Appendix 1a: Habitat Restoration Monitoring prescription for new woodland

Overall target	Year 0/1	Year 2/3	Year 5	Year 10
Site characteristics	No obvious open habitat interest on or adjacent to the site compromised by woodland creation. Woodland or hedgerow close by. Open areas e.g. rides or glades add habitat diversity			
Planted trees established, failures less than 10%	Majority of planted trees surviving	Ditto	Ditto	Ditto
Closed canopy conditions		Some planted trees 1m high or more	All planted trees at least 1m tall	Most planted trees at least 2-3m tall. Closed canopy conditions over part of the planted area
Low browsing damage	Majority (>90%) of leaders free of browsing damage	Ditto	Ditto	Ditto
Low competition from weeds around planted trees	Planted trees not swamped by weed growth	All planted trees overtopping surrounding vegetation	Dirro	Ditto
Matrix of perennial vegetation between trees	Matrix of vegetation established between planted whips	Ditto	Ditto	Ditto
Diverse range of woody species present including shrub species	Minimum of 5 woody species present including at least 1 shrub species, No single species dominant	Ditto	Ditto	Ditto
CORE OF SITE Woody species regenerating/colonising from adjacent areas		Naturally regenerated woody species present	Ditto	Naturally regenerated woody species at least occasional
CORE OF SITE Shade tolerant herbaceous woodland precursor species in the ground flora*		Woodland precursor species present	Ditto	Woodland precursor species at least occasional
20m WOOD MARGIN Woody species regenerating/colonising from adjacent areas	Naturally regenerated woody species present	Ditto	Naturally regenerated woody species at least occasional	Ditto
20m WOOD MARGIN Shade tolerant herbaceous woodland precursor species in the ground flora *	Woodland precursor species present	Ditto	Woodland precursor species at least occasional	Woodland precursor species at least frequent

* Lists of appropriate species (modified from Appendix 3) should be attached to the monitoring prescription

Appendix 1b: Habitat Restoration Monitoring recording form for new woodland – general appraisal methodology (M1) - Year 2

NEW WOODLAND PLANTING **YEAR 2**

LOCATION: **RECORDER:**

DATE OF RECORDING:

GRID REFERENCE: **TIME OF DAY:**

WEATHER CONDITIONS:

TIME TAKEN TO COMPLETE MONITORING :

SITE CHARACTERISTICS (delete as appropriate)

Woodland or hedgerow adjacent or close by yes / no

At least one open area (e.g. ride or glade) within the boundaries of the new wood yes / no

OTHER COMMENTS:

Check second column if criteria are met and provide further information in third column:
(Score if target is met = 2, if almost met = 1, if not met = 0)

Criteria	Score	Further information
Planted trees established. Failures less than 10%		
Some planted trees at least 1 m tall		
Browsing damage to leaders less than 10%		
All planted trees overtopping surrounding vegetation		
Matrix of perennial vegetation established between trees		
At least 5 woody species present including at least 1 shrub species		
CORE OF SITE: Woody species colonising from adjacent vegetation		
CORE OF SITE: Herbaceous woodland precursor species* colonising		
20 m MARGIN: Woody species colonising		
20 m MARGIN: Herbaceous woodland precursor species* colonising		
Total score		

* Lists of appropriate species (modified from Appendix 3) should be attached to the recording form

Appendix 1c: Example of completed Habitat Restoration Monitoring recording form for new woodland – general appraisal methodology (M1) – year 2

NEW WOODLAND PLANTING **YEAR 2**

LOCATION: Burches wood **RECORDER:** FMB

DATE OF RECORDING: 02/08/99

GRID REFERENCE: XY 345678 **TIME OF DAY:** 14.30

WEATHER CONDITIONS: Cloudy

TIME TAKEN TO COMPLETE MONITORING : 25 minutes

SITE CHARACTERISTICS (delete as appropriate)

Woodland or hedgerow adjacent or close by yes / ~~no~~

At least one open area (e.g. ride or glade) within the boundaries of the new wood yes / ~~no~~

SITE DESCRIPTION: Strip of new woodland with an existing woodland SSSI (dominant woody plants oak and hazel) adjoining on the western side. A ride has been left through the centre of the new wood connecting the adjacent woodland SSSI for access/habitat diversity.

Check second column if criteria are met and provide further information in third column:
(Score if target is met = 2, if almost met = 1, if not met = 0)

Criteria	Score	Further information
Planted trees established. Failures less than 10%	2	Nearly all trees surviving, a few dead oaks
Some planted trees at least 1 m tall	0	Most trees not exceeding height of tree guards due to deer browsing
Browsing damage to leaders less than 10%	0	Severe deer browsing damage to nearly all trees especially on the western edge adjacent to SSSI
All planted trees overtopping surrounding vegetation	2	Trees clear of vegetation
Matrix of perennial vegetation established between trees	2	Grass dominated vegetation ca 0.5 m tall between planted trees
At least 5 woody species present including at least 1 shrub species	2	Ash, field maple, oak, cherry, hawthorn
CORE OF SITE: Woody species colonising	0	Bramble occasional, no trees/shrub species observed
CORE OF SITE: Herbaceous woodland precursor species* colonising	0	None observed
20 m MARGIN: Woody species colonising	1	A few seedlings of ash and hawthorn seen but only on western side (adjacent to SSSI) some bramble
20 m MARGIN: Herbaceous woodland precursor species* colonising	2	*Geum urbanum*, *Brachypodium sylvaticum* occasional
Total score	11 (20 max)	**Overall comments:** Grazing protection required to assist tree growth, site manager to be informed

* Lists of appropriate species (modified from Appendix 3) should be attached to the recording form

Appendix 2a: Habitat Restoration Monitoring prescription for neutral hay meadow restored from improved pasture

Overall target	Year 0/1	Year 2/3	Year 5	Year 10
Site characteristics	History of hay meadow vegetation in the past ten years or seed source of meadow species nearby			
Vegetation structure – open sward with some bare ground	Open sward	Ditto	Ditto	Ditto
	Occasional to frequent small patches of bare ground (i.e. 1-2 cm) visible when vegetation is parted	Ditto	Ditto	Ditto
Litter sparse	Litter sparse	Ditto	Ditto	Ditto
Low abundance of potentially dominating grasses (PDG)*	PDG no more than occasional in 80% of sampling positions	Ditto	Ditto	Ditto
Low infestation of pernicious weed species (PWS)*	PWS absent or not more than occasional in 90% or more of sampling positions	Ditto	Ditto	Ditto
No large patches (>0.5m) of potentially dominating clonal species*	Large clonal patches no more than sparse	Ditto	Ditto	No large clonal patches
Forb-rich sward: Neutral grassland forbs (NGF) frequent*	Patches of forb-rich sward (forbs at least abundant) present	Forb-rich sward present at 10% of sampling positions or more	Forb-rich sward present at 40% of sampling positions or more	Forb-rich sward present at 60% of sampling positions or more
	At least 4 neutral grassland forb (NGF) species present	At least 6 NGF species present	At least 4 NGF present at 80% of sampling positions or more	At least 6 NGF present at 80% of sampling positions or more
Diverse matrix of grasses including a high frequency of neutral grassland species (NGS)*	At least 4 neutral grassland grass species (NGS) present	At least 6 NGS present	At least 4 NGS present at 80% of sampling positions or more	Ditto
Green winged orchid frequent in sward	Green winged orchid present	Green winged orchid present and at least occasional	Green winged orchid present at 10% of sampling positions or more	Green winged orchid present at 20% of sampling positions or more

* Lists of appropriate species (modified from Appendix 3) should be attached to the monitoring prescription

