

Appendix 1 - UK Habitat Classification (UKHab) habitat definitions

Primary Habitats	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
c	Cropland	Regularly or recently cultivated agricultural, horticultural and domestic habitats.			Includes ploughed land, intensive orchards.	
c1	Arable and horticulture	Arable cropland (including perennial, woody crops, and intensively managed, commercial orchards), commercial horticultural land (such as nurseries, commercial vegetable plots and commercial flower growing areas), freshly-ploughed land, annual leys, rotational set-aside and fallow.			Cereal field margins and field boundaries. Sown grasslands less than one year old.	Domestic gardens and allotments.
c1b	Temporary grass and clover leys	Temporary grass or legumes in rotation with grain or tilled crops, usually as a soil conservation measure.				
c1c	Cereal crops	Crops in the cereal group of domesticated grasses: wheat, barley, oats, maize.				
c1d	Non-cereal crops	Crops other than those defined in c1c.				

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f	Wetland	Any habitat that is waterlogged (water table at surface with standing water for between 50% and 70% of the year)				Wet woodland/Carr (see w1d). Wet habitats where the water table is always within 40cm of the surface and soil containing free water for most of the year (see g or h). Seasonally wet habitats, inundated for part of the year but becoming mesic in the summer.
f1	Bog	Rain fed (ombrotrophic) inundated or waterlogged habitats where peat has formed in the past.			Peat bogs that have been cut/harvested.	Soligenous or topogenous wetlands which are defined under Fen, Marsh and Swamp (see f2); these include drained agricultural peatlands such as the Fens and Somerset Levels.

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f1a	Blanket bog	Blanket bogs are characterised by the presence of a peat deposit (>0.5m deep), formed from Sphagnum and other peat forming species, which is draped across large expanses of the landscape like a blanket. All but the steepest slopes are permanently waterlogged.	Blanket bogs are rain fed (ombrotrophic) and broadly convex, meaning that surface flow-lines diverge downslope from the crown of the bog unit.		Intermediate habitats around the margins of blanket bog where the major part of the bog morphology is determined by the underlying mineral terrain.	Blanket bog may be part of a habitat mosaic which includes upland fens, flushes and swamps (see f2c), which are are fed by groundwater (minerotrophic). Intermediate habitats around the margins where the raised dome(s) of the system predominates (see f1b).
f1a5	Blanket bog (H7130)	As f1a where peat forming species are still dominant or abundant, notably Sphagnum papillosum, Sphagnum magellanicum, Sphagnum tenellum and Sphagnum capillifolium, Hare's-tail Cottongrass Eriophorum vaginatum (dominant or scattered) and ericoid species less abundant than in f1a.		Annex 1: H7310 Blanket Bog.		

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f1a6	Degraded blanket bog	As f1a, but where peat forming Sphagnum species have largely disappeared due to drainage of the bog (which may be obvious due to the presence of drainage channels (grips)), to be replaced typically by grasses, such as Purple Moor-grass <i>Molinia caerulea</i> and sometimes to the dominance of Heather <i>Calluna vulgaris</i> .			Includes blanket bog where peat has been largely removed by erosion, fire or peat cutting within a larger unit of blanket bog which still retains a substantial depth of peat. Such patches are classed as part of the blanket bog and in the absence of further damage can be expected to infill with peat again over time. It is not therefore appropriate to map or manage such	

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					areas as Upland heathland.	
f2	Fen marsh and swamp	Inundated or waterlogged lowland habitats differing from bogs in that water is supplied by ground water or slow-moving rainwater and this flows through them (they are soligenous) and peat does not form.	Often associated with valleys or hollows and include a wide range of vegetation types from tall broad-leaved wetland herb formations, vegetation dominated by small sedge fens, tall wetland sedge/herb/grass fens; fen meadows and rush dominated vegetation; acid poor-fens and reedbeds to bryophyte springs and flushes.			

Primary Habitats	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
f2a	Lowland fens	Fens are wetlands which receive water and nutrients from the soil, rock and ground water as well as from rainfall. Fens are also often associated with accumulation of undecomposed waterlogged plant litter in the form of peat but not all fens form peat as vegetative matter may be decomposed.	Fens are characterised by their hydrological regime, base-richness and nutrient status (fertility). Topogenous fens are those where water movements in the peat or soil are generally vertical. They include basin fens, fens of lake margins, some forms of flood-plain fen, and the lagg fens of raised bogs. Soligenous fens, on the other hand, develop where there is distinct water movement through the system, so such movements are predominantly lateral rather than vertical, and include valley mires, springs and flushes.			

