

## Indicator Species and Phase I/UKHab/NVC Habitat Descriptions. Course Handout.

<b>IMPROVED/MODIFIED GRASSLAND</b>			
<i>Cirsium arvense</i>	Creeping Thistle	Spiny wings on stem, leaf with long prickles	Pale purple small heads
<i>Ranunculus repens</i>	Creeping Buttercup	Leaf 3-lobed, top lobe 'creeps off' on its own stem	Yellow flowers w/- normal sepals (cf. Bulbous)
<i>Taraxacum officinalis</i>	Dandelion	Toothed leaves with floppy feel	Yellow flowers on shiny squashable stems
<i>Trifolium repens</i>	White Clover	Shiny hairless leaves	Creeping habit
<i>Dactylis glomerata</i>	Cock's-foot	Large, glaucous and floppy with flattened base	Clumpy flowers, growing into three parts
<i>Lolium perenne</i>	Perennial Ryegrass	Shiny leaves with auricles & red stem base	Spiky flowerhead
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
B4 Improved Grassland	MG1 Arrhenatherum elatius grassland	Few fast-growing species	Affected by overgrazing, drainage, herbicides or high doses of fertiliser
	MG6 Lolium perenne-Cynosurus cristatus grassland	Dominated by Rye-grass and White Clover	Lack species indicative of calcareous or acid grasslands
<b>UKHAB</b>	MG7 Lolium perenne leys and related grasslands	Grasses > 75%	Limited range of grasses, few forbs
g4 Modified grassland		<9 sp/m <sup>2</sup>	>50% Perennial Rye & White Clover
g3c5 Other neutral grassland Arrhenatherum neutral grassland			Lush green appearance
<b>SEMI-IMPROVED GRASSLAND</b>			
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
Transition category - original grassland type still apparent but with negative indicator species and higher grass cover	MG3c Anthoxanthum odoratum-Geranium sylvaticum grassland, Arrhenatherum elatius sub-community	For g3c6: Grasses 50-75%; Forbs 50%; Rye-grass, White Clover and Timothy <40%	Still contains vestiges of calcareous or acidic indicator species, i.e. its origins are visible
B6 Poor SI-grassland - much fewer species, origin of grassland less clear	CG2c Festuca ovina-Avenula pratensis grassland, Holcus lanatus-Trifolium repens sub-community		No obvious evidence of factors listed above
	U4b Festuca ovina-Agrostis capillaris-Galium saxatile grassland, Holcus lanatus-Trifolium repens sub-community		Medium diversity
<b>UKHAB</b>			
g3c6 Lolium-Cynosurus neutral grassland or use secondary code on existing grassland			CF POOR SEMI-IMPROVED Lower diversity, lack of indicators and origins less clear
<b>AMENITY GRASSLAND</b>			
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
J1.2 Amenity Grassland	MG6 Lolium perenne-Cynosurus cristatus grassland	Whole range of 'urban' codes also available	Intensively managed and regularly mown, including parks and sports pitches
<b>UKHAB</b>	(but could be a whole range of habitats!)		If high value map as actual habitat and make note of amenity use
g4 Modified grassland			
c1b Temporary grass and clover leys			
Secondary code 500			