Appendix 2b: Habitat Restoration Monitoring recording form for restoration of neutral hay meadow from pasture – combined general appraisal (M1) and sample-based methodology (M2) – year 1

RESTORATION OF NEUTRAL HAY MEADOW FROM PASTURE **YEAR 1**

LOCATION: **RECORDER:**
DATE OF RECORDING:
GRID REFERENCE: **TIME OF DAY:**
TIME TAKEN TO COMPLETE RECORDING:

WEATHER CONDITIONS:

SITE CHARACTERISTICS (delete as appropriate)
Low soil fertility - yes / no / no information
Neutral grassland species evident in adjacent vegetation yes / no

SITE DESCRIPTION:

	Sampling position												
	1	2	3	4	5	6	7	8	9	10	Total	Target	Score
Open sward													
Litter no more than sparse													
Large patches (>0.5m) of potentially dominant clonal species* no more than sparse													
Patches of forb-rich sward (forbs at least abundant) present													
At least 4 neutral grassland forb (NGF*) species present (list species)													
Green winged orchid present													
Frequent patches of bare ground (i.e. >1 cm) when vegetation parted (Record DAFOS score)												8+	
Comments													
Potentially dominating grasses (PDG*) no more than occasional (Record DAFOS score)												8+	
Comments													
Pernicious weed species (PWS*), absent or no more than occasional (indicate DAFOS score)												9+	
Comments													
Total score													

* Lists of appropriate species (modified from Appendix 3) should be attached to the recording form.

Appendix 2c: Example of completed Habitat Restoration Monitoring recording form for restoration of neutral hay meadow from improved pasture - combined general appraisal (M1) and sample-based methodology (M2) – year 1

RESTORATION OF NEUTRAL HAY MEADOW FROM IMPROVED PASTURE **YEAR 1**

LOCATION: Smardon Meadow **RECORDER:** JM

DATE OF RECORDING: 11/06/99

GRID REFERENCE: ZW 987654 **TIME OF DAY:** 15.15

TIME TAKEN TO COMPLETE RECORDING: 45 minutes

WEATHER CONDITIONS: Cloudy, rain

SITE CHARACTERISTICS	(delete as appropriate)
Low soil fertility -	~~yes~~ / ~~no~~ / no information
Neutral grassland species evident in adjacent vegetation	yes / ~~no~~

SITE DESCRIPTION: Level field, bounded by railway line on northern edge and by existing meadow SSSI on western edge, arable fields on other three sides

	Sampling position												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**	**Target**	**Score**
Open sward	Open sward over 50% of the field moderate-dense sward over the other 50%												1
Litter no more than sparse	No significant litter accumulation observed												2
Large patches (>0.5m) of potentially dominant clonal species* no more than sparse	*R.repens* and *T.repens* present but sparse-occasional not in clonal patches												2
Patches of forb-rich sward (forbs at least abundant) present	Forbs no more than frequent												1
At least 4 neutral grassland forb (NGF) species present* (list species)	Rhin min, Prun vulg, Plan lanc, Cent nigr												2
Green winged orchid present	20 flowering spikes observed on western boundary adjacent to SSSI												2
Frequent patches of bare ground (i.e. >1 cm) when vegetation parted (Record DAFOS score)	S ×	F ✓	A ✓	F ✓	O ×	S ×	F ✓	F ✓	A ✓	F ✓	7	8+	1
Comments	Limited bare ground in areas of dense sward												
Potentially dominating grasses (PDG) no more than occasional (Record DAFOS score)	D ×	O ✓	S ✓	S ✓	A ×	D ×	O ✓	O ✓	S ✓	A ×	6	8+	0
Comments	*Agrostis stolonifera* and *Elymus repens* locally dominant												
Pernicious weed species (PWS), absent or no more than occasional (indicate DAFOS score)	O ✓	S ✓	A ×	O ✓	O ✓	S ✓	O ✓	S ✓	D ×	S ✓	8	9+	1
Comments	*Rumex obtusifolius* locally abundant/ dominant												
Total score												**Max = 18**	12

* Lists of appropriate species (modified from Appendix 3) should be attached to the recording form.

Appendix 3: Lists of positive and negative indicator species

The lists below suggest a range of plant species potentially suitable for use as positive or negative indicators of habitat restoration. Positive indicator species are those we want to see at a site and their presence at a site indicates that restoration is proceeding satisfactorily. Negative indicators are species that we do not wish to see at a site and their presence indicates issues or problems which need to be addressed e.g. through management intervention by the site manager.

Nomenclature for Latin names follows *Clapham, A.R., Tutin, T.G. and Moore, D.M. 1987. Flora of the British Isles 3rd edition. Cambridge University Press*, which also provides the common English names for each species.

Positive indicator/target species:

These are derived from the lists of constant species in the relevant NVC plant communities and are provided for guidance only. Modification of these lists will be required to take account of local variation and to include any species introduced by seed sowing, hay strewing as appropriate.

Neutral grassland species

Neutral grassland grasses (NGS)	***Neutral grassland forbs (NGF)***		
	Drier sites:		**Wetter sites:**
Agrostis capillaris.	*Achillea millefolium*	*Luzula campestris*	*Angelica sylvestris*
Anthoxanthum odoratum	*Agrimonia eupatoria*	*Plantago lanceolata*	*Cardamine pratensis*
Briza media	*Bellis perennis*	*Prunella vulgaris*	*Carex* spp.
Cynosurus cristatus	*Centaurea nigra*	*Ranunculus acris*	*Filipendula ulmaria*
Dactylis glomerata	*Cerastium fontanum*	*Ranunculus bulbosus*	*Galium palustre*
Festuca pratensis	*Galium mollugo*	*Rhinanthus minor*	*Iris pseudocorus*
Festuca rubra	*Hypochaeris radicata*	*Rumex acetosa*	*Juncus* spp.
Holcus lanatus	*Lathyrus pratensis*	*Taraxacum officinalis*	*Lotus uliginosus*
Lolium perenne	*Leontodon* spp.	*Trifolium pratense*	*Lychnis flos-cucculi*
Trisetum flavescens	*Leucanthemum vulgare*		*Mentha aquatica*
	Lotus corniculatus		*Potentilla anserina*

Limestone grassland/scrub species

Limestone grassland grasses (LGS)	***Limestone grassland forbs (LGF)***	
Avenula pubescens	*Carex carophyllea*	*Leontodon hispidus*
Avenula pratensis	*Carex flacca*	*Leucanthemum vulgare*
Brachypodium pinnatum	*Campanula rotundifolia*	*Linum catharticum*
Briza media	*Centaurea nigra*	*Lotus corniculatus*
Bromus erectus	*Centaurea scabiosa*	*Pimpinella saxifraga*
Dactylis glomerata	*Cirsium acaule*	*Plantago lanceolata*
Festuca ovina	*Filipendula vulgaris*	*Plantago media*
Koeleria macrantha	*Galium mollugo*	*Primula veris*
Phleum bertolonii	*Galium verum*	*Prunella vulgaris*
Trisetum flavescens	*Heliathenum nummularium*	*Ranunculus bulbosus*
	Hieracium pilosella	*Sanguisorba minor*
	Hypericum spp	*Scabiosa columbaria*
	Knautia arvensis	*Stachys sylvatica*
		Thymus praecox
		Trifolium pratense

Acid grassland species

Acid grassland grasses (AGS)	Acid grassland forbs (AGF)
Festuca ovina	*Erodium cicutarium*
Agrostis capillaris	*Myosotis ramosissima*
Aira praecox	*Ornithopus perpusillus*
Anthoxanthum odoratum	*Leontodon spp*
Holcus lanatus	*Sedum spp*
Deschampsia flexuosa	*Veronica spp*
Koeleria macrantha	*Erophila verna*
	Arenaria serpyllifolia
	Galium saxatile
	Potentilla erecta