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			<p>Rich fens are associated with water derived from baserich rocks such as chalk and other limestones and as such are generally confined to the lowlands. Many sites of rich fen are small and scattered often now occurring as "islands" of semi natural vegetation amongst a sea of agricultural land.</p>			

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f2a8	Transition mires and quaking bogs; lowland (H7140)	The term 'transition mire' relates to vegetation that in floristic composition and general ecological characteristics is transitional between acid bog and Alkaline fens, in which the surface conditions range from markedly acidic to slightly base-rich. The vegetation normally has intimate mixtures of species considered to be acidophile and others thought of as calciphile or basophile as a result of base-rich water influence upon acidic nutrient poor bogs.	In some cases the mire occupies a physically transitional location between bog and fen vegetation, as for example on the marginal lagg of raised bog or associated with certain valley and basin mires. In other cases these intermediate properties may reflect the actual process of succession, as peat accumulates in groundwater-fed fen or open water to produce rainwater-fed bog isolated from groundwater influence. Many of these systems are very wet and unstable underfoot and can therefore	Annex 1: H7140 Transition mires and quaking bogs [lowland]		

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			<p>also be described as 'quaking bogs'. Transition mires and quaking bogs can occur in a variety of situations, related to different geomorphological processes: in flood plain mires, valley bogs, basin mires and the lagg zone of raised bogs, and as regeneration surfaces within mires that have been cut-over for peat or areas of mineral soil influence within Blanket bogs (e.g. ladder fens in Scotland only).</p>			

Primary Habitats	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
f2b	Purple moor grass and rush pastures	The vegetation has a distinct character and consists of various species-rich types of fen meadow and rush pasture. Rush or/and Purple Moor-grass <i>Molinia caerulea</i> dominated vegetation usually on peaty-gley soils with Sharp-flowered Rush <i>Juncus acutiflorus</i> or Soft Rush <i>Juncus effusus</i> abundant to dominant.	Purple moor-grass and rush pastures occur on both poorly drained, usually acidic soils in lowland areas of high rainfall in western Europe as well as on more base-rich soils . In the UK, they are found in south-west England, particularly in Devon, southern Wales, south-west Scotland, perhaps extending as far north as northern Argyll, and in Northern Ireland, especially Fermanagh. Nationally, these agriculturally unimproved pastures are associated with saturated valley-sides and spring	In the west of Britain, Purple moor-grass and rush pastures have been termed Rhôs pasture. 'Rhôs' is a Welsh word meaning 'a wet, often heathy grazing pasture', often referred to as 'moors'. This term has been used widely for such grasslands in Wales but is a term also applied to this habitat in		

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			lines, on poorly draining acid soils with a mixture of wet heath, rush pasture, mire and scrub, typically with low grazing intensity although they may also occur on roadsides.	south west England. Grasslands of northern Devon and north east Cornwall, especially across the Culm Measures are also referred to as 'culm grasslands'.		
f2c	Upland flushes, fens and swamps	Inundated or waterlogged upland habitats differing from bogs in that water is supplied by ground water or slow-moving rainwater and this flows through them (they are soligenous) and peat does not form.	Often associated with valleys or hollows and include a wide range of vegetation types from tall broad-leaved wetland herb formations, vegetation dominated by small sedge fens, tall wetland			

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			sedge/herb/grass fens; fen meadows and rush dominated vegetation; acid poor-fens and reedbeds to bryophyte springs and flushes.			
f2e	Reedbeds	Wetlands dominated by stands of the Common Reed <i>Phragmites australis</i> , with the water table at or above ground level for most of the year.	Reedbeds tend to incorporate areas of open water and ditches, and small areas of wet grassland and carr woodland may be associated with them.		Reedbeds with a saline influence including saline tolerant species e.g. <i>Atriplex</i> spp (use secondary code 138).	Similar habitats dominated by species such as <i>Schoenoplectus</i> , <i>Typha</i> and <i>Phalaris</i> fall into a category of 'other swamps' f2f.
g	Grassland	Vegetation, not on waterlogged soils, with more than 75% cover of herbaceous species (grasses, sedges, rushes, herbs, forbs) with halophytic species absent or occasional.			Includes pastures and (semi-)natural grasslands not on waterlogged soils. Includes vegetation dominated by Bracken.	Excludes crops (see c), reedbeds (see f2e), calaminarian grasslands (see s1c), vegetation dominated by a combination of <i>Molinia</i> and <i>Juncus</i> species on waterlogged soils.

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g1	Acid grassland	Vegetation dominated by grasses and herbs on a range of limedeficient soils which have been derived from acidic bedrock or from superficial deposits such as sands and gravels. Such soils usually have a low base status, with a pH of less than 5.5.	Includes a range of types from open communities of very dry sandy soils in the lowlands, which may contain many annual species, through closed pastures on red brown earths, to damp acidic grasslands typically found on gleys and shallow peats.	Calcifugous swards.	Montane types. Vegetation with Bracken Pteridium aquilinum, except where the grassland type is clearly not acidic (see the appropriate grassland type and secondary code 12 "scattered bracken").	Acid grassland types on shingle habitats.
g1a	Lowland dry acid grassland	Lowland acid grassland typically occurs on nutrient-poor, generally free-draining soils with pH ranging from 4 to 5.5 overlying acid rocks or superficial deposits such as sands and gravels.	Includes both enclosed and unenclosed acid grassland throughout the UK lowlands (normally below c. 300m). It covers all acid grassland managed in functional enclosures. It often occurs as an		Swards on road verges. Dry calcareous grasslands of the Breckland, north to the North Norfolk coast where <i>Vulpia ciliata</i> ssp. <i>ambigua</i> is	Swards in old and non-functional enclosures in the upland fringes, which are managed as free-range rough grazing in association with unenclosed tracts of upland (see g1b).