<b>TALL RUDERAL</b>			
<i>Chamaenerion angustifolium</i>	Rosebay Willowherb	Leaves pointed and unhairy	Flowers in terminal spike
<i>Jacobaea vulgaris</i>	Common Ragwort		
<i>Heracleum sphondylium</i>	Hogweed	cf. Wild Parsnip (yellow) and other umbellifers	
<i>Reynoutria japonica</i>	Japanese Knotweed		
<i>Tussilago farfara</i>	Colt's-foot		
<i>Urtica dioica</i>	Nettle		
<i>Anisantha sterilis</i>	Barren Brome	Long, very rough awns	Turns dark red late season
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
C3.1 Tall ruderal	OV24 <i>Urtica dioica</i> - <i>Galium aparine</i> community		Stands of tall perennial/biennial plants
UKHAB	OV25 <i>Urtica dioica</i> - <i>Cirsium arvense</i> community		>25cm tall
g3 17	OV27 <i>Epilobium angustifolium</i> community		
<b>LOWLAND MEADOW &amp; PASTURE</b>			
<i>Centaurea nigra</i>	Common Knapweed	Purple flowers without extra showy ring of petals	Look for 'pricklettes' on basal leaves
<i>Leontodon hispidus</i>	Rough Hawkbit	Rough feel to leaves	Forked hairs
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	Trifoliate leaves, not hairy	Pods like bird's claws
<i>Ranunculus acris</i>	Meadow Buttercup	Leaf divided but not separated by stem	Normal sepals (cf. Bulbous - backwards)
<i>Trifolium pratense</i>	Red Clover	Hairy Leaves	Leaves slightly more elongated than in White
<i>Agrostis stolonifera</i>	Creeping Bent	Feathery infl, no central groove on leaf	Big ligule (cf. Common - short collar)
<i>Arrhenatherum elatius</i>	False Oat-grass	Orange roots, corkscrewing leaves	Big oats flowers, stem bent above base
<i>Cynosurus cristatus</i>	Crested Dog's-tail	Shiny, but with white stem base	Stem leaves stick up at 45°
<i>Festuca rubra</i>	Red Fescue	Needle leaves forming mat rather than tussock	Stem leaf=blade, sheath tubular and hairy
<i>Holcus lanatus</i>	Yorkshire-fog	Soft leaves, flowers pink through to white	Stripy pyjamas
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
B2 Neutral grassland	MG4 <i>Alopecurus pratensis</i> - <i>Sanguisorba officinalis</i> grassland	Lack strong acid and calcareous indicators	Neutral grasslands, typically enclosed on farmland
	MG5 <i>Cynosurus cristatus</i> - <i>Centaurea nigra</i> grassland	<25% Rye-grass	Includes hay meadows
<b>UKHAB</b>	MG8 <i>Cynosurus cristatus</i> - <i>Caltha palustris</i> grassland		Includes water meadows - can be damp, with <i>Glyceria</i>
g3a Lowland Meadow			Includes Tufted Hairgrass meadows
<b>LOWLAND CALCAREOUS GRASSLAND</b>			
<i>Cirsium acaule</i>	Dwarf Thistle	Very prickly	Flower stalkless, sitting on ground
<i>Galium verum</i>	Lady's Bedstraw	Needly whorls of leaves	Multiple small yellow flowers
<i>Hippocrepis comosa</i>	Horseshoe Vetch	Opposite rows of pinnate leaves	Flowers in horseshoe, wiggly pods
<i>Linum catharticum</i>	Fairy Flax	Delicate threads with opposite lanceolate leaves	Delicate white flowers → stripy pods

<i>Pilosella officinarum</i>	Common Mouse-ear	Very hairy leaves with white undersides	Sulphur-yellow dandelion-like flowerhead
<i>Sanguisorba minor</i>	Salad Burnet	Opposite rows of toothy leaves, edible	Balls of flowers, separate ♂ & ♀ florets
<i>Thymus vulgaris</i>	Thyme	Small hairy leaves, without long stipules	Tight cluster of small pink/purple flowers
<i>Briza media</i>	Quaking Grass	Flower heads dancing sugar puffs	Wavy basal leaves come out at 90°
<i>Bromopsis erecta</i>	Upright Brome	Red stripy heads, waving in the breeze	Camel's eyelashes on leaves
<i>Carex caryophyllea</i>	Spring Sedge	Lemon yellow leaves	Small spikelet with club-shaped ♂
<i>Carex flacca</i>	Glaucous Sedge	Glaucous leaves, more so on underside	Ripens to black fruits, with one dangly head
<i>Festuca ovina</i>	Sheep's-fescue	Needle leaves in tussock, stem leaf also needle	Non-hairy sheath wrapped round like cloak
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
B3 Calcareous grassland	CG1 Festuca ovina-Carlina vulgaris grassland	Presence of key indicator species above	Often unenclosed
	CG2 Festuca ovina-Avenula pratensis grassland		When tall grasses typified by Upright Brome and Tor grass
	CG3 Bromus erectus grassland		When short - Crested Hairgrass, Meadow Oatgrass
	CG4 Brachypodium pinnatum grassland		
<b>UKHAB</b>	CG5 Bromus erectus-Brachypodium pinnatum grassland		
g2a Lowland calcareous grassland	CG6 Avenula pubescens grassland		
	CG7 Festuca ovina-Hieracium pilosella-Thymus praecox/pulegioides g/l		