Herbaceous woodland precursor species

Grasses	Dicotyledons	Ferns
*Anthoxanthum odoratum**	*Ajuga reptans*	*Dryopteris spp*
Brachypodium sylvaticum	*Anthriscus sylvestris*	*Pteridium aquilinum**
*Deschampsia cespitosa**	*Calluna vulgaris**	
*D.flexuosa**	*Chamerion angustifolium*	
Festuca gigantea	*Cirsium palustre*	
Holcus lanatus	*Digitalis purpurea**	
Poa trivialis	*Epilobium hirsutum*	
	Geranium robertianum	
	Geum urbanum	
	Glechoma hederacea	
	Heracleum sphondylium	
	*Potentilla erecta**	
	P.reptans	
	Prunella vulgaris	
	Silene dioica	
	Stachys sylvatica	
	Torilis japonica	
	Veronica chamaedrys	

*acid sites

Negative indicator species

Problem species/Pernicious Weed species (PWS)	Potentially Dominant Grasses (PDG)	Potentially dominant clonal species
Cirsium arvense	*Agrostis stolonifera*	**Legumes:**
Cirsium vulgare	*Elymus repens*	*Medicago lupulina*
Rumex crispus	*Festuca rubra*	*Melilotus spp*
Rumex obtusifolius		*Trifolium repens*
Senecio jacobaea		
Urtica dioica		**Non-legumes:**
		Ranunculus repens

Appendix 4: A guide to the identification of common grasses

The grass species present at a restoration site can provide valuable information about the environmental conditions and the progress of the restoration. High abundance of species such as false oat grass (*Arrhenatherum elatius*) or couch grass (*Elymus repens*) can impede success by forming dense stands and reducing sward diversity. Presence of species such as quaking grass (*Briza media*) on calcareous soils or sweet vernal grass (*Anthoxanthum odoratum*) or wavy hair grass (*Deschampsia flexuosa*) on acid soils provides an indication that the restoration is proceeding satisfactorily.

Of the currently available books on grasses the one by C.E. Hubbard (*Grasses: a guide to their structure, identification, uses and distribution in the British Isles*. Penguin Books, 3rd edition 1984) is the standard reference work for identification of grasses with detailed black and white line drawings of all the grasses in the British flora. However the book provides a rather advanced treatment and is difficult for the inexperienced user. On the other hand, the book by Francis Rose (*Grasses, sedges rushes and ferns of the British Isles and North-western Europe, Viking Press, 1989*) is more user-friendly for the beginner and is beautifully illustrated in colour. However this book covers all the grasses in the British flora and is rather too detailed for the inexperienced user.

Therefore we provide the following guide designed to for the inexperienced person to identify the commoner grass species likely to be encountered in habitat restoration sites in the early and later stages. It does not cover all the possible species but concentrates on those that are more diagnostic of success or of problems with restoration.

Below we provide a glossary of technical terms and a key to the species described in the table and illustrations of important characteristics of selected species.

Glossary of terms:

Auricle	Claw- or ear-like outgrowths at the junction of the sheath and blade of some grasses (Fig 9).
Awn	Conspicuous bristle-like projections emerging from the spikelet (Fig 6)
Boat-shaped tip	Where the leaf tip curves up like the end of canoe (Fig 29)
Glabrous	Hairless
Inflorescence	Flower head terminating a stem, either a branched panicle (Fig 1) or spike (Fig 2)
Keel	An obvious fold or ridge at the back of the leaf (Fig 7)
Ligule	An outgrowth at the inner junction of the leaf-sheath and blade, usually membranous (Fig 7) but occasionally a fringe of hairs (Fig 8)
Node	Point on inflorescence stem at which a leaf arises (Fig 4, 15)
Panicle	Branched inflorescence (Fig 1)
Rhizome	Underground creeping stem (Fig 9)
Ribbed	Leaf surface with prominent parallel ridges (Fig 20)
Spike	Dense unbranched inflorescence (Fig 2)
Sheath	Lower part of the leaf surrounding the stem (Fig 4)
Spikelet	Unit of grass flowerhead (Fig 6)
Stolon	Creeping above-ground stem (Fig 30)
Tramlines	Conspicuous groove along the centre of the upper surface of the leaf, on close examination appears as two parallel lines (Fig 29)

Grass identification

Use the key below to find the appropriate section in the table below. You need a plant complete with inflorescence since the diagnostic features include the type of inflorescence and whether the youngest leaf is folder or rolled in the sheath. Each section of the table is then sorted depending on whether the plant is hairy or glabrous. You should use the descriptions to find the closest match and may wish to refer to one of the books above (Hubbard or Rose) to confirm your identification from the illustrations and descriptions provided there.

Key to the main sections in the grass table

1. Inflorescence a branched panicle (Fig 1):
   Yes → (2)
   No → (4)

2. Youngest leaf folded in the sheath like a book (Fig 3B)
   Yes → **Section A**
   No → (3)

3. Youngest leaf furled in the sheath like a rolled-up flag (Fig 3A)
   Yes → **Section B**
   No → try again, or seek further advice

4. Inflorescence spike-like (Fig 2)
   Yes → (5)
   No → try again, or seek further advice

5. Youngest leaf folded in the sheath like a book (Fig 3B)
   Yes → **Section C**
   No → (6)

6. Youngest leaf furled in the sheath like a rolled-up flag (Fig 3A)
   Yes → **Section D**
   No → try again, or seek further advice

Fig 1. Examples of branched panicle type inflorescences

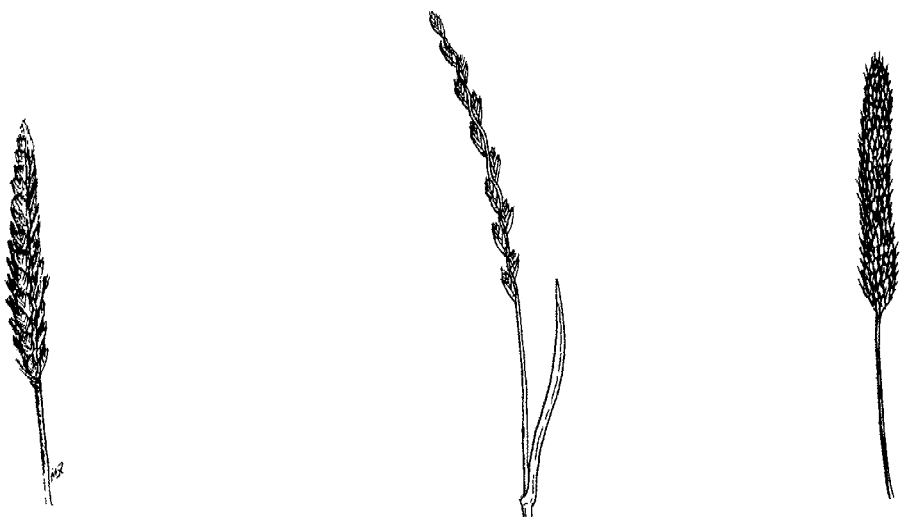


Fig 2. Examples of spike-like type inflorescences

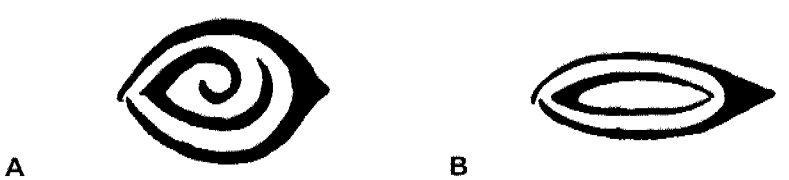


Fig 3. Schematic representation of cross sections through the leaf sheath of grasses showing the youngest leaf (A) rolled and (B) folder in the sheath