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			integral part of lowland heath landscapes, in parklands and locally on coastal cliffs.		a key component.	
g1c	Bracken	Land with Bracken Pteridium aquilinum at >95% canopy cover at the height of the growing season.				Scattered patches of bracken or bracken patches
g2	Calcareous grassland	Vegetation dominated by grasses and herbs on shallow, well drained soils which are rich in bases (principally calcium carbonate) formed by the weathering of chalk and other types of limestone or base-rich rock.	Although the base status of such soils is usually high, with a pH of above 6, it may also be more moderate and calcareous grassland communities can occur on soils with a pH as low as 5.	Calcicolous grasslands. Chalk grasslands. Limestone grasslands.		
g2a	Lowland calcareous grassland	Calcareous grasslands communities below the upper limits of agricultural enclosure.	Largely restricted to the warmer and drier climates of the southern and eastern areas of the United Kingdom.		Calcareous grassland on roadside verges. Calcareous grassland	Calcareous grassland in the unenclosed uplands (see g2b). Calcareous grassland on the Pennines (see g2b).

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					around Morecambe Bay in Cumbria.	
g2b	Upland calcareous grassland	Upland calcareous grasslands occur on lime-rich soils situated above the upper limit of agricultural enclosure, both in the submontane and montane zones.	Mostly occur above 250-300 m altitude, but the habitat is also found within unenclosed moorland at lower elevations, and descends to sea level in north-west Scotland. Upland calcareous grasslands typically occur as components of habitat mosaics (including both calcicoles and acidophiles).			
g3	Neutral grassland	Vegetation dominated by grasses and herbs on a range of neutral soils usually with a pH of between 4.5 and 6.5.	It includes enclosed dry hay meadows and pastures, together with a range of grasslands which are	Mesotrophic grasslands.		

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			periodically inundated with water or permanently moist.			
g3a	Lowland meadows	Lowland neutral meadows and pastures consist of a rich mixture of native grasses and broad-leaved herbs. They occur throughout lowland UK, often on shallow slopes or level ground with relatively deep soils that is neither strongly acidic nor lime-rich.	Most forms of neutral grassland across the enclosed lowland landscapes of the UK that have not been substantially modified. On many farms in different parts of the UK, use of particular fields for grazing pasture and hay cropping changes over time, but the characteristic plant community may persist with subtle changes in floristic composition.			Maritime grassland communities confined to coastal habitats (See s2a, 26), Anthoxanthum odoratum - Geranium sylvaticum grasslands (see g3b) and Molinia - Juncus pastures on waterlogged soils (see f2b).
g3a5	Lowland hay meadows (H6510)	Species-rich hay meadows on moderately fertile soils of river and tributary floodplains.	Seasonal flooding maintains an input of nutrients.	Annex 1: H6510 Lowland hay		

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				meadows [<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>]		
g3c	Other neutral grassland	Neutral grassland that does not meet the definition of either g3a or g3b. Perennial Rye-grass <i>Lolium perenne</i> is likely to be present at	Extremely widespread in the UK lowlands.		Special note: many surveyors may wish to add detail to this category. Please consider using the relevant secondary codes: management (e.g. "78 - abandoned" or "80 - unmanaged" gives much information on the nature of the sward); environmental qualifiers (e.g. "117 - dry", "118 - mesic", "120 - wet", "123 -	Species poor swards previously described as "semi-improved neutral grassland" (see g4).

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					neutral grassland with calcicoles") and species features (e.g. "160 - sward type mosaic", "161 - tall or tussocky sward").	
g4	Modified grassland	Vegetation dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance of Rye-grass <i>Lolium</i> spp. and White Clover <i>Trifolium repens</i> .				
h	Heathland and shrub	Vegetation with more than 25% cover of dwarf shrub species			Hedgerows of any height.	Lines of trees (see w1g6), scattered scrub (see 10), young trees (see 56, 57).
h1	Dwarf shrub heath	Vegetation that has a greater than 25% cover of plant species from the heath family (ericoids) or Dwarf Gorse <i>Ulex minor</i> .	Dwarf shrub heath generally occurs on well-drained, nutrient-poor, acid soils. Heaths do occur on more basic soils but these are more limited in		Both dry and wet heath types. Dwarf shrub dominated vegetation in	Dwarf shrub dominated vegetation in which species characteristic of peat-forming vegetation such as cotton-grass <i>Eriophorum</i> spp. and

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			extent and can be recognised by the presence of herbs characteristic of calcareous grassland. Occurs in both the lowlands and the uplands.		the montane zone.	peat-building sphagna are abundant, and [not "or" this is important] that occurs on deep peat (> 0.5 m) (see f1).
h1a	Lowland Heathland	A broadly open landscape on impoverished, acidic mineral and shallow peat soil, which is characterised by the presence of plants such as heathers and dwarf gorses, Crowberry <i>Empetrum nigrum</i> and grass species such as Bristle Bent <i>Agrostis curtisii</i> and Sheep's Fescue <i>Festuca ovina</i> .	It is generally found below 300 metres in altitude in the UK, but in more northerly latitudes the altitudinal limit is often lower. Lowland heathland can develop on drift soils and weathered flint beds over calcareous soils (limestone or chalk heath). Lowland heathland is a dynamic habitat which undergoes significant changes in different successional stages,		Small scale mosaic of patches dominated by dwarf shrubs and patches dominated by acid grassland (use 13 in combination with h1a or g1).	Grass dominated areas with less than 25% dwarf shrub cover (see g1).