<b>DAMP GRASSLAND</b>			
<i>Caltha palustris</i>	Marsh-marigold	Big shiny buttercup-like flowers	Leaves big & kidney shaped, tough when old
<i>Filipendula ulmaria</i>	Meadowsweet	Opposite rows of toothy leaves on red stem	Fluffy cream flowerhead, weird crinkly seeds
<i>Galium palustre</i>	Common Marsh-bedstraw	Whorls of leaves with backwards needles, blunt	Clusters of minute white/cream flowers
<i>Iris pseudacorus</i>	Yellow Iris	Glaucous leaves emerging on one plane	Large showy lipped flowers
<i>Mentha aquatica</i>	Water Mint	Square stem, opposite leaves, aromatic	Purple clustered flowers, often vegetative
<i>Alopecurus geniculatus</i>	Marsh Foxtail	Slender foxtail head (1 hair per glume)	Glaucous, bended 90° at knee
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	Leaves fiercely barbed when rubbed downwards	Huge feathery flowers forming large dome
<i>Juncus articulatus</i>	Jointed Rush	Jointed segments in stem	Side shoots slightly flattened, pointing out
<i>Juncus effusus</i>	Soft Rush	Deep green shiny stem with continuous pith	Flowers loosely clustered
<i>Juncus inflexus</i>	Hard Rush	Glaucous mat stem with broken pith	Flowers spraying out from stem
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
B5 Marsh/marshy grassland	MG10 Holcus lanatus-Juncus effusus rush-pasture	Wide choice of categories	>25% Molinia
	MG11 Festuca rubra-Agrostis stolonifera-Potentilla anserina grassland	Can have many damp species such as Meadowsweet and Marsh Marigold	>25% Rushes, Sedges or Meadowsweet
<b>UKHAB</b>	MG13 Agrostis stolonifera-Alopecurus geniculatus grassland	g3c8 Holcus-Juncus neutral grassland - Yorkshire Fog and rushes dominant	Forb rich damp meadows

g3a5 Lowland hay meadows		g3c7 Deschampsia neutral grassland - Yorkshire Fog and Tufted Hairgrass dominant	
g3c (25) Other neutral grassland - 25 Coastal and floodplain grazing marsh	Plus Purple moorgrass & rush pasture	Add secondary code of 25 Coastal and floodplain grazing marsh if relevant	CF. Swamps, where the water table lies above ground for much of the year
g3c8 Holcus-Juncus neutral grassland			
g3c7 Deschampsia neutral grassland			

<b>ACID GRASSLAND</b>			
<i>Galium saxatile</i>	Heath Bedstraw	Whorls of leaves, white flowers	Only Bedstraw growing on dry acid soils
<i>Potentilla erecta</i>	Tormentil	Jaggedly toothed leaves in 3s	4-petal flower with mat petals (cf Buttercup)
<i>Rumex acetosella</i>	Sheep's Sorrel	Tiny, leaves with strong pointy base lobes	Small clusters of reddish flowers/seeds
<i>Agrostis capillaris</i>	Common Bent	Feathery flower; no central groove on leaf	Short collared ligule (cf. long in Creeping)
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	Spiky sausage infl, roots sweet smelling	Whiskered auricle
<i>Danthonia decumbens</i>	Heath-grass	Clumpy head with 4-5 flowers	Nose hairs' at base of leaf
<i>Nardus stricta</i>	Mat-grass	Tough needly leaves, 50:50 erect:prostrate	Skinny black whip-like flowerheads
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
B1 Acid grassland	U1 Festuca ovina-Agrostis capillaris-Rumex acetosella grassland	Below 300m to qualify as lowland	<25% heathers and shrubs
<b>UKHAB</b>	U2 Deschampsia flexuosa grassland	Presence of key indicator species	Includes sandy soils
g1 a Lowland Dry Acid Grassland	U3 Agrostis curtisii grassland	Low abundance of heathers and shrubs	
	U4 Festuca ovina-Agrostis capillaris-Galium saxatile grassland	Very variable species richness	
	U5 Nardus stricta-Galium saxatile grassland	Includes sands and gravels	
	U6 Juncus squarrosus-Festuca ovina grassland		

<b>LOWLAND DRY HEATH</b>			
<i>Calluna vulgaris</i>	Heather	Tiny leaflets in 4 dense rows	Multitude of small pink-purple flowers
<i>Erica cinerea</i>	Bell Heather	Clusters of needly leaves	Dangly bell-like crimson-purple flowers
<i>Polygala serpyllifolia</i>	Heath Milkwort	Deep blue flowers with dangle lower petal	Small oval/lanceolate leaves, opposite at base
<i>Ulex europaeus</i>	Gorse	Big spiny bush with yellow pea flowers	Spines and upper stems heavily furrowed
<i>Veronica officinalis</i>	Heath Speedwell	Creeping broad and toothed leaves	Flowers upright, with two clubbed stamens
<i>Agrostis curtisii</i>	Bristle Bent	Needly glaucous leaves with big pointy ligule	Flowers delicate but held in spikes
<i>Carex binervis</i>	Green-ribbed Sedge	Largish ridged leaves turning rusty brown	Fruits with green line up centre
<i>Carex pilulifera</i>	Pill Sedge	Yellow green sedge	Flowerstalks arch out just above ground
<i>Deschampsia flexuosa</i>	Wavy Hair-grass	Needly deep green leaves, drooping & waxy feel	Delicate heads sometimes on wavy stems
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>