Guide to the commoner grasses of habitat restoration sites

Latin name	Common name	Hairy/ glabrous	Notes
Section A*: *Inflorescence a branched panicle (Fig 1), youngest leaf folded in the sheath (Fig 3B)			
Avenula pubescens	Hairy oat grass	H	Tramlines and boat-shaped tip (misleadingly suggests *Poa*!; Fig 29), ligule pointed, spikelets awned, limestone grassland
Bromus erectus	Upright brome	H	Tussock grass, Eyelash hairs held at 45° along margins of leaf blade (Fig 19), ligule serrated, spikelets awned, limestone grasslands
Deschampsia cespitosa	Tufted hair grass	H	Tussock grass, leaf blades stiff with sharply serrated margins rough to the touch, ribbed, ligule pointed, wet/acid habitats
Deschampsia flexuosa	Wavy hair grass	H	Leaves narrow and bristle-like, inflorescence with wavy branches, ligule pointed, dry, acid habitats
Aira caryophyllea	Silvery hair grass	G	Small, fine-leaved annual grass, ligule toothed, senescent by end June, inflorescence fine and open, dry/acid habitats
Avenula pratensis	Meadow oat grass	G	Leaves narrow, stiff and twisting, tramline and boat-shaped tip (Fig 29) misleadingly suggests *Poa*!, ligule pointed, spikelets awned, limestone grasslands
Dactylis glomerata	Cocksfoot grass (Fig 7a)	G	Leaf sheath, flattened, (like small Iris, Fig 7b) and sheaths radiate from base like a "cocks foot", leaf blade strongly folded and keeled, conspicuous, long white ligule (Fig 7b), neutral and limestone grasslands
Glyceria fluitans	Floating sweet grass (Fig 31)	G	Leaves strongly keeled, leaves floating on surface of water, ligule pointed, spikelets cigar-shaped (Fig 31), ponds/ditches
Poa pratensis	Smooth meadow grass	G	Very long narrow leaf blade, tramlines and boat-shaped tips (Fig 29), neutral and limestone grasslands
Poa trivialis	Rough meadow grass	G	Tramlines and boat-shaped tips (Fig 29), ligule long and pointed, sheaths rough to the touch, grassland/woodland
Section B*: *Inflorescence a branched panicle (Fig 1), youngest leaf rolled in the sheath (Fig 3A)			
Brachypodium pinnatum	Tor grass	H	Coarse tussock-forming grass, leaves broad, tough, erect and yellow green, minutely hairy along the margin, strongly creeping rhizome, limestone grasslands
Brachypodium sylvaticum	Wood false brome (Fig 27)	H	Tussock-forming grass, yellow-green and very hairy, leaves/inflorescence nodding, limestone grassland, scrub and woodland
Bromus sterilis	Sterile brome (Fig 6)	H	Leaf blades yellow-green, softly hairy and twisting, ligule pointed/toothed, inflorescence open and nodding, spikelets awned (Fig 6), annual grass usually senescent by June, disturbed ground
Holcus lanatus	Yorkshire fog (Fig 16)	H	Plant softly hairy, sheath with purple stripes (purple striped pyjamas; Fig 16), grasslands

Holcus mollis	Creeping soft grass	H	Nodes on inflorescence stalk with a fringe of downward-pointing hairs (hairy knees, Fig 15), acid habitats
Molinia caerulea	Purple moor grass	H	Coarse, tussock-forming grass with dead material accumulating at the base, ligule a fringe of hairs, wet acid habitats
Trisetum flavescens	Golden oat grass (Fig 28)	H	Inflorescence golden yellow colour, ligule serrated, spikelets awned (Fig 28), grasslands on drier soils
Agrostis spp	Bent grasses (Fig 30a)	G	Leaf blade flat, ligule variable depending on species, inflorescence fine (Fig 30c), grassland and heathland
Arrhenatherum elatius	False oat grass (Fig 26)	G (H on nodes)	Tall, coarse, tussock grass, leaves with bitter taste, stem base often swollen (Fig 26) and with yellowish roots, inflorescence long, spikelets awned, rank grassland
Briza media	Quaking grass (Fig 14)	G	Plant short, leaf blades flat and stumpy, often held parallel to the ground, ligule very short, blunt, inflorescence "quaking", spikelets like "rice crispies", limestone grasslands
Festuca arundinacea	Tall fescue	G (H on auricles)	Coarse, tall tussocky grass, leaves broad and ribbed, conspicuous auricles with minute hairs (Fig 25), grasslands
Festuca ovina + F.rubra	Sheeps fescue and red fescue	G	Leaves narrow and bristle-like, often inrolled (Fig 22, 23), very short ligule, grasslands
Festuca pratensis	Meadow fescue	G	Leaves broad, ribbed, conspicuous auricles, (Fig 24) grasslands
Phalaris arundinacea	Reed canary grass	G	Robust plant, spreading extensively by creeping rhizomes, leaves broad, ligule blunt, serrated (Fig 21), ponds/ditches
Phragmites australis	Common reed	G	Robust plant, spreading by creeping rhizomes and forming dense stands (reedbeds), leaves greyish green, very broad, ligule a fringe of hairs (Fig 8) ponds and ditches
<u>Section C</u>: Inflorescence spike-like (Fig 2), youngest leaf folded in the sheath (Fig 3B)			
Hordeum secalinum	Meadow barley (Fig 11)	H	Small auricles, inflorescence barley-like (Fig 11), neutral grasslands
Koeleria macrantha	Crested hair grass	H	Small plant, leaf blade narrow, blue-green, ribbed and minutely hairy (Fig 20), dry grasslands
Aira praecox	Early hair grass	G	Small, fine-leaved annual grass, ligule pointed and toothed, senescent by end June, inflorescence a short, dense spike, dry/acid habitats
Cynosurus cristatus	Crested dog's tail (Fig 10)	G	Leaves glossy backed, ribbed, sheath yellowish/white at the base, inflorescence a short one-sided spike, ligule (Fig 18), grasslands
Lolium perenne	Perennial rye-grass (Fig 4)	G	Leaves glossy backed, ribbed, sheath wine-red at the base inflorescence a two-sided spike, small clasping auricles (Fig 17), grasslands

Section D*: *Inflorescence spike-like (Fig 2), youngest leaf rolled in the sheath (Fig 3B)			
Anthoxanthum odoratum	Sweet vernal grass	H	Plant smelling of new mown hay when bruised, leaves short and stubby, junction of leaf/sheath fringed with hairs (Fig 5), early flowering, inflorescence with conspicuous protruding stigmas, grassland/heathland
Elymus repens	Couch/twitch	H	Coarse, creeping rhizomatous grass, leaves dull green, conspicuous auricles clasping the sheath (Fig 9), grassland
Alopecuris geniculatus	Marsh foxtail (Fig 13)	G	Creeping plant with "zig-zag" shoots often parallel to ground, sheath inflated, inflorescence narrowly cylindrical (Fig 13), wet grasslands
Alopecurus pratensis	Meadow foxtail	G	Sheath inflated, inflorescence narrowly cylindrical, grassland
Phleum bertolonii	Small timothy (Fig 12)	G	Short plant, broad leaf blades, roots swollen like small onions, often stoloniferous, spike short and cylindrical (Fig 12), limestone grassland
Phleum pratense	Timothy grass	G	Inflorescence a long, cylindrical spike, grassland on neutral soils