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			from bare ground (e.g. after burning or tree clearing) and grassy stages, to mature, dense heath.			
h1b	Upland Heathland	Heathland vegetation occurs widely on mineral soils and thin peats (Dwarf shrub dominant vegetation on deep peat (see f1a). Heathland below the limit of agricultural enclosure (see h1a).
h2	Hedgerows	A boundary line of shrubs, provided that at one time the shrubs were stock proof and more or less continuous.			Includes: an earth bank or wall only where such a feature occurs in association with the hedgerow. Any bank, wall, ditch, tree or herbaceous	

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					vegetation <20m.	
h3	Dense scrub	Patches of shrubs less than 5 metres tall with continuous (>90%) cover.			Patches with occasional trees more than 5 metres tall (see 11). Tree species less than 5m tall. Coastal scrub. Scattered Seabuckthorn Hippophae rhamnoides scrub on dunes (see h3c5).	Patches with shrub cover
h3f	Hawthorn scrub	Dense scrub with dominant Hawthorn <i>Crataegus monogyna</i> .				
r	Rivers and lakes	Inland surface waters (freshwater ecosystems).				

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r1	Standing open water and canals	Natural systems such as lakes, meres and pools, as well as manmade waters such as reservoirs, canals, ponds and gravel pits.	Standing waters are usually classified according to their nutrient status and this can change naturally over time or as a result of pollution. There are three main types of standing waters, namely: oligotrophic (nutrient-poor), eutrophic (nutrient-rich), and mesotrophic (intermediate). These lake types exist along an environmental gradient and intermediate types occur. Other types of standing water include dystrophic (highly acidic, peatstained water), marl lakes, brackish-water lakes, turloughs and other		Includes the open water zone (which may contain submerged, free-floating or floating-leaved vegetation) and water fringe vegetation. Ditches with open water for at least the majority of the year.	Coastal saline lagoons (see t2g5). Marginal emergent vegetation that is greater than 5 m wide. Mappable adjacent wetland or wet woodland habitat.

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			temporary water bodies.			
r1c	Oligotrophic and dystrophic lakes	Oligotrophic and dystrophic lakes are water bodies mainly more than 2 ha in size which are characterised by their low nutrient levels and low productivity.	Their catchments usually occur on hard, acid rocks, most often in the uplands. This habitat type encompasses a wide range of size and depth, and includes the largest and deepest water bodies in the UK. Oligotrophic lakes usually have very clear water, whilst some examples with dystrophic characteristics have			

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			peat-stained waters. Good examples may support some of the least disturbed aquatic assemblages in the UK.			
r1e	Canals	An artificial watercourse for inland navigation or irrigation.				Excludes towpaths and other land between the canalside and the nearest field boundary.
r2	Rivers and streams	Rivers and streams from bank top to bank top, or, where there are no distinctive banks or banks are never overtopped, it includes the extent of the mean annual flood.			Includes: the open channel (which may contain submerged, freefloating or floating-leaved vegetation) water fringe vegetation and exposed	Adjacent wetland habitats.

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					sediments and shingle banks.	
s	Sparsely vegetated land	Unvegetated, disturbed (regularly or drastically periodically) or sparsely vegetated habitats (permanently or periodically naturally unvegetated areas) inhabited by stress tolerating vegetation.			Includes inland rock, supralittoral rock (sea-cliffs) supralittoral sediment (mud, sand and shingle) and coastal habitats (including dunes).	
s1	Inland rock	Natural and artificial exposed rock surfaces which are mappable, such as inland cliffs, caves, and scree and limestone pavements, as well as various forms of excavations and waste tips such as quarries and quarry waste.			Plant communities that colonise the cracks and fissures of rock faces. Certain types of tall herb and fern vegetation, which as a result of grazing are much reduced	

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					in extent and confined to areas inaccessible to grazing, such as cliff faces and ledges.	
s1a	Inland rock outcrop and scree habitats	This habitat covers a wide range of rock types, varying from acidic to highly calcareous.	The habitat occurs throughout the uplands, and is particularly characteristic of high altitudes, but is also found at low altitudes notably in northern Scotland.		Includes mountain summit boulder fields.	Coastal cliff and ledge habitats (see s2a).