D1 Dry dwarf shrub heath	H1 Calluna vulgaris-Festuca ovina heath	Dominated by Heather, Bell Heather and Gorses. Cross-leaved Heath absent	> 25% heathers and shrubs
	H2 Calluna vulgaris-Ulex minor heath	Any areas with <25% shrub cover not included (use Acid Grassland)	
	H3 Ulex minor-Agrostis curtisii heath		
<b>UKHAB</b>	H4 Ulex gallii-Agrostis curtisii heath		
h1a5 Dry heaths; lowland	H8 Calluna vulgaris-Ulex gallii heath		
h1a5 Dry coastal heaths with Cornish heath	H9 Calluna vulgaris-Deschampsia flexuosa heath		

<b>LOWLAND WET HEATH</b>			
<i>Drosera rotundifolia</i>	Round-leaved Sundew	Oval-wide sticky leaves	Small white delicate flowers
<i>Betula pubescens</i>	Downy Birch	Young stems downy	Leaves single toothed (cf Silver, double-tooth)
<i>Erica tetralix</i>	Cross-leaved Heath	Whorls of 4 leaves, downy & gland-tipped hairs	Rose-pink bell-like flowers in clusters
<i>Pedicularis sylvatica</i>	Lousewort	Very divided lobed leaves	Flowers with huge pink arched top petal
<i>Salix caprea/cinerea</i>	Goat/Grey Willow	Oval leaves (slightly narrower in Grey)	Grey has raised ridges beneath bark on twigs
<i>Carex demissa</i>	Yellow Sedge	Yellow-green	Fruits 'spiky pineapples'
<i>Carex panicea</i>	Carnation Sedge	Very glaucous (both sides), trigonous tips	Chocolate lime' fruits
<i>Molinia caerulea</i>	Purple Moor-grass	Broadleaved grass, forming dense tussocks	Ring of hairs' at leaf base
<i>Trichophorum germanicum</i>	Deergrass	Dense tussocks of ridged needles, turning orange	Flowers at end of stalks
<b>Categories</b>		<b>Notes</b>	
<b>PHASE I</b>	<b>NVC</b>	<b>UKHAB</b>	<b>PHASE I</b>
D2 Wet dwarf shrub heath	H3 Ulex minor-Agrostis curtisii heath	Cross-leaved Heath, Deergrass and Sphagnum, with Purple Moor-grass in less managed areas	> 25% heathers and shrubs
<b>UKHAB</b>	H4 Ulex gallii-Agrostis curtisii heath		Abundant Purple Moor-grass and Sphagnum compactum
h1a7 Wet heathland with cross-leaved heath; lowland	M16 Erica tetralix-Sphagnum compactum wet heath		Cross-leaved Heath with lesser amounts of Deergrass
h1a8 Wet heathland with Dorset heath and cross-leaved heath			

<b>BOG/MIRE/FLUSH</b>			
<i>Narthecium ossifragum</i>	Bog Asphodel	Grass-like leaves, emerging on one plane	Spectacular yellow fls → orange → grey pods
<i>Utricularia sp.</i>	Bladderwort	Feathery mass of stems, leaves & traps underwater	Very showy hooded yellow flowers
<i>Carex echinata</i>	Star Sedge	Long, thin shiny green leaves	Clusters of starlike flowers/fruits, erect
<i>Eleocharis multicaulis</i>	Many-stalked Spike-rush	Multiple stems, olive green without ridges	Terminal fruits
<i>Eriophorum angustifolium</i>	Common Cottongrass	Rosettes of long leaves with russet red blotches	Clusters of cottony heads, erect and dangly
<i>Rhynchospora alba</i>	White Beaked-sedge	Very thin upright leaves	Flowers with white beaks
<i>Sphagnum</i>	Bog Moss	Very absorbent plump mosses	Can form extensive mats and cushions
<b>Categories</b>		<b>Notes</b>	

PHASE I	NVC	UKHAB	PHASE I
E Mire	M1 Sphagnum auriculatum bog pool community	Blanket bogs have peat >0.5m deep	Sphagnum-rich vegetation lying on peat >0.5m deep
E1.6.1 Blanket bog	M2 Sphagnum cuspidatum/recurvum bog pool community	Raised bogs have gently curving domes	Bogs have no input of water apart from rain
E1.7 Wet modified bog	M3 Eriophorum angustifolium bog pool community	Range of key indicator species	Flushes and mire s have water input
E1.8 Dry modified bog	M21 Narthecium ossifragum-Sphagnum papillosum valley mire	Degraded bogs lack Sphagnum due to drainage, fire and pollution and no longer peat forming	Complicated classification!
<b>UKHAB</b>	M25 Molinia caerulea-Potentilla erecta mire	Degraded also includes afforested areas	
f1a Blanket bog	M29 Hypericum elodes-Potamogeton polygonifolius soakway		
f1b Lowland Raised bog			
f1a6/b6/b7 Degraded bogs			