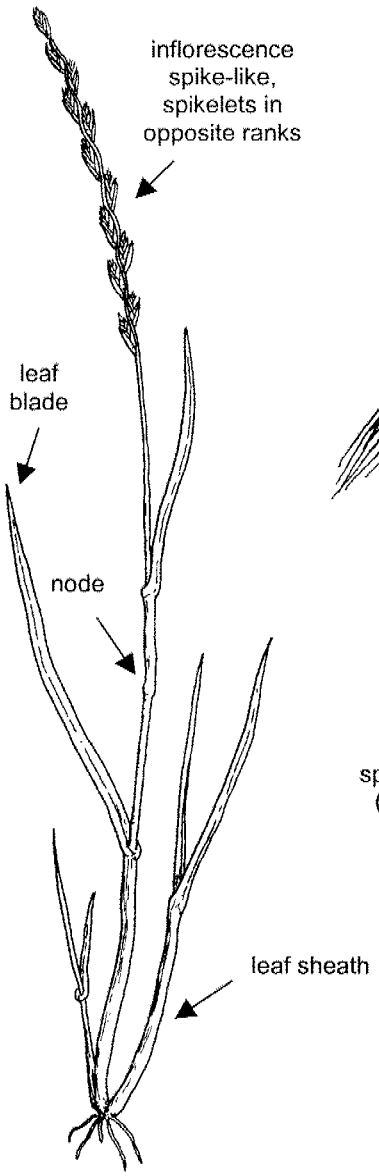
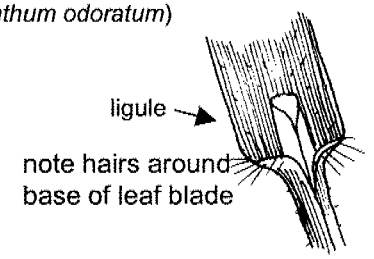


Fig 4. Perennial ryegrass
(*Lolium perenne*)

Showing the general features of a grass plant

Fig 5. Sweet vernal grass
(*Anthoxanthum odoratum*)



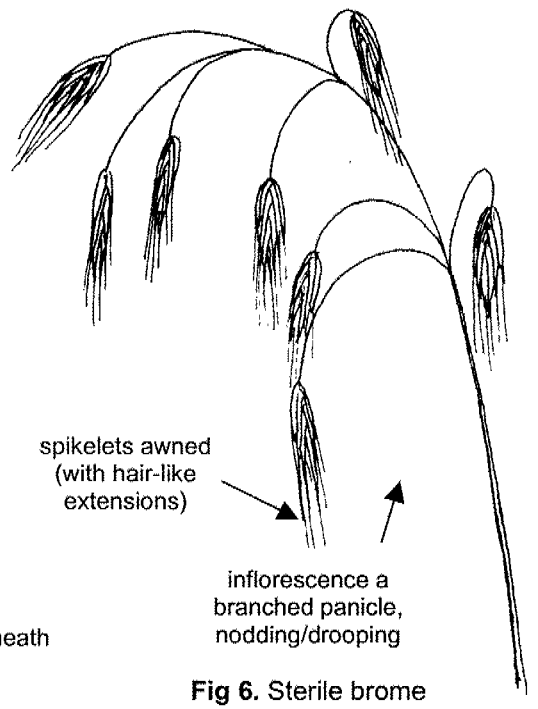


Fig 6. Sterile brome
(*Bromus sterilis*)

Fig 7a. Cocksfoot
(*Dactylis glomerata*)

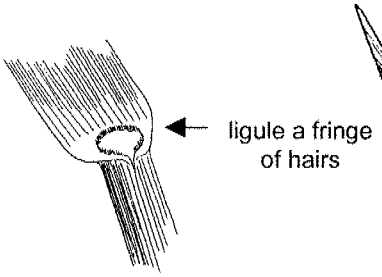


Fig 8. Common reed
(*Phragmites australis*)

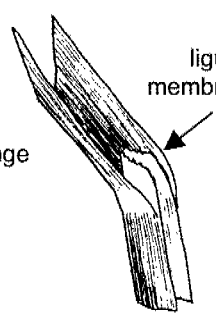


Fig 7b. Cocksfoot
(*Dactylis glomerata*)

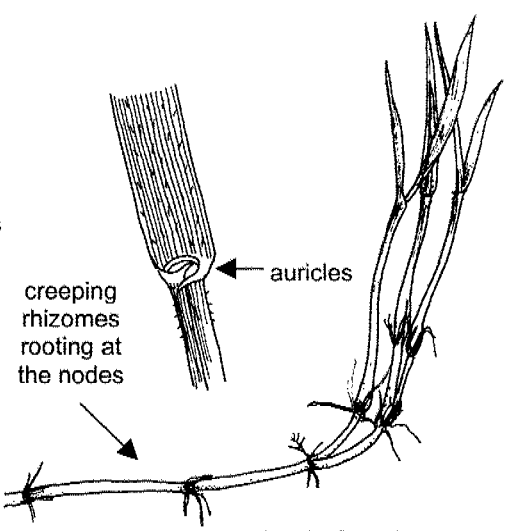


Fig 9. Couch grass
(*Elymus repens*)

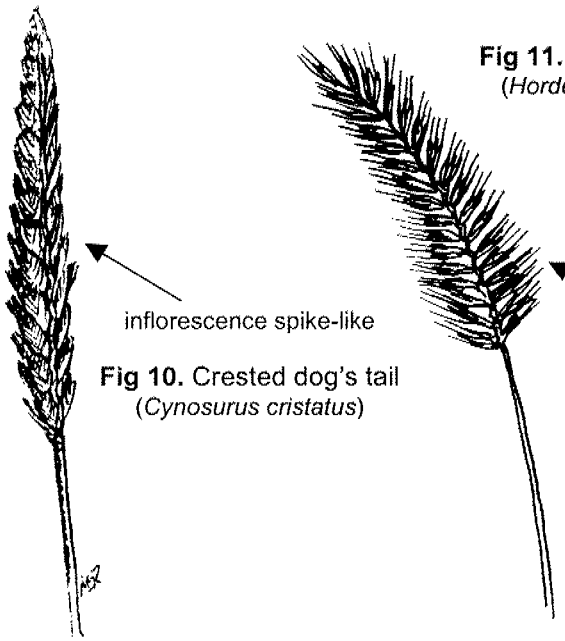


Fig 10. Crested dog's tail (*Cynosurus cristatus*)

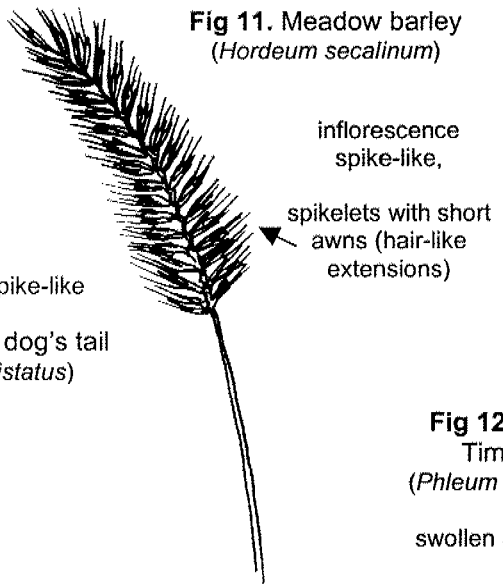


Fig 11. Meadow barley (*Hordeum secalinum*)