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s1b	Limestone pavement	<p>Outcrops of rock, typically horizontal or gently inclined, although a few are steeply inclined. The surface has been dissolved by water over millions of years into 'paving blocks', known as clints, with a complex reticulate pattern of crevices, known as grikes, between them. Record as s1b5 Limestone pavements (H8240)</p>	<p>Limestone pavements are a scarce and non-renewable resource. They were exposed by the scouring action of ice sheets during the ice age which ended some 10,000 years ago. Since then water action has widened the cracks in the pavements to form a complex pattern of crevices known as grikes between which are massive blocks of worn limestone called clints. Limestone pavements are of both geological and biological importance. The vegetation is rich in vascular plants, bryophytes and lichens and varies</p>			

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			<p>according to geographical location, altitude, rock type and the presence or absence of grazing animals. Limestone pavement vegetation may also contain unusual combinations of plants, with woodland and wood-edge species well-represented in the sheltered grikes. The clints support plants of rocky habitats or are often unvegetated. In the absence of grazing scrub may develop. In oceanic areas scrub over limestone pavement is important for epiphytes.</p>			

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s1c	Calaminarian grasslands	Calaminarian grasslands include a range of semi-natural and anthropogenic sparsely vegetated habitats on substrates characterised by high levels of heavy metals such as lead, chromium and copper, or other unusual minerals.	Associated with outcrops of serpentine and river gravels rich in heavy metals, as well as with artificial mine workings and spoil heaps. Seral succession is slowed or arrested by the toxicity of the substrate.			
u	Urban	Constructed, industrial and other artificial habitats			Constructed, industrial and other artificial habitats in rural areas.	Grasslands, woodlands, heathlands, wetlands, rivers, lakes, sparsely vegetated land in urban areas.
u1	Built-up areas and gardens	Urban and rural settlements, farm buildings, caravan parks and other man-made built structures such as industrial estates, retail parks, waste and derelict ground, urban parkland and urban transport infrastructure.			Allotments and most gardens	Mappable patches of other ecosystems that fall within an urban area.

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u1a	Open Mosaic Habitats on Previously Developed Land	Each of the following five criteria must be met. (1) Open mosaic habitat at least 0.25 ha in size. (2) Known history of disturbance or evidence that soil has been removed or severely modified by previous use(s). Extraneous materials/substrates such as industrial spoil may have been added. (3) Site contains some vegetation. This will comprise early successional communities consisting mainly of stress-tolerant species (e.g. indicative of low nutrient status or drought). Early successional communities are composed of (a) annuals, or (b) mosses/liverworts, or (c) lichens, or (d) ruderals, or (e) inundation species, or (f) open grassland, or (g) flower-rich grassland, or (h) heathland. (4) Contains unvegetated, loose bare substrate and pools may be present. (5) The site shows spatial variation, forming a mosaic of one or more of early successional communities (a)–(h) above				

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		(criterion 3) plus bare substrate, within 0.25 ha.				
u1c	Artificial unvegetated, unsealed surface	Land cleared for development, infrastructure construction or other purpose, currently unvegetated, but the soil surface is not sealed with impervious materials.				

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w	Woodland and forest	Land with more than 25% cover of trees more than 5m in height.			Recently felled woodland (but not clear felled forestry plantations unless re-planted). Coppice. Coppice-with-standards. Lines of trees (but not hedgerows). Wet woodland. Bog woodland.	Hedgerows (see h2). Scrub (see h3 or 10). Clear felled forestry plantations (see w2), unless replanted.
w1	Broadleaved mixed and yew woodland	Vegetation dominated by trees that are more than 5 m high when mature, which form a distinct, although sometimes open canopy with a canopy cover of greater than 25%. It includes stands of both native and non-native broadleaved tree species and Yew <i>Taxus baccata</i> , where the percentage cover of these trees in the stand exceeds 20% of the total cover of the trees present.			Ancient or recent woodland and either semi-natural or planted. Recently felled broadleaved, mixed and yew woodland where there is a clear indication that it will return to	Hedgerows (see h2). Scrub (see h3 or 10). Woodlands that are dominated by conifer trees with less than 20% of the total cover provided by broadleaved or yew trees (see w2).

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					woodland. Carr (woody vegetation on fens and bog margins).	
w1a	Upland oakwood	Record as w1a5 Western acidic oak woodland (H91A0)	It is found throughout the north and west of the UK with major concentrations in Argyll and Lochaber, Cumbria, Gwynedd, Somerset, Devon and Cornwall.			
w1b	Upland mixed ashwoods	Woods on base-rich soils in the north and west, in most of which Ash <i>Fraxinus excelsior</i> is a major species, although locally Oak <i>Quercus</i> spp., Birch <i>Betula</i> spp., Elm <i>Ulmus</i> spp., Small-leaved Lime <i>Tilia cordata</i> and even Hazel <i>Corylus avellana</i> may be the most abundant species.	Upland in the name reflects the abundance of this type of woodland on base-rich soils in upland Britain rather than to the altitude at which individual sites occur. Some			Ash woodlands on limestone pavements (see s1b).

