearl-bordered Fritillary *Boloria selene* Butterfly in the Yorkshire Dales National Park 2002 to 2007. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 10. YDNPA, Grassington.

White-clawed Crayfish <i>Austropotomobius pallipes</i>
Research has shown that the population of White-clawed Crayfish continues to decline in the Wharfe and Ure river systems in the YDNP associated with an increase in the populations of non-native Signal Crayfish <i>Pacifastacus leniusculus</i> populations.
LBAP target: maintain population
Actual population trend: decline

Source: Dubb, D. 2004 Spatial ecology of signal crayfish *Pacifastacus leniusculus* and white-clawed Crayfish *Austropotamobius pallipes* in upland rivers, Northern England. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No.16. YDNPA, Grassington.

<i>Vertigo alpestris</i> and <i>Vertigo pusilla</i>
In 2006, all known <i>Vertigo alpestris</i> and <i>Vertigo pusilla</i> sites within the YDNP were revisited. All <i>V. pusilla</i> sites were found to be extant with two additional sites located. Although <i>V. alpestris</i> was not found at two historical sites, three new sites were located. The populations of both species remain stable, although both species are still in a vulnerable position within the YDNP.
LBAP target: maintain population
Actual population trend: stable

Source: Lindley, D. 2006 Survey of the terrestrial snail species *Vertigo alpestris* (Alder 1838) and *Vertigo pusilla* (Muller 1774) in the Yorkshire Dales National Park . Contract report to YDNPA. YDNPA, Grassington.

A4.3 Birds

Eurasian Wigeon <i>Anas Penelope</i>
Seven of the nine sites originally surveyed for breeding Wigeon in the YDNP in 2003 were re-visited in 2007. The breeding population has declined from a total of 16 pairs at nine sites in 2003 to 9 pairs at two sites in 2007.
LBAP target: maintain population
Actual population trend: decline

Source: Court, I.R. 2008 The status of Eurasian Wigeon *Anas Penelope* in the Yorkshire Dales National Park 2002 to 2007. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 11. YDNPA, Grassington.

Hen Harrier <i>Circus cyaneus</i>
Despite the presence of displaying birds in most years and a minimum of 13 nesting attempts, there have only been three successful nesting attempts in the YDNP since 2000.
LBAP target: increase to a minimum of five breeding females by 2007.
Population trend: no trend.

Source: Court, I.R. and Irving, P.V. 2008 The status of Hen Harrier *Circus cyaneus* in the Yorkshire Dales National Park between 2000 and 2007. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 12. YDNPA, Grassington.

Northern Goshawk <i>Accipter gentilis</i>
Detailed information on the status of breeding Goshawk in the YDNP is not available however, the collation of casual records suggest that although display is noted at a number of sites within the YDNP, breeding success remains very low.
LBAP target: maintain population

Actual population trend: no trend available.

Source: Court, I.R., Irving, P.V. and Jowett, A. 2006 A review of breeding birds in the Yorkshire Dales Upland Bird Study Group recording area 1992-2004. Yorkshire Dales Upland Bird Study Group.

Peregrine Falcon <i>Falco peregrinus</i>
The number of successful Peregrine nest sites in the YDNP has increased from four in 2002 to six in 2007. This increase is almost certainly a result of due to increased monitoring effort, particularly at working quarry sites rather than any real increase in the Peregrine breeding population. There has however been a change in the distribution of successful Peregrine nest sites with a number of former historic peregrine sites on grouse moor now no longer occupied.
LBAP target: maintain population
Actual population trend: increase

Source: Court, I.R. 2008 The status of Peregrine Falcon *Falco peregrinus* in the Yorkshire Dales National Park between 2000 and 2007. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 13. YDNPA, Grassington.

Black Grouse <i>Tetrao tetrix</i>
There has been an increase in the number of lekking male Black Grouse in the YDNP from 51 in 2000 to 144 in 2007. There has also been an increase in range in the YDNP with black grouse recorded in 11 separate 5km squares in 2007 compared to 10 occupied squares in 2000.
LBAP target: maintain population
Actual population trend: increase

Source: Court, I.R. 2008 The Status of Black Grouse *Tetrao tetrix* in the Yorkshire Dales National Park between 2000 and 2007. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 13. YDNPA, Grassington.

Northern Lapwing <i>Vanellus vanellus</i>
No monitoring program has been implemented and no population trend is known.
LBAP target: increase population
Actual population trend: not known.

Yellow Wagtail <i>Motacilla flava</i>
Monitoring work has shown that in three study areas of the YDNP has shown that the total number of breeding Yellow Wagtails has increased from seven pairs in 2000 to 13 in 2007.
LBAP target: maintain population
Actual population trend: increase

Source: Court, I.R. 2008 The Status of Yellow Wagtail *Motacilla flava* in the Yorkshire Dales National Park between 2000 and 2007. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 14. YDNPA, Grassington.

A4.4 Mammals

Red Squirrel <i>Sciurus vulgaris</i>
It is not feasible to determine actual population trends in the YDNP. However, records of Red Squirrel <i>Sciurus vulgaris</i> within the Yorkshire Dales National Park have been collated between 1990 and 2006. The results show that the number of 1km squares in the YDNP where Red Squirrels have been recorded has increased from 83 in the period 1990 to 1999 and 87 in the period 2000 to 2006. This suggests that the population is at least stable, possibly increasing.
LBAP target: maintain population
Actual population trend: stable, possibly increasing.

Source: Court, I.R. and Fawcett, H. 2008 The distribution of Red Squirrels *Sciurus vulgaris* in the Yorkshire Dales National Park. Yorkshire Dales National Park Authority Conservation Research and Monitoring Report No. 15. YDNPA, Grassington.

Grouped species action plan for bats
No trend data is available.
LBAP target: maintain population
Actual population trend: not known

A4.5 Lower plants

Nowell's Limestone Moss <i>Zygodon gracilis</i>
A survey of all known sites where Nowell's Limestone Moss had been recorded was undertaken in 2003 to determine the size of each extant colony. Colonies were located at seven of the historic sites but could not be located at five sites. No subsequent monitoring has been undertaken.
LBAP target: maintain population
Actual population trend: not known

Source: Headley, A. and Rumsey, F. 2003 The status and population structure of Nowell's Limestone moss (*Zygodon gracilis* Wils.) in Britain. Independent report to English Nature (Grant ref 03/BGNT/145).

Yorkshire Feather Moss <i>Thamnobryum caratactarum</i>
A baseline survey of the known population was undertaken in 2005 which found Yorkshire Feather Moss to be locally abundant along one short section of ravine in the YDNP. An indirect monitoring program was established in 2006 which indicates that there have been no changes in water quality or habitat within and adjacent to known colonies. Therefore, the population is assumed to be stable.
LBAP target: maintain population
Actual population trend: stable

Source: YDNPA and Natural England.