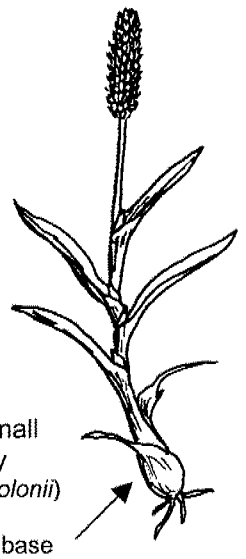


Fig 12. Small Timothy (*Phleum bertolonii*)

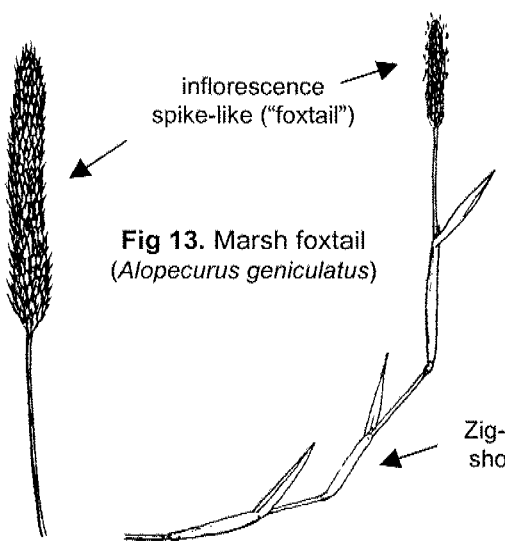


Fig 13. Marsh foxtail (*Alopecurus geniculatus*)

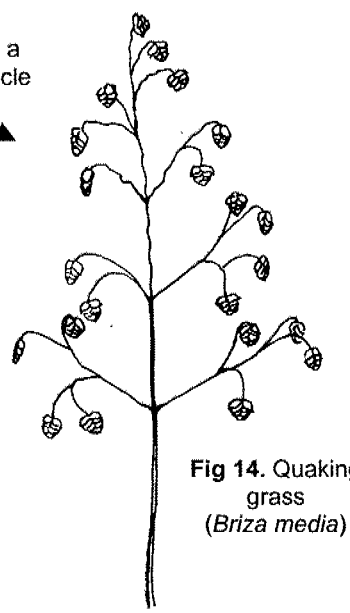


Fig 14. Quaking grass (*Briza media*)

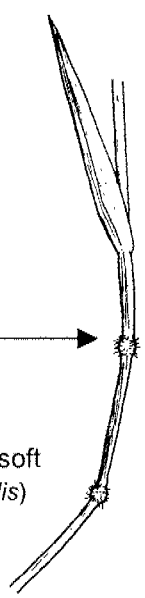
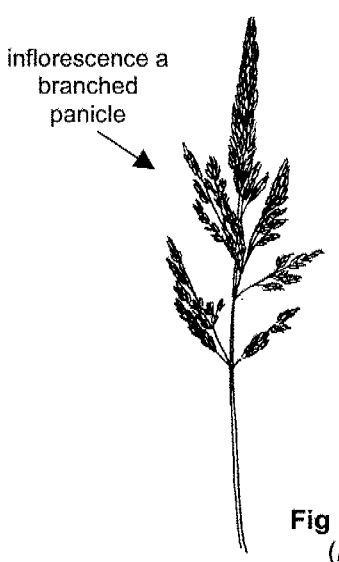


Fig 15. Creeping soft Grass (*Holcus mollis*)



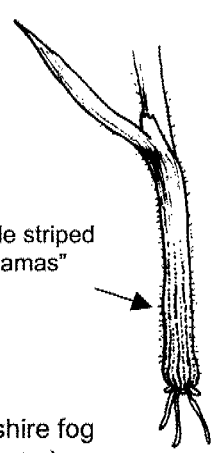


Fig 16. Yorkshire fog (*Holcus lanatus*)

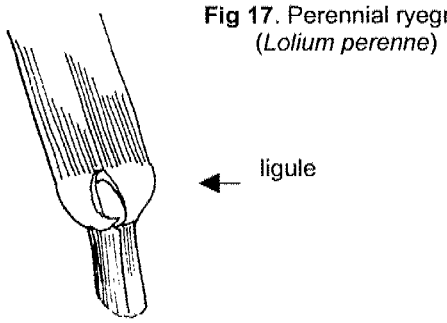


Fig 17. Perennial ryegrass (*Lolium perenne*)

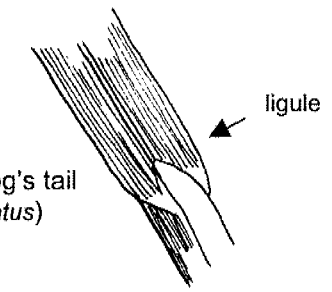


Fig 18. Crested dog's tail (*Cynosurus cristatus*)

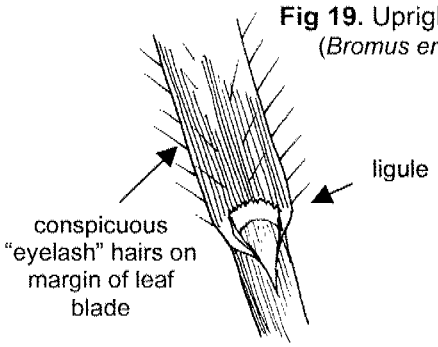


Fig 19. Upright brome (*Bromus erectus*)

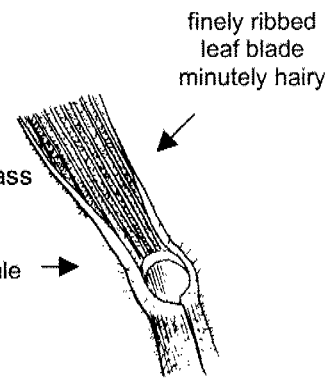


Fig 20. Crested hair grass (*Koeleria macrantha*)

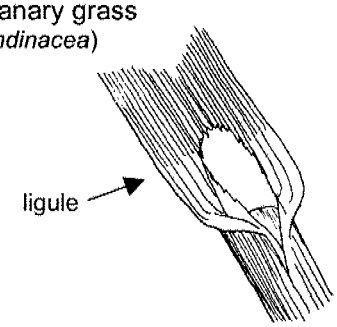


Fig 21. Reed Canary grass (*Phalaris arundinacea*)

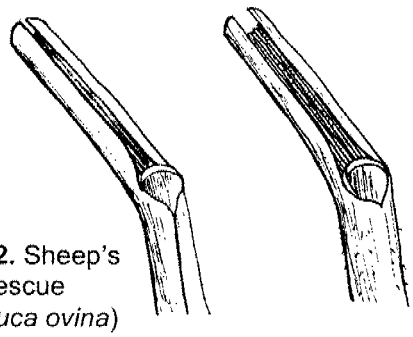
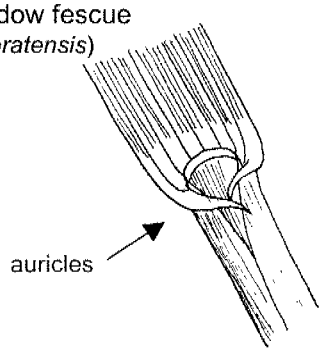


Fig 22. Sheep's fescue (*Festuca ovina*)

Fig 23. Red fescue (*Festuca rubra*)

Fig 24. Meadow fescue (*Festuca pratensis*)



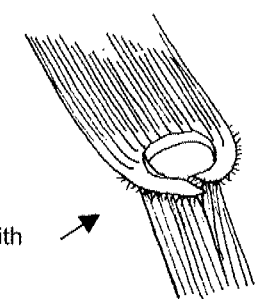


Fig 25. Tall fescue (*Festuca arundinacea*)