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			are only just above sea level.			
w1d	Wet woodland	Wet woodland occurs on poorly drained or seasonally wet soils, usually with Alder <i>Alnus glutinosa</i> , Birch <i>Betula</i> spp. and Willows <i>Salix</i> spp. as the predominant tree species, but sometimes including Ash <i>Fraxinus excelsior</i> , Oak <i>Quercus</i> spp., Scots Pine <i>Pinus sylvestris</i> and Beech <i>Fagus sylvatica</i> on the drier riparian areas.	It is found on floodplains, as successional habitat on fens, mires and bogs, along streams and hill-side flushes, in peaty hollows, along lake edges and fen marsh margins. These woodlands, sometimes known as carr, occur on a range of soil types including nutrient-rich mineral and acid, nutrient-poor organic ones. The boundaries with dryland woodland may be sharp or gradual and may			

Primary Habitats						
			<p>change with time through succession, depending on the hydrological conditions and the treatment of the wood and its surrounding land. Therefore wet woods frequently occur in mosaic with other woodland key habitat types (e.g. with upland mixed ash or oakwoods) and with open key habitats such as fens.</p>			
w1f	Lowland mixed deciduous woodland	<p>Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions, from very acidic to base-rich; occurs largely within enclosed landscapes, usually on sites with well-defined boundaries, at relatively low altitudes,</p>	<p>Includes most established semi-natural woodland in southern and eastern England, and in parts of lowland Wales and Scotland. Many are ancient woods and they include classic</p>			

Primary Habitats						
		although altitude is not a defining feature.	examples of ancient woodland in East Anglia and the East Midlands.			
w1g6	Line of trees	A line of trees at least 20 metres in length with open habitat on each side.			Grown out hedgerows, avenues, narrow windbreaks, willows and alders along watercourses.	Overgrown hedgerows still capable of being laid into a stockproof hedge.
w1h	Other woodland; mixed	A mixture of broadleaved and coniferous trees in which neither make up more than 80% of the tree cover. Mixed woodland that does not meet the definition of any other woodland types.	Likely to include woodland that is self-sown and/or recently established in either urban or rural situations.			

Primary Habitats	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
w2	Coniferous woodland	Vegetation dominated by trees that are more than 5 m high when mature, which form a distinct, although sometimes open canopy which has a cover of greater than 20%, with stands of both native and non-native coniferous trees species (with the exception of Yew <i>Taxus baccata</i>) where the percentage cover of these trees in the stand exceeds 80% of the total cover of the trees present.	Scots pine <i>Pinussylvestris</i> is the only pine tree that is native to the UK, and forms native woodland only in Scotland. Semi-natural woods of Scots pine are normally called native pinewoods. The majority of coniferous woodlands in the UK are plantations of species that are either not native to the UK or to the sites on which they occur.		Recently felled coniferous woodland where there is a clear indication that it will return to woodland.	Woodlands that are made up of broadleaved, yew and conifer trees with less than 80% of the total cover provided by conifer trees.



Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
10	Scattered scrub	Non-woodland habitats that include patches of scattered scrub, each below 0.04ha., with an overall cover of				
11	Scattered trees	Non-woodland habitats that include trees growing at low density, with canopy cover <20%.				
12	Scattered bracken	Habitats with Bracken, <i>Pteridium aquilinum</i> , at < 95% canopy cover at the height of the growing season.				
13	Scattered dwarf shrubs	Small scale mosaic of patches dominated by dwarf shrubs and patches dominated by acid grassland, with each type failing to meet separate mappable size.				
16	Tall herb	Stands of tall perennial or biennial dicotyledons, such as Rosebay Willowherb <i>Chamerion angustifolium</i> , Common Nettle <i>Urtica dioica</i> , Hogweed <i>Heracleum sphondylium</i> and Japanese Knotweed <i>Reynoutria japonica</i> .			Includes non-wooded stands of species such as Lemon-scented fern <i>Oreopteris limbosperma</i> , Lady-fern <i>Athyrium filix-femina</i> , <i>Dryopteris</i> species or Great	Excludes upland species-rich ledges (see s1a9).

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
					Wood-rush Luzula sylvatica.	
17	Ruderal/ ephemeral	Short patchy plant associations typical of unmanaged areas in arable landscape, derelict urban sites, quarries and railway ballast.				
18	Calcareous - acidic mosaic	A small-scale mosaic of vegetation types with predominance of calcicole and calcifugous species.				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
19	Ponds (Priority Habitat)	<p>Permanent and seasonal standing water bodies up to 2 ha in extent which meet one or more of the following criteria: (1) Habitats of international importance: Ponds that meet criteria under Annex I of the Habitats Directive. (2) Species of high conservation importance: Ponds supporting Red Data Book species, UK BAP species, species fully protected under the Wildlife and Countryside Act Schedule 5 and 8, Habitats Directive Annex II species, a Nationally Scarce wetland plant species, or three Nationally Scarce aquatic invertebrate species. (3) Exceptional assemblages of key biotic groups: Ponds supporting exceptional populations or numbers of key species. Based on (i) criteria specified in guidelines for the selection of biological SSSIs (currently amphibians and dragonflies only), and (ii) exceptionally rich sites for plants or invertebrates (i.e. supporting >30 wetland plant species or >50 aquatic macroinvertebrate species) (4) Ponds of high ecological quality: Ponds classified in the top PSYM category ("high") for ecological quality (i.e.</p>				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
		<p>having a PSYM score >75%). [PSYM (the Predictive SYstem for Multimetrics) is a method for assessing the biological quality of still waters in England and Wales; plant species and-or invertebrate families are surveyed using a standard method; the PSYM model makes predictions for the site based on environmental data and using a minimally impaired pond dataset; comparison of the prediction and observed data gives a % score for ponds quality]. (5) Other important ponds: Individual ponds or groups of ponds with a limited geographic distribution recognised as important because of their age, rarity of type or landscape context e.g. pingos, dune slack ponds, machair ponds.</p>				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
20	Wood-pasture and parkland	Wood-pasture and parkland are mosaic habitats valued for their trees, especially veteran and ancient trees, and the plants and animals that they support. Wood-pasture and parkland habitats display at least some of the following characteristics (see context for additional qualifying characteristics): (1) Open grown trees, some of which are ancient or veteran and may be hollow and support significant amounts of dead and decaying timber. If managed, the ancient or veteran trees have generally been pollarded, although wood-pastures may incorporate other forms of tree management. The trees often exhibit a browse line at the maximum height that browsing animals can reach. (2) Scrub as individual plants or clumps, in some instances providing tree protection or opportunities for tree regeneration. (3) Evidence of past land use for extensive agriculture and transhumance systems (where livestock are moved between lowland in winter and upland or mountain grazing in the summer). Abandoned wood-pastures	Some sites have origins in medieval hunting forests (which may not have been completely treed) and emparkments, wooded commons, or pastures with trees in them. Many of these sites were later developed as landscaped parks creating a rich legacy of layers of designed landscapes and archaeological features also of historic importance. A range of native species usually			

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
		<p>in the uplands are remnants of a lost land-use system which is still extant in many parts of continental Europe. These wood-pastures contain open grown veteran trees (often pollards) which may in some instances now be within a matrix of secondary woodland or scrub that has developed by regeneration and/or planting in the absence of grazing animals. (4) Wood-pasture or parkland that has been converted to other land uses such as arable fields, forestry and amenity land, but where surviving veteran trees are of nature conservation interest. Some of the characteristic wood-pasture and parkland species may be surviving this change in state in the short term while the veteran trees remain alive. Sites may contain ancient pollards (e.g. Hatfield Forest) and other less usual tree forms, which result from trees being managed for timber, fodder and other products in the presence of grazing animals.</p>	<p>predominates amongst the oldest trees but there may be nonnative trees which have been planted or regenerated naturally. Others are designed landscapes not originating from medieval parkland, but with veteran trees, including 19th century or later parklands with their origins in earlier agricultural landscapes.</p>			

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
21	Traditional orchards	Habitat structure rather than vegetation type, topography or soils, is the defining feature of the habitat. Traditional orchards are structurally and ecologically similar to wood-pasture and parkland, with open- grown trees set in herbaceous vegetation, but are generally distinguished from these priority habitat complexes by the following characteristics: the species composition of the trees, these being primarily in the family Rosaceae; the usually denser arrangement of the trees; the small scale of individual habitat patches; the wider dispersion and greater frequency of occurrence of habitat patches in the countryside.			Traditional orchards include plantings for nuts, principally hazel nuts, but also walnuts.	
25	Coastal and floodplain grazing marsh	Grazing marsh is defined as periodically inundated pasture, or meadow with ditches which maintain the water levels, containing standing brackish or fresh water.			Sites may contain seasonal water-filled hollows and permanent ponds with emergent swamp communities.	Extensive areas of tall fen species like reeds.

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
33	Ancient woodland site	England and Wales definition: land that is currently wooded and has been continually wooded, at least since 1600AD. Scotland definition: land that is currently wooded and has been continually wooded, at least since 1750AD. Northern Ireland definition: "long-established woodland" - land that has been continuously wooded since the first comprehensive maps of Ireland were produced in 1830-44.	Ancient woodland sites can include a) fragments of woodland in inaccessible areas (cliff, gorges etc), b) ancient high forest (mainly pine and birch in Scotland), c) relicts of wood pasture (unenclosed woodland in former medieval forests, old deer parks and wooded commons), d) ancient coppice woods.		The tree and shrub layer is composed of species native to the site derived from natural regeneration or coppice regrowth from individuals which were themselves derived from natural regeneration (Ancient semi-natural woodland - use codes 33 and 37). If an ancient woodland site has been replanted then use codes 33 and 36 - Plantation on Ancient Woodland Site, or "PAWS").	Land that was an ancient woodland site in the recent past but has now been converted to a non-woodland land-use.

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
36	Obviously planted trees which are predominantly even-aged, of uniform density and similar forms, normally occurring in rows.				Includes wooded ornamental gardens and arboretum collections.	
37	Semi-natural woodland	Composed of trees which are usually uneven-aged, of mixed density and forms, and which occur in natural groupings.				
38	Secondary woodland	Woodlands that have regrown on abandoned or neglected ground that had previously been used for agriculture, grazing or development of towns, villages, industry and roads.				Excludes plantations.
39	Freshwater - man-made	Freshwater bodies that have been dug by humans.			Includes artificial ponds, fishing lakes, water-filled sand and gravel pits, ornamental lakes, fen drains and ditches	Excludes: reservoirs (see 1040) and canals (see r1e).