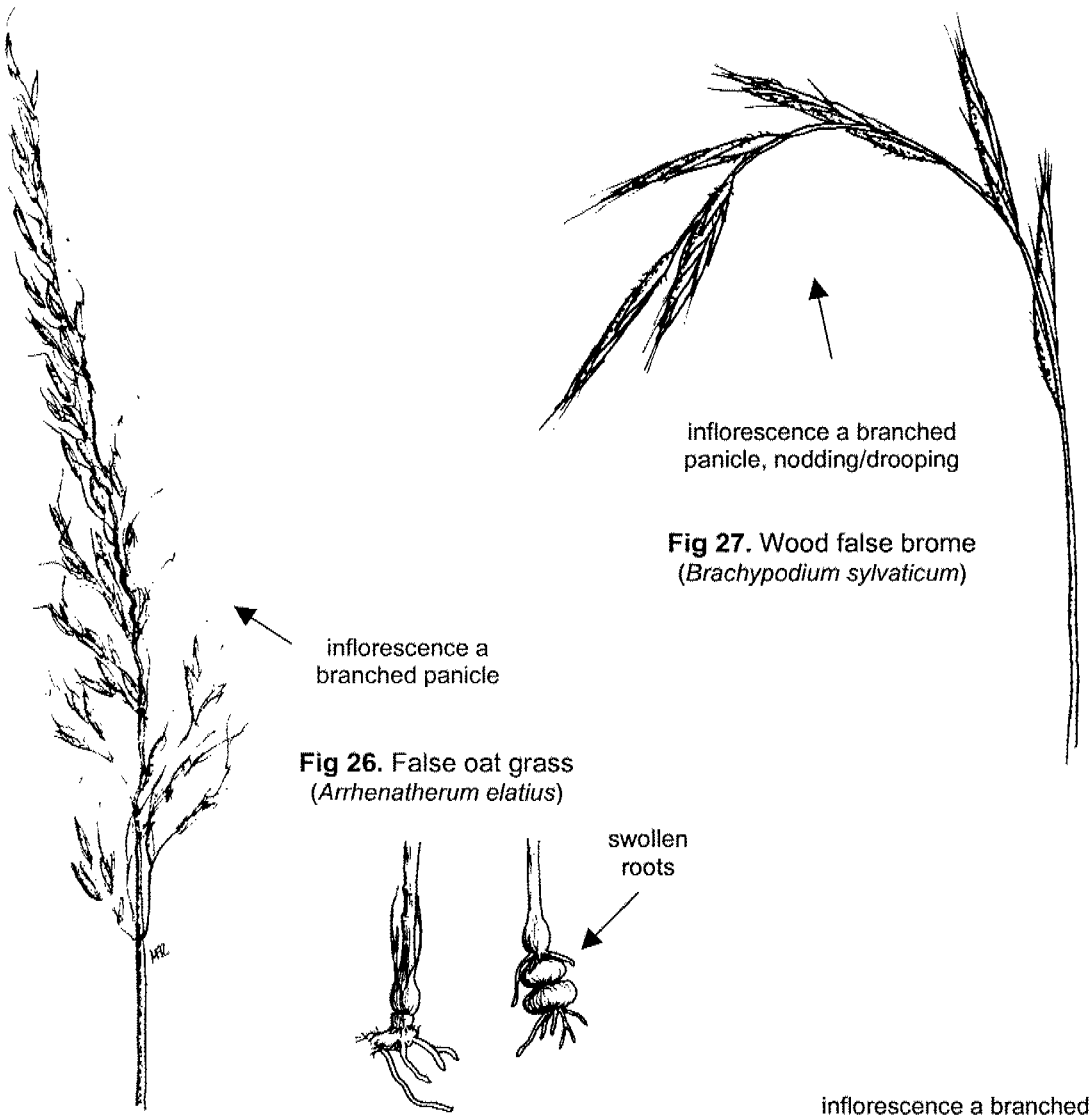


Fig 27. Wood false brome (*Brachypodium sylvaticum*)

Fig 26. False oat grass (*Arrhenatherum elatius*)

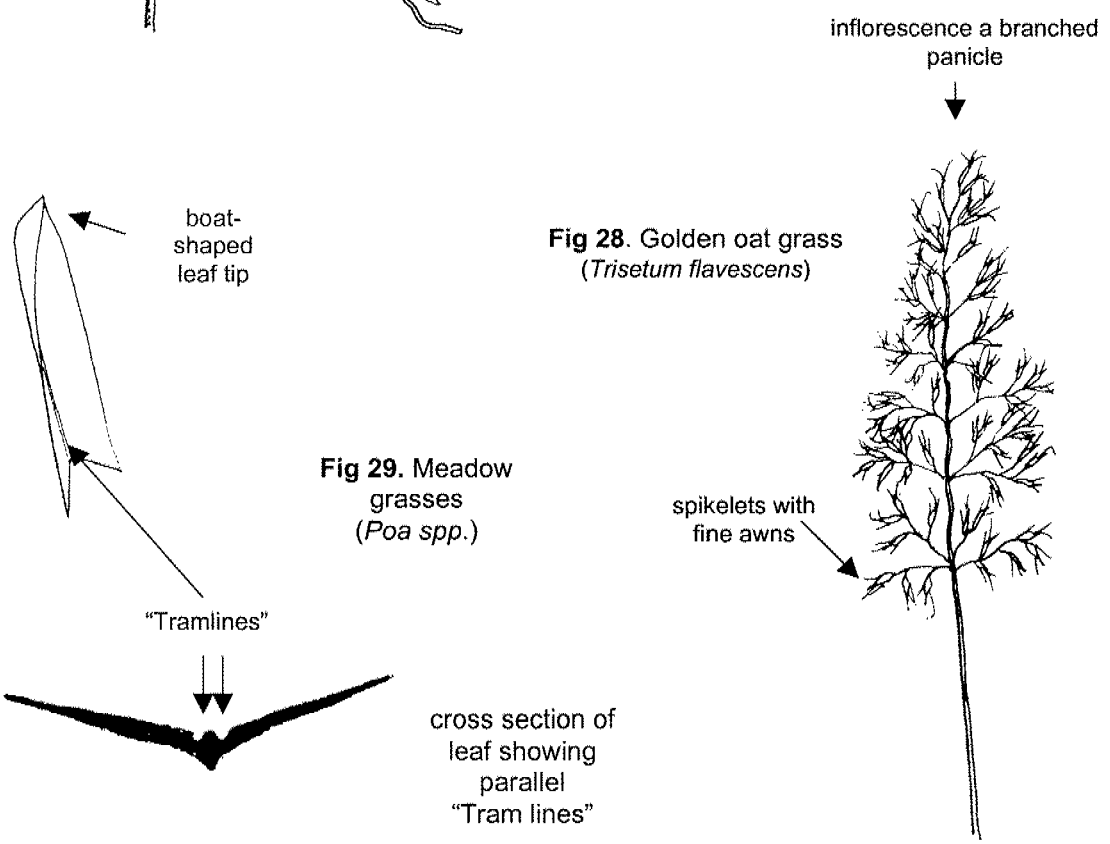


Fig 28. Golden oat grass (*Trisetum flavescens*)

Fig 29. Meadow grasses (*Poa spp.*)