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
					(especially in Coastal Floodplain and Grazing Marsh).	
51	Coppice	Crops of marketable broadleaved species that have at least 2 stems per stool and are either being worked or are capable of being worked on rotation. With the exception of hazel coppice more than half the stems should be capable of producing 1 m timber lengths of good form.				
53	Felled	Woodland areas that have been felled or stands where the stocking has been reduced to less than 20% and where it is expected that these areas will be replanted.				
56	Young trees - planted	Areas where planting is clearly visible, but the trees cannot yet be allocated between Conifer and Broadleaved due to their immaturity. These areas can be on either land new to woodland or where a felled crop has been replaced.				
57	Young trees - self-set	Tree seedlings or saplings of natural regeneration origin.				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
58	Grazed	Managed by farm livestock, including exotic species.				Excludes habitat exclusively grazed by wild animals.
66	Frequently mown	Frequent mechanised cutting of grass as in garden lawns, golfcourse fairways and urban parks managed as short grassland.				
67	Dry stone wall	A wall consisting of stones without mortar or cement.				
73	Bare ground	Any type of bare soil or other unvegetated substrate. Link only with vegetated primary habitats that surround or are adjacent to much of the bare ground patch.				Excludes bare ground defined by their unvegetated state e.g. Intertidal mud.
105	Quarry - hard rock	A large, deep pit, from which stone has been extracted.				Excludes sand, gravel and marl pits.
106	Quarry - sand and gravel	Open mining for materials occurring as small grain sizes, such as sand and gravel.				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
114	Solar panel array	An arrangement of ground-mounted or floating solar photovoltaic panels designed for renewable electricity generation.				Solar panels mounted on the roofs of buildings.
117	Dry	Water table < 100 cm of the surface, water available only during some periods				
119	Seasonally wet	Water table variable at the surface and waterlogged for the winter months or spring flooding season, becoming wet or mesic during the summer period.				
120	Wet	Water table within 40 cm of the surface and soil containing free water for most of the year.				
121	Waterlogged	Soils or vegetation saturated with water.				
127	Peat	Land with any depth of surface peat, bare or vegetated.				
129	Flush	Lines of water flow not forming streams – wetland vegetation indicators present.				
134	Base-rich substrate	Soil, water, tree bark or rock with high levels of calcium or magnesium ions.				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
135	Acidic substrate	Soil, water, tree bark or rock with high levels of hydrogen ions.				
146	Exposed riverine sediments	Mounds of sediment which have recently been deposited in any channel of flowing water and then subsequently exposed by reduced water levels, including shoals, bars, berms, spits, sandbanks and shingle banks.				
160	Sward type mosaic	A grassland site with a mosaic of sward types such as short grazed/mown, tall flower-rich, tussocky.				
161	Tall or tussocky sward	Tall swards, with or without occasional tussocks, providing nectar, pollen, foodplants, seeds, dead seed heads and prey items for invertebrates and certain bird species.				
189	Scattered grass	A non-grassland habitat with a low cover of grasses.				
200	Parks and gardens	Areas of land designed, constructed, managed and maintained for casual leisure and recreation. Normally enclosed.				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
300	Natural and semi-natural open space	Areas of undeveloped or previously developed land with residual natural habitats or which have been planted or colonised by vegetation and wildlife.				
431	Road island/verge	Land alongside roads and in the middle of roundabouts. Will usually be managed by the Local Authority or Highways Authority.				
510	Sports pitches	Flat areas of grassland or specially designed surfaces used for a range of outdoor sports, i.e. football, rugby and hockey and, in the summer, for cricket. They often have changing rooms and pavilions.			Includes athletics tracks.	Excludes sports pitches on educational land (see 710, 711, 712).
540	Golf course	Land enclosed and used for golf.			Includes golf ranges. Includes all land, including semi-natural habitats, within the golf course boundary.	
611	Children's Play Space; natural	A site set aside mainly for children containing the usual paraphernalia of swings, slides and roundabouts but on a soft surface such as grass or sand.				

Secondary Codes	Full title	Definition	Landscape and ecological context	Synonyms	Inclusions	Exclusions
810	Cemetery	Land outside the confines of a church or place of worship used as a place of burial.			Includes land associated with crematoriums, burial grounds and memorial sites.	
910	Allotments	Land used for the cultivation of fruit and vegetables with numerous plots rented to local people.			Includes Community Gardens and City Farms.	
1011	Pasture or meadow	Land used for grazing or managed as a meadow.				
1040	Reservoirs	An artificial water body created by a dam for water supply or irrigation purposes.			Includes drawdown zones.	Excludes the dam. Excludes fishing lakes, industrial lagoons, gravel pits, quarry pools.
1160	Introduced shrub	Non-native tall phanerophytes, mid phanerophytes or low phanerophytes planted in a garden or park setting e.g. winter jasmine.				