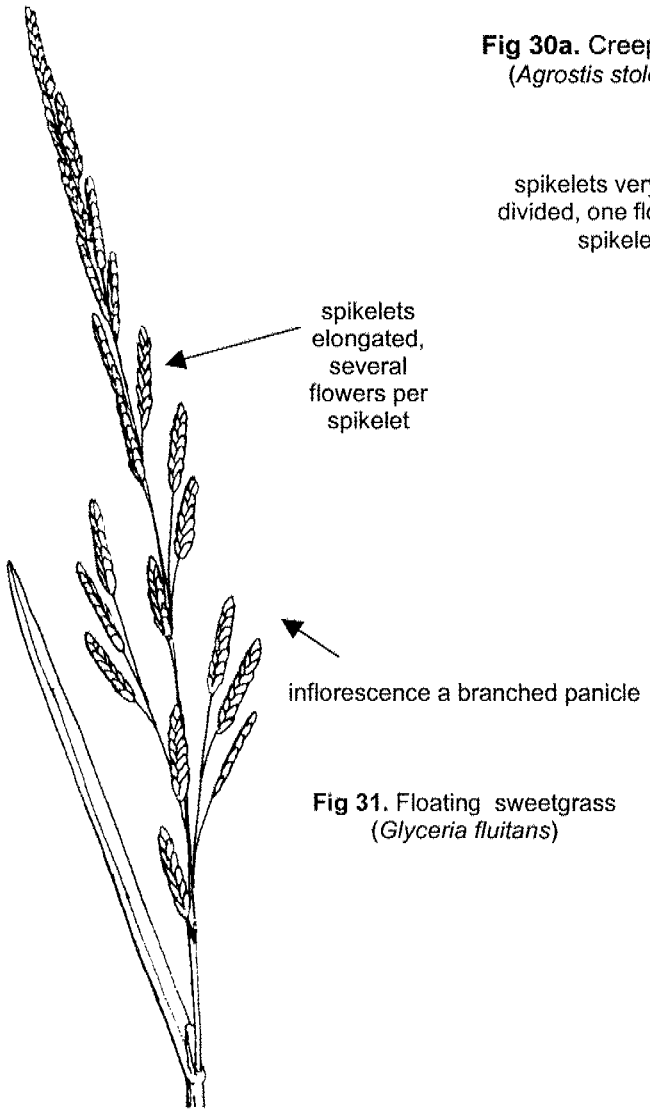


Fig 30a. Creeping bent
(*Agrostis stolonifera*)

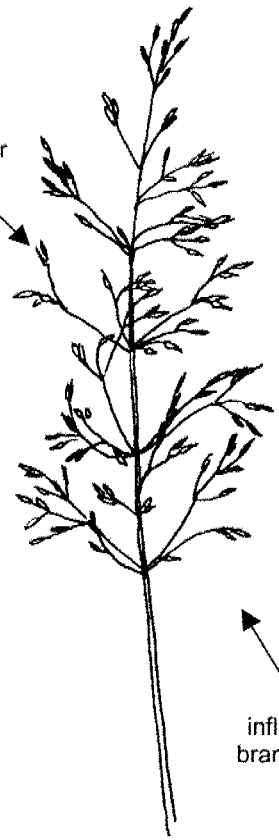


Fig 31. Floating sweetgrass
(*Glyceria fluitans*)

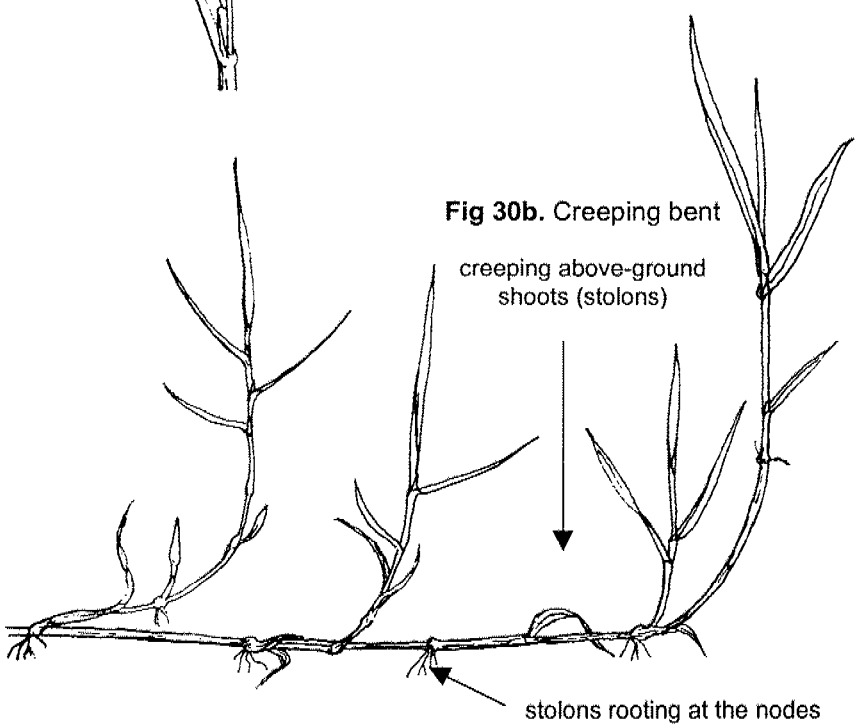


Fig 30b. Creeping bent

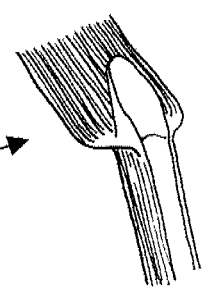


Fig 30c.
Creeping bent

Appendix 5: Checklist for the preparation of Monitoring Prescriptions		
1. **Has the site been visited recently?**		
2. **Has restoration management been implemented and has it been documented?**		
3. **Is the site homogeneous or is variable over more than 20% of its extent and if so, have monitoring prescriptions been adjusted to account for this?**		
4. **Have all attributes been considered?**		
5. **Has the appropriate monitoring methodology (M1 or M2) been selected?**		
6. **Is there a long-term commitment to the site?**		
7. **Have realistic targets been set?**		
8. **Are targets justified for the time series of restoration development?**		
9. **Has an independent person checked the form before monitoring commences?**		

Appendix 6: Checklist for the preparation of recording forms		
1. Is the restoration site clearly marked on a map?		
2. Is the recording form clearly labelled for the correct site?		
3. Do the prescriptions and thus the recording form relate to the appropriate year?		
4. Are all attributes / targets for the specific year included?		
5. Is all wording used clear and unambiguous?		
6. Are all M1 / M2 attributes grouped appropriately?		
7. Are positive and negative attributes grouped where possible?		
8. Do all M2 attributes also have space for comments?		
9. Is the requirement for DAFOS to be recorded specified?		
10. Have appropriate list(s) of positive and negative target plant species been attached?		
11. If the site is split or zoned, is this clearly indicated on the form and attributes grouped accordingly?		
12. Has the form been checked by another person for clarity, non-ambiguity and adherence to the appropriate monitoring prescriptions?		
13. Is the boundary of the site clear?		
14. Has the recorder been informed on location and access to the site?		
15. Has the landowner / manager been informed of the monitoring visit?		

Appendix 7: Checklist for carrying out Habitat Restoration Monitoring in the field		
Before setting out to visit the site for recording:		
1. Is the site location and boundaries clearly marked on a large scale map?		
2. Have you planned the sampling route – "W" or linear walk?		
3. Are the access arrangements confirmed?		
4. Have you read and understood the recording form?		
5. Have you checked the identification of any key species?		
6. Have you assembled any equipment required?		
7. Have you left your contact details?		
During recording		
8. Is the boundary of the site clear in the field?		
9. If site is split or zoned is this obvious in the field?		
10. Do you understand the approach to recording M1 vs M2 attributes?		
11. Have your recorded DAFOS scores where required?		
12. Have you calculated the score for each attribute correctly for positive or negative indicators?		
13. Have you provided comments as required?		
14. Have you completed all sections of the form?		